LAX
Los Angeles World Airports

LOS ANGELES INTERNATIONAL AIRPORT CONSOLIDATED RENTAL CAR FACILITY

PROJECT NO. DA4881

NOT FOR CONSTRUCTION

VOLUME 1 OF 5 - ConRAC SITE

(G, C, A, P, E, T)

30% QTA SUBMITTAL

09/23/2016

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Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

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SHEET TITLE:

SHEET INDEX VOLUME 1

SHEET NO.

1-G-011

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STANDARD SYMBOLS

DRAWING TITLE	DRAWING NUMBER DRAWING TITLE 1 A101 View Name SCALE: 1/8" = 1'-0" DRAWING SCALE SHEET WHERE DRAWING IS LOCATED
BUILDING ELEVATION/ SECTION/ DETAIL MARKER	1 SIM A101 SECTION/DETAIL NUMBER ON SHEET SHEET WHERE SECTION/DETAIL IS LOCATED
DOOR NUMBER	DOOR NUMBER (ROOM FROM WHICH DOOR SWINGS)
GRID LINE/ GRID BUBBLE	0
NORTH ARROW	TRUE NORTH
WALL TAG	1t
WINDOW NUMBER	1t
ROOM NAME AND NUMBER	Room name 101 ROOM NAME ROOM NUMBER
ELEVATION MARKERS	Name Elevation
INTERIOR ELEVATION INDICATOR	Ref Ref Ref Ref A101 DRAWING WHERE ELEVATION IS FOUND ELEVATION NUMBER ARROW POINTS TO WALL ELEVATED NO FILL INDICATES NO ELEVATION
MATCHLINE	SEE 1 / A101
ENLARGED DETAIL OR PLAN INDICATOR	1 SIM A102 A103
GRAPHIC SCALE	GRAPHIC SCALE: 0' 4' 8' 16' 1/8" =1'-0"

STANDARD MATERIALS

CAST IN PLACE CONCRETE
CONCRETE MASONRY
STONE
TERAZZO
POROUS FILL
STEEL
ALLUMINUM
SAND OR PLASTER
EARTH
FINISH WOOD (END VIEW)
ROUGH WOOD FRAMING AND BLOCKING (END VIEW)
PLYWOOD
MEDIUM DENSITY FIBERBOARD (MDF)
ROOF BALLAST
CONCRETE, STUCCO OR PLASTER IN ELEVATION
BRICK AND CONCRETE MASONRY IN ELEVATION
BRICK AND CONCRETE MASONRY IN ENLARGED ELEVATION
RANDOM ASHLAR SANDSTONE IN ELEV.
CORRUGATED METAL IN ELEVATION
WOOD VENEER IN ELEVATION
GLASS IN ELEVATION
BATT INSULATION
SEMI-RIGID INSULATION
FIRESAFING
RIGID INSULATION
CEMENTITIOUS FIREPROOFING
ACCOUSTICAL CEILING TILE
GLASS
GYPSUM BOARD
MEMBRANES

GENERAL NOTES

1. VERIFY FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.
2. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ESTABLISH LOCATION OF ALL PARTITIONS, OPENINGS, EQUIPMENT, ETC.
3. NOTIFY THE DESIGN TEAM OF ANY DISCREPANCIES OR CONFLICTS IN THE DRAWINGS AND/OR SPECIFICATIONS, REQUEST AND RECEIVE AN INTERPRETATION OR CLARIFICATION BEFORE PROCEEDING WITH CONSTRUCTION.
4. BUILDING IS TO REMAIN ACCESSIBLE AND SECURE FOR THE ENTIRE DURATION OF CONSTRUCTION. COORDINATE WITH LAWA OR LIMITS OF WORK, ROTECTION, ACCESS AND SECURITY PRIOR TO COMMENCEMENT OF WORK OPERATIONS.
5. MAINTAIN EMERGENCY AND SECURITY EGRESS TO COMPLY WITH APPLICABLE CODES AND AS DIRECTED BY LAWA.
6. AT ROOMS WITH FLOOR DRAINS (TOILET ROOMS, MECHANICAL ROOMS, ETC.), SET DRAIN DOWN 1/2 INCH AND SLOPE FLOOR TO DRAIN AT 1/4 INCH PER FOOT FROM DRAIN.
7. DISTANCE FROM PERPENDICULAR WALL TO DOOR JAMB SHALL BE 4" UNLESS NOTED OTHERWISE.

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GENERAL INFORMATION, LEGENDS & SYMBOLS

SHEET NO.

1-G-021

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&	AND
@	AT
AB	AGGREGATE BASE, ANCHOR BOLT
ABUT	ABUTMENT
AC	AIR CONDITIONER
ACI	AMERICAN CONCRETE INSTITUTE
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
ADJ	ADJUST
AED	AUTOMATIC EXTERNAL DEFIBRILLATOR
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
AHD	AHEAD
AISC	AMERICAN SOCIETY OF STEEL CONSTRUCTION
ALG	ALIGNMENT
ALT	ALTERNATE
AOA	AIRCRAFT OPERATIONS AREA
AP	ACCESS PANEL
APM	AUTOMATIC PEOPLE MOVER
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN STANDARD FOR TESTING AND METERIALS
AVE	AVENUE
AVG	AVERAGE
AVI	AUTOMATIC VEHICLE INDENTIFICATION
B-B	BACK-TO-BACK
BC	BEGIN HORIZONTAL CURVE, HORIZONTAL CURVE
BCR	BEGIN CURB RETURN
BCS	BABY CHANGING STATION
BEG	BEGIN
BET	BETWEEN
BFF	BELOW FINISH FLOOR
BFG	BELOW FINISH GRADE
BIT	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BLVD	BOULEVARD
BM	BENCH MARK
BMP	BEST MANAGEMENT PRATICE
BOF	BOTTOM OF FOOTING
BOL	BOLLARD
BOM	BOTTOM OF MASONRY
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BRNG	BEARING
BRZ	BRONZE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BVC	BEGIN VERTICAL CURVE
BW	BARBED WIRE
C	CURVE, CHORD
C-C	CENTER TO CENTER
CA	CAPACITY
CAB	CABINET
CAT	CATALOG
CB	CATCH BASIN
CBC	CALIFORNIA BUILDING CODE
CCTV	CLOSED CIRCUIT TELEVISION
CD	CONDENSATE DRAIN
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CGS	CENTER OF GRAVITY STEEL
CI	CAST IRON
CIRC	CIRCULATION
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMP	CORRUGATED METAL IPE
CMU	CONCRETE MASONRY UNIT
CO	COUNTY
COL	COLUMN
COMM	COMMUNICATIONS
COMPR	COMPRESSOR
CONC	CONCRETE
CONN	CONNECTOR
CONST	CONSTRUCT, CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORP	CORPORATION
CP	CANDLE POWER
CSB	CUSTOMER SERVICE BUILDING
CSPA	CORRUGATED STEEL PIPE ARCH
CTD	COATED
CTJ	CONTROL JOINT
CTL	CENTER LINE
CU.IN	CUBIC INCH
CU.YD	CUBIC YARD
CULV	CULVERT
CV	CHECK VALVE
CW	COLD WATER
CYL	CYLINDER
D	DEPTH
D/S	DOWN STREAM
DBL	DOUBLE
DD	DOWN DRAIN
DEG	DEGREE
DEL	DELINEATOR
DET	DETAIL
DF	DRINKING FOUNTAIN
DG	DECOMPOSED GRANITE
DI	DRAINAGE INLET, DROP INLET
DIA	DIAMETER
DIAPH	DIAPHRAGM
DICL	DUCTILE IRON CONCRETE LINED
DIP	DUCTILE IRON PIPE
DISC	DISCONNECT
DIST	DISTANCE
DL	DEAD LOAD
DMBB	DOUBLE METAL BEAM BARRIER
DOT	DEPARTMENT OF TRANSPORTATION
DR	DRIVE
DWG	DRAWING(S)
DWP	DEPARTMENT OF WATER AND POWER
DWT	DETACTABLE WARNING TILE
E	EAST, EXISTING
E/UG	ELECTRICAL UNDERGROUND
EA	EACH
EASE	EASEMENT
EB	END OF BRIDGE, EASTBOUND
EC	END OF HORIZONTAL CURVE, END CURVE
ECR	END CURB RETURN
ED	EDGE DRAIN
EDC	EDGE DRAIN CLEANOUT
EDO	EDGE DRAIN OUTLET
EDV	EDGE DRAIN VENT
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATION AND FINSH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTROLIER
ELECT	ELECTRIC, ELECTRICAL
EMB	EMBANKMENT
EMS	EMERGENCY SHOWER
ENGR	ENGINEER, ENGINEERING
EOD	EDGE OF DECK
EOP	EDGE OF PAVEMENT
EP	EDGE OF PAVEMENT
EQ	EQUAL
ES	EDGE OF SHOULDER
ESMT	EASEMENT
ETW	EDGE OF TRAVELED WAY
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EX	EXISTING
EXC	EXCAVATION
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR
F	FAHRENHEIT
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FBO	FURNISHED BY OTHERS
FC	FACE OF CURB
FD	FLOOR DRAIN
FDAC	FUL DEPTH ASPHALT CONCRETE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FDP	FIRE DAMPER
FEC	FIRE EXTINGUSHER CABINET
FES	FLARED END SECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FG	FIBER GLASS
FH	FIRE HYDRANT
FIG	FIGURE
FL	FLOW LINE
FO	FIBER OPTICS
FOB	FACE OF BUILDING
FOC	FACE OF CONCRETE
FOW	FACE OF WALL
FR RD	FRONTAGE ROAD
FRP	FIBERGLASS REINFORCED PANEL
FS	FLOOR SINK
FWY	FREEWAY
G	GAS, ACCELERATION DUE TO GRAVITY
GA	GAGE, GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GL-X	GLAZING TYPE
GND	GROUND
GP	GRADING PLANE
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GUARD RAILING
GSP	GALVANIZED STEEL PIPE
GTR	GUTTER
GWB	GYPSUM WALL BOARD
GYP	GYPSUM BOARD
GYP-I	HIGH IMPACT GYPSUM BOARD
GYP-M	MOISTURE RESISTANT GYPSUM BOARD
GYP-X	GYPSUM BOARD - FIRE RESISTANT
H	HEIGHT
HB	HOSE BIBB
HD	HORIZONTAL DRAIN
HDWL	HEADWALL
HEX HD	HEXAGONAL HEAD
HM	HOLLOW METAL
HMA	HOT MIXED ASPHALT
HORIZ	HORIZONTAL
HP	HINGE POINT, HORSEPOWER
HPS	HIGH PERFORMANCE STEEL
HR	HOUR
HS	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SECTION
HVAC	HEATING VENTILATING AND AIR CONDITIONER
HW	HOT WATER
HW	HIGHWAY
ID	INSIDE DIAMETER
IDF	INDIVIDUAL DISTRIBUTION FRAME
IF	INSIDE FACE
IN	INCHES
INC	INCORPORATED
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IP	INLET PROTECTION
IRR	IRRIGATION, IRRIGATION PIPE
IS	IDLE STORAGE
JC	JANITORS CLOSET
JCT	JUNCTION
JP	JOINT POLE
JST	JOIST
JT	JOINT, JOINT TRENCH
K	K VALUE
L	ANGLE
LAT	LATITUDE
LAWA	LOS ANGELES WORLD AIRPORTS
LCB	LOW CLEARANCE BAR
LF	LINEAR FEET
LIP	LIP OF GUTTER
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDE
LONGIT	LONGITUDINAL
LS	LUMP SUM
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
MDF	MULTIPLE DISTRUBUTION FRAME
ME	MECHANICAL EQUIPMENT
MED	MEDIAN
MEJ	MASONRY EXPANSION JOINT
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOS	MIDDLE OF SLAB
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OB	OVER BUILD
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OH	OPPOSITE HAND
OH	OVERHEAD
P-X	PAINT COLOR
PERM	PERMANENT
PERP	PERPENDICULAR
PL	PLATE
POC	POINT OF CONNECTION
PPG	PUBLIC PARKING GARAGE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
QTA	QUICK TURN AROUND
QTY	QUANTITY
R	RADIUS
R&D	REMOVE AND DISPOSE
R&S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
R/W	RIGHT OF WAY
RAC	RENT A CAR
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCP A	REINFORCED CONCRETE PIPE ARCH
RD	ROOF DRAIN
RDWY	ROADWAY
REBAR	REINFORCED STEEL BAR
REF	REFERENCE
REFL	REFLECTIVE
REINF	REINFORCED, REINFORCEMENT, REINFORCING
REL	RELOCATE
REPL	REPLACEMENT
REQ'D	REQUIRED
RET	RETAINING
REV	REVISED
RIM	RIM OF STRUCTURE
RM	ROAD-MIXED
ROW	RIGHT OF WAY
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RTE	ROUTE
RW	RETAINING WALL, REDWOOD
RWC	RAIN WATER CONDUCTOR
RWY	ROOF WALKWAY
S	SOUTH, SLOPE, SUPPLEMENT
S	STATION LINE
S4S	SURFACE 4 SIDES
S/W	SIDEWALK
SAE	STRUCTURE APPROACH EMBANKMENT
SALV	SALVAGE
SAN	SANITARY SEWER
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SUSPENDED ACOUSTICAL CEILING
SCHED	SCHEDULE
SCVWD	SANTA CLARA VALLEY WATER DISTRICT
SD	STORM DRAIN
SDMH	STROM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECOND, SECTION
SECT	SECTION
SEP	SEPERATION
SF	SQUARE FEET
SG	SUBGRADE
SH	STATE HIGHWAY
SHT	SHEET, SHEETS
SIM	SIMILAR
SM	SELECTED MATERIAL
SP	SPACING
SPEC	SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	STAINLESS STEEL
SSBM	STRAP AND SADDLE BRACKET METHOD
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STP	STRIPING
STR	STRUCTURE
SURF	SURFACING
SW	SOUTHWEST
SWPPP	STORM WATER POLLUTION PREVENTION PLANS
SWR	SEWER
SYM	SYMMETRICAL
T	THICKNESS
TAB	TABLET
TAN	TANGENT
TBD	TO BE DETERMINED
TBM	TEMPORARY BENCH MARK
TBR	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCP	TRAFFIC CONTROL PLAN
TEL	TELEPHONE
TEMP	TEMPORARY
TERR	TERRAZO
TG	TOP OF GRADE
TI	TENANT IMPROVEMENT
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOG	TOP OF GRATE
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOPC	TOP OF PIPE CAP
TOS	TOP OF STEEL
TOT	TOP OF TOPPING SLAB
TOW	TOP OF WALL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
TRANS	TRANSITION
TS	TRANSVERSE, TUBULAR STEEL
TSC	TRANSYSTEMS
TSL	TOP OF SLAB
TYP	TYPICAL
U/S	UPSTREAM
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UP	UNDERPASS
V	VALVE, VELOCITY
VAR	VARIABLE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VGR	VEHICLE GUARD RAIL
VIA	VIADUCT
VOL	VOLUME
W	WATER
W/	WITH
W/O	WITHOUT
WB	WESTBOUND
WC	WATER CLOSET
WH	WEEP HOLE
WM	WIRE MESH
WP	WORK POINT
WSP	WELDING STEEL PIPE
WT	WEIGHT
WV	WATER VALVE
WW	WING WALL
WWF	WELDED WIRE FABRIC
WWLOL	WING WALL LAYOUT LINE
X SEC	CROSS SECTION
X-SECT	CROSS SECTION
XING	CROSSING
YR	YEAR
YRS	YEARS

TranSystems
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PHONE: (562) 594-6974
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NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

APPROVED BY

CHIEF AIRPORTS ENGINEER

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

ONE ANA PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	
DATE:	09/23/2016
DESIGNED BY:	JQJ
DRAWN BY:	JN
CHECKED BY:	NL

SHEET TITLE:

ABBREVIATIONS

SHEET NO.

1-G-022

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LOS ANGELES INTERNATIONAL AIRPORT CONSOLIDATED RENTAL CAR FACILITY

GENERAL NOTES

INTRODUCTION

The City of Los Angeles, through its agency Los Angeles World Airports (LAWA), intends to develop the LAX Consolidated Rental Car Facility (ConRAC) at a site known as Manchester Square area east of the airport property. Manchester Square is bounded by W. Century Boulevard on the south, Aviation Boulevard on the west, W. Arbor Vitae Street on the north and S. LaCienega Boulevard on the east. The ConRAC is one component of the overall Land Access Modernization Program (LAMP). The facility is to house the operations of the several Rental Car Companies serving the airport and is to incorporate an extension of the Automated People Mover (APM) system to provide connections from the ConRAC and two new intermodal Transit Facilities (ITFs) to the Central Terminal Area (CTA) of LAX. The project includes site development, project related new access roads, and modifications to existing roads and related structures. These Plans and accompanying Technical Specifications describe the intended scope, configuration and quality of construction intended.

The program on which the design has been based is a product of the combined efforts of LAWA, representatives of the Rental Car companies and the planning and design consultant team led by TranSystems. The components of that team are identified in the pages which follow.

The drawings are organized in five volumes. They are:
Volume I: General and Overall Site Information
Volume II Quick Turn Around (QTA)
Volume III: Idle Storage Garage
Volume IV: Ready Return Garage
Volume V: Customer Service Building (CSB) and Cores

Each volume starts with a table of contents listing all the drawings included by number and title. This is followed by General Information, Legends and Symbols and Abbreviations. The volumes then proceed from the most genera overall documentation through stages of increasing detail to schedules. Volume I, General Information includes a description of the design team.

The five Volumes of Drawings combined with the Specifications and Project Requirements combined are the technical requirements of the project. They together with the Agreement and its subsets are the Contract Documents.

GENERAL REQUIREMENTS

1. App 1cable abbrev at1ons and definitions:

AC	Advisory Circular
ACM	Airport Certification Manual
ADG	Airplane Design Group
AOA	Airport Operations Area
CSD	Construction Setback Distance
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FOD	Foreign Object Debris / Foreign Object Damage
ILS	Instrument Landing System
LADBS	Los Angeles Department of Building and Safety
LAMP	Landside Access Modernization Program
LAWA	Los Angeles World Airports
LAX	Los Angeles international Airport
ROFA	Runway Object Free Area (400 feet from runway centerline; 1000 Feet behind runway end}
RSA	Runway Safety Area (250 feet from runway centerline; 1000 feet behind runway end)
S.T.O.P.	Short Term Operational Phasing
TOFA	Tax way Object Free Area (160 feet from taxiway centerline for ADG V; 131 feet from taxiway centerline for ADG VI)
TSA	Tax way Safety Area (107 feet from Taxiway centerline for ADG V; 131 feet from taxiway centerline for ADG VI)

LAWA STANDARDS FOR THE CONSTRUCTION CONTRACT (excerpts)

01 00 00 GENERAL REQUIREMENTS

01 10 00 SUMMARY

01 31 09 OBSTRUCTIONS TO NAVIGATION

A. Penetrations of the imaginary surfaces defined in Federal Aviation Regulation (FAR) Part 77 shall not be permitted without advance notification of, and approval by, the Engineer. It will be necessary for the Contractor to file FAA Form 7460-1 with the FAA to obtain approval prior for operation of equipment 15 feet or more in height, including but not limited to vehicles, cranes, or other construction equipment, structures, stockpiled materials, excavated earth, etc. It shall be the Contractor's sole responsibility to file this document. In accordance with Federal Regulation Title 14, Part 77 (14 CFR Part 77), notice must be provided at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

B. When penetrations more than 15 feet above ground level (AGL) are unavoidable, they shall be brought to the attention of the Engineer, as far in advance as possible. Contractor shall comply with the provisions of FAA's Advisory Circular (AC) 70/7460-1, latest edition, in the marking and lighting of obstacles. In accordance with 14 CFR Part 77, notice must be provided at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest. No delays will be granted the Contractor for his failure to submit the necessary documents in a timely manner.

01 31 13.5 PROJECT COORDINATION – UTILITIES

Utilities

A. Pursuant to Section 4216 of the Government Code, at least 2 working days prior to commencing any excavation, the Contractor will be required to contact the regional notification center (Underground Service Alert of Southern California) and obtain an inquiry identification number.

B. The following includes a list, but is not limited to, of utility companies and representatives whose facilities may be impacted by this Project:

Agency/Company	Phone Number
City of L.A., Dept. of Water and Power -Water	(213) 481-5411
City of L.A., Dept. of Water and Power - Power	(213) 367-4215
Southern California Gas Company	(310) 605-4181
SBC Regional Engineer Office (Los Angeles County)	(310) 847-1121

C. The contractor shall employ ground penetrating radar, x-ray, or other non-destructive methods to identify utilities at proposed excavations, coring, and or selective demolition wherever that may occur in addition to utility company notification requirements. LAWA inspection (424) 646-6010 shall be notified prior to this activity occurring and shall review markings prior to coring. Employ all necessary safety precautions for the method used.

01 35 23 OWNER SAFETY REQUIREMENTS

Prior to commencing field construction, contractors will be required to submit a construction safety plan, for LAWA's review and approval, The LAWA approved safety plan shall be enforced strictly for the project to maintain a safe work environment. The safety plan shall include as a minimum the following items:

A. Policy statement clearly stating the objective of the safety plan and the scope of the project

B. Organization chart indicating the duties and responsibilities for the safety staff and the designated safety representative.

C. Safety program shall describe the services and facilities to be available for non-recordable illnesses or injuries as well as recordable illnesses or injuries.

D. The safety plan shall also set the procedures for all work site injury records and reports.

E. The safety plan shall set the procedures for compliance with all applicable laws and contract requirements.

Any activities or condition found to be hazardous by LAWA shall be corrected on the spot and delay in the correction of a hazard to the life safety of any person may result in the closure by LAWA of the involved work site until the activity and/or condition is corrected. Should such condition cause an immediate safety threat, LAWA may close the work site immediately until the condition is corrected.

01 35 13.13 SPECIAL PROJECT PROCEDURES FOR AIRPORT FACILITIES

Damage to Existing Utilities and Improvements

A. Any utility or improvement that is damaged by the Contractor shall be immediately reported to LAWA and immediately repaired to a condition equal to, or better than, the condition they were in prior to such damage. Repair Work shall be continuous until the utility or improvement is placed back in service.

B. All repairs to a damaged utility or shall be inspected and approved by an authorized representative of the utility or improvement LAWA before being concealed by backfill or other Work.

C. In case of damage, which in the opinion of the Airport Contact threatens the safety of persons or property, the Contractor shall immediately make all repairs necessary for removal of the hazard. Should the Contractor fail to take prompt action to this end, the LAWA has the option to remove any hazard resulting from damages caused by the Contractor without waiving any other rights the LAWA may have, and costs shall be charged to the Contractor.

01 35 43 ENVIRONMENTAL PROCEDURES

Environmental Mitigation Requirements

A. This section covers construction related mitigation requirements that include, but is not limited to, traffic mitigation measures, air quality construction related measures, restrictions on construction material stockpiles, and other miscellaneous items, as included hereafter.

B. The Applicant/Contractor shall implement and comply with these requirements in the performance of the work.

C. Compliance with this section does not exempt the Contractor from compliance with other applicable permits, approvals, requirements, rules and regulations of other agencies with jurisdiction over the work of this contract.

D. The Applicant/Contractor may be required to designate a person or persons to ensure the implementation of all components of the construction- related Environmental Mitigation Requirements through direct inspections, recorrreview, and investigations of complaints

E. All construction deliveries requiring lane closures shall receive prior approval from the Project Manager. Construction Notification of deliveries requiring lane closures shall be made in writing to the Project Manager (a minimum of 72 hours in advance) in order to allow for any modifications to approved traffic detour plans. The Contractor shall obtain delivery permits from all applicable local agencies 30 days prior to any delivery requiring a lane closure.

F. No staging of construction traffic in residential areas will be allowed. Should traffic staging areas be required, the Contractor shall locate these areas away from residential development and shall comply with all local regulations.

G. All construction deliveries of bulk materials such as aggregate, bulk cement, dirt, etc. to the project site, and hauling of materials from the project site, shall be scheduled during off peak hours to avoid the peak commuter traffic periods. The Contractor may be required to submit haul routes for all construction traffic, deliveries, and employee travel within 30 days from Notice to Proceed for approval by LAWA. Haul routes shall be located away from residential areas. Further, at LAX, construction trucks will not be allowed on:

a) 104th Street between Hawthorne Boulevard and Inglewood Avenue;
b) Inglewood Avenue between Century Boulevard and Imperial Highway; and
c) Lennox Boulevard between Hawthorne Boulevard and Inglewood Ave.

Peak commuter traffic periods are between 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m. Any and all deviations to this requirement shall be approved in writing by LAWA prior to actual site deliveries.

H. To the extent possible, Contractor shall establish work hours that avoid peak commuter traffic periods as defined herein. Avoidance with peak commuter traffic shall be extended to include weekend and, when applicable, multiple work shifts.

I. When requested by LAWA, the Applicant/Contractor shall ensure that all construction personnel attend a pre-construction orientation meeting to be conducted by the Contractor wherein personnel are advised on topics including the following: where to park, where staging areas are located, construction policies, and the environmental mitigation requirements herein. A copy of the Orientation Meeting Agenda and personnel sign-in sheet shall be submitted to LAWA after each orientation meeting.

Construction Material Stockpiles Locations and Maintenance

Stockpile locations will be off airport property unless otherwise approved by LAWA.

Environmental Regulations.

That you shall fulfill, as applicable, all requirements of environmental regulatory agencies, including but not limited to the federal and state Environmental Protection Agencies; the Certified Unified Program Agency (CUPA); the Air Quality Management District (AQMD); and the local ordinances as cited in the City's Municipal Code. Those requirements may include:

A. Obtaining the proper permits for any construction, demolition, and/or remediation activities.

B. Developing and providing, if required based on hazardous materials stored quantities, a business emergency/contingency plan.

C. Filing a California Accidental Release Prevention Program form, and preparing and providing a risk management plan (RMP).

D. Submitting the proper application and obtaining the proper permits for installation, operation or removal of aboveground storage tanks (AST's) and underground storage tanks (USTs).

E. Filing a petroleum storage statement with the CUPA and developing and implementing a Spill Prevention Control and Countermeasures plan (SPCC) required of facilities which store over 1,320 gallons of petroleum products above.

F. Filing and obtaining the proper treatment (Tier) permits if necessary.

Copies of the required permits, plans, reports and surveys shall be provided to Los Angeles World Airports, Airport Development Group prior to construction.

Air Pollution Control

The Applicant/Contractor shall not discharge smoke, dust equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any Federal, State or local regulations. The Applicant/Contractor shall also abate dust nuisance by cleaning, sweeping and spraying with water or other means as deemed necessary.

Obtain the proper permits or registrations from the governing agencies for construction, demolition, and/or renovation activities. These activities may include but are not limited to asbestos abatement, and the installation, testing, operation, or removal of mobile and/or stationary equipment.

Dust Control

A. The Contractor will be responsible for removing from the Site and other public areas, excavated materials and debris resulting from the Work. Vehicles exiting the Site shall have all dirt clods and mud removed from their tires.

B. The Contractor will contain dust and remove it from the Site at intervals sufficient to prevent contamination outside work limits and as directed by the Engineer. The Contractor shall use adequate watering techniques to alleviate accumulation of construction-generated dust.

a. The Contractor will be responsible for containment of dust emission from all construction, transport, storage or handling activities, in accordance with South Coast Air Quality Management District (SCAQMD) Rule 403: Fugitive Dust.
b. The Contractor will be responsible for the continuous clean-up of all construction-related dirt on approach routes to the Site. Location of Trash Bins shall be included on laydown plans. These trash bins shall not impede normal operations of other tenants and airlines.
c. Contractor shall furnish trash bins for all debris resulting from Construction. All debris shall be placed in trash bins daily. Forms or false work that is to be reused shall be stacked neatly as they are being removed. Forms and falsework that are not to be reused shall be disposed of immediately upon their removal.
d. Contractor shall comply with California Vehicle Code 23114 which states in part that ---A vehicle may not be driven or moved on any highway unless the vehicle is so constructed, covered, or loaded so as to prevent any of its contents or load other than clear water from dropping, sifting, leaking, blowing, spilling, or otherwise escaping from the vehicle.
e. Contractor shall comply with vehicle speed limits of 15 miles per hour while traveling on unpaved construction sites and maintain at least six (6) inches of freeboard on haul vehicles.

C. When requested by LAWA, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each Working Day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete.

Air Quality

A. Contractor shall make every effort to reduce air pollutant emissions from construction traffic and equipment both on and off the airport. This includes, but is not limited to, use of construction equipment with - cleaner burning diesel fuel and exhaust emission controls. The Contractor shall use alternative fuel or low emission vehicles to the maximum extent practicable.

Non-Road Mobile Source Controls

A. The Contractor shall prohibit staging or parking of construction vehicles (including workers' vehicles) on streets adjacent to schools, daycare centers, and hospitals.

B. The Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in CARB Vehicle Idling Rule. The Contractor shall advise drivers and operators of these requirements at the pre-construction orientation meeting, remind them on a daily basis, and post signs in appropriate places indicating the CARB Vehicle Idling Rule. Exemptions may be granted for safety-related and operational reasons, as defined in CARB or as approved by the Engineer. The Contractor and subcontractors shall have policies and procedures in place for compliance with the Vehicle Idling Rule.

Stationary Point Source Controls

A. The Contractor shall specify a combination of electricity from power poles and electricity from portable diesel- or gasoline-fueled generators using - cleaner burning diesel fuel and exhaust emission controls for his electrical energy requirements.

B. The Contractor shall obtain approval of the Engineer for the use of internal combustion engine water pumps, power generators, air compressors and other related construction equipment when an option exists to utilize grid power or electric powered equipment.

Noise Control

A. Noise generated form the Contractor's operations shall be controlled as required by LAWA.

B. The Contractor shall comply with local sound control and noise level rules, regulations and ordinances which apply to the Work.

Spill Prevention and Emergency Response Plan.

A. The Contractor shall prepare and submit a spill prevention and emergency response plan. The plan shall address implementation of measures to prevent sewage spills; procedures for spill control and containment, notifications, emergency response, cleanup, and spill and damage reporting.

B. The plan shall account for all storm drain systems and water courses within the vicinity of the Work which could be affected by a sewage spill. Catch basins that could receive spilled sewage shall be identified. Unless otherwise specified in the Specifications, these catch basins shall be sealed prior to operating the bypass and pumping system. The Contractor shall remove all material used to seal the catch basins when the bypass and pumping system operations are complete.

C. The Contractor shall be fully responsible for containing any sewage spillage, preventing any sewage from reaching a watercourse, recovery and legal disposal of any spilled sewage, any fines or penalties associated with the sewage spill imposed upon by LAWA and/or the Contractor by jurisdictional regulatory agencies, and any other expenses or liabilities related to the sewage spill.

01 35 63 SUSTAINABILITY CERTIFICATION PROJECT REQUIREMENTS

LAWA's Sustainable Airport Planning, Design and Construction Guidelines (LSAG) and included checklists currently are being revised to ensure consistency with the recent changes to the State building code and the Los Angeles Green Building Ordinance. Until the revisions are complete, LAWA's requirement to submit the LSAG checklists as part of the project approval process is suspended. The revised LSAG with updated checklists should be available in the near future.

01 43 00 QUALITY ASSURANCE QUALITY ASSURANCE

General

A. LAWA will inspect the work in accordance with the Tenant's LAWA approved Construction Documents and any other pertinent LAWA agreements.

B. The Work is subject to inspection and approval by LAWA.

C. The LAWA Engineer and Inspector shall be permitted access to all parts of the Work, including plants where materials or items are manufactured or fabricated. The presence of the Engineer or the Inspector shall not relieve the Contractor of the responsibility for the proper execution of the Work.

D. The Contractor shall notify the Inspector before noon of the working day before inspection is required. Work shall be done only in the presence of the Inspector, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Inspector and any authorized representatives shall at all times have access to the Work during its construction at shops and yards and while in storage, as well as to the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these Specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all requirements of the Contract.

E. The Inspector is authorized to determine the acceptability of materials and the quality of Work. The Inspector is authorized to sample and test all materials to be incorporated into the Work. The Inspector may delegate this authority to sample materials for construction to an approved public or private testing laboratory to perform any necessary tests.

F. No Work shall be backfilled, buried, cast in concrete, hidden or otherwise covered until it has been inspected by the Inspector and other Agencies for which a permit is required. The Contractor shall notify the Inspector before noon of the working day before inspection is required. Tenant Inspection (424) 646-6010. The Contractor shall provide project title, inspector name, time inspection desired, work location, and description of work to be inspected. Should the Contractor attempt to cover or conceal any item of Work prior to its approval and acceptance, the Inspector may cause the activity to be stopped and require said Work to be exposed, if determined necessary by the Inspector, so that proper inspection may take place. All costs for exposing such Work, including premium costs resulting from alternate means of inspection, time delays, and impacts resulting on other portions of the Work, shall be borne by the Contractor. All costs of such delays, including its effect upon other portions of the Work, shall be borne by the Contractor. Where Work that was done without inspection cannot be uncovered, such as in concrete cast over reinforcing steel, all such Work shall be subject to demolition, removal, and reconstruction under proper inspection at the expense of the Contractor.

Faulty and Unauthorized Work

A. Unauthorized work shall be remedied or removed and replaced by the Contractor in an acceptable manner, and no added compensation will be allowed for such removal, replacement, or remedial work. If the contractor chooses to propose repair of non-conforming work, a repair procedure is required for non-conforming work and shall be submitted to the Engineer for review and approval prior to any corrective action taking place. Work done beyond the areas indicated or established by LAWA's approved set of documents may be considered as unauthorized work. Work shall be remedied, removed or replaced at the Contractor's expense.

B. Except as set forth in this Subsection or elsewhere in Project Specifications, all non-conforming Work and materials, in place or not, shall be removed immediately from the Site or corrected to conform to all requirements of the Contract Documents, by the Contractor, at the sole expense of the Contractor. If the contractor chooses to propose repair of non-conforming work, a repair procedure is required for non-conforming work and shall be submitted to the Engineer for review and approval prior to any corrective action taking place. If the Contractor fails to remove, replace, or correct any non-conforming Work or materials within seventy-two (72) hours of discovery, the Engineer may cause such Work or materials to be removed and replaced. Such removal and replacement shall be at the sole expense of the Contractor.

C. If the Contractor shall join Work with any Work in place, and if such joint is not made in a skillful manner, then such joint or Work shall be deemed and construed to be faulty workmanship and such materials shall be deemed and construed to be defective materials.

D. In case of a dispute between the Contractor and the Inspector, the latter is authorized to reject materials or suspend the Work until any questions at issue can be referred to and decided by the Engineer

Materials and Workmanship

A. Workers and installers shall be skilled, trained and experienced in the necessary crafts and shall be completely familiar with the specific requirements and methods needed for proper performance and completion of the Work.

B. Fabricators shall be licensed by the City of Los Angeles. All structural welding shall be performed by welders certified and licensed by the City of Los Angeles, Department of Building and Safety.

C. No product containing asbestos shall be used for any purpose. When removing asbestos products, the Contractor shall comply with the requirements of Title 8, California Code of Regulations (CCR), General Industry Safety Orders and Construction Safety Orders.

D. All references to specifications of national organizations and trade associations related to building industry such as, but not limited to, American Society for Testing and Materials, American Institute of Steel Construction, American Concrete Institute, Prestressed Concrete Institute, Post- Tensioning Institute, and the National Board of Fire Underwriters refer to the latest revision of such specifications except as otherwise noted at time of bid opening.

E. All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Used or secondhand materials, parts, and equipment may be used only if so specified in the contract documents.

F. The quality of materials and workmanship shall be subject to approval by the Inspector. Materials and workmanship of quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately form the Work site by the Contractor, at its expenses, when so directed by the Inspector.

G. If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

Protection of Work and Materials

A. The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

B. The Contractor shall not, without LAWA's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Work.

C. Access to Work and Materials. The Contractor shall provide access at any time to the Work and materials wherever same are stored, being fabricated, erected or installed, when requested to do so by a representative of the LAWA or other regulatory subdivisions having jurisdiction.

D. Facilities and Labor. The Contractor shall provide sufficient, safe, and proper facilities and labor necessary to move, take and prepare samples for testing of materials, and shall move same for purposes of additional testing when ordered to do so by any of the LAWA's representatives.

SHOP Inspection Requirements

An LADBS approved fabricator designation does not relieve the contractor from any of the following requirements.

A. Coordinator
All items identified in the technical specifications requiring shop inspection require shop inspection. All shop inspection will be performed by LAWA staff, regardless of location. No additional cost by the contractor will be incurred for this service unless otherwise noted in the contract. When shop inspection is required by the Engineer, a Notification of Fabrication form shall be submitted by the General Contractor or the Quality Control Manager to the Materials Control Coordinator.

B. The General Contractor or the Quality Control Manager shall fax the Notification of Fabrication to the Materials Control Coordinator at (424) 646-9327 at least 48 hours in advance when the fabrication will take place within 50 miles of the project.

C. The General Contractor or the Quality Control Manager shall fax the Notification of Fabrication to the Materials Control Coordinator at (424) 646-9327 at least 10 working days in advance when the fabrication will take place more than 50 miles from the project.

D. The General Contractor or the Quality Control Manager shall fax the Notification of Fabrication to the Materials Control Coordinator at (424) 646-9327 at least 30 days in advance when the fabrication will take place outside of the continental United States.

E. David Jackson is the Material Control Coordinator for all LAWA projects and can be reached at (424) 646-5755 or at djackson@lawa.org.

F. Notification of Fabrication form can be obtained by contacting David Jackson.

G. Unless otherwise specified, inspection is required at the sources for asphalt concrete pavement mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations. Additional materials and fabricated items which require inspection at the source shall be as specified.

H. Steel pipe in sizes less than 8 inches and vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by LAWA. Shelf items mass produced unless noted otherwise in this contract are subject to inspection at the Work site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc. are subject to inspection at the source including performance testing. Inspection at the source for other items shall be as specified.

I. All materials and fabricated articles furnished by the Contractor are subject to inspection at their source, and no materials or fabricated articles shall be used in the Work until they have been inspected and accepted by the Materials Control Inspector. The Materials Control Inspector shall be permitted access to all parts of the Work, including shops where materials and fabricated articles are manufactured or fabricated.

J. All materials and fabricated items shall be manufactured or fabricated from Shop Drawings that have been approved by the Engineer of Record. The Contractor shall ensure that legible copies of the approved submittals, shop drawings, approved mix designs, and the corresponding Contract Specifications are provided to its fabricators or suppliers, and that said documents are available to the Materials Control Inspector or Independent Inspection and/or Testing Laboratory (IITL) during the inspection. Shop inspection cannot and will not take place without noted documents.

K. Any material or fabricated item that requires shop inspection and arrives at the Site without inspection by the Materials Control Inspector is subject to rejection by the Inspector and may be required to be removed from the Site by the Contractor at the Contractor's sole expense.

L. Prior to shipment of any material or fabricated item, final inspection shall be performed by the Materials Control Inspector or IITL. Said inspection shall consist of a final visual inspection, identification, and tagging and/or stamping for release to the Project Site. Items received at the Site without the proper identification may be rejected and required to be removed from the Site.

Test of Materials

A. Before incorporation into the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to LAWA. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. For Tenant Projects, the testing expense shall be borne by the Applicant.

B. The Contractor shall notify the Engineer in writing, at least 15 days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

C. If the notice of intent to use is sent before the materials are available for testing or inspection, or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the Contractor's responsibility to re-notify the Engineer when samples which are representative may be obtained.

D. Testing by the LAWA. In addition to any other inspection or Quality Assurance provisions that may be specified, the Engineer shall have the right to independently select, test, and analyze, at the expense of the LAWA, additional test specimens of any or all of the materials to be used. Whenever any portion of the Work fails to meet the requirements of the Contract Documents as shown by the results of independent testing or investigation by the Engineer, all costs of such independent inspection and investigation, and all costs of removal, correction, and reconstruction or repair of any such Work shall be borne by the Contractor.

E. Testing by Approved Testing Laboratory. When the manufacturer, fabricator, or supplier provides the results of tests from samples taken at the mill, factory, or warehouse, the Engineer will accept the test reports provided the following conditions are met:

a. The Testing Laboratory was approved by the Engineer prior to performing the tests, and that all necessary certifications were valid at the time the tests were performed.
b. The tests were performed in conformance with the Contract Documents for the specified material or item.
c. The reports are made in the form of an affidavit, as specified below.
d. Tests performed by an approved Testing Laboratory are subject to be monitored by LAWA Inspectors.

F. Whenever the approved Testing Laboratory takes samples of materials other than at the Site, the deliveries to the Site of materials represented by such samples shall be identified as specified for the specific material. The results of such tests shall be reported to the Materials Control Inspector in the form of affidavits attested to by the Testing Laboratory. Such affidavits shall furnish the following information with respect to the material sampled:

a. Manufacturer's name and brand.
b. Place of sampling.
c. Sufficient information to identify the lot, group, bin, or silo from which the samples were taken.
d. Amount of material in the lot sampled.
e. Statement that the material has passed the requirements.
f. Signature and title of the person creating the affidavit and the date of execution of the affidavit.

Certification

A. The Engineer may waive the materials testing requirements and accept the manufacturer's written certificate of compliance that the materials to be supplied meet those requirements. Materials test data may be required by the Engineer to be included with the submittal.

B. A Certificate of Compliance in triplicate shall be furnished prior to the use of materials for which the Contract Documents require that such a certificate be furnished. The Engineer may permit the use of certain materials or assemblies prior to the sampling and testing if accompanied by a Certificate of Compliance. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and the Contractor, and shall state that the materials involved comply in all respects with the requirements of the specifications. A Certificate of Compliance shall be furnished with each lot of materials delivered to the work, and the lot so certified shall be clearly identified on the certificate. The form of the Certificate of Compliance and its disposition shall be as directed by the Engineer.

C. Materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents and such material not conforming to such requirements will be subject to rejection whether in place or not.

D. The Engineer reserves the right to refuse to permit the use of material notwithstanding the submittal of a Certificate of Compliance.

Trade Names or Equals

A. The Contractor may supply any of the materials specified or offer an equivalent. The Engineer will determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

B. A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the Contract Documents.

C. The Contractor shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The Contractor shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

D. Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

E. If a substitute offered by the Contractor is not found to be equal to the specified material; the Contractor shall furnish and install the specified material.

F. The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this subsection.

Weighing and Metering Equipment

A. Scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County

B. The accuracy of the work of a scale service agency, except as stated herein, shall meet the standards of the Business and Professions Code and the Code of Regulations pertaining to weighing devices. A Certificate of Compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required.

C. Scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting or 1.5 percent for any batch.

Final Inspection

At the completion of Work, after completion of all corrections, the Inspector, Engineer, Designer, Architect, Construction & Maintenance, and Contractor may make a final inspection, as applicable. The Inspector will provide a Final Inspection Correction List itemizing all Work necessary to complete the Project as initially approved by LAWA.

01 45 16.13 CONTRACTOR QUALITY CONTROL

Prior to issuance of an NTP, contractors may be required to submit a Quality Control plan, for LAWA's review and approval. The quality plan shall include as a minimum the following:

A. Statement of purpose and the policy for the quality control plan

B. Organization chart designating the quality staff for the project

C. All quality control process for the project including but not limited to:

a. All meetings associated with quality control including preparatory, mobilization and any other quality related meeting
b. All inspection processes and sign-off procedures including punch lists
c. Specialty inspections
d. Supplemental procedures to the quality plan

D. All testing required for the project including any independent testing agencies and their processes

E. Documentation for the process including but not limited to:

a. Quality control reports and project logs
b. Action item logs
c. All forms required for the quality plan
d. Agenda and meeting minutes for all quality related meetings.

01 50 00 TEMPORARY FACILITIES AND CONTROLS

01 52 00 CONSTRUCTION FACILITIES

Contractor's Equipment and Facility

A. Contractors will be required to furnish and maintain all equipment and facilities as required for the proper execution of the work.

B. Contractors will be required to restore the Operations and Storage Yard, if any is provided, and adjacent areas to their original condition prior to final acceptance of the Project, or at the discretion/option of LAWA, left in place at completion of the Project and Ownership shall thereupon be vested to the City.

C. Equipment and materials shall be stored off the Project Site until they are to be used on the Work. All other operations of the Contractor shall be confined to the areas authorized or approved by the Airport Contact.

01 56 00 TEMPORARY BARRIERS AND ENCLOSURES

01 56 23 TEMPORARY BARRICADES

TEMPORARY BARRICADE AND ENCLOSURE STANDARDS

Construction Barricades and Enclosures

A. General Requirements

a. All construction activities within public areas are required to be secured with a LAWA approved barrier as described in this section. The barricade plan shall be a component of the Project Site Logistics Plan. The plan shall include directional/way-finding needs and probable location of any access doors for equipment and crews and fire watch windows where required.
b. The initial barricade plan is part of the Site Logistics Plan and is submitted to the LAWA Project Manager prior to installation of any enclosure or barrier. Further changes will be submitted to the LAWA Project Manager for review and approval prior to field changes, additions and/or removals.
c. The barricade plan shall be a component of Temporary Signage Standards.
d. The contractor must coordinate enclosures that encompass Automated External Defibrillators (AED), Fire Pull Boxes, Cameras, Fire Sprinklers, Pay Phones, and Exit Doors with the LAWA Project Manager at least one week in advance of barricade placement.
e. Barricades shall be fully installed and complete within 24 hours of initiating the installation. If more than 24 hours are required for large areas, provide a phasing plan for installation at least one week prior to installation. In some cases, the LAWA Project Manager may require temporary partition walls to be used during barricade construction.
f. Existing floor and carpet areas beneath panels and within barrier and enclosure areas shall be protected with Masonite-type board, polyethylene sheeting, cardboard, carpet or other suitable material.
g. A straight, clean and uniform appearance of all barricades shall be maintained at all times. Scuffed, dirty, punctured, or discolored barricades shall be cleaned, painted or replaced as required. Each barrier shall be inspected daily with repairs made immediately.
h. Provide for electrical power outlets for any advertising, safety and/or exit signs to be relocated from their existing locations in or on walls that would be covered by the temporary barricade.
i. The Contractor shall construct barricades with the least possible obstruction and inconvenience to LAWA, its occupants and the public.
j. Existing signage and lighting systems in operation as the work proceeds shall be maintained unless otherwise approved by the LAWA Project Manager.
k. Barricades shall neatly adjoin existing walls. Existing finishes shall be protected prior to installation of partitions. Gaps between existing walls and enclosures shall be 1 ½ inches maximum. Provide braces as necessary to support enclosure, flush with surface of panels.
l. The LAWA Project Manager will notify the Contractor of any Airport approved graphics and messaging required for placement along the barricades and/or fencing during construction. Messaging and graphics shall be at the expense of the Contractor. The Contractor shall use the Airport approved Graphic Designer for all messaging and graphics.
m. No unapproved signage shall be affixed to the public side of doors, barricades or fence as stated in Temporary Signage Standards.
n. Per the Faulty and Unauthorized Work section, after NTP, and during all phases of construction, the Applicant and the Applicant's contractor must not deviate from the approved plan. The applicant shall resubmit any changes to the Barricade Plan for approval to the LAWA Project Manager. If Applicant deviates from the approved plan, it will be considered Unauthorized Work and subject to remediation at the Applicant's expense. *Please keep in mind that if the deviations from the approved plans cause an unsafe condition, impacts other Tenants, Customers, or other construction Projects, the Applicant and the Applicants Contractor are subject to a "Stop Work Notice" until the condition has been remedied.*

TranSystems
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NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY: CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	
DATE:	09/23/2016
DESIGNED BY:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET TITLE:
PROJECT GENERAL NOTES

SHEET NO.
1-G-031

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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B. Interior/Fixed Barricades

a. Shall be constructed of metal studs with gypsum board affixed by means of drywall screws. When possible the barricades should reach and be even along the ceiling.
b. When floor to ceiling barricades are not feasible, the Airport Project Team shall review and approve polyethylene enclosures from the top of the gypsum wall to the ceiling to mitigate dust exposure to areas outside the work space. The use of Polyethylene shall be minimized except as required for dust control.
c. When floor to ceiling barricades are not feasible, the Airport Project Team shall review and approve the top finish of the gypsum wall. The top of the wall shall be level horizontally with a metal strip painted to match attached for an even finish.
d. The Airport Project Team may approve the use of polyethylene sheeting at the top of the barricade and continuously at the deck or soffit above the barricade. Polyethylene enclosures shall be white in color, fire retardant, and at least 6 mil thick. Fire rated white tape shall be used to continuously secure the sheeting. There shall be no wrinkles, holes, tears, patch work pieces, shredded sheets or gathered sections. Polyethylene enclosures shall be supported by framework and be capable of supporting .5 psf applied over the entire surface of each side, separately.
e. All joints shall be smooth and free from tool marks and ridges. A drywall primer prior to two coats of flat paint for a Level 4 finish is required.
f. Gypsum board paint color is to match adjacent, existing walls and approved by the Airport Project Team. Paint shall extend continuously to the next intersection in the wall for a uniform finish to the existing facility.
g. Barricades shall have 4-inch high vinyl base moldings, wall color to match adjacent and existing walls and molding color to match adjacent and existing moldings.

C. Exterior and Movable Barricades

a. Exterior barricades shall be used for construction along the curbs and adjacent to buildings in public areas. Movable barricades shall be used when work areas require large open space during work hours for equipment and access such as escalator and elevator replacements.
b. Fire retardant treated plywood fastened to either light gauge metal studs or 2-inch x 4-inch fire retardant treated timber studs with continuous level framing at top and bottom may be used at curbs and where the LAWA Project Manager deems appropriate.
c. The face of the barricades shall be smooth and free from protrusions with edges and corners eased with no gaps. Nails, screws and other fasteners shall be installed flush with the face of the barricade.
d. Paint on barricades shall match existing walls. Paint must be applied in 2 coats minimum. All vertical joints must be taped and painted. Barricades shall have 4-inch high vinyl base moldings, wall color to match adjacent and existing walls and base molding color to match adjacent existing moldings.
e. Barricades shall be constructed with integral base or other devices to resist an overturning moment created by the force of 50 pounds per lineal foot applied horizontally at the height of 3 feet 6 inches perpendicular to the partition for the full length of the partition.

D. Doors

a. All interior and exterior doors leading into construction areas and build outs must be self-closing, self-locking and open inward towards the construction area.
b. Interior doors shall be a pair of pre-hung and of hollow or solid core with three hinges (1-1/2 pair) with levered lock set. Doors shall be painted and framed to prevent warping, and shall be mounted flush to the barricade walls.
c. Exterior doors shall be a pair of pre-hung hollow or solid core doors or two four-foot wide plywood doors, optional to Contractor. One door leaf will be stationary with cane bolt or similar device to keep door closed when not in use. Operating second door shall have three hinges (1-1/2 pair) with levered lock set. Hardware should match existing hardware.
d. All interior and exterior doors must remain locked at all times. When doors are open for delivery of materials, the entrance must be staffed to prevent public entry into the construction area. Acceptable locks include Cipher Locks and key boxes attached to the door. Hasp and locks shall not be used on interior or exterior doors or near the doors.
e. Maintenance, cleaning, painting, patching or replacement of interior and exterior doors, door frames and hardware is required on a regular basis during the duration of the construction project.
f. The interior and exterior door signage is a component of Temporary Signage Standards. No unapproved signage shall be affixed to the public side of the door.

E. Exterior Fencing

a. Contractor fencing shall be used at exterior construction locations as approved by the LAWA Project Manager. A screened 4-foot chain link fence shall be secured along the top of concrete barriers, or with post buried in the ground and submitted for review and approval by the LAWA Project Manager.
b. The screen shall be an 85% closed woven panel made from polypropylene with the color approved by the LAWA Project Manager. All edges will be grommets and tape. There shall be no wrinkles, holes, tears, patch work pieces, shredded sheets or gathered sections in the screen.
c. Construction entrances shall be constructed of framed chain linked gates. The gate width shall be approved by the LAWA Project Manager. Gates shall be chained and locked at all times.
d. Exterior fence signage is a component of Temporary Signage Standards. No unapproved signage shall be affixed to the public side of the fencing.

F. Other Barricades

a. If approved by the LAWA Project Manager the following can be used on a temporary short term basis:
   i. Stanchions with retractable barrier tape
   ii. Bicycle Racks – Interlocking Steel Crowd Control Barriers
   iii. Temporary Partition Walls
b. Caution tape is not an approved barrier for Airport Construction and shall only be used in an emergency situation. If used, caution tape must be replaced within 24-hours with an Airport approved barricade. No orange cones or other, non-specified barricades are allowed within passenger areas of the Terminals and/or other public buildings.
c. Barricades used on the airfield must have red flashers and comply with the FAA Specifications and be submitted for review and approval to Airport Operations.

01 57 23 TEMPORARY STORM WATER POLLUTION CONTROL

Water Pollution Control

A. The Contractor shall conform to all applicable local, state and Federal regulations and laws pertaining to water pollution control. The Contractor shall conduct and schedule its operations in such a manner as to prevent water pollution.

a. "Water Pollution" shall mean an alteration of the quality of waters by fuels, oils, and other harmful materials. The alteration shall be to a degree that adversely affects such waters for beneficial uses, or facilities that serve such beneficial uses.
b. "Beneficial Uses" shall include, but not necessarily be limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; esthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

B. When required, the Contractor shall obtain permits for erosion and water pollution control from the appropriate jurisdictional agency before the start of construction.

C. Wet Weather Erosion Control Plan (WWECP) shall be prepared pursuant to Section 61.02 of the LAMC, whenever it appears that the construction Site will have grading during the rainy season (from October 15 to April 15). The Contractor shall submit a WWECP to the Engineer for approval within thirty (30) Days after the Notice to Proceed or get approval thirty (30) Days prior to the beginning of the rainy season, whichever is longer.

D. Work shall be in compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit for the City of Los Angeles (NPDES Permit No. CAS004001), including the Los Angeles Standard Urban Stormwater Mitigation Plan (SUSMP). Guidance on NPDES, SUSMP, and WWECP can be found on the City of Los Angeles' Stormwater website at http://www.lastormwater.org.

E. The Contractor shall conform to the following requirements:

a. Sediments or other surface water quality pollutants shall not be discharged to a storm drain system or receiving waters.
b. Sediments and other surface water quality pollutants generated on the Work site shall be contained on the Work site using appropriate Best Management Practices (BMPs).
c. No construction-related materials, waste, spill, or residue shall be discharged from the Work site to streets, drainage facilities, receiving waters, or adjacent property by wind or runoff.
d. Non-storm water runoff form equipment, vehicle washing, or any other activity shall be contained within the Work site using appropriate BMPs.
e. Erosion shall be prevented. Erosion susceptible slopes, shall be covered, planted or otherwise protected in a way that prevents discharge from the Work site.

Stormwater Discharges Associated with Construction Activity

A. The Contractor shall implement and maintain such BMPs as are relevant to the Work.

B. The Contractor shall be responsible throughout the duration of the Contract for installing, constructing, inspecting, maintaining, removing and disposing of BMPs. Unless otherwise directed by LAWA, the Contractor shall be responsible for BMP implementation and maintenance throughout any temporary suspension of the Work.

C. All projects, regardless of size, shall implement the following good housekeeping BMPs to reduce the discharge of pollutants from construction sites to the maximum extent practicable:

a. Eroded sediments and other pollutants must be retained on Site and may not be transported from the Site via sheet flow, swales, area drains, or natural drainage.
b. Stockpiles of earth and other construction-related materials must be protected from being transported from the Site by water.
c. Fuels, oils, solvents, and other toxic substances originating from the Contractor's operations shall not be allowed to enter the ground water or be placed where they will enter a live stream, channel, drain, or other water conveyance facility. Spills may not be washed into the live streams, channels, drains, or other water conveyance facilities.
d. Such features as drainage gutters, slope protection blankets, and retention basins shall be constructed concurrently with other Work and at the earliest practical time. The Contractor shall exercise care to preserve vegetation beyond the limits of construction.
e. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete wastes on-site until it can be appropriately disposed of or recycled.
f. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
g. Sediments and other materials may not be tracked from the Site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
h. After the completion of the Work, the Site shall be cleared of debris and restored to a condition equal to or better than that existing before construction.

D. The Contractor shall comply with the State Water Resources Control Board Order No. 2009-0009- DWQ (Construction Activities Storm Water General Permit). Contractor is to determine the Risk Level for the Site in accordance with State Water Resources Control Board Order No. 2009-0009- DWQ and determine which requirements are applicable.

E. Compliance with State Water Resources Control Board Order No. 2009-0009-DWQ, may included, but is not limited to the following:

a. Register via the State Water Board's Storm Water Multi-Application & Reporting System (SMARTS) system, as coordinated through LAWA.
b. Prepare all Permit Registration Documents.
c. Have a credentialed preparer, as defined in State Water Resources Control Board Order No. 2009-0009-DWQ, develop a site-specific Storm Water Pollution Prevention Plan (SWPPP).
d. Submit SWPPP to LAWA Environmental Services Division for review and approval.
e. Implement the SWPPP in accordance with State Water Resources Control Board Order No. 2009-0009-DWQ requirements, including, but not limited to necessary and appropriate site monitoring, and filing of required reports and notifications via SMARTS (in consultation with LAWA).
f. Prepare a Notice of Termination (NOT) upon completion of said construction work, fulfill all post-construction requirements under State Water Resources Control Board Order No. 2009- 0009-DWQ, and coordinate with LAWA the filing of the NOT via SMARTS.

F. Failure to comply with State Water Resources Control Board Order No. 2009-0009-DWQ may subject discharges to penalties. Dischargers may become liable to pay up to $10,000 a day pursuant to California Water Code section 13385, and another penalty of a minimum of $1,000 pursuant to sections 13399.25-3399.43.

G. Should the Contractor violate any of the provisions of this Subsection, or if pollution occurs in the work area for any reason, the Contractor shall immediately notify LAWA. In addition the Contractor shall, within 10 Days, submit written confirmation to LAWA describing the incident and corrective actions taken. Contractor is to comply with all discharge reporting requirements of Water Resources Control Board Order No. 2009-0009-DWQ. If pollution, for whatever reason, is detected by the Inspector/Engineer before notification by the Contractor, the required written confirmation shall also include any explanation of why the Contractor had not notified the Inspector.

Drainage Control

The Contractor shall ensure that storm and drainage water does not pond due to the temporary blockage of exiting drainage facilities. To this end, the Contractor shall provide temporary methods that allow for the passage of storm and drainage water in a manner equivalent to the existing drainage system.

01 60 00 PRODUCT REQUIREMENTS

01 64 00 OWNER-FURNISHED PRODUCTS LAWA FURNISHED MATERIALS

Materials Furnished by LAWA

A. Upon receiving material furnished by the LAWA for storage or installation in the Work, the Contractor shall give a signed receipt to the Airport Contact for the material delivered. Thereafter the Contractor shall be responsible for the care and necessary replacement of such material if damaged.

B. If, as determined by LAWA, the material is not adequately protected by the Contractor, such material may be protected by the LAWA and the cost thereto be charged to the Contractor.

C. Upon receiving such material, the Contractor shall inspect it, and should any damage, defects, or missing equipment or parts be found, the Contractor shall immediately notify LAWA in writing. By failing to notify LAWA, it shall be deemed that the Contractor has accepted such material as being free from said damage, defects, or missing equipment or parts, except for latent defects.

01 66 00 PRODUCT STORAGE AND HANDLING REQUIREMENTS

01 66 13 PRODUCT STORAGE AND HANDLING REQUIREMENTS FOR HAZARDOUS MATERIALS

Special Hazardous Substances and Processes

A. Special Hazardous Substances and Processes. Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the Contractor from the manufacturer of any hazardous products used. All hazardous wastes shall be removed from LAWA property within 90 days by a registered hauler to a licensed treatment, storage, or disposal facility.

B. Except as otherwise permitted, the Contractor agrees to accept sole responsibility for full compliance with any and all applicable present and future rules, regulations, restrictions, ordinances, statutes, laws and/or other orders of any governmental entity regarding the use, storage, handling, distribution, processing and/or disposal of hazardous wastes, extremely hazardous wastes, hazardous substances, hazardous materials, hazardous chemicals, toxic substances, pollutants, contaminants, or other similarly regulated substances (hereinafter referred to as "hazardous substances") regardless of whether the obligation for such compliance or responsibility is placed on the owner of the land, on the owner of any improvements on the premises, on the user of the land, or on the user of the improvements. Said hazardous substances shall include, but shall not be limited to gasoline, aviation, diesel and jet fuels, lubricating oils and solvents.

C. With the exception of the City's sole negligence, the Contractor agrees that any damages, penalties or fines levied on the City and/or the Contractor as a result of noncompliance with any of the above shall be the sole responsibility of the Contractor and, further, that the Contractor shall indemnify and pay and/or reimburse City for any damages, penalties or fines that City incurs, or pays, as a result of noncompliance with the above requirements.

D. In the case of any hazardous substance spill, leak, discharge or improper storage on the premises, or contamination of same, by any person, the Contractor agrees to make, or cause to be made, any necessary repairs or corrective actions, as well as to clean up and remove any leakage, contamination or contaminated ground. In the case of any hazardous substance spill, leak, discharge or contamination by the Contractor, or by any of its employees, agents, servants, or subcontractors which affects other property of the City, or property(ies) of the City's tenant(s), the Contractor agrees to make, or cause to be made, any necessary repairs, or take corrective actions, to clean-up and remove any such spill, leakage or contamination.

E. If the Contractor fails to repair, clean-up, property dispose of, or take any other corrective action(s) as required, the City may (but shall not be required to) take all steps it deems reasonably necessary to properly repair, clean-up or otherwise correct the condition(s) resulting from the spill, leak or contamination. Any such repair, clean-up or corrective action(s) taken by the City shall be at Contractor's sole cost and expense, as well as shall any and all costs (including any administrative costs) which City incurs, or pays, as a result of any repair, clean-up or corrective action it takes.

F. Contractor shall promptly supply City with copies of all notices, reports, correspondence and submissions made by the Contractor to any governmental entity regarding any hazardous substance spill, leak, discharge or clean-up, including all tests results.

G. This section and the obligations herein shall survive the expiration or earlier termination of any other contractual relationship.

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

01 71 33.10 PROTECTION OF ADJACENT CONSTRUCTION – UTILITIES

Utility Protection:

A. All utilities encountered during the execution of the Work shall be maintained continuously in service, unless other arrangements satisfactory to the utility, LAWA, and the Engineer are made. Utilities shall include, but not be limited to, all above or below ground conduit, pipes, wet wells, ducts, cables, and appurtenances associated with oil, gas, water, steam, irrigation, sewer, storm drain, wastewater, air, electrical, power, instrumentation, communication, telephone, TV, and lighting systems, whether or not owned by the City. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

B. Fire and police call boxes and conduits shall be protected by the Contractor. Should said facilities be damaged by the Contractor's operations, immediate notification shall be given to LAWA.

C. When placing concrete around or contiguous to any non-metallic utility installation, the Contractor will be required to do one of the following:
– Furnish and install a 50mm (2-inch) cushion of expansion joint material or other similar resilient material; or
– Provide a sleeve or other opening which will result in a 50mm (2-inch) minimum-clear annular space between the concrete and the utility; or
– Provide other acceptable means to prevent embedment in or bonding to the concrete.

D. Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Airport Contact and arrange to secure the advice of the affected utility LAWA regarding the procedures required to maintain or restore the integrity of the system.

E. Upon completion of the Work, the Contractor will remove all enclosures or protective coverings and leave the work area in a finished condition.

01 74 00 CLEANING AND WASTE MANAGEMENT

01 74 23 FINAL CLEANING

Final Cleaning

A. General cleaning is required during construction.

B. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions. Do not use cleaning agents that are potentially hazardous to health or property or which might damage finish surfaces. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with California Code of Regulations maximum allowable VOC levels.

C. In addition to the requirements of the contract documents, complete the following cleaning operations before requesting LAWA Final Inspection.

a. Remove labels that are not permanent labels.
b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
d. Vacuum carpeted and soft surfaces, removing debris and excess nap. Shampoo if visible soil or stains exist.
e. Clean equipment and plumbing fixtures to a sanitary condition.
f. Clean exposed surfaces of grilles, registers, and diffusers.
g. Replace filters of operating mechanical equipment.
h. Clean ducts, blowers, and coils if units were operated without filters during construction or display contamination with particulate matter upon inspection
i. Clean light fixtures and replace burned out lamps and bulbs. Replace defective or noisy ballasts and starters in fluorescent fixtures.
j. Remove debris and surface dust from limited access spaces, including, but not limited to the following: roofs, attics, plenums, shafts, trenches, equipment vaults, maintenance holes, gutters, downspouts, and drainage systems.
k. Wipe surfaces of mechanical and electrical equipment, elevator, escalator, moving walk, baggage handling, and similar equipment. Remove excess lubrication, paint, mortar droppings, and other foreign substances.
l. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
m. Clean the site, including Contractor's Operations and Storage Yard, of rubbish, litter and foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
n. Reinstall any cladding removed for the work.

D. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on LAWA property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

F. Where extra materials of value, which have become LAWA's property, remain after completion of associated Work, arrange for the removal, relocation, and or disposal of these materials as directed by LAWA.

PEST CONTROL.

When directed by LAWA, engage an experienced, licensed exterminator to make final inspection and rid Project of rodents, insects, and other pests. Submit pest-control final inspection report and warranty to LAWA.

01 76 00 PROTECTING INSTALLED CONSTRUCTION

Utility Protection:

A. All underground utility conduits shall have a minimum cover of eighteen (18) inches and shall have identifying detectable tape placed in the trench above the conduit. The detection tape shall be made of metalized foil laminated between two layers of inert plastic film, six (6) inches wide and a minimum of 4.5 mils thick, as described here:
a. Safety Red = Electric and lighting conduit and cables.
b. Safety Yellow = Gas, oil, steam, petroleum or gaseous materials.
c. Safety Orange = Telephone, alarm, or signal cables and conduit.
d. Safety Blue = Potable water or irrigation.
e. Safety Green = Sewer or drain lines.

B. The detection tape shall be placed directly above and reasonably horizontal for the full length of the conduit. For conduits with less than four (4) feet of cover, install tape four (4) to eighteen (18) inches below the subgrade surface and at least twelve (12) inches above the conduit. For conduits with more than four (4) feet of cover, install tape at least three (3) feet above the conduit.

C. Upon completion of the Work, the Contractor will remove all enclosures or protective coverings and leave the work area in a finished condition.

01 77 00 CLOSEOUT PROCEDURES

Closeout Procedures

01 77 13 PRELIMINARY CLOSEOUT REVIEWS

List of Incomplete Items (Punchlist)

A. Thirty (30) days prior to the anticipated Project Completion, submit a list, in an electronic format approved by LAWA, either Microsoft Excel Spreadsheet with PDF or Microsoft Access Database with PDF. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside limits of construction. Use CSI Form 14.1A or other form acceptable to LAWA.

a. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, unless otherwise acceptable to LAWA.
b. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
c. Include following information at top of each page:
   i. Project name.
   ii. Date.
   iii. Name of Construction Manager and Designer/Architect.
   iv. Name of Contractor.
   v. Page number.

01 77 16 FINAL CLOSEOUT REVIEW

Final Inspection

At the completion of Work, after completion of all corrections, the Inspector, Engineer, Designer, Architect, Construction & Maintenance, and Contractor may make a final inspection, as applicable. The Inspector will provide a Final Inspection Correction List itemizing all Work necessary to complete the Project satisfactorily.
Tenant/Contractor is to:

A. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

B. Submit certified copy of LAWA's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by LAWA. Certified copy of list shall state that each item has been completed or otherwise resolved for acceptance.

C. Submit documentation of performance of Closeout Submittals as outlined in Section 01 78 00.

D. In addition to submittals required in Section 01 78 00, submit final project photographs, damage or settlement surveys, property surveys, and similar final record information.

Additionally, for those portions to be maintained by LAWA, Tenant/Contractor is to:

A. Advise LAWA of pending insurance changeover requirements.

B. Obtain and submit releases permitting LAWA unrestricted use of Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

C. Advise LAWA of changeover in heat and other utilities.

D. Submit changeover information related to LAWA's occupancy, use, operation, and maintenance.

E. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of date of Substantial Completion or when LAWA took possession of and assumed responsibility for corresponding elements of Work.

F. Make ready for landscape maintenance period (if applicable).

G. Submit any specific testing data, warranties, maintenance agreements, final certifications and similar documents not addressed in Section 01 78 00.

02 24 00 ENVIRONMENTAL ASSESSMENT

Environmental Assessments are to be performed to ASTM standards as well as the requirements of the applicable Federal/State and Local Environmental Agencies, and LAWA.

The agencies may include one or more of the following: EPA, Cal EPA (DTSC, SWRCB)

For LAX and VNY - LARWQCB, LAFD, SCAQMD, and LADOT
For LA-ONT – Santa Ana RWQCB, San Bernardino County Fire Department, SCAQMD

02 24 23 CHEMICAL SAMPLING AND ANALYSIS OF SOILS

That you shall hire a consultant to have your facilities tested to satisfy the requirements of the Los Angeles Fire Department (LAFD), the Los Angeles County Fire Department, and the Regional Water Quality Control Board pertaining to federal, state, and local laws that regulate management of hazardous materials and soil and water contamination. The test shall include the following:
a) Pressure-testing of fuel lines to determine if any leakage is occurring.
b) Testing of your assigned area to determine if there is contamination of the soil and/or groundwater.
c) Taking soil borings to determine the maximum depth of contamination if soil and/or groundwater contamination is present
d) Hiring an engineering/contracting firm to determine a remedy or solution for soil and/or groundwater contamination and to develop plans for the hauling away of any hazardous material to the satisfaction of LAWA, LAFD, the Los Angeles County Fire Department, and Regional Water Quality Control Board if your leased area is contaminated.

02 26 00 Hazardous Material Assessment.

Prior to any renovation or demolition, conduct a hazardous materials survey for asbestos, lead paint, polychlorinated biphenyls (PCB's), mercury, and refrigerants according to federal, state and local requirements. Provide a copy of the survey to the Airport Development Group (ADG) Project Manager.

02 26 23 ASBESTOS ASSESSMENT

AQMD Rule 1403 requires an asbestos survey report prior to any demolition or renovation.
http://www.aqmd.gov/comply/asbestos/asbestos.html
A copy of the survey report shall be submitted to LAWA's Airport Development Group prior to the start of construction.

02 40 00 DEMOLITION AND STRUCTURE MOVING

Removal and Disposal of Structures and Obstructions

All structures or obstructions which are not to remain in place or to be used in the new construction shall be removed as directed by the Airport Contact.

02 41 00 DEMOLITION

02 41 13.23 UTILITY LINE REMOVAL

Removal/ Relocation of Utilities

A. The Contractor shall pull out all wire from an electrical duct bank that is being abandoned and disconnect same from servicing panel.
B. Where the proper completion of the Work requires the temporary or permanent relocation and/or removal of an existing utility, relocation and replacement work shall be performed in a manner satisfactory to LAWA.

02 60 00 CONTAMINATED SITE MATERIAL REMOVAL

02 61 00 Removal of Asbestos, PCB's, and Organically Contaminated Soils

Hazardous Waste Disposal.
That disposal of all hazardous wastes shall be done in accordance with all applicable laws and ordinances. All hazardous wastes shall be removed from LAWA property within 90 days by a registered hauler to a licensed treatment, storage, or disposal facility.

02 65 00 Underground Storage Tank Removal

Fire Department Permits.
That you shall fulfill all other requirements of the Los Angeles Fire Department (LAFD) in compliance with Section 1, Chapter V, Article 7, of the Los Angeles Municipal Code (Fire Protection and Prevention). This includes obtaining the required Division 4 and Division 5 permits for tank registration, installation, and/or removal and may also include requirements for submittal of a hazardous business plan, to obtain hazardous disclosure certificates, and for annual renewals which are administered by the Office of the City Clerk. Copies of the permits shall be provided to LAWA's Facilities Engineering and Technical Services Division prior to the start of construction. Evidence of a current business plan shall be filed with the Facilities Engineering and Technical Services Division within 30 days of tank installation.

That you shall hire a consultant to have your facilities tested to satisfy the requirements of the Los Angeles Fire Department (LAFD), the Los Angeles County Fire Department, and the Regional Water Quality Control Board pertaining to federal, state, and local laws that regulate management of hazardous materials and soil and water contamination. The test shall include the following:
a) Pressure-testing of fuel lines to determine if any leakage is occurring.
b) Testing of your assigned area to determine if there is contamination of the soil and/or groundwater.
c) Taking soil borings to determine the maximum depth of contamination if soil and/or groundwater contamination is present
d) Hiring an engineering/contracting firm to determine a remedy or solution for soil and/or groundwater contamination and to develop plans for the hauling away of any hazardous material to the satisfaction of LAWA, LAFD, the Los Angeles County Fire Department, and Regional Water Quality Control Board if your leased area is contaminated.

Boring Logs/ Soil Reports.
That one set of the log of borings and soils reports shall be furnished to LAWA promptly upon completion of work.

Soil Sampling.
That all soil sampling and analysis work shall be done in accordance with the requirements of the CUPA and the Regional Water Quality Control Board.

Underground Tank Removal Checklist.
That your contractor shall complete and submit the underground storage tank removal report in accordance with CUPA and RWQCB requirements within 30 days of tank installation and/or removal.

TranSystems
801 SOUTH GRAND
SUITE 210
LOS ANGELES, CA 90017
PHONE: (562) 594-9974
FAX: (562) 594-9975

NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONT LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	
DATE:	09/23/2016
DESIGNED BY:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET TITLE:
PROJECT GENERAL NOTES

SHEET NO.
1-G-032

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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BUILDING CODE ANALYSIS
FOR THE CONSOLIDATED RENTAL CAR FACILITY
LOS ANGELES INTERNATIONAL AIRPORT
PROJECT NO. DA4881

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTION OF THE NEW CONSOLIDATED RENTAL CAR FACILITY (CONRAC) COMPRISED OF A FOUR-LEVEL STRUCTURE, WITH THREE LEVELS DEDICATED TO RENTAL CAR (RAC) READY/RETURN FOR 7,600 STALLS, ONE LEVELS DEDICATED TO PARKING AND A CUSTOMER SERVICE BUILDING (CSB), CONNECTED TO THE AIRPORT VIA AN AUTOMATED PEOPLE MOVER (APM).

THE PROJECT ALSO INCLUDES A FOUR-LEVEL IDLE STORAGE GARAGE FOR RENTAL CAR STORAGE, AND THREE-LEVEL MAINTENANCE, CARWASH, AND FUELING FACILITIES FOR THE RENTAL CAR OPERATIONS, REFERRED TO AS A QUICK TURN AROUND (QTA) FACILITY, TO PROVIDE VEHICLE CLEANING, FUELING, WASHING AND LIGHT MAINTENANCE OF RENTAL CARS. THE QTA HAS VEHICLE BRIDGE CONNECTIONS TO THE CORRESPONDING LEVELS OF THE RAC AND IDLE STORAGE.

GROSS BUILDING AREA CALCULATION

BUILDING A - QTA

OCCUPANCY:	H-3, B, & S-1 WITH TYPE 1A FIRE RESISTIVE CONSTRUCTION
ALLOWABLE AREA:	UNLIMITED (CBC TABLE 503)
BASEMENT	19,375 SF
LEVEL 1	196,390 SF
LEVEL 2	196,390 SF
LEVEL 3	196,390 SF
ROOF	196,390 SF (EXCLUDED FROM GROSS BLDG AREA)
SUBTOTAL	608,545 SF

BUILDING B - QTA

OCCUPANCY:	H-3, S-1 & B WITH TYPE 1A FIRE RESISTIVE CONSTRUCTION
ALLOWABLE AREA:	UNLIMITED (CBC TABLE 503)
LEVEL 1	91,853 SF [82,818 SF + 9,035 SF(MAINTENANCE)]
LEVEL 2	73,785 SF
LEVEL 3	73,785 SF
ROOF	73,785 SF (EXCLUDED FROM GROSS BLDG AREA)
SUBTOTAL	239,423 SF

BUILDING C - IDLE STORAGE

OCCUPANCY:	S-2 WITH TYPE 1A FIRE RESISTIVE CONSTRUCTION
ALLOWABLE AREA:	UNLIMITED (CBC TABLE 503)
LEVEL 1 - IDLE STORAGE	637,410 SF [622,628 SF(IDLE STORAGE) + 14,782 SF (MAINTENANCE)]
LEVEL 2 - IDLE STORAGE	622,628 SF
LEVEL 3 - IDLE STORAGE	622,628 SF
LEVEL 4 - PARKING	622,628 SF
SUBTOTAL	2,505,294 SF

BUILDING D - CSB/RAC/PPG

OCCUPANCY:	B & S-2 WITH TYPE 1A FIRE RESISTIVE CONSTRUCTION
ALLOWABLE AREA:	UNLIMITED (CBC TABLE 503)
LEVEL 1 - RAC	816,264 SF
LEVEL 2 - RAC	816,264 SF
LEVEL 3 - RAC	816,264 SF
LEVEL 4 - CSB/APM/PARKING	816,264 SF
SUBTOTAL	3,265,056 SF
TOTAL:	**6,671,318 SF**

AREA OF CONSTRUCTION LIMITS SEE, SHEET 1-CI-002

FOR EGRESS WIDTH CALCULATIONS, SEE SHEETS 1-G-102
FOR OCCUPANT LOAD, SEE SHEETS 1-G-102

APPLICABLE CODES

2013 CALIFORNIA BUILDING CODE (CBC)
2014 LA AMENDMENT BUILDING CODE
2013 CALIFORNIA ELECTRICAL CODE
2014 LA AMENDMENT ELECTRICAL CODE
2013 CALIFORNIA MECHANICAL CODE
2014 LA AMENDMENT MECHANICAL CODE
2013 CALIFORNIA PLUMBING CODE
2014 LA AMENDMENT PLUMBING CODE
2013 CALIFORNIA ENERGY CODE
2013 CALIFORNIA FIRE CODE
2014 LA FIRE CODE
2013 CALIFORNIA GREEN BUILDING STANDARDS CODE
2014 LA AMENDMENT GREEN BUILDING CODE
NFPA 30A MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES
NFPA 130 FIXED GUIDEWAY TRANSIT AND PASSENGER RAIL SYSTEMS
NFPA 10 STANDARD FOR PORTABLE FIRE EXTINGUISHERS
NFPA 101 LIFE SAFETY CODE

OCCUPANCY CLASSIFICATION [CHAPTER 3]

BLDG A - QTA:	NON-SEPARATED MIXED USE PRIMARY OCCUPANCY: **H-3**
QTA A - GROUND LEVEL:	SPRINKLERED
QTA OPERATIONS (FUELING, WASH, SUPPORT SPACES, DRIVEWAY, QUEUING)	**H-3**
MANAGEMENT OFFICE SUITE (ACCESSORY USE, SECTION 508)	B
ADMIN AREA (ACCESSORY USE, SECTION 508)	B
FUEL RISER / WWF	H-2
QTA A - 2ND & 3RD LEVEL:	SPRINKLERED
QTA OPERATIONS (FUELING, WASH, SUPPORT SPACES, DRIVEWAY, QUEUING)	**H-3**
ADMIN AREA (ACCESSORY USE, SECTION 508)	B
FUEL RISER / WWF	H-2
BLDG B - QTA:	NON-SEPARATED MIXED USE PRIMARY OCCUPANCY: **H-3**
QTA B - GROUND LEVEL:	SPRINKLERED
QTA OPERATIONS (FUELING, WASH, SUPPORT SPACES, DRIVEWAY, QUEUING)	**H-3**
ADMIN AREA (ACCESSORY USE, SECTION 508)	B
QTA B - GROUND LEVEL, INDEPENDENT MAINTENANCE BAY BUILDING	SPRINKLERED
MAINTENANCE BAYS & STORAGES	**S-1**
QTA B - 2ND & 3RD LEVEL:	SPRINKLERED
QTA OPERATIONS (MAINTENANCE BAYS, SUPPORT SPACES, DRIVEWAY, QUEUING)	**H-3**
ADMIN AREA (ACCESSORY USE, SECTION 508)	B
BLDG C - IDLE STORAGE:	NON-SEPARATED MIXED USE PRIMARY OCCUPANCY: **S-2**
	SPRINKLERED
MAINTENANCE BAYS (ACCESSORY, SECTION 508)	S-1
BLDG D - READY RETURN/CSB/APM STATION:	SEPARATED MIXED USE
READY RETURN (Lvl 1 to Lvl 3):	SPRINKLERED **S-2**
CSB:	SPRINKLERED
LOBBY & QUEUING	A-3
OFFICE	B
CSB SUPPORT (ELEC, MECH, STORAGE AND DATA)	S-1
APM STATION:	SPRINKLERED A-3

REQUIRED SEPARATION OF OCCUPANCIES (HOURS) [CBC TABLE 508.4]

OCCUPANCY	OCCUPANCY	REQUIRED SEPARATION (HOURS) (W/ SPRINKLER)	REQUIRED SEPARATION (HOURS) (W/O SPRINKLER)
A	S-2	0	1
A	B	1	2
A	S-1	1	2
B	S-2	1	2
B	S-1	0	0
S-2	S-1	1	2
H-3	S-1	1	2
H-3	B	1	2

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) [TABLE 601]

TYPE IA CONSTRUCTION

	RATING (Hours)	REMARKS
1. PRIMARY STRUCTURAL FRAME	3	Permitted to be reduced by 1 hour where supporting a roof only
2. BEARING WALLS		
EXTERIOR	3	
INTERIOR	3	Permitted to be reduced by 1 hour where supporting a roof only
3. NONBEARING WALLS & PARTITIONS EXTERIOR	TABLE 602	
4. NONBEARING WALLS & PARTITIONS INTERIOR	0	
5. FLOOR CONSTRUCTION	2	
6. ROOF CONSTRUCTION	1.5	**Group B, S-2 & U**: fire protection of structural members shall not be required where every part of the roof construction is 20 feet or more above any floor immediately below **Group A**: fire protection of members other than the structural frame shall not be required where every part of the roof construction is 20 feet or more above any floor immediately below

FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALL (HOURS) [TABLE 602]

	TYPE OF CONSTRUCTION	GROUP H	GROUP S-1	GROUP A, B, S-2, U
X < 5	1A	3	2	1
5 ≤ X < 10	1A	3	2	1
10 ≤ X < 30	1A	2	1	1 (except open parking garage)
X ≥ 30	1A	0	0	0

EXTERIOR WALL AND OPENING PROTECTION:

1. EXTERIOR NON-BEARING WALLS [CBC TABLE 602]

READY RETURN BUILDING D AND **IDLE STORAGE** BUILDING C:
IA CONSTRUCTION (SPRINKLERED),
GROUP **S-2**

BUILDING SIDE	FSD	EXTERIOR WALL RATING	OPENINGS
EAST	FSD>30 FEET	0 HOURS	UNLIMITED
SOUTH	FSD>30 FEET	0 HOURS	UNLIMITED
WEST	FSD>30 FEET	0 HOURS	UNLIMITED
NORTH	FSD>30 FEET	0 HOURS	UNLIMITED

QTA BUILDING A & B:
IA CONSTRUCTION (SPRINKLERED)
GROUP **H-3** (PRIMARY OCCUPANCY)

BUILDING SIDE	FSD	EXTERIOR WALL RATING	OPENINGS
EAST	FSD>30 FEET	0 HOURS	UNLIMITED
SOUTH	FSD>30 FEET	0 HOURS	UNLIMITED
WEST	FSD>30 FEET	0 HOURS	UNLIMITED
NORTH	FSD>30 FEET	0 HOURS	UNLIMITED

2. OPENINGS [CBC TABLE 716.5 & 716.6]

TYPE OF ASSEMBLY	WALL ASSEMBLY RATING	DOOR AND FIRE SHUTTER ASSEMBLY RATING	OPENINGS
FIRE WALL	4 HOURS	3 HOURS	NOT PERMITTED (a)
FIRE BARRIER	3 HOURS	3 HOURS	NOT PERMITTED (a)
FIRE BARRIER	2 HOURS	1.5 HOURS	NOT PERMITTED (a)
FIRE PARTITION	1 HOURS	3/4 HOURS	3/4 HOURS

a. NOT PERMITTED EXCEPT FIRE-RESISTANCE RATED GLAZING ASSEMBLIES TESTED TO ASTM E 119 OR UL263 AS SPECIFIED IN SECTION 716.2.

ALLOWABLE HEIGHT: XXX FEET OVERALL HEIGHT. - FAA GOVERNS
UNLIMITED (CBC TABLE 503)

EXIT ACCESS TRAVEL DISTANCE (CBC TABLE 1016.2):

1. H-3 (WITH SPRINKLER SYSTEM)	150 FEET
2. B (WITH SPRINKLER SYSTEM)	300 FEET
3. S-1 (WITH SPRINKLER SYSTEM)	250 FEET
4. S-2 (WITH SPRINKLER SYSTEM)	400 FEET
5. A (WITH SPRINKLER SYSTEM)	250 FEET

COMMON PATH OF EGRESS TRAVEL (CBC Table 1014.3):

1. B, S (WITH SPRINKLER SYSTEM)	100 FEET
2. A (WITH SPRINKLER SYSTEM)	75 FEET
3. H-3 (WITH SPRINKLER SYSTEM)	25 FEET

STAIR	STAIRS WITH 2 SIDES OPEN SHALL BE PERMITTED IN PARKING STRUCTURES AT THE PERIMETER. INTERIOR STAIRS NEED TO BE ENCLOSED.
STAIR CLEAR WIDTH	MINIMUM WIDTH CLEAR OF ALL OBSTRUCTIONS, EXCEPT PROJECTIONS NOT MORE THAN 4 1/2" AT OR BELOW HANDRAIL HEIGHT ON EACH SIDE. MINIMUM WIDTH 44 INCHES.
STAIR RISERS	MAXIMUM OF 7 IN. MINIMUM OF 4 IN.
STAIR TREAD	MINIMUM DEPTH OF 11 IN.
STAIR MINIMUM HEADROOM	MINIMUM HEADROOM OF 6 FT-8 IN
STAIR MAXIMUM HEIGHT BETWEEN LANDINGS	MAXIMUM HEIGHT BETWEEN LANDINGS IS 12 FT.
STAIR RISER HEIGHT/TREAD DEPTH	RISER HEIGHT SHALL BE MEASURED AT THE VERTICAL DISTANCE BETWEEN TREAD NOSINGS. TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS, AND AT RIGHT ANGLE TO THE TREAD'S LEADING EDGE, BUT SHALL NOT INCLUDE BEVELED OR ROUNDED TREAD SURFACES THAT SLOPE MORE THAN 20 DEGREES. AT TREAD NOSINGS, SUCH BEVELING OR ROUNDING SHALL NOT EXCEED 1/2 IN. IN HORIZONTAL DIMENSION.
STAIR TREAD SLOPE	TREAD SLOPE SHALL NOT EXCEED 1/4 IN. PER FOOT
STAIR DIMENSIONAL UNIFORMITY	THERE SHALL BE NO VARIATION IN EXCESS OF 3/16 IN. IN THE DEPTH OF ADJACENT TREADS OR IN THE HEIGHT OF ADJACENT RISERS, AND THE TOLERANCE BETWEEN THE LARGEST AND SMALLEST RISER OR BETWEEN THE LARGEST OR SMALLEST TREAD SHALL NOT EXCEED 3/8 IN. IN ANY FLIGHT.
STAIR HANDRAILS	STAIRS AND RAMPS SHALL HAVE HANDRAILS ON BOTH SIDES
STAIR HANDRAIL DETAILS	(A) HANDRAILS ON STAIRS AND RAMPS SHALL HAVE A CONSISTENT HEIGHT OF NOT LESS THAN 34 IN. AND NOT MORE THAN 38 IN. MEASURED VERTICALLY TO THE TOP OF RAIL FROM THE LEADING EDGE OF THE STAIR TREAD OR RAMP SURFACE. EXCEPTION NO. 1. THE HEIGHT OF REQUIRED HANDRAILS THAT FORM PART OF A GUARD IN STAIRWAYS NOT REQUIRED TO BE ACCESSIBLE TO PERSONS WITH DISABILITIES SHALL BE PERMITTED TO EXCEED 38 IN. BUT SHALL NOT EXCEED 42 IN. (B) HANDRAILS SHALL PROVIDE A CLEARANCE OF NOT LESS THAN 2 1/4 IN. BETWEEN THE HANDRAIL AND THE WALL TO WHERE IT IS FASTENED. (C) HANDRAILS SHALL HAVE A CIRCULAR CROSS-SECTION WITH AND OUTSIDE DIAMETER OF NOT LESS THAN 1 1/4 IN. AND NOT MORE THAN 2 IN. EXCEPTION: ANY SHAPE, OTHER THAN CIRCULAR WITH A PERIMETER DIMENSION OF NOT LESS THAN 4 IN., BUT NOT MORE THAN 6 1/4 IN., AND EITH THE LARGEST CROSS-SECTIONAL DIMENSION NOT MORE THAN 2 1/4 IN. SHALL BE PERMITTED, PROVIDED THAT GRASPABLE EDGES ARE ROUNDED SO AS TO PROVIDE A RADIUS OF NOT LESS THAN 1/8 IN. (D) HANDRAILS SHALL BE CONTINUOUSLY GRASPABLE ALONG THEIR ENTIRE LENGTH. (E) HANDRAIL ENDS SHALL RETURN TO THE WALL OR FLOOR OR SHALL TERMINATE AT NEWEL POSTS. (F) HANDRAILS THAT ARE NOT CONTINUOUS BETWEEN FLIGHTS SHALL EXTEND HORIZONTALLY, AT THE REQUIRED HEIGHT, NOT LESS THAN 12 IN. BEYOND THE TOP RISER AND CONTINUE TO SLOPE FOR A DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER.
GUARDS	GUARDS SHALL BE PROVIDED AT THE OPEN SIDES OF MEANS OF EGRESS THAT EXCEED 30 IN. ABOVE THE FLOOR. THE HEIGHT OF GUARDS REQUIRED IN 11.1.8 SHALL BE MEASURED VERTICALLY TO THE TOP OF THE GUARD FROM THE SURFACE ADJACENT THERETO. GUARDS SHALL NOT BE LESS THAN 42 IN. HIGH.
GUARD DETAILS	OPEN GUARDS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A SPHERE 4 IN. IN DIAMETER SHALL NOT BE CAPABLE OF PASSING THROUGH ANY OPENING UP TO A HEIGHT OF 34 IN.

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NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

APPROVED BY
CHIEF AIRPORTS ENGINEER

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

ONE PMD ANA LAX

REVISIONS:

MARK	DATE:	DESCRIPTION

PROJ NO:	DA4881
SCALE:	
DATE:	09/23/2016
DESIGNED BY:	JQJ
DRAWN BY:	JN
CHECKED BY:	NL

SHEET TITLE:
BUILDING CODE ANALYSIS

SHEET NO.
1-G-101

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[CBC TABLE 503] ALLOWABLE BUILDING HEIGHTS AND AREAS
CONTRUCTION TYPE **1A**

BLDG	OCCUPANCY GROUP	ALLOWED STORIES	PROPOSED STORIES	ALLOWED AREA (SQ. FT.)	PROPOSED AREA (SQ. FT.)
BLDG A - QTA	B	UL	3	UL	608,545
	H-3	20		UL	
BLDG B - QTA	B	UL	3	UL	239,423
	H-3	20		UL	
BLDG B - INDEPENDENT MAINTENANCE BLDG	B	UL	1	UL	
	S-1	UL		UL	
BLDG C - IDLE STORAGE	S-2	UL	3	UL	2,505,294
BLDG D - READY/RETURN & CSB	S-2	UL	4	UL	3,265,057
	B	UL		UL	
	A-3	UL		UL	
	S-1	UL		UL	

OCCUPANCY CLASSIFICATION, OCCUPANT LOAD AND EGRESS WIDTH
[CBC Chapter 3, Table 1004.1.2, Section 1005.3.1, Section 1005.3.2]

BUILDING A

FLOOR		OCCUPANCY CLASSIFIICATION	AREA (SQ. FT.)	FLOOR AREA (SQ. FT) PER PERSON	OCCUPANT LOAD	
1ST	QTA ADMIN	B (accessory use)	19,862	100	199	1,019
	SUPPORT	H-3	7,226	300	25	
	QTA OPERATIONS (FUELING, WASH, DRIVEWAYS, QUEUING)	H-3	158,877	200	795	
2ND	QTA ADMIN	B (accessory use)	10,957	100	110	966
	QTA OPERATIONS (FUELING, WASH, DRIVEWAYS, QUEUING)	H-3	171,101	200	856	
3RD	QTA ADMIN	B (accessory use)	10,957	100	110	966
	QTA OPERATIONS (FUELING, WASH, DRIVEWAYS, QUEUING)	H-3	171,101	200	856	

BUILDING B

FLOOR		OCCUPANCY CLASSIFIICATION	AREA (SQ.FT.)	FLOOR AREA (SQ. FT) PER PERSON	OCCUPANT LOAD	
1ST	QTA ADMIN	B (accessory use)	4,060	100	41	401
	SUPPORT	H-3	8,808	300	30	
	QTA OPERATIONS (FUELING, WASH, DRIVEWAYS, QUEUING)	H-3	65,903	200	330	
2ND	QTA ADMIN	B (accessory use)	1,373	100	14	356
	SUPPORT	H-3	902	300	4	
	QTA OPERATIONS (MAINTENANCE BAYS, DRIVEWAYS, QUEUING, NO FUELING)	H-3	67,594	200	338	
3RD	QTA ADMIN	B (accessory use)	1,373	100	14	356
	SUPPORT	H-3	902	300	4	
	QTA OPERATIONS (MAINTENANCE BAYS, DRIVEWAYS, QUEUING, NO FUELING)	H-3	67,594	200	338	

BUIDLING B - INDEPENDENT MAINTENANCE BAY BLDG

FLOOR		OCCUPANCY CLASSIFIICATION	AREA (SQ.FT.)	FLOOR AREA (SQ. FT) PER PERSON	OCCUPANT LOAD	
1ST	OFFICE	B (accessory use)	823	100	9	36
	MAINTENANCE BAYS / STORAGE	S-1	7,877	300	27	

BUILDING C

FLOOR		OCCUPANCY CLASSIFIICATION	AREA (SQ.FT.)	FLOOR AREA (SQ. FT) PER PERSON	OCCUPANT LOAD	
1ST	PARKING	S-2	622,628	200	3114	3164
	MAINTENANCE BAYS	S-1	14,782	300	50	
2ND	PARKING	S-2	622,628	200	3,114	
3RD	PARKING	S-2	622,628	200	3,114	
4TH	PARKING	S-2	622,628	200	3,114	

BUILDING D

FLOOR		OCCUPANCY CLASSIFIICATION	AREA (SQ.FT.)	FLOOR AREA (SQ. FT) PER PERSON	OCCUPANT LOAD		
1ST	PARKING	S-2	816,264	200	4,082		
2ND	PARKING	S-2	816,264	200	4,082		
3RD	PARKING	S-2	816,264	200	4,082		
4TH	PARKING	S-2	704,984	200	3,525		**4TH FL TOTAL**
	CSB	A-3 / B	85,280	100	853	887	4,820
	CSB SUPPORT	S-1	10,000	300	34		
	APM STATION	(4 Cars X 51 people/Car) X 2 *			408		

* ONE FULL TRAIN ARRIVING AND AN EQUAL POPULATION WAITING AT THE PLATFORM

PLUMBING FIXTURE COUNT per BLDG
[CPC] Chapter 4, Table 422.1 MIN. PLUMBING FACILITIES

QTA A

		Plumbing Fixtures			Plumbing Fixtures			Drinking Fountain	Service Sink	Sink at Admin
		Water Closet	Lavatory		Water Closet	Urinal	Lavatory			
QTA A - Total Required	**Female**	**35**	**27**	**Male**	**16**	**14**	**26**	**18**	**4**	**12**

QTA B

		Plumbing Fixtures			Plumbing Fixtures			Drinking Fountain	Service Sink	Sink at Admin
		Water Closet	Lavatory		Water Closet	Urinal	Lavatory			
QTA B - Total Required	**Female**	**12**	**9**	**Male**	**7**	**5**	**8**	**6**	**4**	**6**

BLDG C - IDLE STORAGE

		Plumbing Fixtures			Plumbing Fixtures			Drinking Fountain	Service Sink	Sink at Admin
		Water Closet	Lavatory		Water Closet	Urinal	Lavatory			
BLDG C - Total Required	**Female**	**0**	**0**	**Male**	**0**	**0**	**0**	**0**	**0**	**0**

BLDG D - CSB/READY RETURN

	Female	Plumbing Fixtures		Male	Plumbing Fixtures			Drinking Fountain	Service Sink	Sink at Admin
		Water Closet	Lavatory		Water Closet	Urinal	Lavatory			
CSB (4th fl.)		15	8		7	6	5	6	3	
APM Station (4th fl.)		4	2		2	2	1	2	1	
Baggage Handling (4th fl.) (N.I.C.)		1	1		1	1	1	1	1	
Parking (4th fl.)		13	6		6	3	6	6	1	
BLDG D 4TH FL - Total Required		33	17		16	12	13	15	6	24
BLDG D 3RD FL - Total Required		14	6		4	3	6	6	1	0
BLDG D 2ND FL - Total Required		14	6		4	3	6	6	1	0
BLDG D 1ST FL - Total Required		14	6		4	3	6	6	1	0
BLDG D - Total Required	**Female**	**75**	**35**	**Male**	**28**	**21**	**31**	**33**	**9**	**24**

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REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	
DATE:	09/23/2016
DESIGNED BY:	JQJ
DRAWN BY:	JN
CHECKED BY:	NL

SHEET TITLE:
BUILDING CODE ANALYSIS

SHEET NO.
1-G-102

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IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

1 OVERALL PROJECT PLAN - PROJECT BOUNDARY
1" = 80'-0"

LEGEND

PROJECT BOUNDARY

KEYPLAN

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SHEET TITLE:

PROJECT LIMITS

SHEET NO.

1-G-150

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1 OVERALL EGRESS PLAN
1" = 60'-0"

KEYPLAN

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MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	1" = 60'-0"
DATE:	09/23/2016
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SHEET TITLE:

OVERALL EGRESS PLAN

SHEET NO.

1-G-200

LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
— ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

BUILDING A - QTA - LEVEL 0 EGRESS	
BLDG A LEVEL 0 - 01	188' - 6"
BLDG A LEVEL 0 - 02	126' - 6"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
S-1 250' (W/ SPRINKLER)

EGRESS WIDTH - BUILDING A - QTA - LEVEL 0	
OCCUPANT LOAD	59
OCCUPANCY GROUP	S-1
DOORWAY	[CAPACITY FACTOR: 0.2" (LABC, 1005.3.2)]
REQUIRED TOTAL	12"
PROVIDED TOTAL	72"
STAIRS	[CAPACITY FACTOR: 0.3" (LABC, 1005.3.1)]
REQUIRED TOTAL	18"
PROVIDED TOTAL	120"

1 BUILDING A - QTA - LEVEL 0 EGRESS PLAN
1/16" = 1'-0"

2 LADWP BUILDING
1/16" = 1'-0"

KEYPLAN

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SHEET TITLE:
QTA LEVEL 0 EGRESS PLAN

SHEET NO.
1-G-210

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EGRESS WIDTH - BUILDING A - QTA - LEVEL 1	
OCCUPANT LOAD	1,019
OCCUPANCY GROUP	H-3
DOORWAY / EXIT	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	408"
PROVIDED TOTAL	-

BUILDING A - QTA - LEVEL 1 EGRESS	
BLDG A LEVEL 1 - 01	140' - 6"
BLDG A LEVEL 1 - 02	96' - 0"
BLDG A LEVEL 1 - 03	170' - 6"
BLDG A LEVEL 1 - 04	106' - 0"
BLDG A LEVEL 1 - 05	161' - 0"
BLDG A LEVEL 1 - 06	109' - 0"
BLDG A LEVEL 1 - 07	126' - 6"
BLDG A LEVEL 1 - 08	166' - 0"
BLDG A LEVEL 1 - 09	164' - 0"
BLDG A LEVEL 1 - 10	126' - 6"
BLDG A LEVEL 1 - 11	152' - 0"
BLDG A LEVEL 1 - 12	140' - 0"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)

LEGEND

LOBBY
E
5000
200
25

ROOM TYPE
OCCUPANCY CLASS
AREA (SQ. FT.)
LOAD FACTOR
OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

2 BUILDING A - QTA - LEVEL 1 EGRESS PLAN
1/16" = 1'-0"

1 BUILDING A - QTA - LEVEL 1 EGRESS PLAN
1/16" = 1'-0"

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DATE:	09/23/2016
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SHEET TITLE:
QTA LEVEL 1 EGRESS PLAN

SHEET NO.
1-G-211

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LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

1 BUILDING B - QTA - LEVEL 1 EGRESS PLAN
1/16" = 1'-0"

BUILDING B - QTA - LEVEL 1 EGRESS	
BLDG B LEVEL 1 - 01	112' - 6"
BLDG B LEVEL 1 - 02	112' - 6"
BLDG B LEVEL 1 - 03	130' - 6"
BLDG B LEVEL 1 - 04	124' - 0"
BLDG B LEVEL 1 - 05	131' - 6"
BLDG B LEVEL 1 - 06	131' - 6"
BLDG B LEVEL 1 - 07	115' - 6"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)
S-1 **250'** (W/ SPRINKLER)

EGRESS WIDTH - BUILDING B - QTA - LEVEL 1	
OCCUPANT LOAD	401
OCCUPANCY GROUP	H-3
DOORWAY / EXIT	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	161"
PROVIDED TOTAL	-

EGRESS WIDTH - BUILDING B - QTA - MAINTENANCE BLDG	
OCCUPANT LOAD	36
OCCUPANCY GROUP	S-1
DOORWAY / EXIT	[CAPACITY FACTOR: 0.2" (LABC, 1005.3.2)]
REQUIRED TOTAL	8"
PROVIDED TOTAL	252"

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SHEET TITLE:
QTA LEVEL 1 EGRESS PLAN

SHEET NO.
1-G-212

KEYPLAN

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EGRESS WIDTH - BUILDING A - QTA - LEVEL 2	
OCCUPANT LOAD	966
OCCUPANCY GROUP	H-3
DOORWAY	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	387"
PROVIDED TOTAL	432"
STAIRS	[CAPACITY FACTOR: 0.7" (LABC, 1005.3.1, EXCEPTION 2)]
REQUIRED TOTAL	677"
PROVIDED TOTAL	720"

BUILDING A - QTA - LEVEL 2 EGRESS	
BLDG A LEVEL 2 - 01	145' - 0"
BLDG A LEVEL 2 - 02	114' - 6"
BLDG A LEVEL 2 - 03	182' - 0"
BLDG A LEVEL 2 - 04	116' - 6"
BLDG A LEVEL 2 - 05	155' - 0"
BLDG A LEVEL 2 - 06	116' - 6"
BLDG A LEVEL 2 - 07	151' - 0"
BLDG A LEVEL 2 - 08	173' - 6"
BLDG A LEVEL 2 - 09	171' - 6"
BLDG A LEVEL 2 - 10	130' - 6"
BLDG A LEVEL 2 - 11	177' - 6"
BLDG A LEVEL 2 - 12	128' - 6"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)

LEGEND

LOBBY
E
5000
200
25

ROOM TYPE
OCCUPANCY CLASS
AREA (SQ. FT.)
LOAD FACTOR
OCCUPANCY LOAD

EXIT — 0 / 0
EXIT TYPE
ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

2 BUILDING A - QTA - LEVEL 2 EGRESS PLAN
1/16" = 1'-0"

1 BUILDING A - QTA - LEVEL 2 EGRESS PLAN
1/16" = 1'-0"

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DATE:	09/23/2016
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DRAWN BY:	JN
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SHEET TITLE:
QTA LEVEL 2 EGRESS PLAN

SHEET NO.
1-G-221

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LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT 0 / 0 — EXIT TYPE; ANTICIPATED NO. OF PEOPLE; ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

- 1HR FIRE RESISTANT CONSTRUCTION
- 2HR FIRE RESISTANT CONSTRUCTION
- 3HR FIRE RESISTANT CONSTRUCTION
- 4HR FIRE RESISTANT CONSTRUCTION

1 BUILDING B - QTA - LEVEL 2 EGRESS PLAN
1/16" = 1'-0"

BUILDING B - QTA - LEVEL 2 EGRESS	
BLDG B LEVEL 2 - 01	153' - 0"
BLDG B LEVEL 2 - 02	150' - 6"
BLDG B LEVEL 2 - 03	151' - 6"
BLDG B LEVEL 2 - 04	154' - 0"
BLDG B LEVEL 2 - 05	150' - 6"
BLDG B LEVEL 2 - 06	151' - 6"
BLDG B LEVEL 2 - 07	149' - 6"
BLDG B LEVEL 2 - 08	156' - 6"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)

EGRESS WIDTH - BUILDING B - QTA - LEVEL 2	
OCCUPANT LOAD	356
OCCUPANCY GROUP	H-3
DOORWAY	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	143"
PROVIDED TOTAL	216"
STAIRS	[CAPACITY FACTOR: 0.7" (LABC, 1005.3.1, EXCEPTION 2)]
REQUIRED TOTAL	250"
PROVIDED TOTAL	360"

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QTA LEVEL 2 EGRESS PLAN

SHEET NO.

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EGRESS WIDTH - BUILDING A - QTA - LEVEL 3	
OCCUPANT LOAD	966
OCCUPANCY GROUP	H-3
DOORWAY	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	387"
PROVIDED TOTAL	432"
STAIRS	[CAPACITY FACTOR: 0.7" (LABC, 1005.3.1, EXCEPTION 2)]
REQUIRED TOTAL	677"
PROVIDED TOTAL	720"

BUILDING A - QTA - LEVEL 3 EGRESS	
BLDG A LEVEL 3 - 01	145' - 6"
BLDG A LEVEL 3 - 02	114' - 6"
BLDG A LEVEL 3 - 03	182' - 0"
BLDG A LEVEL 3 - 04	116' - 6"
BLDG A LEVEL 3 - 05	156' - 6"
BLDG A LEVEL 3 - 06	115' - 0"
BLDG A LEVEL 3 - 07	151' - 0"
BLDG A LEVEL 3 - 08	173' - 6"
BLDG A LEVEL 3 - 09	174' - 6"
BLDG A LEVEL 3 - 10	130' - 6"
BLDG A LEVEL 3 - 11	169' - 0"
BLDG A LEVEL 3 - 12	130' - 0"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)

LEGEND

LOBBY
E
5000
200
25

ROOM TYPE
OCCUPANCY CLASS
AREA (SQ. FT.)
LOAD FACTOR
OCCUPANCY LOAD

EXIT
0 / 0

EXIT TYPE
ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

1 BUILDING A - QTA - LEVEL 3 EGRESS PLAN
1/16" = 1'-0"

2 BUILDING A - QTA - LEVEL 3 EGRESS PLAN
1/16" = 1'-0"

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SHEET TITLE:
QTA LEVEL 3 EGRESS PLAN

SHEET NO.
1-G-231

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LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

BUILDING B - QTA - LEVEL 3 EGRESS	
BLDG B LEVEL 3 - 01	153' - 0"
BLDG B LEVEL 3 - 02	150' - 6"
BLDG B LEVEL 3 - 03	151' - 6"
BLDG B LEVEL 3 - 04	154' - 0"
BLDG B LEVEL 3 - 05	150' - 6"
BLDG B LEVEL 3 - 06	151' - 6"
BLDG B LEVEL 3 - 07	149' - 6"
BLDG B LEVEL 3 - 08	156' - 6"

EXIT TRAVEL DISTANCE [LABC TABLE 1016.2]:
H-3 **150'** (W/ SPRINKLER)

EGRESS WIDTH - BUILDING B - QTA - LEVEL 3	
OCCUPANT LOAD	356
OCCUPANCY GROUP	H-3
DOORWAY	[CAPACITY FACTOR: 0.4" (LABC, 1005.3.2, EXCEPTION 2)]
REQUIRED TOTAL	143"
PROVIDED TOTAL	216"
STAIRS	[CAPACITY FACTOR: 0.7" (LABC, 1005.3.1, EXCEPTION 2)]
REQUIRED TOTAL	250"
PROVIDED TOTAL	360"

1 BUILDING B - QTA - LEVEL 3 EGRESS PLAN
1/16" = 1'-0"

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REVISIONS:

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SCALE:	As indicated
DATE:	09/23/2016
DESIGNED BY:	Designer
DRAWN BY:	Author
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SHEET TITLE:

QTA LEVEL 3 EGRESS PLAN

SHEET NO.

1-G-232

KEYPLAN

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1 BUILDING A - QTA - LEVEL 4 EGRESS PLAN
1/16" = 1'-0"

2 BUILDING A - QTA - LEVEL 4 EGRESS PLAN
1/16" = 1'-0"

LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

KEYPLAN

TransSystems
801 SOUTH GRAND
SUITE 210
LOS ANGELES, CA 90017
PHONE: (562) 594-6974
FAX: (562) 594-6975

NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	1/16" = 1'-0"
DATE:	09/23/2016
DESIGNED BY:	JQJ
DRAWN BY:	JN
CHECKED BY:	NL

SHEET TITLE:
QTA LEVEL 4 EGRESS PLAN

SHEET NO.
1-G-241

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LEGEND

LOBBY	ROOM TYPE
E	OCCUPANCY CLASS
5000	AREA (SQ. FT.)
200	LOAD FACTOR
25	OCCUPANCY LOAD

EXIT — EXIT TYPE
0 / 0 — ANTICIPATED NO. OF PEOPLE
ALLOWED NO. OF PEOPLE

EGRESS TRAVEL PATH

FIRE SEPARATION

1HR FIRE RESISTANT CONSTRUCTION
2HR FIRE RESISTANT CONSTRUCTION
3HR FIRE RESISTANT CONSTRUCTION
4HR FIRE RESISTANT CONSTRUCTION

1 BUILDING B - QTA - LEVEL 4 EGRESS PLAN
1/16" = 1'-0"

KEYPLAN

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QTA LEVEL 4 EGRESS PLAN

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ELEVATION OPENNESS

PERIMETER WALL AREA PER LEVEL

PERIMETER WALL OPENING

4 OPENNESS - BLDG A ELEV - NORTH
3/64" = 1'-0"

3 OPENNESS - BLDG A ELEV - SOUTH
3/64" = 1'-0"

2 OPENNESS - BLDG A ELEV - WEST
3/64" = 1'-0"

1 OPENNESS - BLDG A ELEV - EAST
3/64" = 1'-0"

BLDG A QTA - EXTERIOR WALL OPENNESS per OPEN PARKING GARAGES [CBC 406.5] / OPENINGS [CBC 406.5.2]

CRITERION 1: THE AGGREGATE LENGTH OF THE OPENINGS CONSIDERED TO BE PROVIDING NATURAL VENTILATION SHALL BE **NOT LESS THAN 40 PERCENT** OF THE PERIMETER OF THE TIER.

LEVEL 1	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)	**LEVEL 2**	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)	**LEVEL 3**	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)
	2,065.0	834.6		2,065.0	959.3		2,065.0	959.3
AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**40%**	AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**46%**	AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**46%**

CRITERION 2: THE AREA OF OPENINGS IN EXTERIOR WALLS ON A TIER SHALL BE **NOT LESS THAN 20 PERCENT** OF THR TOTAL PERIMETER WALL AREA OF EACH TIER.

LEVEL 1	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)	**LEVEL 2**	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)	**LEVEL 3**	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)
	35,105.0	10,015.2		35,105.0	11,991.5		41,300.0	14,869.5
AREA OF OPENINGS / PERIMETER WALL AREA =		**29%**	AREA OF OPENINGS / PERIMETER WALL AREA =		**34%**	AREA OF OPENINGS / PERIMETER WALL AREA =		**36%**

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Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

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DATE:	09/23/2016
DESIGNED BY:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET TITLE:

BLDG A QTA - ELEVATION OPENNESS

SHEET NO.

1-G-250

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ELEVATION OPENNESS

PERIMETER WALL AREA PER LEVEL

PERIMETER WALL OPENING

4 BUILDING B - QTA - WEST ELEVATION
3/64" = 1'-0"

3 BUILDING B - QTA - EAST ELEVATION
3/64" = 1'-0"

2 BUILDING B - QTA - NORTH ELEVATION
3/64" = 1'-0"

1 BUILDING B - QTA - SOUTH ELEVATION
3/64" = 1'-0"

BLDG B QTA - EXTERIOR WALL OPENNESS per OPEN PARKING GARAGES [CBC 406.5] / OPENINGS [CBC 406.5.2]

CRITERION 1: THE AGGREGATE LENGTH OF THE OPENINGS CONSIDERED TO BE PROVIDING NATURAL VENTILATION SHALL BE **NOT LESS THAN 40 PERCENT** OF THE PERIMETER OF THE TIER.								
LEVEL 1	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)	**LEVEL 2**	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)	**LEVEL 3**	PERIMETER LENGTH (ft)	OPENING LENGTH (ft)
	1,197.3	620.2		1,197.3	720.0		1,197.3	720.0
AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**52%**	AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**60%**	AGG. LENGTH OF OPENINGS / PERIMETER OF THE TIER =		**60%**
CRITERION 2: THE AREA OF OPENINGS IN EXTERIOR WALLS ON A TIER SHALL BE **NOT LESS THAN 20 PERCENT** OF THR TOTAL PERIMETER WALL AREA OF EACH TIER.								
LEVEL 1	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)	**LEVEL 2**	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)	**LEVEL 3**	PERIMETER WALL AREA (Sq Ft)	OPENING WALL AREA (Sq Ft)
	20,354.4	7,752.0		20,354.4	9,000.0		23,946.4	11,160.0
AREA OF OPENINGS / PERIMETER WALL AREA =		**38%**	AREA OF OPENINGS / PERIMETER WALL AREA =		**44%**	AREA OF OPENINGS / PERIMETER WALL AREA =		**47%**

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Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

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DRAWN BY:	Author
CHECKED BY:	Checker

SHEET TITLE:

BLDG B QTA - ELEVATION OPENNESS

SHEET NO.

1-G-251

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LEGEND:

FIRE TRUCK ROUTE

FIRE HYDRANT LOCATIONS

N

0 80 160 240
SCALE FEET
1" = 80'

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Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

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ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

ONT ANA
PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	ASD
CHECKED BY:	JDV

SHEET TITLE:

FIRE ACCESS PLAN

SHEET NO.

1-G-110

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GENERAL REQUIREMENTS

1. APPLICABLE ABBREVIATIONS AND DEFINITIONS:
   AOA – AIR OPERATIONS AREA
   CFR – CODE OF FEDERAL REGULATIONS
   FAA – FEDERAL AVIATION ADMINISTRATION
   FAR – FEDERAL AVIATION REGULATION
   LAWA – LOS ANGELES WORLD AIRPORTS
   LAX – LOS ANGELES INTERNATIONAL AIRPORT
   S.T.O.P. – SHORT TERM OPERATIONAL PHASING

2. THE PROJECT MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND ANY RULES, REGULATIONS, STANDARDS OR SPECIFICATIONS REFERENCED THEREIN. THE PROJECT IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE CITY OF LOS ANGELES, LOS ANGELES WORLD AIRPORTS (LAWA), THE FEDERAL AVIATION ADMINISTRATION (FAA), AND OTHER GOVERNING AGENCIES.

3. THE CONTRACTOR MUST COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS AS WELL AS THOSE SPECIFIED IN THE CONTRACT DRAWINGS AND SPECIFICATIONS.

4. IN ESTABLISHING THE SCHEDULE FOR THIS CONTRACT, THE CONTRACTOR MUST CONSIDER THE FOLLOWING: NO ADDITIONAL COMPENSATION OR EXTENSION OF TIME FOR COMPLETION OF THE PROJECT, OR ANY PHASE OF THE PROJECT WILL BE ALLOWED DUE TO THE PHASING OF THE WORK, OR DUE TO WEATHER CONDITIONS WHICH MAY IMPEDE THE PROGRESS OF THE WORK. THE CONTRACTOR MAY WORK SEVEN (7) DAYS PER WEEK AS REQUIRED IN ORDER TO COMPLETE THE ENTIRE PROJECT AS SPECIFIED HEREIN.

5. PRIOR TO COMMENCING ANY EXCAVATION AND/OR UTILITY WORK, THE CONTRACTOR SHALL ESTABLISH SPECIFIC WORK AREAS AND TYPE OF WORK. ALL UPFRONT UTILITY INVESTIGATION MUST BE PERFORMED; UTILITY MEETINGS ARE HELD; PRE–ACTIVITY MEETINGS ARE HELD; UTILITY LOCATES ARE PERFORMED, ALL EXISTING UTILITIES ARE LOCATED AND PROPERLY MARKED, ETC. THE CHECKLIST MUST BE COMPLETELY EXECUTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION AND/OR UTILITY WORK WITHIN A SPECIFIC WORK AREA.

6. THE CONTRACTOR MUST COORDINATE WITH ALL OTHER CONTRACTORS DOING WORK ON OR ABOUT THE PROJECT SITE, TO THE MUTUAL BENEFIT OF ALL, IN COMPLETING THEIR RESPECTIVE WORK.

7. THE CONTRACTOR'S SUPERINTENDENT MUST BE ON THE CONSTRUCTION SITE AT ALL TIMES DURING THE WORKING HOURS WHILE THIS PROJECT IS IN PROGRESS. THE CONTRACTOR'S SUPERINTENDENT MUST BE THE DESIGNATED RESPONSIBLE CONTRACTOR REPRESENTATIVE AND MUST BE AVAILABLE IN CASE OF EMERGENCIES ON A TWENTY–FOUR (24) HOUR BASIS.

8. THE CONTRACTOR'S PROJECT MANAGER AND FIELD SUPERINTENDENT MUST ATTEND A WEEKLY PROJECT PROGRESS MEETING WITH THE RESIDENT ENGINEER AND CONSTRUCTION MANAGER. THE CONTRACTOR'S PROJECT MANAGER MUST SUBMIT A TWO WEEK LOOK–AHEAD SCHEDULE, FROM THE CURRENT APPROVED CRITICAL PATH METHOD (CPM) SCHEDULE, AT THE MEETING.

9. THE CONTRACTOR MUST BE AWARE OF HEIGHT RESTRICTIONS ON THE PROJECT. THE CONSTRUCTION RESTRICTION DRAWINGS SHOW PART 77 HEIGHT LIMITS. CONSTRUCTION EQUIPMENT MUST NOT PENETRATE THE 14CFR PART 77 IMAGINARY SURFACES OF THE AIRPORT WHEN THE RUNWAY IS IN OPERATION, UNLESS SPECIFICALLY ALLOWED BY THE AIRPORT. IF THE CONTRACTOR IS PERMITTED TO PENETRATE THESE SURFACES, THE PENETRATIONS WILL BE LIMITED IN HEIGHT AND TIME DURATION AS DIRECTED BY THE AIRPORT AND DURATION OF ACTIVITIES MUST BE COORDINATED.

10. ON BEHALF OF THE CONTRACTOR, LAWA WILL SUBMIT FAA FORM 7460–1 INCLUDING ALL HEIGHTS AND LOCATIONS OF ANTICIPATED EQUIPMENT TO BE USED FOR CONSTRUCTION. ANY CONTRACTOR MODIFICATIONS TO THE 7460–1 MUST OBTAIN FAA APPROVAL PRIOR TO BEGINNING CONSTRUCTION. DURATION FOR FAA APPROVAL OF MODIFICATIONS TO THE 7460–1 IS APPROXIMATELY 45 CALENDAR DAYS.

11. NO REQUIREMENTS OF THIS CONTRACT WITH RESPECT TO PRECAUTIONS REQUIRED OR OMITTED WILL BE DEEMED TO LIMIT OR IMPAIR ANY OBLIGATIONS ASSUMED BY THE CONTRACTOR UNDER OR IN CONNECTION WITH THIS CONTRACT, AND THE CONTRACTOR MUST AT ALL TIMES MAINTAIN ADEQUATE PROTECTION TO SAFEGUARD AIRCRAFT, THE PUBLIC, AND ALL PERSONS ENGAGED IN THE WORK AND MUST TAKE SUCH PRECAUTIONS AS WILL ACCOMPLISH SUCH END, WITHOUT INTERFERENCE TO AIRCRAFT, THE PUBLIC, OR MAINTENANCE AND OPERATION OF THE AIRPORT.

12. EXISTING GRADES REPORTED ON THE DRAWINGS ARE BASED ON BEST AVAILABLE INFORMATION; HOWEVER, LAWA ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE GRADES. IF THE CONTRACTOR DOES NOT CONCUR WITH THE ELEVATION PROVIDED ON THE DRAWINGS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IN WRITING PRIOR TO CONSTRUCTION. NO CONSTRUCTION WILL BE ALLOWED TO BEGIN UNTIL THESE CONFLICTS ARE RESOLVED.

13. EXISTING CONDITIONS WERE TAKEN FROM THE BEST AVAILABLE INFORMATION OR MAPPING. INFORMATION SHOWS CONCERNING FEATURES AND UTILITIES IS NOT GUARANTEED ALL INCLUSIVE OR CORRECT. THE CONTRACTOR IS TO VERIFY THE FEATURES PRIOR TO CONSTRUCTION. EXISTING UTILITIES NOT SHOWN TO BE DEMOLISHED ARE TO BE MAINTAINED IN SERVICE AT ALL TIMES. THE LOCATION OF MATERIALS AND DIMENSIONS OF EXISTING FACILITIES AND OBSTRUCTIONS ARE BASED UPON LOCATION RECORDS AND ARE SHOWN ON THE DRAWINGS STRICTLY AS AID TO THE CONTRACTOR, BUT MUST NOT BE CONSTRUED AS BEING ACCURATE, CORRECT, OR COMPLETE. ALL STRUCTURES ABOVE OR BELOW GROUND THAT ARE ENCOUNTERED DURING CONSTRUCTION ARE TO BE PROPERLY SUPPORTED AND MAINTAINED. THE CONTRACTOR IS TO MAKE ALL ARRANGEMENTS WITH THE UTILITY OWNER FOR THE PROTECTION OR RELOCATION OF SUCH STRUCTURES. IF DAMAGED DURING CONSTRUCTION, THE CONTRACTOR MUST MAKE REPAIRS OR PAY FOR THE REPAIRS OF ANY STRUCTURE TO THE SATISFACTION OF THE UTILITY OWNER. NO ADDITIONAL COMPENSATION WILL BE MADE FOR ANY SUCH INTERFERENCE OR OBSTRUCTION.

14. ALL ITEMS PROPOSED FOR DEMOLITION MUST BE MARKED BY THE CONTRACTOR FOR REVIEW BY THE OWNER. NO ITEM WILL BE DEMOLISHED UNTIL APPROVED BY THE OWNER.

15. THE CONTRACTOR MUST LAY OUT THE LOCATION OF ALL NEW ITEMS FOR REVIEW BY THE ENGINEER. NO ITEM WILL BE CONSTRUCTED UNTIL THE LOCATION IS APPROVED BY THE ENGINEER.

16. THE ENGINEER WILL REVIEW THE SHOP DRAWINGS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE SPECIFICATIONS.

17. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PRESERVATION OF PUBLIC AND PRIVATE PROPERTY AND MUST CAREFULLY LOCATE AND PROTECT FROM DAMAGE OR DISTURBANCE ALL BENCHMARKS, LAND MONUMENTS AND PROPERTY MARKERS. IF DAMAGE TO PROPERTY DOES OCCUR DURING THE WORK, THE CONTRACTOR MUST RESTORE, AT NO EXPENSE TO THE OWNER, SUCH PROPERTY TO A CONDITION EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE WAS DONE BY REBUILDING OR RESTORING AS DIRECTED BY LAWA.

18. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR CONSTRUCTION.

19. ALL DEWATERING OF THE SITE AS NEEDED FOR THE CONTRACTOR'S OPERATIONS WILL NOT BE PAID FOR SEPARATELY, BUT BE CONSIDERED AS INCLUDED IN THE OVERALL CONTRACT PRICE.

20. ALL CONSTRUCTION RELATED LIGHTING MUST BE ADJUSTED OR SHIELDED TO PREVENT INTERFERENCE WITH AIR TRAFFIC CONTROL AND AIRCRAFT OPERATIONS.

21. NIGHT WORK WILL BE ALLOWED IF APPROVED BY LAWA. LAWA WILL IMPOSE A MAXIMUM DECIBEL LEVEL FOR NIGHT WORK THAT IS APPROPRIATE TO THE SITE AND ITS PROXIMITY TO RESIDENCES OR OTHER RELEVANT LAND USES. MAXIMUM DECIBEL WILL BE NEGOTIATED AT THE TIME OF INQUIRY.

GENERAL REQUIREMENTS CONT.

TRAFFIC CONTROL AND SAFETY REQUIREMENTS

1. THE CONTRACTOR MUST REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS, STAGING AREA OR DESIGNATED HAUL ROUTES UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM LAWA.

2. THE CONTRACTOR IS TO PLAN HIS CONSTRUCTION OPERATION SO THAT MATERIAL, EQUIPMENT, SUPPLIES AND WORKING PERSONNEL NECESSARY TO DO THE WORK WILL ENTER AND LEAVE THE CONTRACT SITE VIA THE ROUTES DESIGNATED ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION, REPAIR, AND/OR MAINTENANCE OF ALL ACCESS ROADS TO AND FROM SITE.

3. THE CONTRACTOR MUST DESIGNATE A QUALIFIED SAFETY REPRESENTATIVE FOR THE PROJECT. THESE PERSONS MUST BE AT THE PROJECT WHENEVER WORK IS BEING PERFORMED AT THE SITE OR ANY STAGING AREA ON THE AIRPORT PROPERTY. THE SAFETY REPRESENTATIVE MUST HAVE PROJECT SAFETY AS HIS OR HER EXCLUSIVE RESPONSIBILITY AND NOT HAVE ANY OTHER RESPONSIBILITIES REGARDING THE PROJECT. THE CONTRACTOR MUST PROVIDE THE SAFETY REPRESENTATIVE WITH THE AUTHORITY NECESSARY TO ENSURE THE SAFETY OF THE AIRPORT, CONTRACTOR'S, AND SUBCONTRACTOR'S EMPLOYEES AND PROPERTY. AMONG OTHER RESPONSIBILITIES CONCERNING THE PROJECT SAFETY, THE SAFETY REPRESENTATIVE MUST PROVIDE: SAFETY TRAINING, SAFETY ORIENTATION, SAFETY INSPECTIONS AND CONDUCT TOOLBOX SAFETY MEETINGS.

STAGING AND STORAGE AREAS

1. A STAGING AREA SHALL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION, STORAGE, AND EMPLOYEE PARKING. THIS AREA MUST BE PREPARED, MAINTAINED DAILY, AND RESTORED TO THE ORIGINAL OR PROPOSED CONDITION, TO THE APPROVAL OF LAWA, WITHIN THIRTY (30) DAYS OF THE COMPLETION OF THE PROJECT, AT THE CONTRACTOR'S EXPENSE.

2. THE CONTRACTOR MUST STORE ALL EQUIPMENT, VEHICLES AND MATERIALS ONLY IN THOSE STAGING AREAS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY LAWA.

3. THE EXACT LIMITS, LIGHTING, ENVIRONMENTAL, AND SECURITY REQUIREMENTS OF THE CONTRACTOR'S STAGING AND STORAGE AREAS MUST BE ESTABLISHED BY THE CONTRACTOR SUBJECT TO APPROVAL OF LAWA. ANY AND ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S OPERATIONS MUST BE ARRANGED FOR AND PAID FOR BY THE CONTRACTOR AND PAID DIRECTLY TO THE APPROPRIATE UTILITY. UTILITY ARRANGEMENTS WILL BE SUBJECT TO THE APPROVAL OF LAWA. ALL COST ASSOCIATED WITH PREPARING THE STORAGE AND STAGING AREAS WILL BE BORNE BY THE CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO, CLEARING AND GRADING OF THE SITE, CONSTRUCTION OF ALL TEMPORARY UTILITIES, ACCESS ROADS, ALL SECURITY FENCING, EROSION AND SEDIMENT CONTROL, CLEANUP, AND RESTORATION OF THE SITE TO ITS ORIGINAL CONDITION.

4. EXCESS SOILS, EXCESS MILLED ASPHALT CONCRETE, BITUMINOUS CONCRETE RUBBLE, PORTLAND CEMENT CONCRETE RUBBLE, AND UNSUITABLE EXCAVATION MUST BE DISPOSED OF AT APPROVED LOCATIONS ON SITE. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO REUSE PORTLAND CEMENT CONCRETE RUBBLE AS RECYCLED AGGREGATE BASE MATERIAL. THE CONTRACTOR SHALL USE MILLED ASPHALT CONCRETE AND BITUMINOUS CONCRETE RUBBLE AS FILL IN EMBANKMENT AREAS. DISPOSAL COSTS ASSOCIATED WITH THESE MATERIALS WILL NOT BE PAID FOR SEPARATELY, BUT ARE INCLUDED IN THE OVERALL CONTRACT PRICE.

5. THE CONTRACTOR MUST PROVIDE LABOR AND EQUIPMENT AS REQUIRED TO SHAPE, STABILIZE, AND MAINTAIN ALL STOCKPILES. THE COST OF SHAPING AND MAINTAINING STOCKPILES IS INCIDENTAL TO THE OVERALL CONTRACT AND NO ADDITIONAL PAYMENT WILL BE MADE FOR THE WORK.

UTILITY REQUIREMENTS

1. EXISTING UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS COMPILED BASED ON THE BEST AVAILABLE UTILITY RECORDS. THE CONTRACTOR MUST PROVIDE A UTILITY LOCATOR AND VERIFY THE ACTUAL LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES IN PLACE UNLESS OTHERWISE NOTED OR SPECIFIED. THE OWNER AND LAWA BEAR NO RESPONSIBILITY FOR UTILITIES NOT SHOWN ON THE DRAWINGS. ANY AND ALL DAMAGE TO EXISTING UTILITIES MUST BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXCAVATION IMMEDIATELY NEAR UTILITIES MUST BE DONE BY HAND. UTILITIES INTERFERING WITH CONSTRUCTION MUST BE RESET OR RELOCATED BY THE UTILITY COMPANY CONCERNED UNLESS NOTED OTHERWISE OR OTHER ARRANGEMENTS HAVE BEEN MADE WITH THE UTILITY COMPANY. THE ENGINEER HAS ALREADY BEGUN COORDINATION WITH THE UTILITY COMPANIES THAT HAVE EXISTING OR PROPOSED FACILITIES AT THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR MUST CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST SEVENTY–TWO (72) HOURS PRIOR TO BEGINNING CONSTRUCTION.

UTILITY	CONTACT NAME	CONTACT NUMBER
CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER		
WATER	XXXX XXXXX	(XXX) XXX–XXXX
ELECTRICAL SERVICES	XXXX XXXXX	(XXX) XXX–XXXX
CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS		
SANITATION		(XXX) XXX–XXXX
GAS – SOCALGAS	XXXX XXXXX	(XXX) XXX–XXXX
CALTRANS	XXXX XXXXX	(XXX) XXX–XXXX
TELEPHONE – AT&T	XXXX XXXXX	(XXX) XXX–XXXX
DIGALERT/UNDERGROUND SERVICE ALERT 811		

2. ALL EXISTING UTILITIES SERVING THE AIRPORT MUST REMAIN IN CONTINUOUS OPERATION DURING THE EXECUTION OF THE WORK, UNLESS REMOVED UNDER THIS OR SEPARATE CONTRACTS. THE CONTRACTOR MUST CONTACT DIGALERT/UNDERGROUND SERVICE ALERT AND THE OWNERS OF ALL UTILITIES PRIOR TO THE START OF THE WORK SO THAT THE OWNERS MAY LOCATE AND STAKE THEIR UTILITIES. THE CONTRACTOR MUST NOTIFY LAWA, IN WRITING, FORTY–EIGHT (48) HOURS PRIOR TO THE UTILITY OWNER LOCATING THE UTILITY.

3. THE CONTRACTOR MUST PROVIDE SEVENTY–TWO (72) HOURS NOTICE PRIOR TO ANY OUTAGES OR SHUTDOWNS TO LAWA AND THE AGENCY OWNING THE AFFECTED UTILITY. THE CONTRACTOR MUST PROVIDE ANY TEMPORARY CONNECTIONS OR OTHER MEASURES AS MAY BE REQUIRED TO MAINTAIN SERVICE AT NO ADDITIONAL COST TO THE OWNER. ALL TEMPORARY CONNECTIONS WILL BE AT THE EXPENSE OF THE CONTRACTOR AND TO THE SPECIFICATIONS OF LAWA, FAA OR AFFECTED UTILITY.

4. NO EXCAVATION ACTIVITIES OR DISRUPTION OF ANY SURFACE IS TO BE UNDERTAKEN UNTIL LAWA HAS REVIEWED THE SITE FOR UTILITY DELINEATION AND HAS AUTHORIZED THE CONTRACTOR TO PROCEED.

5. THE CONTRACTOR IS RESPONSIBLE TO LOCATE ALL EXISTING UTILITIES WITHIN TEN (10) FEET OF ANY PROPOSED UTILITIES LOCATION, UTILIZING NONDESTRUCTIVE METHODS OF LOCATING THE UTILITIES AS APPROVED BY LAWA OR BY HAND DIGGING.

6. ALL EXCAVATING WITHIN FIVE (5) FEET EITHER SIDE OF EXISTING CABLES OR OTHER EXISTING UTILITY LINES MUST BE PERFORMED BY HAND OR BY VACUUM EXCAVATION METHODS, SUBJECT TO LAWA APPROVAL. COSTS FOR SUCH EXCAVATION WILL NOT BE PAID FOR SEPARATELY, BUT CONSIDERED INCLUDED IN THE CONTRACT PRICE. ANY CABLE OR OTHER EXISTING UTILITY LINE THAT IS DAMAGED DURING THE PERFORMANCE OF THIS CONTRACT IS TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR, TO THE SATISFACTION OF LAWA AND AT THE CONTRACTOR'S EXPENSE. DURING THE TIME THAT THE ABOVE TYPES OF CABLES OR UTILITIES ARE OUT OF SERVICE DUE TO THE CONTRACTOR'S OPERATIONS, ALL CONTRACT WORK WILL BE SUSPENDED UNLESS OTHERWISE DIRECTED BY LAWA IN WRITING. THE CONTRACTOR MUST HALT ALL OPERATIONS UNTIL SERVICE IS RESTORED. THE CONTRACTOR WILL NOT BE ALLOWED TO MAKE CLAIMS FOR EXTRA COSTS OR TIME EXTENSIONS DUE TO SUCH STOPPAGE OF WORK.

7. THE CONTRACTOR MUST PREPARE AND SUBMIT CONSTRUCTION DRAWINGS TO THE ENGINEER FOR APPROVAL, WHICH CLEARLY AND ACCURATELY

GENERAL REQUIREMENTS CONT.

DEPICT THE METHODS AND MEANS BY WHICH THE CONTRACTOR INTENDS TO PROTECT, SHORE, SUPPORT, BRACE, ETC., EXISTING UTILITIES WHEN THE WORK AFFECTS A DUCTBANK, CABLE, SEWER, OR OTHER UTILITIES WITHIN THE PROJECT SITE.

8. IN ACCORDANCE WITH THE GENERAL CONDITIONS, THE CONTRACTOR MUST NOT START ANY WORK WHICH MAY AFFECT EXISTING CITY, FAA, TELEPHONE UTILITY (E.G., AT&T), SOCALGAS, OR OTHER PRIVATE UTILITY CABLES, PIPELINES OR SEWERS UNTIL THE ENGINEER HAS APPROVED SHOP DRAWINGS AND PROCEDURES FOR PROTECTION OF THE UTILITY.

9. THE CITY AND OTHER UTILITY OWNERS REQUIRE FULL ACCESS TO ALL THEIR FACILITIES AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.

10. ALL OVERHEAD LINES IN THE PROJECT AREA OR ON DESIGNATED HAUL AND ACCESS ROADS MUST BE IDENTIFIED WITH WARNING SIGNS.

GENERAL DEMOLITION REQUIREMENTS

1. THE EXISTING IMPROVEMENTS SHOWN ON THE PLANS IS BASED UPON ENGINEER'S FIELD INVESTIGATION AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF DEMOLITION.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL, OF ALL STRUCTURES, PADS, WALLS, FOUNDATIONS, PARKING, ROADS, DRAINAGE, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE IMPROVEMENT PLANS CAN BE CONSTRUCTED. DISPOSAL SHALL BE A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.

3. SEE NOTE UNDER STORAGE AND STAGING AREAS ABOVE REGARDING USE AND STORAGE OF SOILS AND OTHER SIMILAR MATERIALS.

4. THE CONTRACTOR SHALL COORDINATE WITH ALL APPROPRIATE LOCAL AGENCIES AND/OR UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, AND THE DISCONNECTION OF ALL UTILITY SERVICES TO THE EXISTING BUILDING AND HAZARDOUS MATERIALS MITIGATION PRIOR TO DEMOLITION OF THE BUILDING.

6. SEE NOTES UNDER UTILITY REQUIREMENTS ABOVE REGARDING EXISTING UTILITIES.

7. SHOULD DAMAGE TO FENCING, LIGHTING AND/OR STORM INLET STRUCTURES, OR ANY EXISTING IMPROVEMENTS TO REMAIN ON PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR SHALL REPLACE FACILITIES USING NEW MATERIALS/STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. EXCEPT FOR MATERIALS DESIGNATED TO BE RELOCATED ON THIS PLAN, ALL CONSTRUCTION MATERIALS SHALL BE NEW.

8. CONTRACTOR SHALL LIMIT SAW–CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS OR TO LIMITS OF NEW CONSTRUCTION. IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REPLACEMENT AND RESTORATION.

9. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

10. THE CONTRACTOR SHALL COMPLY WITH EXCAVATING, BACKFILLING AND COMPACTING PROCEDURES FOR SOILS USED AS BACKFILL MATERIALS TO FILL VOIDS, DEPRESSIONS OR EXCAVATIONS RESULTING FROM DEMOLITION OF STRUCTURES.

11. ALL AREAS OUTSIDE DEMOLITION AREA ARE TO BE PROTECTED IN PLACE.

12. ALL AREAS WHERE PAVEMENT IS DISTURBED DUE TO SUBSURFACE EXCAVATIONS SHALL BE BACK FILLED WITH GRAVEL TO MATCH EXISTING GRADES AT THE END OF EACH WORKING DAY UNLESS PERMISSION IS RECEIVED IN ADVANCE FROM THE GOVERNING AGENCY.

GENERAL NOTES FOR WATER MAIN CONSTRUCTION

1. LOCATION OF UTILITIES AND PROPERTY LINES ARE FROM THE BEST INFORMATION AVAILABLE. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED.

2. THE CONTRACTOR MUST VERIFY THE LOCATION OF UNDERGROUND UTILITIES WITH THE UTILITY OWNERS PRIOR TO DOING ANY WORK IN THE VICINITY. THE CONTRACTOR MUST COMPLY WITH REQUIREMENTS OF UTILITY OWNERS REGARDING NOTICE OF WORK AND PROTECTION OF UTILITIES. ALL UTILITIES MUST BE NOTIFIED AT LEAST 48 HOURS BEFORE CONSTRUCTION. (CALL DIGALERT / UNDERGROUND SERVICE ALERT 811).

3. TEST PITS MUST BE EXCAVATED IN ADVANCE OF PIPELINE CONSTRUCTION IN ORDER TO CONFIRM DEPTH AND LOCATION OF EXISTING UTILITIES AND WHEN DIRECTED BY THE DEPARTMENT MANAGER.

4. IF ANY PUBLIC OR PRIVATE UTILITIES CROSS THE WATER MAIN TRENCH AND MUST REMAIN IN PLACE, THE CONTRACTOR MUST PROTECT SAID UTILITY IN CONFORMANCE WITH THE SPECIFICATIONS OR AS DIRECTED BY LAWA OR THE RESPECTIVE UTILITY OWNER.

5. FITTINGS AND THEIR LOCATIONS INDICATED ON THE DRAWINGS ARE TENTATIVE. THE CONTRACTOR MUST COMPLETE THE INSTALLATION WITH THE NECESSARY FITTINGS DICTATED BY FIELD CONDITIONS.

6. WATER MAIN AND FITTINGS LOCATIONS SHOWN ON THE DRAWINGS FOR THE NEW WATER MAINS AND APPURTENANCES MAY BE CHANGED BY THE ENGINEER DUE TO FIELD CONDITIONS.

7. THE CONTRACTOR MUST PROVIDE THRUST RESTRAINTS IN ACCORDANCE WITH THE SPECIFICATIONS. THE CONTRACTOR MUST FURNISH AND INSTALL MECHANICAL JOINT THRUST RESTRAINT GLANDS AT ALL FITTINGS AND MECHANICAL JOINTS.

8. THE CONTRACTOR MUST VERIFY THE OPERATION OF EVERY VALVE NECESSARY FOR THE REQUIRED WATER MAIN SHUT DOWN FOR EACH PIPE SECTION. ANY VALVE FOUND NOT OPERABLE WILL BE REPAIRED OR REPLACED BY THE DEPARTMENT UNLESS DIRECTED OTHERWISE BY LAWA.

9. IN INSTANCES WHERE CHLORINATION IS TO BE DONE AGAINST ANY EXISTING VALVE, AT THE TIME THAT THE EXISTING WATER MAIN IS BREACHED FOR FINAL CONNECTION, THE CONTRACTOR IS TO VERIFY THAT THE EXISTING VALVES ARE IN GOOD OPERATING CONDITION AND DO NOT LEAK. ANY LEAKING VALVE SHOULD BE BROUGHT TO THE DEPARTMENT'S ATTENTION AND BE REPAIRED OR REPLACED PRIOR TO MAKING PIPE CONNECTIONS TO THE EXISTING WATER MAIN. THE VALVE SHOULD REMAIN IN THE CLOSED POSITION UNTIL THE NEW WATER MAIN IS APPROVED FOR SERVICE.

10. ALL OPENINGS IN EXISTING WATER MAINS MUST BE PLUGGED OR CAPPED WITH FITTINGS UNTIL THE MAIN IS ABANDONED.

11. IF A STANDARD MECHANICAL JOINT SLEEVE DOES NOT FIT TO MAKE CONNECTION OF THE NEW PIPE TO THE EXISTING PIPE, A TRANSITION SLEEVE MUST BE USED. NO GRINDING OF THE EXISTING PIPE IS PERMITTED.

12. ABANDON EXISTING WATER MAINS IN ACCORDANCE WITH THE SPECIFICATIONS.

13. SWAB PIPE AND FITTINGS THAT WILL NOT BE PRESSURE TESTED OR CHLORINATED WITH CHLORINE SOLUTION DURING INSTALLATION AND USE EXTRA PRECAUTION TO PREVENT SOIL AND DEBRIS FROM ENTERING THE PIPE. INCORPORATE UNTESTED PIPE INTO THE FLUSHING ROUTINE WHEN POSSIBLE. WHEN CONNECTING NEW PIPE TO THE EXISTING WATER SYSTEM, USE OPERATING PRESSURE TO VISUALLY INSPECT FOR LEAKS. WHEN FEASIBLE, PERFORM INSPECTION PRIOR TO BACKFILLING. COMPLY WITH ALL STANDARDS AND REQUIREMENTS OF THE CITY OF LOS ANGELES.

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACM	AIRPORT CERTIFICATION MANUAL
AOA	AIR OPERATIONS AREA
AP	ANGLE POINT
APM	AUTOMATED PEOPLE MOVER
ARCH	ARCHITECTURE
BEG	BEGIN
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BLVD	BOULEVARD
BOT	BOTTOM
BVCS	BEGIN VERTICAL CURVE STATION
BW	BACK OF WALL
C&G	CURB & GUTTER
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CB	CATCH BASIN
CL	CENTERLINE
CLR	CLEAR
CO	CLEANOUT
COM	COMMUNICATIONS
D	DEPTH
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
E	EXISTING/EAST/EASTING/ELECTRIC
EG	EXISTING GRADE
ELEV	ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
F	FIRE WATER
FF	FINISHED FLOOR
FG	FINISHED GRADE
FR	FIBER ROLL
FAA	FEDERAL AVIATION ADMINISTRATION
FAR	FEDERAL AVIATION REGULATION
FOD	FOREIGN OBJECT DEBRIS/FOREIGN OBJECT DAMAGE
FL	FLOW LINE
G	GAS
HMA	HOT MIX ASPHALT
HORZ	HORIZONTAL
J–BOX	JUNCTION BOX
K	LENGTH OF VERTICAL CURVE FOR A 1% CHANGE OF GRADE
L	LENGTH
LACDPW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LADWP	LOS ANGELES DEPARTMENT OF WATER AND POWER
LASAN	CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS SANITATION
LAWA	LOS ANGELES WORLD AIRPORTS
LF	LINEAR FEET
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MIN	MINIMUM
MAX	MAXIMUM
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NEW/NORTH/NROTHING
NA	NOT APPLICABLE/NOT AVAILABLE
N/B	NORTHBOUND
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
O.C.	ON CENTER
OFF	OFFSET
LAX	LOS ANGELES INTERNATIONAL AIRPORT
PC	POINT OF CURVE
PCC	PORTLAND CEMENT CONCRETE/POINT OF COMPOUND CURVE
PE	POLYETHYLENE
PNT	POINT
POB	POINT OF BEGINNING
POE	POINT OF END
POI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT/POINT
PVI	POINT OF VERTICAL INTERCEPTION
QTA	QUICK TURN AROUND
R	RADIUS
RAC	RENT–A–CAR
RCP	REINFORCED CONCRETE PIPE
RET	RETAINING WALL
ROW	RIGHT–OF–WAY
RT	RIGHT
RW	RECLAIMED WATER
SCM	SURVEY CONTROL MONUMENT
S	SOUTH/SLOPE
S/B	SOUTH BOUND
SD	STORM SEWER
SF	SILT FENCE
SOCALGAS	SOUTHERN CALIFORNIA GAS COMPANY
ST	STORM SEWER
STA	STATION
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SS	SANITARY SEWER
SW	SIDEWALK/SOUTHWEST
T	TELECOMMUNICATIONS
TC	TOP OF CURB
TG	TOP OF GRATE
TP	TOP OF PAVEMENT
TW	TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER/WEST/WIDTH

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CONSULTANTS:

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Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

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APPROVED BY: CHIEF AIRPORTS ENGINEER

ONT ANA PMD LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-06-23
DESIGNED BY: JDV
DRAWN BY: JSV
CHECKED BY: JDV

SHEET TITLE:
GENERAL NOTES

SHEET NO.
1-CI-001
SHEET OF

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ONT ANA
PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
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DRAWN BY:	ASD
CHECKED BY:	JDV

SHEET TITLE:

KEY PLAN

SHEET NO.
1-CI-002

SHEET OF

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GENERAL NOTES

1. ALL ITEMS SHOWN AS BOLD ARE TO BE REMOVED. ITEMS SHOWN FADED BACK ARE EXISTING ITEMS TO REMAIN UNLESS OTHERWISE NOTED.
2. THE "DEMOLITION KEY NOTES" REFER TO KEY ITEMS TO BE DEMOLISHED AND ARE NOT INTENDED TO LIMIT OVERALL DEMOLITION REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH DETAILS, NOTES AND INTENTION OF THE DEMOLITION AS INDICATED IN THE PLANS AND SPECIFICATIONS.
3. UNLESS OTHERWISE NOTED, REMOVE ALL FENCING, SURFACE IRRIGATION PIPING, TREES, AND SIGNS WITHIN THE LIMIT OF DEMOLITION.
4. REMAINDER OF MANCHESTER SQUARE DEMOLITION TO BE COMPLETED BY OTHERS.

SITE DEMOLITION KEY NOTES

1. REMOVE CONCRETE PAVEMENT. (SALVAGE FOR REUSE AS BASE MATERIAL?)
2. REMOVE ASPHALT PAVEMENT. (SALVAGE FOR REUSE AS BASE MATERIAL?)
3. REMOVE CONCRETE CURB AND GUTTER. (SALVAGE FOR REUSE AS BASE MATERIAL?)
4. CLEAR AND GRUB. REMOVE ALL EXISTING VEGETATION.
5. REMOVE EXISTING STRUCTURE, INCLUDING PAD, FOUNDATION, UTILITY LATERALS, AND ASSOCIATED WALKWAY/DRIVEWAY PAVEMENT.
6. REMOVE MISCELLANEOUS ITEM.

UTILITY DEMOLITION KEY NOTES

1. REMOVE STORM DRAIN PIPE.
2. REMOVE STORM DRAIN MANHOLE.
3. REMOVE STORM DRAIN CATCH BASIN.
4. PLUG AND CAP EXISTING STORM DRAIN.
5. EXISTING STORM DRAIN TO REMAIN. PROTECT IN PLACE.
6. REMOVE SANITARY SEWER PIPE AND ASSOCIATED LATERALS.
7. REMOVE SANITARY SEWER MANHOLE.
8. PLUG AND CAP EXISTING SANITARY SEWER.
9. EXISTING SANITARY SEWER TO REMAIN. PROTECT IN PLACE.
10. REMOVE WATER LINE AND ANY APPURTENANCES, CUT AND PLUG PER CITY STANDARDS WHERE APPLICABLE.
11. REMOVE FIRE HYDRANT.
12. EXISTING WATER LINE TO REMAIN. PROTECT IN PLACE.
13. REMOVE UNDERGROUND AND OVERHEAD ELECTRICAL FACILITIES.
14. REMOVE AND SALVAGE LIGHT POLE.
15. REMOVE COMM DUCT BANK AND ASSOCIATED STRUCTURES.
16. REMOVE NATURAL GAS PIPE.
17. CUT AND CAP EXISTING GAS MAIN.

LEGEND:

- CLEARING AND GRUBBING.
- ASPHALT PAVEMENT DEMOLITION
- CONCRETE PAVEMENT DEMOLITION
- UTILITY DEMOLITION
- PROJECT LIMIT
- RIGHT OF WAY
- EASEMENT

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SCALE 1" = 30'

0 30 60 90 FEET

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SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

ONE LAX PMD

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MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ/ASD
CHECKED BY: JDV

SHEET TITLE:

DEMOLITION PLAN

SHEET NO.

1-CD-101

SHEET OF

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GENERAL NOTES

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6. REMOVE MISCELLANEOUS ITEM.

UTILITY DEMOLITION KEY NOTES

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3. REMOVE STORM DRAIN CATCH BASIN.
4. PLUG AND CAP EXISTING STORM DRAIN.
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7. REMOVE SANITARY SEWER MANHOLE.
8. PLUG AND CAP EXISTING SANITARY SEWER.
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17. CUT AND CAP EXISTING GAS MAIN.

LEGEND:

- CLEARING AND GRUBBING.
- ASPHALT PAVEMENT DEMOLITION
- CONCRETE PAVEMENT DEMOLITION
- UTILITY DEMOLITION
- PROJECT LIMIT
- RIGHT OF WAY
- EASEMENT

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SCALE FEET
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SHEET TITLE:
DEMOLITION PLAN

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GENERAL NOTES

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DEMOLITION PLAN

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1-CD-103
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5. EXISTING STORM DRAIN TO REMAIN. PROTECT IN PLACE.
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LEGEND:

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- ASPHALT PAVEMENT DEMOLITION
- CONCRETE PAVEMENT DEMOLITION
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- PROJECT LIMIT
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SHEET TITLE:

DEMOLITION PLAN

SHEET NO.

1-CD-104

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

G:\DA\4002\Solar\Sheets\DA4881-1-CD-100s.dwg Plotted: Sep 21, 2016 - 3:23pm

GENERAL NOTES

1. ALL ITEMS SHOWN AS BOLD ARE TO BE REMOVED. ITEMS SHOWN FADED BACK ARE EXISTING ITEMS TO REMAIN UNLESS OTHERWISE NOTED.
2. THE "DEMOLITION KEY NOTES" REFER TO KEY ITEMS TO BE DEMOLISHED AND ARE NOT INTENDED TO LIMIT OVERALL DEMOLITION REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH DETAILS, NOTES AND INTENTION OF THE DEMOLITION AS INDICATED IN THE PLANS AND SPECIFICATIONS.
3. UNLESS OTHERWISE NOTED, REMOVE ALL FENCING, SURFACE IRRIGATION PIPING, TREES, AND SIGNS WITHIN THE LIMIT OF DEMOLITION.
4. REMAINDER OF MANCHESTER SQUARE DEMOLITION TO BE COMPLETED BY OTHERS.

SITE DEMOLITION KEY NOTES

1. REMOVE CONCRETE PAVEMENT. (SALVAGE FOR REUSE AS BASE MATERIAL?)
2. REMOVE ASPHALT PAVEMENT. (SALVAGE FOR REUSE AS BASE MATERIAL?)
3. REMOVE CONCRETE CURB AND GUTTER. (SALVAGE FOR REUSE AS BASE MATERIAL?)
4. CLEAR AND GRUB. REMOVE ALL EXISTING VEGETATION.
5. REMOVE EXISTING STRUCTURE, INCLUDING PAD, FOUNDATION, UTILITY LATERALS, AND ASSOCIATED WALKWAY/DRIVEWAY PAVEMENT.
6. REMOVE MISCELLANEOUS ITEM.

UTILITY DEMOLITION KEY NOTES

1. REMOVE STORM DRAIN PIPE.
2. REMOVE STORM DRAIN MANHOLE.
3. REMOVE STORM DRAIN CATCH BASIN.
4. PLUG AND CAP EXISTING STORM DRAIN.
5. EXISTING STORM DRAIN TO REMAIN. PROTECT IN PLACE.
6. REMOVE SANITARY SEWER PIPE AND ASSOCIATED LATERALS.
7. REMOVE SANITARY SEWER MANHOLE.
8. PLUG AND CAP EXISTING SANITARY SEWER.
9. EXISTING SANITARY SEWER TO REMAIN. PROTECT IN PLACE.
10. REMOVE WATER LINE AND ANY APPURTENANCES, CUT AND PLUG PER CITY STANDARDS WHERE APPLICABLE.
11. REMOVE FIRE HYDRANT.
12. EXISTING WATER LINE TO REMAIN. PROTECT IN PLACE.
13. REMOVE UNDERGROUND AND OVERHEAD ELECTRICAL FACILITIES.
14. REMOVE AND SALVAGE LIGHT POLE.
15. REMOVE COMM DUCT BANK AND ASSOCIATED STRUCTURES.
16. REMOVE NATURAL GAS PIPE.
17. CUT AND CAP EXISTING GAS MAIN.

LEGEND:

- CLEARING AND GRUBBING.
- ASPHALT PAVEMENT DEMOLITION
- CONCRETE PAVEMENT DEMOLITION
- UTILITY DEMOLITION
- PROJECT LIMIT
- RIGHT OF WAY
- EASEMENT

N

0 30 60 90
SCALE FEET
1" = 30'

TranSystems
801 South Grand
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Los Angeles, California 90017
Phone: (562) 594-4724
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NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONE ANA PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ/ASD
CHECKED BY: JDV

SHEET TITLE:
DEMOLITION PLAN

SHEET NO.
1-CD-105
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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LEGEND:

- CLEARING AND GRUBBING.
- ASPHALT PAVEMENT DEMOLITION
- CONCRETE PAVEMENT DEMOLITION
- UTILITY DEMOLITION
- PROJECT LIMIT
- RIGHT OF WAY
- EASEMENT

N

0 30 60 90
SCALE FEET
1" = 30'

TranSystems
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Los Angeles, California 90017
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CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY: CHIEF AIRPORTS ENGINEER

ONT ANY PMD LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ/ASD
CHECKED BY: JDV

SHEET TITLE:
DEMOLITION PLAN

SHEET NO.
1-CD-106
SHEET OF

G:\CIVIL\4000\3Sites\Sheets\DA4881-1-CD-105.dwg, Plotted: Sep 21, 2018 - 3:23pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. TOP OF PAVEMENT (TP) IS 0.5' BELOW TOP OF CURB (TC) UNLESS OTHERWISE NOTED.
2. ALL EXISTING UTILITY VAULTS, MANHOLE RIMS AND METER BOXES TO REMAIN WITHIN PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE.
3. THE GRADING CONTRACTOR SHALL NOT DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE OWNER. ANY PERMANENT MONUMENTS OR POINTS DESTROYED SHALL BE REPLACED BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
4. GRADING CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. AND BY AVOIDING ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW-SPOTS OR HAZARDOUS CONDITIONS.
5. EXISTING UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION WORK. ANY DAMAGE TO EXISTING STRUCTURES, UTILITIES, FENCES AND/OR INCIDENTALS NOT DESIGNATED FOR REMOVAL SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
6. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH OF APPROXIMATELY 6". SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE ENGINEER SHALL BE REMOVED FROM THE JOB SITE AND HAULED TO A LOCATION ON AIRPORT PROPERTY AS DIRECTED.
7. BUILDING FINISHED FLOOR ELEVATION (FF) IS FOR BUILDING PAD GRADE ONLY. SEE ARCHITECTURE PLAN FOR SECTION DETAILS AND FINE GRADING ELEVATION FOR FLOOR DRAINAGE.
8. WHERE CATCH BASINS OR INLETS ARE PLACED ALONG GUTTER AND ADJACENT TO CURB, TOP OF GRATE ELEVATION SHOWN IS AT GUTTER FLOWLINE. IN OTHER AREAS, TOP OF GRATE SHOWN IS AT CENTER OF STRUCTURE.

LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

N

0 30 60 90
SCALE FEET
1" = 30'

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CONSULTANTS:

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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

PMD LAX

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
GRADING PLAN

SHEET NO.
1-CG-101
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

X:\DA14\002\Sheets\DA4881-1-CG-100.dwg, Plotted: Sep 23, 2016 - 4:33pm

GENERAL NOTES

1. TOP OF PAVEMENT (TP) IS 0.5' BELOW TOP OF CURB (TC) UNLESS OTHERWISE NOTED.
2. ALL EXISTING UTILITY VAULTS, MANHOLE RIMS AND METER BOXES TO REMAIN WITHIN PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE.
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6. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH OF APPROXIMATELY 6". SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE ENGINEER SHALL BE REMOVED FROM THE JOB SITE AND HAULED TO A LOCATION ON AIRPORT PROPERTY AS DIRECTED.
7. BUILDING FINISHED FLOOR ELEVATION (FF) IS FOR BUILDING PAD GRADE ONLY. SEE ARCHITECTURE PLAN FOR SECTION DETAILS AND FINE GRADING ELEVATION FOR FLOOR DRAINAGE.
8. WHERE CATCH BASINS OR INLETS ARE PLACED ALONG GUTTER AND ADJACENT TO CURB, TOP OF GRATE ELEVATION SHOWN IS AT GUTTER FLOWLINE. IN OTHER AREAS, TOP OF GRATE SHOWN IS AT CENTER OF STRUCTURE.

LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

0 30 60 90
SCALE 1" = 30' FEET

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CONSULTANTS:

Los Angeles World Airports
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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY CHIEF AIRPORTS ENGINEER

ONT ANA PMD LAX

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
CHECKED BY: JDV

SHEET TITLE:
GRADING PLAN

SHEET NO.
1-CG-102
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. TOP OF PAVEMENT (TP) IS 0.5' BELOW TOP OF CURB (TC) UNLESS OTHERWISE NOTED.
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6. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH OF APPROXIMATELY 6". SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE ENGINEER SHALL BE REMOVED FROM THE JOB SITE AND HAULED TO A LOCATION ON AIRPORT PROPERTY AS DIRECTED.
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8. WHERE CATCH BASINS OR INLETS ARE PLACED ALONG GUTTER AND ADJACENT TO CURB, TOP OF GRATE ELEVATION SHOWN IS AT GUTTER FLOWLINE. IN OTHER AREAS, TOP OF GRATE SHOWN IS AT CENTER OF STRUCTURE.

LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

N

0 30 60 90
SCALE FEET
1" = 30'

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Los Angeles, California 90017
Phone: (562) 594-6974
Fax: (562) 594-6975

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CONSULTANTS:

Los Angeles World Airports
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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONT ANA
PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
CHECKED BY: JDV

SHEET TITLE:
GRADING PLAN

SHEET NO.
1-CG-103
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

J:\DA\14\0023\Sheets\DA4881-1-CG-100s.dwg, Plotted: Sep 23, 2016 - 4:33pm

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LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

ONT ANA PMD LAX

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

GRADING PLAN

SHEET NO.

1-CG-104

SHEET OF

N

0 30 60 90
SCALE FEET
1" = 30'

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LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

N

0 30 60 90
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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

JOINT PMD

MARK	DATE	DESCRIPTION

REVISIONS:

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

GRADING PLAN

SHEET NO.
1-CG-105

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

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8. WHERE CATCH BASINS OR INLETS ARE PLACED ALONG GUTTER AND ADJACENT TO CURB, TOP OF GRATE ELEVATION SHOWN IS AT GUTTER FLOWLINE. IN OTHER AREAS, TOP OF GRATE SHOWN IS AT CENTER OF STRUCTURE.

LEGEND

EXISTING 1' CONTOURS	98
NEW 0.5' CONTOURS	98.5
NEW 1' CONTOURS	98
RIGHT OF WAY	
EASEMENT LINE	
PROJECT LIMIT	

N

0 30 60 90
SCALE: 1" = 30' FEET

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801 South Grand
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Fax: (562) 594-6975

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CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONT ANA
PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
GRADING PLAN

SHEET NO.
1-CG-106
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. FOR SIGNING AND STRIPING, SEE CS-400 SHEETS.
2. FOR SITE GRADING, SEE CG-100 SHEETS.
3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

1. NEW ASPHALT CONCRETE PAVEMENT PER DETAIL 4/1-CS-502.
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
9. 6' CHAIN LINK FENCE.
10. CHAIN LINK SLIDING GATE, CLEAR WIDTH AS NOTED.
11. CHAIN LINK DOUBLE LEAF SWING GATE, CLEAR WIDTH AS NOTED.
12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

SCALE 1" = 30'
0 30 60 90 FEET

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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY CHIEF AIRPORTS ENGINEER

ONT ANA PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
SITE PLAN

SHEET NO.
1-CS-101
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. FOR SIGNING AND STRIPING, SEE CS-400 SHEETS.
2. FOR SITE GRADING, SEE CG-100 SHEETS.
3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

1. NEW ASPHALT CONCRETE PAVEMENT PER DETAIL 4/1-CS-502.
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
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12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

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MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
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CHECKED BY:	JDV

SHEET TITLE:

SITE PLAN

SHEET NO.

1-CS-102

SHEET OF

G:\DA14002\Dwg\Sheet\DA4881-1-CS-100.dwg, Plotted: Sep 21, 2016 - 3:27pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. FOR SIGNING AND STRIPING, SEE CS-400 SHEETS.
2. FOR SITE GRADING, SEE CG-100 SHEETS.
3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

1. NEW ASPHALT CONCRETE PAVEMENT PER DETAIL 4/1-CS-502.
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
9. 6' CHAIN LINK FENCE.
10. CHAIN LINK SLIDING GATE, CLEAR WIDTH AS NOTED.
11. CHAIN LINK DOUBLE LEAF SWING GATE, CLEAR WIDTH AS NOTED.
12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

N

0 30 60 90
SCALE FEET
1" = 30'

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ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
CHECKED BY: JDV

SHEET TITLE:
SITE PLAN

SHEET NO.
1-CS-103
SHEET OF

G:\DA\4002\Dwr\Sheets\DA4881-1-CS-100c.dwg, Plotted: Sep 23, 2016 - 3:27pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. FOR SIGNING AND STRIPING, SEE CS-400 SHEETS.
2. FOR SITE GRADING, SEE CG-100 SHEETS.
3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

1. NEW ASPHALT CONCRETE PAVEMENT PER DETAIL 4/1-CS-502.
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
9. 6' CHAIN LINK FENCE.
10. CHAIN LINK SLIDING GATE, CLEAR WIDTH AS NOTED.
11. CHAIN LINK DOUBLE LEAF SWING GATE, CLEAR WIDTH AS NOTED.
12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

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SHEET TITLE:

SITE PLAN

SHEET NO.

1-CS-104

SHEET OF

SCALE 1" = 30'

0 30 60 90 FEET

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IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

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3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

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2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
9. 6' CHAIN LINK FENCE.
10. CHAIN LINK SLIDING GATE, CLEAR WIDTH AS NOTED.
11. CHAIN LINK DOUBLE LEAF SWING GATE, CLEAR WIDTH AS NOTED.
12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

N

0 30 60 90
SCALE FEET
1" = 30'

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Los Angeles International Airport

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APPROVED BY: CHIEF AIRPORTS ENGINEER

CONCESSIONS PMD LAX

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
SITE PLAN

SHEET NO.
1-CS-105
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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GENERAL NOTES

1. FOR SIGNING AND STRIPING, SEE CS-400 SHEETS.
2. FOR SITE GRADING, SEE CG-100 SHEETS.
3. FOR WET UTILITIES, SEE CU-100 SHEETS.

SITE PLAN KEY NOTES

1. NEW ASPHALT CONCRETE PAVEMENT PER DETAIL 4/1-CS-502.
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT PER DETAIL 5/1-CS-502.
3. PCC SIDEWALK PER DETAIL 1/1-CS-502.
4. NEW CONCRETE CURB & GUTTER PER DETAIL 1/1-CS-501, TYPE C.
5. NEW CONCRETE CURB PER DETAIL 1/1-CS-501, TYPE A.
6. LANDSCAPE AREA. SEE LANDSCAPE PLANS.
7. 6" DIA. REMOVABLE BOLLARD PER DETAIL 7/1-CS-502.
8. 6" DIA. FIXED BOLLARD PER DETAIL 6/1-CS-502.
9. 6' CHAIN LINK FENCE.
10. CHAIN LINK SLIDING GATE, CLEAR WIDTH AS NOTED.
11. CHAIN LINK DOUBLE LEAF SWING GATE, CLEAR WIDTH AS NOTED.
12. INTERCOM OR PEDESTAL WITH KEYPAD AND CALL BUTTON. -SEE ELECTRICAL/TELECOM SHEETS
13. UNDERPASS RETAINING WALL. -SEE STRUCTURAL SHEETS
14. OVERHEAD SIGN BRIDGE. -SEE STRUCTURAL SHEETS
15. EMERGENCY GENERATOR PAD. -SEE ELECTRICAL SHEETS
16. CONCRETE VALLEY GUTTER PER DETAIL 8/1-CS-502.

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE PROJECT LIMITS
- PROPERTY LINE
- ROADWAY CENTERLINE
- EASEMENT
- ASPHALT CONCRETE PAVEMENT
- PCC SIDEWALK PAVEMENT
- PCC PAVEMENT
- GRAVEL
- LANDSCAPED AREA

N

0 30 60 90
SCALE FEET
1" = 30'

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Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

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REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

SITE PLAN

SHEET NO.
1-CS-106

SHEET OF

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IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC STRIPES AND LEGENDS AT THE LOCATIONS SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED.
2. LAYOUT AND CONTROL MARKS SHALL BE PLACED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF ANY PERMANENT STRIPING, MARKERS OR MARKINGS.
3. ALL PROPOSED DELINEATION SHALL MATCH THE LAYOUT OF EXISTING STRIPING AT LIMITS OF WORK.
4. THE CONTRACTOR SHALL INSTALL BLUE REFLECTIVE PAVEMENT MARKERS AT ALL FIRE HYDRANT LOCATIONS PER FIGURE 39-102 IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. DIMENSIONS ARE FROM FACE OF CURB (FC), UNLESS OTHERWISE NOTED.
6. PAVEMENT DELINEATION DETAIL NUMBERS REFER TO THE DETAILS PRESENTED IN CALTRANS STANDARD PLANS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. RED CURB SHALL NOT BE PAINTED WITHIN THE LIMITS OF DRIVEWAY AND CURB RAMPS.

STRIPING KEY NOTES

1. TYPE I 18'-0" ARROW PER DETAIL ON CALTRANS STD PLAN A24A
2. TYPE IV (L) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
3. TYPE IV (R) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
4. 12" WHITE
5. 6" WHITE
6. PAVEMENT MARKING AS SHOWN, PER CALTRANS DETAIL A24D
7. TYPE VIII ARROWS PER DETAIL ON CALTRANS STD PLAN A24A
8. 6" WHITE AT 45 DEGREES AT 15' ON CENTER.
9. 6" YELLOW AT 15' ON CENTER.
10. ISA MARKING PER CALTRANS STANDARD DETAIL A24C.
11. 9'X18' PARKING STALL. 4" WHITE AS SHOWN.

SIGNING KEY NOTES

1	R1-1	STOP
2	R1-2	YIELD
3	R2-1	SPEED LIMIT
4	R3-1	NO RIGHT TURN
5	R3-2	NO LEFT TURN
6	R3-4	NO U-TURN
7	R3-5	LEFT TURN ONLY
8	R3-7	RIGHT LANE MUST TURN RIGHT
9	R5-1	DO NOT ENTER
10	R5-1A	WRONG WAY
11	R26A(CA)	NO STOPPING ANYTIME
12	W4-1	MERGING LANES RIGHT
13	W4-2	MERGE LEFT
14	W4-5	MERGING LANES LEFT
15	W4-6	ADDED LANES
16	W11-2	CROSSWALK
17	W13-1	SPEED LIMIT
18	W16-7P	DIAGONAL DOWNWARD ARROW
19	W16-9P	AHEAD
20	R3-8b	LEFT, THRU, AND RIGHT ONLY
21	R61	LEFT, LEFT, RIGHT, RIGHT

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Los Angeles World Airports

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Los Angeles International Airport

SUBMITTED BY ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

SIGNING AND STRIPING PLAN

SHEET NO.
1-CS-401

SHEET OF

SCALE 1" = 30'

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC STRIPES AND LEGENDS AT THE LOCATIONS SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED.
2. LAYOUT AND CONTROL MARKS SHALL BE PLACED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF ANY PERMANENT STRIPING, MARKERS OR MARKINGS.
3. ALL PROPOSED DELINEATION SHALL MATCH THE LAYOUT OF EXISTING STRIPING AT LIMITS OF WORK.
4. THE CONTRACTOR SHALL INSTALL BLUE REFLECTIVE PAVEMENT MARKERS AT ALL FIRE HYDRANT LOCATIONS PER FIGURE 3B-102 IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. DIMENSIONS ARE FROM FACE OF CURB (FC), UNLESS OTHERWISE NOTED.
6. PAVEMENT DELINEATION DETAIL NUMBERS REFER TO THE DETAILS PRESENTED IN CALTRANS' STANDARD PLANS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. RED CURB SHALL NOT BE PAINTED WITHIN THE LIMITS OF DRIVEWAY AND CURB RAMPS.

STRIPING KEY NOTES

1. TYPE I 18'-0" ARROW PER DETAIL ON CALTRANS STD PLAN A24A
2. TYPE IV (L) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
3. TYPE IV (R) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
4. 12" WHITE
5. 6" WHITE
6. PAVEMENT MARKING AS SHOWN, PER CALTRANS DETAIL A24D
7. TYPE VIII ARROWS PER DETAIL ON CALTRANS STD PLAN A24A
8. 6" WHITE AT 45 DEGREES AT 15' ON CENTER.
9. 6" YELLOW AT 15' ON CENTER.
10. ISA MARKING PER CALTRANS STANDARD DETAIL A24C.
11. 9'X18' PARKING STALL. 4" WHITE AS SHOWN.

SIGNING KEY NOTES

1	R1-1	STOP
2	R1-2	YIELD
3	R2-1	SPEED LIMIT
4	R3-1	NO RIGHT TURN
5	R3-2	NO LEFT TURN
6	R3-4	NO U-TURN
7	R3-5	LEFT TURN ONLY
8	R3-7	RIGHT LANE MUST TURN RIGHT
9	R5-1	DO NOT ENTER
10	R5-1A	WRONG WAY
11	R26A(CA)	NO STOPPING ANYTIME
12	W4-1	MERGING LANES RIGHT
13	W4-2	MERGE LEFT
14	W4-5	MERGING LANES LEFT
15	W4-6	ADDED LANES
16	W11-2	CROSSWALK
17	W13-1	SPEED LIMIT
18	W16-7P	DIAGONAL DOWNWARD ARROW
19	W16-9P	AHEAD
20	R3-8b	LEFT, THRU, AND RIGHT ONLY
21	R61	LEFT, LEFT, RIGHT, RIGHT

N

0 30 60 90
SCALE FEET
1" = 30'

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

LAX CONSOLIDATED RENTAL CAR FACILITY

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
CHECKED BY: JDV

SHEET TITLE:

SIGNING AND STRIPING PLAN

SHEET NO.
1-CS-402

SHEET OF

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GENERAL NOTES

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5. DIMENSIONS ARE FROM FACE OF CURB (FC), UNLESS OTHERWISE NOTED.
6. PAVEMENT DELINEATION DETAIL NUMBERS REFER TO THE DETAILS PRESENTED IN CALTRANS STANDARD PLANS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. RED CURB SHALL NOT BE PAINTED WITHIN THE LIMITS OF DRIVEWAY AND CURB RAMPS.

STRIPING KEY NOTES

1. TYPE I 18'-0" ARROW PER DETAIL ON CALTRANS STD PLAN A24A
2. TYPE IV (L) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
3. TYPE IV (R) ARROW PER DETAIL ON CALTRANS STD PLAN A24A
4. 12" WHITE
5. 6" WHITE
6. PAVEMENT MARKING AS SHOWN, PER CALTRANS DETAIL A24D
7. TYPE VIII ARROWS PER DETAIL ON CALTRANS STD PLAN A24A
8. 6" WHITE AT 45 DEGREES AT 15' ON CENTER.
9. 6" YELLOW AT 15' ON CENTER.
10. ISA MARKING PER CALTRANS STANDARD DETAIL A24C.
11. 9'X18' PARKING STALL. 4" WHITE AS SHOWN.

SIGNING KEY NOTES

1	R1-1	STOP
2	R1-2	YIELD
3	R2-1	SPEED LIMIT
4	R3-1	NO RIGHT TURN
5	R3-2	NO LEFT TURN
6	R3-4	NO U-TURN
7	R3-5	LEFT TURN ONLY
8	R3-7	RIGHT LANE MUST TURN RIGHT
9	R5-1	DO NOT ENTER
10	R5-1A	WRONG WAY
11	R26A(CA)	NO STOPPING ANYTIME
12	W4-1	MERGING LANES RIGHT
13	W4-2	MERGE LEFT
14	W4-5	MERGING LANES LEFT
15	W4-6	ADDED LANES
16	W11-2	CROSSWALK
17	W13-1	SPEED LIMIT
18	W16-7P	DIAGONAL DOWNWARD ARROW
19	W16-9P	AHEAD
20	R3-8b	LEFT, THRU, AND RIGHT ONLY
21	R61	LEFT, LEFT, RIGHT, RIGHT

N

0 30 60 90
SCALE FEET
1" = 30'

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CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
CHECKED BY: JDV

SHEET TITLE:
SIGNING AND STRIPING PLAN

SHEET NO.
1-CS-403
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC STRIPES AND LEGENDS AT THE LOCATIONS SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED.
2. LAYOUT AND CONTROL MARKS SHALL BE PLACED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF ANY PERMANENT STRIPING, MARKERS OR MARKINGS.
3. ALL PROPOSED DELINEATION SHALL MATCH THE LAYOUT OF EXISTING STRIPING AT LIMITS OF WORK.
4. THE CONTRACTOR SHALL INSTALL BLUE REFLECTIVE PAVEMENT MARKERS AT ALL FIRE HYDRANT LOCATIONS PER FIGURE 3B-102 IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. DIMENSIONS ARE FROM FACE OF CURB (FC), UNLESS OTHERWISE NOTED.
6. PAVEMENT DELINEATION DETAIL NUMBERS REFER TO THE DETAILS PRESENTED IN CALTRANS STANDARD PLANS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. RED CURB SHALL NOT BE PAINTED WITHIN THE LIMITS OF DRIVEWAY AND CURB RAMPS.

STRIPING KEY NOTES

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21	R61	LEFT, LEFT, RIGHT, RIGHT

N

SCALE 1" = 30'
0 30 60 90
FEET

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CONSULTANTS:

Los Angeles World Airports

Project

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Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

ONT PMD LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA481
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

SIGNING AND STRIPING PLAN

SHEET NO.
1-CS-404

SHEET OF

G:\DALEA\0025\Sol\Sheets\DA4881-1-CS-405.dwg, Plotted: Sep 21, 2016 3:29pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

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21	R61	LEFT, LEFT, RIGHT, RIGHT

N

SCALE 1" = 30'

0 30 60 90 FEET

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APPROVED BY: CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

SIGNING AND STRIPING PLAN

SHEET NO.

1-CS-405

SHEET OF

G:\DA14002\Solw\Sheets\DA4881-1-CS-400s.dwg, Model: Sep 23, 2016 - 3:29pm

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N

0 30 60 90
SCALE FEET
1" = 30'

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APPROVED BY CHIEF AIRPORTS ENGINEER

ONE PMD ANA LAX

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
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DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
SIGNING AND STRIPING PLAN

SHEET NO.
1-CS-406
SHEET OF

G:\DA1400\23\Dwg\Sheets\DA4881-1-CS-400s.dwg, Plotted: Sep 21, 2016 - 3:29pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

1 1-CS-501 CURB AND GUTTER DETAIL
SCALE: AS NOTED

NOTES

1. CURBS AND GUTTERS SHALL BE CONSTRUCTED OF PCC CONFORMING TO SUBSECTION 201-1 AND 303-5.
2. WEAKENED-PLANE JOINTS IN CURB AND GUTTER SHALL CONFORM TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SUBSECTION 303-5.4.3 (C) OR SHALL BE 1-1/2 INCH DEEP SAWCUTS MADE WITHIN 10 TO 24 HOURS AFTER CONCRETE IS PLACED AND SHALL BE PLACED AT LOCATIONS SHOWN ON THE TYPICAL JOINT PLAN HEREON AND AT REGULAR INTERVALS NOT EXCEEDING 20 FEET BETWEEN RETURNS. THEY SHALL ALSO BE LOCATED AT THE E.C. OF ALLEY RETURNS WHERE WALK IS FULL WIDTH. WHERE CROSS GUTTER TRANSITION EXTENDS BEYOND THE CURB RETURN, THE JOINTS SHALL NORMALLY BE PLACED AT THE ENDS OF THE TRANSITION. HOWEVER, JOINTS SHALL ALSO BE PLACED AT THE ENDS OF THE CURB RETURN WHEN THE CROSS GUTTER TRANSITION EXTENDS MORE THAN 5 FEET BEYOND THE RETURN. WHERE GUTTER IS ADJACENT TO CONCRETE PAVEMENT, THE JOINT SHALL BE ALIGNED WITH THE PAVEMENT JOINTS WHERE PRACTICAL.
3. A CONTACT JOINT SHALL BE PLACED IN LONGITUDINAL ALLEY GUTTER WHERE IT JOINS CONCRETE ALLEY INTERSECTION.
4. CURBS CONSTRUCTED ADJACENT TO EXISTING CURBS HAVING A BATTER OTHER THAN SPECIFIED FOR THE NEW CURBS SHALL BE CONSTRUCTED WITH A TRANSITION SECTION BETWEEN THE CURBS HAVING DIFFERENT BATTERS. THE MINIMUM TRANSITION LENGTH SHALL BE:

TYPE OF CURB	MINIMUM TRANSITION LENGTH
BARRIER CURB TO BARRIER CURB	5'
MOUNTABLE CURB TO MOUNTABLE CURB	10'
BARRIER CURB TO MOUNTABLE CURB	20'

5. THE DOWELS IN THE DOWELED CURB MAY BE DELETED AND THE CURB BONDED TO THE SURFACE BY A BONDING AGENT APPROVED BY THE ENGINEER.
6. MOUNTABLE CURBS SHALL NOT BE USED ADJACENT TO PEDESTRIAN WALKWAYS.
7. DIMENSIONS: (UNLESS OTHERWISE SPECIFIED)
   a=2'-0"
   b=0'-6"
   c=10'-0"

STANDARD PLAN NO. S-410-2 | VAULT INDEX NUMBER B-4102 | SHEET 4 OF 4 SHEETS

2 1-CS-501 CURB RAMP DETAIL
SCALE: AS NOTED

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CONSULTANTS:

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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	SJQ
CHECKED BY:	JDV

SHEET TITLE:
SITE DETAILS

SHEET NO.
1-CS-501
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

1 1-CS-502 SIDEWALK DETAIL
SCALE: AS NOTED

2 1-CS-502 DRIVEWAY DETAIL
SCALE: AS NOTED

3 1-CS-502 BUS PAD DETAIL
SCALE: AS NOTED

4 1-CS-502 TYPICAL AC PAVEMENT SECTION
SCALE: AS NOTED

5 1-CS-502 TYPICAL PCC PAVEMENT SECTION
SCALE: AS NOTED

6 1-CS-502 FIXED BOLLARD
SCALE: AS NOTED

7 1-CS-502 REMOVABLE BOLLARD
SCALE: AS NOTED

8 1-CS-502 CONCRETE VALLEY GUTTER
SCALE: AS NOTED

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Los Angeles International Airport

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APPROVED BY CHIEF AIRPORTS ENGINEER

REVISIONS: MARK DATE DESCRIPTION

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DESIGNED BY: JDV
DRAWN BY: SJQ
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SHEET TITLE:
SITE DETAILS

SHEET NO.
1-CS-502
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.
2. 1-CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. CISTERN COLLECTION SYSTEM.
4. HYDRODYNAMIC SEPARATOR.
5. PUMP STATION

N

SCALE 1" = 80'

0 80 160 240 FEET

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

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ONE ANA PMD LAX

REVISIONS:

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PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: JDV
DRAWN BY: JDG
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SHEET TITLE:

OVERALL STORM DRAIN PLAN

SHEET NO.

1-CU-001

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.
2. 1-CS-100 SHEETS FOR SITE IMPROVEMENTS.

WATER LINE KEY NOTES

1. PVC WATER PIPE.
2. CONNECTION TO EXISTING SYSTEM.

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Phone: (562) 594-6974
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DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

OVERALL WATER PLAN

SHEET NO.

1-CU-002

SHEET OF

SCALE 1" = 80' FEET 0 80 160 240

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.
2. 1-CS-100 SHEETS FOR SITE IMPROVEMENTS.

SANITARY SEWER KEY NOTES

1. SANITARY SEWER PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. OIL-WATER SEPARATOR.

N

0 80 160 240
SCALE FEET
1" = 80'

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Fax: (562) 594-6975

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ONE ANA PMD LAX

REVISIONS:			
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PROJ NO:	DA4881
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DATE:	2016-09-23
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SHEET TITLE:

OVERALL SANITARY SEWER PLAN

SHEET NO.

1-CU-003

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.
2. 1-CS-100 SHEETS FOR SITE IMPROVEMENTS.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.
6. NATURAL GAS FROM POINT OF CONNECTION TO GAS METER BY SOCAL GAS. (NIC)
7. GAS METER BY SOCAL GAS (NIC).
8. NATURAL GAS FROM METER TO BUILDINGS BY CONTRACTOR.

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SHEET TITLE:

OVERALL GAS PLAN

SHEET NO.

1-CU-004

SHEET OF

SCALE 1" = 80'

0 80 160 240 FEET

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-0 ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-0 ON SHEET 1-CU-502.
4. HYDRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-0 ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## — STORM DRAIN STRUCTURE ID
- X## — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE FEET
1" = 30'

TranSystems
801 South Grand
Suite 210
Los Angeles, California 90017
Phone: (562) 594-6974
Fax: (562) 594-6975

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

UTILITY PLAN

SHEET NO.
1-CU-101
SHEET OF

G:\DA\4002\Sdw\Sheets\DA4881-1-CU-1000.dwg, Plotted: Sep 23, 2016 - 3:34pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-0 ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-0 ON SHEET 1-CU-502.
4. HYDRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-0 ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTIION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## XX — STORM DRAIN STRUCTURE ID
- X## XX — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE FEET
1" = 30'

TranSystems
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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

REVISIONS:			
MARK	DESCRIPTION	DATE	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

UTILITY PLAN

SHEET NO.
1-CU-102

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

G:\DRJob\0023\Sheets\DA4881-1-CU-100s.dwg, Plotted: Sep 21, 2016 - 3:20pm

GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-O ON SHEET 1-CU-502.
4. HYDRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTIION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## — STORM DRAIN STRUCTURE ID
- X## — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE FEET
1" = 30'

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CONSULTANTS:

Los Angeles World Airports
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LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY: CHIEF AIRPORTS ENGINEER

CONCEPT PMD ANA LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
UTILITY PLAN

SHEET NO.
1-CU-103
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-O ON SHEET 1-CU-502.
4. HYDRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTIION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## — STORM DRAIN STRUCTURE ID
- X## — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE 1" = 30' FEET

TranSystems
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Los Angeles, California 90017
Phone: (562) 594-6974
Fax: (562) 594-6975

NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

UTILITY PLAN

SHEET NO.

CU-104

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-O ON SHEET 1-CU-502.
4. HYRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTIION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## — STORM DRAIN STRUCTURE ID
- X## — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE FEET
1" = 30'

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NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

CONCESSIONS PMD ANA LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

UTILITY PLAN

SHEET NO.
1-CU-105

SHEET OF

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GENERAL NOTES

1. SEE SHEET CU-001 FOR ADDITIONAL NOTES AND UTILITY LEGEND.
2. SEE CS-100 SHEETS FOR SITE IMPROVEMENTS.

STORM DRAIN KEY NOTES

1. STORM DRAIN PIPE. SIZE AND MATERIAL AS NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE. SEE CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CU-502.
3. STORM DRAIN CATCH BASIN. SEE CITY OF LOS ANGELES STD. DTL. S-361-O ON SHEET 1-CU-502.
4. HYDRODYNAMIC SEPARATOR. SEE DETAIL ON SHEET 1-CU-502.
5. CONNECT NEW STORM PIPE TO EXISTING STRUCTURE. INVERT TO MATCH EXISTING UNLESS OTHERWISE NOTED ON THE PLAN.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.
7. STORM DRAIN PUMP STATION. SEE SHEETS XX.
8. STORM WATER CISTERN. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-501.
9. SEE PLUMBING SHEETS FOR CONTINUATION.
10. STORM DRAIN CLEANOUT.

SANITARY SEWER KEY NOTES

1. PVC SANITARY SEWER PIPE. SIZE NOTED ON PLAN AND PROFILES.
2. PRECAST REINFORCED SEWER MANHOLE PER CITY OF LOS ANGELES STD. DTL. S-381-O ON SHEET 1-CS-502.
3. CONNECT NEW SEWER PIPE TO EXISTING STRUCTURE.
4. SEE PLUMBING SHEETS FOR CONTINUATION.
5. OIL-WATER SEPARATOR. SIZED AS NOTED. SEE DETAILS ON SHEET 1-CU-502.
6. INTERCEPT AND CONNECT EXISTING PIPE TO NEW STORM DRAIN STRUCTURE.

WATER LINE KEY NOTES

1. 12" PVC WATER PIPE UON.
2. WATER VALVE.
3. FIRE HYDRANT AND VALVE. LOCATIONS MUST BE APPROVED BY LA CITY FIRE DEPT.
4. WATER TEE. SIZE AS NOTED.
5. HORIZONTAL BEND.
6. WATER MAIN POINT OF CONNECTION.
7. SEE PLUMBING SHEETS FOR CONTINUATION.
8. FIRE DEPARTMENT CONNECTION.
9. POST INDICATOR VALVE.
10. BACKFLOW PREVENTION.
11. SEE FIRE PROTECTION SHEETS FOR CONTINUATION.
12. NEW 12" WATER MAIN.
13. REDUCER. SIZE AS NOTED.

GAS KEY NOTES

1. 4" HDPE GAS PIPE.
2. CONNECTION TO EXISTING SYSTEM.
3. GAS VALVE.
4. GAS METER.
5. CONNECTION TO BUILDING.

MISCELLANEOUS KEY NOTES

1. ELECTRICAL CONDUIT AND CONDUCTORS. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
2. ELECTRICAL STRUCTURE/EQUIPMENT. SEE ELECTRICAL SHEETS FOR MORE INFORMATION.
3. COMMUNICATIONS CONDUIT AND LINES. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
4. COMMUNICATIONS STRUCTURE. SEE COMMUNICATIONS SHEETS FOR MORE INFORMATION.
5. SEE ELECTRICAL AND COMMUNICATIONS DRAWINGS FOR CONTINUATION.
6. UNDERGROUND FUEL LINES. SEE FUELING PLANS.

LEGEND

- SD — STORM DRAIN PIPE
- FM — STORM DRAIN FORCE MAIN
- SS — SANITARY SEWER PIPE
- W — WATER PIPE
- F — FIRE WATER SERVICE LATERAL
- E — ELECTRICAL DUCT BANK
- COM — COMMUNICATIONS DUCT BANK
- NG — NATURAL GAS PIPE
- D — STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- STORM DRAIN CLEANOUT
- VORTEX SEPARATOR
- SS — SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- FDC — FIRE DEPARTMENT CONNECTIION
- PIV — POST INDICATOR VALVE
- WATER TEE
- REDUCER
- UTILITY PULLBOX
- X## — STORM DRAIN STRUCTURE ID
- X## — SANITARY SEWER STRUCTURE ID

N

0 30 60 90
SCALE FEET
1" = 30'

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Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY: CHIEF AIRPORTS ENGINEER

CONCESSIONS ANALYSIS PMD LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:

UTILITY PLAN

SHEET NO.
1-CU-106
SHEET OF

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GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-201 STORM SEWER PROFILE – LINE A

SCALE: AS NOTED

0 3 6 9
VERTICAL SCALE FEET
1" = 3'

0 30 60 90
HORIZONTAL SCALE FEET
1" = 30'

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Suite 210
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CONSULTANTS:

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Project

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Los Angeles International Airport

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PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ
CHECKED BY: JDV

SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.

1-CU-201

SHEET OF

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G:\DA\4002\Sdw\Sheets\DA4881-1-CU-200s.dwg [Plotted: Sep 23, 2016 - 3:36pm

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-202 STORM SEWER PROFILE – LINE A

SCALE: AS NOTED

2 / 1-CU-202 STORM SEWER PROFILE – LINE B

SCALE: AS NOTED

0 3 6 9
VERTICAL SCALE FEET
1" = 3'

0 30 60 90
HORIZONTAL SCALE FEET
1" = 30'

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MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ
CHECKED BY: JDV

SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.
1-CU-202

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-203 STORM SEWER PROFILE - LINE B

SCALE: AS NOTED

2 / 1-CU-203 STORM SEWER PROFILE – LINE B2

SCALE: AS NOTED

3 / 1-CU-203 STORM SEWER PROFILE – LINE C

SCALE: AS NOTED

VERTICAL SCALE 0 3 6 9 FEET
1" = 3'

HORIZONTAL SCALE 0 30 60 90 FEET
1" = 30'

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REVISIONS:			
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PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
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CHECKED BY: JDV

SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.
1-CU-203

SHEET OF

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G:\DA4881\Sheets\DA4881-1-CU-200s.dwg, Plotted: Sep 23, 2016 - 3:37pm

1
1-CU-204

STORM SEWER PROFILE – LINE C

SCALE: AS NOTED

2
1-CU-204

STORM SEWER PROFILE – LINE C7

SCALE: AS NOTED

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

0 3 6 9
VERTICAL SCALE FEET
1" = 3'

0 30 60 90
HORIZONTAL SCALE FEET
1" = 30'

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MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	SJQ
DRAWN BY:	SJQ
CHECKED BY:	JDV

SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.
1-CU-204

SHEET OF

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G:\DA-14002\Drawings\Sheets\DA4881-1-CU-200s.dwg, Plotted: Sep 23, 2016 - 3:37pm

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-205 STORM SEWER PROFILE – LINE D

SCALE: AS NOTED

1 / 1-CU-205 STORM SEWER PROFILE – LINE D

SCALE: AS NOTED

2 / 1-CU-205 STORM SEWER PROFILE – LINE E

SCALE: AS NOTED

VERTICAL SCALE 0 3 6 9 FEET
1" = 3'

HORIZONTAL SCALE 0 30 60 90 FEET
1" = 30'

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PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	SJQ
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CHECKED BY:	JDV

SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.

1-CU-205

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GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-206 STORM SEWER PROFILE – LINE D3

SCALE: AS NOTED

3 / 1-CU-206 STORM SEWER PROFILE – LINE B28

SCALE: AS NOTED

2 / 1-CU-206 STORM SEWER PROFILE – LINE D5

SCALE: AS NOTED

4 / 1-CU-206 STORM SEWER PROFILE – LINE C2

SCALE: AS NOTED

0 3 6 9
VERTICAL SCALE FEET
1" = 3'

0 30 60 90
HORIZONTAL SCALE FEET
1" = 30'

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REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	SJQ
DRAWN BY:	SJQ
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SHEET TITLE:

STORM DRAIN PROFILES

SHEET NO.

1-CU-206

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-207 SANITARY SEWER PROFILE – LINE A

SCALE: AS NOTED

2 / 1-CU-207 SANITARY SEWER PROFILE – LINE B

SCALE: AS NOTED

VERTICAL SCALE 1" = 3' (0, 3, 6, 9 FEET)

HORIZONTAL SCALE 1" = 30' (0, 30, 60, 90 FEET)

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PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ
CHECKED BY: JDV

SHEET TITLE: SANITARY SEWER PROFILES

SHEET NO. 1-CU-207

SHEET OF

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G:\DA14002\Sheets\DA4881-1-CU-200s.dwg Plotted Sep 23, 2016, 3:37pm

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

1 / 1-CU-208 SANITARY SEWER PROFILE – LINE B3

SCALE: AS NOTED

2 / 1-CU-208 SANITARY SEWER PROFILE – LINE C

SCALE: AS NOTED

0 3 6 9
VERTICAL SCALE FEET
1" = 3'

0 30 60 90
HORIZONTAL SCALE FEET
1" = 30'

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REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	SJQ
DRAWN BY:	SJQ
CHECKED BY:	JDV

SHEET TITLE:

SANITARY SEWER PROFILES

SHEET NO.

1-CU-208

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

G:\DA\4002\Solar\Sheets\DA4881-1-CU-200s.dwg, Plotted: Sep 21, 2016 - 3:38pm

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
CB A3	N: 1803393.92 E: 6448418.80	5'	RIM = 97.00 INV IN = 85.29 (W) INV = 85.19 (N)
CB A4	N: 1803381.24 E: 6448273.69	5'	RIM = 96.63 INV IN = 85.55 (W) INV = 85.45 (E)
CB A5	N: 1803389.09 E: 6448196.34	5'	RIM = 96.76 INV IN = 85.73 (W) INV = 85.63 (E)
CB A6	N: 1803389.11 E: 6448131.74	5'	RIM = 97.29 INV IN = 85.90 (W) INV = 85.80 (E)
CB A7	N: 1803389.14 E: 6448012.03	5'	RIM = 97.32 INV IN = 86.13 (NW) INV = 86.03 (E)
CB A12	N: 1803676.66 E: 6447801.48	4'	RIM = 96.07 INV IN = 86.94 (N) INV = 86.84 (S)
CB A13	N: 1803820.67 E: 6447801.46	4'	RIM = 96.08 INV IN = 87.30 (N) INV = 87.20 (S)
CB A14	N: 1803964.67 E: 6447801.45	4'	RIM = 96.08 INV IN = 87.66 (N) INV = 87.56 (S)
CB A15	N: 1804108.66 E: 6447801.44	4'	RIM = 96.08 INV IN = 88.02 (N) INV = 87.92 (S)
CB A16	N: 1804249.01 E: 6447801.43	4'	RIM = 96.10 INV IN = 88.37 (N) INV = 88.27 (S)
CB A18	N: 1804396.60 E: 6447801.42	4'	RIM = 96.08 INV IN = 88.64 (N) INV = 88.64 (S)
CB A21	N: 1804605.56 E: 6447841.83	4'	RIM = 96.78 INV IN = 89.04 (N) INV = 89.04 (S)
CB A22	N: 1804684.66 E: 6447842.22	4'	RIM = 97.08 INV IN = 89.18 (N) INV = 89.18 (S)
CB A23	N: 1804828.66 E: 6447842.22	4'	RIM = 97.07 INV IN = 89.44 (N) INV = 89.44 (S)
CB A24	N: 1804970.87 E: 6447842.22	4'	RIM = 97.08 INV IN = 92.19 (E) INV = 89.70 (S)
CB B6	N: 1803742.61 E: 6448439.67	5'	RIM = 97.60 INV IN = 87.47 (N) INV = 87.37 (S)
CB B8	N: 1803872.90 E: 6448439.67	5'	RIM = 97.60 INV IN = 87.73 (N) INV = 87.63 (S)
CB B10	N: 1804018.99 E: 6448439.67	5'	RIM = 97.60 INV IN = 88.00 (N) INV = 87.90 (S)
CB B12	N: 1804164.96 E: 6448439.67	5'	RIM = 97.60 INV IN = 88.26 (N) INV = 88.16 (S)
CB B14	N: 1804310.89 E: 6448439.67	5'	RIM = 97.60 INV IN = 88.52 (N) INV = 88.42 (S)

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
CB B17	N: 1804456.96 E: 6448439.67	5'	RIM = 97.60 INV IN = 88.78 (N) INV = 88.68 (S)
CB B19	N: 1804602.94 E: 6448439.67	5'	RIM = 97.60 INV IN = 89.04 (N) INV = 88.94 (S)
CB B21	N: 1804748.96 E: 6448439.67	5'	RIM = 97.60 INV IN = 89.31 (N) INV = 89.20 (S)
CB B24	N: 1804894.94 E: 6448439.67	5'	RIM = 97.60 INV IN = 89.57 (N) INV = 89.47 (S)
CB B26	N: 1805040.97 E: 6448439.67	5'	RIM = 97.60 INV IN = 89.83 (N) INV = 89.73 (S)
CB B29	N: 1805106.61 E: 6448213.21	5'	RIM = 96.80 INV IN = 90.47 (W) INV = 90.37 (E)
CB B30	N: 1805106.61 E: 6448083.59	5'	RIM = 96.99 INV IN = 90.71 (W) INV = 90.61 (E)
CB B31	N: 1805075.61 E: 6447969.94	4'	RIM = 97.50 INV = 90.92 (E)
CB B281	N: 1805182.82 E: 6448331.45	4'	RIM = 98.08 INV IN = 90.43 (W) INV = 90.33 (SE)
CB B282	N: 1805183.30 E: 6448213.09	4'	RIM = 96.98 INV IN = 90.74 (NW) INV = 90.64 (E)
CB C2	N: 1803479.94 E: 6448670.58	5'	RIM = 96.88 INV IN = 86.98 (S) INV IN = 86.98 (E) INV = 86.88 (W)
CB C4	N: 1803498.56 E: 6448843.95	5'	RIM = 97.90 INV IN = 87.37 (NE) INV = 87.27 (W)
CB C8	N: 1803687.84 E: 6448914.72	5'	RIM = 97.07 INV IN = 87.94 (E) INV = 87.84 (W)
CB C9	N: 1803687.92 E: 6449057.61	5'	RIM = 97.47 INV IN = 88.20 (E) INV = 88.10 (W)
CB C10	N: 1803687.92 E: 6449161.53	4'	RIM = 97.34 INV IN = 88.41 (E) INV = 88.31 (W)
CB C11	N: 1803687.92 E: 6449237.34	4'	RIM = 97.50 INV IN = 88.59 (E) INV = 88.49 (W)
CB C12	N: 1803688.00 E: 6449301.55	5'	RIM = 97.51 INV IN = 88.76 (NE) INV = 88.66 (W)
CB C13	N: 1803766.64 E: 6449348.88	5'	RIM = 97.23 INV IN = 88.96 (N) INV = 88.86 (SW)
CB C14	N: 1803924.47 E: 6449349.03	5'	RIM = 97.20 INV IN = 89.24 (N) INV = 89.14 (S)
CB C15	N: 1804075.95 E: 6449360.14	5'	RIM = 96.17 INV IN = 89.51 (N) INV = 89.41 (S)

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
CB C16	N: 1804239.78 E: 6449297.51	5'	RIM = 96.46 INV IN = 89.80 (N) INV = 89.70 (S)
CB C17	N: 1804358.52 E: 6449295.50	4'	RIM = 96.45 INV IN = 90.12 (N) INV = 90.02 (S)
CB C18	N: 1804496.56 E: 6449295.50	4'	RIM = 96.45 INV = 90.37 (S)
CB C21	N: 1803405.83 E: 6448670.58	2'	RIM = 96.38 INV IN = 87.23 (W) INV = 87.13 (N)
CB C22	N: 1803393.62 E: 6448526.75	2'	RIM = 96.94 INV IN = 87.62 (NW) INV = 87.52 (E)
CB C23	N: 1803452.48 E: 6448464.13	2'	RIM = 97.25 INV = 87.90 (SE)
CB C72	N: 1803838.25 E: 6448863.00	5'	RIM = 97.90 INV IN = 89.55 (N) INV = 89.45 (S)
CB C73	N: 1803911.31 E: 6448863.00	5'	RIM = 97.90 INV IN = 89.73 (N) INV = 89.63 (S)
CB C75	N: 1804040.15 E: 6448863.27	5'	RIM = 97.86 INV IN = 89.97 (N) INV = 89.86 (S)
CB C76	N: 1804090.26 E: 6448863.19	5'	RIM = 97.82 INV IN = 91.02 (N) INV = 90.02 (S)
CB C77	N: 1804219.12 E: 6448863.19	4'	RIM = 97.67 INV IN = 91.35 (E) INV = 91.25 (S)
CB C78	N: 1804219.12 E: 6448990.45	4'	RIM = 97.56 INV IN = 91.68 (E) INV = 91.58 (W)
CB C79	N: 1804219.12 E: 6449113.51	4'	RIM = 97.30 INV = 91.90 (W)
CB D4	N: 1805087.26 E: 6449144.28	5'	RIM = 97.38 INV IN = 90.08 (W) INV = 89.98 (E)
CB D6	N: 1805087.26 E: 6449044.21	5'	RIM = 97.51 INV IN = 90.39 (W) INV = 90.29 (E)
CB D7	N: 1805087.26 E: 6448944.21	5'	RIM = 98.17 INV IN = 90.60 (W) INV = 90.50 (E)
CB D8	N: 1805087.26 E: 6448900.17	5'	RIM = 97.83 INV IN = 90.79 (S) INV = 90.69 (E)
CB D9	N: 1804963.61 E: 6448900.17	4'	RIM = 97.93 INV IN = 91.11 (S) INV = 91.01 (N)
CB D10	N: 1804842.12 E: 6448900.17	4'	RIM = 98.16 INV IN = 91.31 (S) INV = 91.33 (N)
CB D11	N: 1804721.02 E: 6448900.17	4'	RIM = 98.16 INV IN = 91.43 (S) INV = 91.53 (N)

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
CB D13	N: 1804599.46 E: 6448900.17	4'	RIM = 97.93 INV IN = 91.75 (S) INV = 91.65 (N)
CB D14	N: 1804478.28 E: 6448863.00	4'	RIM = 97.90 INV IN = 92.06 (S) INV = 91.96 (N)
CB D15	N: 1804356.99 E: 6448863.00	4'	RIM = 97.90 INV IN = 92.38 (E) INV = 92.28 (N)
CB D34	N: 1804910.58 E: 6449295.50	4'	RIM = 96.63 INV IN = 90.72 (S) INV = 90.62 (N)
CB D35	N: 1804772.58 E: 6449295.50	4'	RIM = 96.63 INV IN = 91.07 (S) INV = 90.97 (N)
CB D36	N: 1804634.52 E: 6449295.50	4'	RIM = 96.45 INV = 91.35 (N)
CB D52	N: 1805273.63 E: 6449077.50	2'	RIM = 97.39 INV IN = 90.70 (E) INV = 90.60 (S)
CB D53	N: 1805273.61 E: 6449198.19	2'	RIM = 97.49 INV IN = 91.02 (E) INV = 90.92 (W)
CB D54	N: 1805273.51 E: 6449320.29	2'	RIM = 97.43 INV IN = 91.34 (SE) INV = 91.24 (W)
CB D55	N: 1805185.06 E: 6449369.11	2'	RIM = 96.86 INV = 91.54 (NW)

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
EX CB E0	N: 1803133.21 E: 6448407.13	8'	RIM = 92.12 INV IN = 86.73 (N) INV = 86.25 (S)
MH A8	N: 1803414.91 E: 6447955.16	8'	RIM = 98.27 INV IN = 86.30 (W) INV = 86.20 (SE)
MH A9	N: 1803414.91 E: 6447887.08	8'	RIM = 98.23 INV IN = 86.36 (NW) INV = 86.37 (E)
MH A10	N: 1803469.26 E: 6447801.49	6'	RIM = 96.91 INV IN = 86.57 (N) INV = 86.47 (SE)
MH A11	N: 1803558.76 E: 6447801.49	6'	RIM = 95.06 INV IN = 86.69 (N) INV = 86.69 (S)
MH A17	N: 1804332.19 E: 6447801.42	5'	RIM = 96.38 INV IN = 88.52 (N) INV = 88.52 (S)
MH B2	N: 1803577.75 E: 6448413.67	8'	RIM = 98.41 INV IN = 79.24 (N) INV = 79.14 (S)
MH B4	N: 1803696.61 E: 6448439.67	8'	RIM = 98.06 INV IN = 87.35 (N) INV = 84.33 (W) INV = 84.33 (E)
MH B7	N: 1803819.54 E: 6448439.67	8'	RIM = 98.13 INV IN = 87.57 (N) INV = 87.57 (S)
MH B9	N: 1803941.40 E: 6448439.67	8'	RIM = 98.28 INV IN = 87.81 (N) INV = 87.81 (S)
MH B11	N: 1804107.41 E: 6448439.67	8'	RIM = 98.18 INV IN = 88.10 (N) INV = 88.10 (S)
MH B13	N: 1804232.72 E: 6448439.67	8'	RIM = 98.28 INV IN = 88.33 (N) INV = 88.33 (S)
MH B15	N: 1804355.74 E: 6448439.67	8'	RIM = 98.05 INV IN = 88.57 (N) INV = 88.57 (S)
MH B16	N: 1804399.69 E: 6448439.67	8'	RIM = 98.17 INV IN = 88.62 (N) INV = 88.62 (S)
MH B18	N: 1804527.12 E: 6448439.67	8'	RIM = 98.30 INV IN = 88.86 (N) INV = 88.86 (S)
MH B20	N: 1804671.97 E: 6448439.67	8'	RIM = 98.29 INV IN = 89.11 (N) INV = 89.11 (S)
MH B22	N: 1804797.14 E: 6448439.67	8'	RIM = 98.08 INV IN = 89.37 (N) INV = 89.37 (S)
MH B23	N: 1804837.84 E: 6448439.67	8'	RIM = 98.17 INV IN = 89.41 (N) INV = 89.41 (S)
MH B25	N: 1804962.62 E: 6448439.67	8'	RIM = 98.28 INV IN = 89.64 (N) INV = 89.64 (S)
MH B27	N: 1805118.59 E: 6448439.67	8'	RIM = 98.45 INV IN = 90.02 (W) INV = 89.91 (S)

STORM DRAIN STRUCTURE TABLE

STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
MH B28	N: 1805118.59 E: 6448382.84	8'	RIM = 98.70 INV IN = 90.18 (W) INV IN = 90.18 (NW) INV = 90.08 (E)
MH B101	N: 1803622.62 E: 6448465.67	8'	RIM = 98.44 INV IN = 79.23 (N) INV = 79.13 (S)
MH C3	N: 1803479.94 E: 6448774.58	8'	RIM = 96.90 INV IN = 87.19 (E) INV = 87.09 (W)
MH C5	N: 1803531.95 E: 6448863.00	8'	RIM = 98.20 INV IN = 87.51 (N) INV = 87.41 (SW)
MH C6	N: 1803622.22 E: 6448863.00	8'	RIM = 98.19 INV IN = 87.61 (N) INV = 87.61 (S)
MH C7	N: 1803687.84 E: 6448863.00	8'	RIM = 98.15 INV IN = 87.78 (E) INV IN = 89.28 (N) INV = 87.68 (S)
MH C71	N: 1803742.36 E: 6448863.00	8'	RIM = 98.37 INV IN = 89.34 (N) INV = 89.34 (S)
MH C74	N: 1803987.54 E: 6448863.16	8'	RIM = 98.24 INV IN = 89.81 (N) INV = 89.81 (S)
MH D0	N: 1804988.37 E: 6449320.50	8'	RIM = 97.10 INV IN = 90.90 (N) INV = 90.90 (E)
MH D3	N: 1805089.16 E: 6449207.68	8'	RIM = 97.89 INV IN = 89.91 (W) INV IN = 89.93 (SW) INV = 89.81 (E)
MH D5	N: 1805087.26 E: 6449077.50	8'	RIM = 97.83 INV IN = 90.25 (W) INV IN = 90.25 (N) INV = 90.15 (E)
MH D12	N: 1804657.78 E: 6448900.17	6'	RIM = 98.33 INV IN = 91.54 (S) INV = 91.54 (N)
MH D31	N: 1805079.14 E: 6449199.85	4'	RIM = 97.90 INV IN = 90.05 (SE) INV = 89.95 (NE)
MH D32	N: 1804999.98 E: 6449279.02	4'	RIM = 96.99 INV IN = 90.35 (SE) INV = 90.25 (NW)
MH D33	N: 1804983.49 E: 6449295.50	4'	RIM = 97.04 INV IN = 90.49 (S) INV = 90.39 (NW)
MH D51	N: 1805229.78 E: 6449077.50	4'	RIM = 97.93 INV IN = 90.54 (N) INV = 90.44 (S)
MH E1	N: 1803384.44 E: 6448439.67	8'	RIM = 97.47 INV IN = 87.01 (N) INV = 86.91 (S)
MH E2	N: 1803463.94 E: 6448439.67	8'	RIM = 97.85 INV IN = 87.17 (E) INV = 87.07 (S)

STORM DRAIN PIPE TABLE

PIPE	LENGTH	SIZE	SLOPE	MATERIAL
P72	96 – LF	36"	S = 0.11%	RCP
PA1	52 – LF	48"	S = 0.11%	RCP
PA2	14 – LF	36"	S = 0.11%	RCP
PA3	57 – LF	36"	S = 0.11%	RCP
PA4	146 – LF	36"	S = 0.11%	RCP
PA5	78 – LF	36"	S = 0.10%	RCP
PA6	65 – LF	36"	S = 0.11%	RCP
PA7	120 – LF	36"	S = 0.11%	RCP
PA8	62 – LF	36"	S = 0.11%	RCP
PA9	68 – LF	36"	S = 0.11%	RCP
PA10	101 – LF	36"	S = 0.11%	RCP
PA11	90 – LF	30"	S = 0.13%	RCP
PA12	118 – LF	30"	S = 0.13%	RCP
PA13	144 – LF	30"	S = 0.18%	RCP
PA14	144 – LF	30"	S = 0.18%	RCP
PA15	144 – LF	30"	S = 0.18%	RCP
PA16	140 – LF	24"	S = 0.18%	RCP
PA17	83 – LF	24"	S = 0.18%	RCP
PA18	64 – LF	24"	S = 0.18%	RCP
PA19	87 – LF	24"	S = 0.18%	RCP
PA20	68 – LF	24"	S = 0.18%	RCP
PA21	65 – LF	24"	S = 0.18%	RCP
PA22	79 – LF	24"	S = 0.18%	RCP
PA23	144 – LF	24"	S = 0.18%	RCP
PA24	142 – LF	24"	S = 0.18%	RCP
PA25	55 – LF	12"	S = 0.56%	RCP
PB1	28 – LF	36"	S = 0.11%	HDPE
PB2	9 – LF	36"	S = 0.11%	HDPE
PB3	79 – LF	36"	S = 0.11%	HDPE
PB4	26 – LF	36"	S = 0.11%	HDPE

STORM DRAIN PIPE TABLE

PIPE	LENGTH	SIZE	SLOPE	MATERIAL
PB5	12 – LF	36"	S = 0.11%	HDPE
PB6	24 – LF	36"	S = 0.04%	HDPE
PB7	77 – LF	36"	S = 0.13%	HDPE
PB8	53 – LF	36"	S = 0.11%	HDPE
PB9	68 – LF	36"	S = 0.11%	HDPE
PB10	78 – LF	36"	S = 0.11%	HDPE
PB11	88 – LF	36"	S = 0.11%	HDPE
PB12	58 – LF	36"	S = 0.11%	HDPE
PB13	68 – LF	36"	S = 0.11%	HDPE
PB14	78 – LF	36"	S = 0.11%	HDPE
PB15	45 – LF	36"	S = 0.11%	HDPE
PB16	44 – LF	36"	S = 0.11%	HDPE
PB17	57 – LF	36"	S = 0.11%	HDPE
PB18	70 – LF	36"	S = 0.11%	HDPE
PB19	76 – LF	36"	S = 0.11%	HDPE
PB20	69 – LF	36"	S = 0.11%	HDPE
PB21	77 – LF	36"	S = 0.11%	HDPE
PB22	48 – LF	36"	S = 0.11%	HDPE
PB23	41 – LF	36"	S = 0.11%	HDPE
PB24	57 – LF	36"	S = 0.11%	HDPE
PB25	68 – LF	36"	S = 0.11%	HDPE
PB26	78 – LF	36"	S = 0.11%	HDPE
PB27	78 – LF	36"	S = 0.11%	HDPE
PB28	57 – LF	36"	S = 0.11%	HDPE
PB29	170 – LF	36"	S = 0.11%	HDPE
PB30	130 – LF	36"	S = 0.11%	HDPE
PB31	115 – LF	24"	S = 0.18%	HDPE
PB101	119 – LF	36"	S = 0.11%	HDPE
PB102	14 – LF	36"	S = 0.11%	HDPE
PB103	28 – LF	36"	S = 0.11%	HDPE

STORM DRAIN PIPE TABLE

PIPE	LENGTH	SIZE	SLOPE	MATERIAL
PB104	26 – LF	36"	S = 0.11%	HDPE
PB281	82 – LF	24"	S = 0.18%	HDPE
PB282	118 – LF	24"	S = 0.18%	HDPE
PB283	124 – LF	24"	S = 0.18%	HDPE
PB284	133 – LF	24"	S = 0.18%	HDPE
PC1	10 – LF	36"	S = 0.11%	RCP
PC2	12 – LF	36"	S = 0.11%	RCP
PC3	104 – LF	36"	S = 0.11%	RCP
PC4	72 – LF	36"	S = 0.11%	RCP
PC5	38 – LF	36"	S = 0.11%	RCP
PC6	90 – LF	36"	S = 0.11%	RCP
PC7	66 – LF	36"	S = 0.11%	RCP
PC8	52 – LF	36"	S = 0.11%	RCP
PC9	143 – LF	36"	S = 0.11%	RCP
PC10	104 – LF	36"	S = 0.11%	RCP
PC11	76 – LF	36"	S = 0.11%	RCP
PC12	64 – LF	36"	S = 0.11%	RCP
PC13	92 – LF	36"	S = 0.11%	RCP
PC14	158 – LF	36"	S = 0.11%	RCP
PC15	152 – LF	36"	S = 0.11%	RCP
PC16	175 – LF	36"	S = 0.11%	RCP
PC17	119 – LF	24"	S = 0.18%	RCP
PC18	138 – LF	24"	S = 0.18%	RCP
PC21	74 – LF	18"	S = 0.20%	RCP
PC22	144 – LF	18"	S = 0.20%	RCP
PC23	86 – LF	12"	S = 0.32%	RCP
PC71	55 – LF	36"	S = 0.11%	RCP
PC73	73 – LF	36"	S = 0.11%	RCP
PC74	76 – LF	36"	S = 0.10%	RCP
PC75	53 – LF	36"	S = 0.10%	RCP

STORM DRAIN PIPE TABLE

PIPE	LENGTH	SIZE	SLOPE	MATERIAL
PC76	50 – LF	36"	S = 0.11%	RCP
PC77	129 – LF	24"	S = 0.18%	RCP
PC78	127 – LF	24"	S = 0.18%	RCP
PC79	123 – LF	24"	S = 0.18%	RCP
PD1	69 – LF	30"	S = 0.11%	RCP
PD2	26 – LF	36"	S = 0.11%	RCP
PD3	11 – LF	36"	S = 0.11%	RCP
PD4	63 – LF	36"	S = 0.11%	RCP
PD5	67 – LF	36"	S = 0.11%	RCP
PD6	33 – LF	36"	S = 0.11%	RCP
PD7	100 – LF	36"	S = 0.11%	RCP
PD8	44 – LF	36"	S = 0.20%	RCP
PD9	124 – LF	36"	S = 0.18%	RCP
PD10	121 – LF	36"	S = 0.18%	RCP
PD11	121 – LF	24"	S = 0.18%	RCP
PD12	63 – LF	24"	S = 0.18%	RCP
PD13	58 – LF	24"	S = 0.18%	RCP
PD14	127 – LF	24"	S = 0.17%	RCP
PD15	121 – LF	24"	S = 0.18%	RCP
PD16	30 – LF	12"	S = 0.41%	RCP
PD31	13 – LF	24"	S = 0.14%	RCP
PD32	112 – LF	24"	S = 0.18%	RCP
PD33	23 – LF	24"	S = 0.18%	RCP
PD34	73 – LF	24"	S = 0.18%	RCP
PD35	138 – LF	24"	S = 0.18%	RCP
PD36	138 – LF	18"	S = 0.20%	RCP
PD51	143 – LF	30"	S = 0.13%	RCP
PD52	44 – LF	30"	S = 0.13%	RCP
PD53	121 – LF	24"	S = 0.18%	RCP
PD54	122 – LF	24"	S = 0.18%	RCP

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

APPROVED BY

CHIEF AIRPORTS ENGINEER

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ
CHECKED BY: JDV

SHEET TITLE:

STORM DRAIN
PIPE AND STRUCTURE
DATA TABLES

SHEET NO.

1-CU-301

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

G:\DA-14\0023\Dwg\Sheets\DA4881-1-CU-200s.dwg, Plotted: Sep 23, 2016 - 3:38pm

GENERAL NOTES

1. SEE 1-CU-100 DRAWINGS FOR ADDITIONAL INFORMATION.

SANITARY SEWER STRUCTURE TABLE			
STRUCTURE	COORDINATES	SIZE	STRUCTURE DATA
EX SSC0	N: 1803327.01 E: 6448337.52	4'	RIM = 96.63 INV IN = 86.41 (NE) INV = 85.30 (S)
SSA0	N: 1804470.43 E: 6449241.03	4'	RIM = 98.07 INV IN = 87.61 (N) INV IN = 85.78 (S) INV = 83.40 (E)
SSA1	N: 1804714.80 E: 6449241.03	4'	RIM = 97.79 INV IN = 89.03 (N) INV = 88.93 (S)
SSA2	N: 1805004.02 E: 6449241.03	4'	RIM = 97.51 INV IN = 90.69 (NW) INV = 90.59 (S)
SSA3	N: 1805045.24 E: 6449199.82	4'	RIM = 98.03 INV IN = 91.10 (W) INV = 91.00 (SE)
SSA4	N: 1805045.24 E: 6449084.51	4'	RIM = 98.17 INV IN = 91.82 (W) INV = 91.72 (E)
SSA6	N: 1805045.24 E: 6449034.99	4'	RIM = 98.29 INV IN = 92.29 (S) INV = 92.19 (E)
SSB1	N: 1804270.71 E: 6449241.03	4'	RIM = 97.79 INV IN = 86.96 (S) INV = 86.86 (N)
SSB2	N: 1804038.14 E: 6449241.03	4'	RIM = 97.95 INV IN = 88.32 (SW) INV = 88.22 (N)
SSB3	N: 1804026.44 E: 6449229.34	4'	RIM = 98.18 INV IN = 90.11 (W) INV IN = 88.51 (S) INV = 88.41 (NE)
SSB4	N: 1803866.83 E: 6449229.34	4'	RIM = 98.29 INV IN = 89.47 (S) INV = 89.37 (N)
SSB5	N: 1803725.03 E: 6449229.34	4'	RIM = 98.06 INV IN = 90.99 (W) INV = 90.89 (N)
SSB6	N: 1803725.03 E: 6449098.86	4'	RIM = 98.28 INV IN = 92.39 (N) INV = 92.29 (E)
SSB31	N: 1804026.44 E: 6449020.59	4'	RIM = 98.31 INV IN = 91.85 (W) INV = 91.23 (E)
SSB32	N: 1804026.44 E: 6449011.05	4'	RIM = 98.23 INV IN = 92.03 (S) INV = 91.93 (E)
SSC1	N: 1803387.62 E: 6448427.34	4'	RIM = 97.45 INV IN = 86.94 (N) INV = 86.84 (SW)
SSC2	N: 1803625.13 E: 6448427.34	4'	RIM = 98.29 INV IN = 87.99 (N) INV = 87.89 (S)
SSC3	N: 1803782.76 E: 6448427.34	4'	RIM = 98.11 INV IN = 88.72 (N) INV = 88.62 (S)
SSC4	N: 1804084.54 E: 6448427.34	4'	RIM = 98.33 INV IN = 90.03 (N) INV = 89.93 (S)
SSC5	N: 1804383.16 E: 6448427.34	4'	RIM = 98.39 INV IN = 91.28 (N) INV = 91.22 (S)
SSC6	N: 1804642.12 E: 6448427.34	4'	RIM = 98.36 INV IN = 92.32 (W) INV = 92.32 (S)

SANITARY SEWER PIPE TABLE			
PIPE	LENGTH	SIZE	SLOPE
EX	318 – LF	10" PVC	S = 0.37%
PSSA0	54 – LF	10" PVC	S = 1.04%
PSSA1	244 – LF	8" PVC	S = 0.54%
PSSA2	289 – LF	8" PVC	S = 0.54%
PSSA3	58 – LF	8" PVC	S = 0.54%
PSSA4	115 – LF	8" PVC	S = 0.54%
PSSA5	4 – LF	6" PVC	S = 0.79%
PSSA6	12 – LF	6" PVC	S = 0.79%
PSSA7	21 – LF	6" PVC	S = 1.00%
PSSB1	200 – LF	8" PVC	S = 0.54%
PSSB2	233 – LF	8" PVC	S = 0.54%
PSSB3	17 – LF	8" PVC	S = 0.54%
PSSB4	160 – LF	8" PVC	S = 0.54%
PSSB5	142 – LF	4" PVC	S = 1.00%
PSSB6	130 – LF	4" PVC	S = 1.00%
PSSB7	11 – LF	4" PVC	S = 1.00%
PSSB31	209 – LF	8" PVC	S = 0.54%
PSSB32	10 – LF	6" PVC	S = 0.79%
PSSB33	18 – LF	6" PVC	S = 0.79%
PSSB34	8 – LF	6" PVC	S = 1.00%
PSSC1	108 – LF	10" PVC	S = 0.40%
PSSC2	238 – LF	10" PVC	S = 0.40%
PSSC3	158 – LF	10" PVC	S = 0.40%
PSSC4	302 – LF	10" PVC	S = 0.40%
PSSC5	299 – LF	10" PVC	S = 0.40%
PSSC6	259 – LF	10" PVC	S = 0.40%
PSSC7	18 – LF	8" PVC	S = 1.00%

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

APPROVED BY

CHIEF AIRPORTS ENGINEER

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

ONT PMD ANA LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: AS NOTED
DATE: 2016-09-23
DESIGNED BY: SJQ
DRAWN BY: SJQ
CHECKED BY: JDV

SHEET TITLE:

SANITARY SEWER
PIPE AND STRUCTURE
DATA TABLES

SHEET NO.
1-CU-302

SHEET OF

G:\DA\DA0023\Sheets\DA4881-1-CU-200s.dwg, Plotted: Sep 21, 2016 - 3:38pm

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

STORMCAPTURE

NOTES TO REVIEWING ENGINEER:
1. THIS SYSTEM IS DESIGNED TO THE PARAMETERS NOTED ON SHEET 2 (SEE DESIGN NOTES). PLEASE VERIFY THAT THESE PARAMETERS MEET PROJECT REQUIREMENTS (I.E. LIVE LOAD AND FILL RANGE). IF DESIGN PARAMETERS ARE INCORRECT OR CHANGE, NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND RE-PRICING.
2. THIS SYSTEM IS DESIGNED FOR A GROUND WATER TABLE BELOW SYSTEM INVERT. REVIEWING ENGINEER TO VERIFY THAT THE DESIGN GROUND WATER TABLE IS BELOW INVERT OF SYSTEM. IF GROUND WATER TABLE IS ABOVE INVERT, NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND RE-PRICING.
3. THIS SYSTEM IS DESIGNED WITH A CONTAINMENT MEMBRANE LINER. IF A LINER IS NOT NEEDED PLEASE CONTACT OLDCASTLE TO REMOVE THIS OPTION FROM THE FINAL DESIGN.
4. REVIEWING ENGINEER TO CONFIRM ALL PIPE PENETRATION LOCATIONS, SIZES, AND INVERTS.
5. UNLESS OTHERWISE NOTED, ALL PIPE SUPPLIED AND INSTALLED BY OTHERS.

PLAN VIEW
SCALE: 3/32" = 1'-0"

MODULE NOTES		
TYPE	QUANTITY	HEIGHT
ECC	36	72"
LINK SLAB	11	
VOLUME =	63,550	CF

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STORMCAPTURE
PLAN VIEW
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE PLAN VIEW					REVISION —	SHEET 2 OF 7
SC - 12 ft diameteR LAX					REV DATE	

STORMCAPTURE

TYPICAL ELEVATION
SCALE: 1/4" = 1'-0"

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STORMCAPTURE
TYPICAL ELEVATION
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE TYPICAL ELEVATION					REVISION —	SHEET 3 OF 7
SC - 12 ft diameteR LAX					REV DATE	

STORMCAPTURE

GRATE INLET DETAIL
SCALE: 3/8" = 1'-0"

KEYWAYS MUST BE FREE OF DIRT, ROCKS, AND WATER. ROCKS AND DIRT PREVENT THE VAULT SECTIONS FROM SEATING AND SEALING PROPERLY. REMOVE ALL PROTECTIVE PAPER FROM RUBBER SEALANT MATERIAL. SPLICE RUBBER SEALANT MATERIAL WITH A "SIDE BY SIDE" JOINT, AWAY FROM CORNERS. CORNER SPLICING WILL NOT SEAL PROPERLY.

CORRECT – INSTALL RUBBER SEALANT MATERIAL AT THE OUTER EDGE OF THE KEYWAY. RUBBER SEALANT SHOULD BE CONTINUOUS AROUND CORNERS.

INCORRECT – DO NOT OVERLAP THE RUBBER SEALANT MATERIAL AT SPLICE.

INCORRECT – DO NOT SPLICE RUBBER SEALANT MATERIAL AT A CORNER. RUBBER SEALANT SHOULD BE CONTINUOUS AROUND CORNERS.

CONSEAL CS-102 BUTYL RUBBER SEALANT PLACEMENT DETAIL
NTS

NOTE: WEIR PLATES, IF REQUIRED, MAY BE INSTALLED WITH RECHEAD ANCHORS (BY OTHERS). ELEVATIONS TO BE DETERMINED BY PROJECT DESIGN ENGINEER

MANWAY ACCESS DETAIL
SCALE: 3/8" = 1'-0"

MODULE JOINT DETAIL
SCALE: 1/2" = 1'-0"

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STORMCAPTURE
EXTERIOR DETAILS
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE EXTERIOR DETAILS					REVISION —	SHEET 4 OF 7
SC - 12 ft diameteR LAX					REV DATE	

STORMCAPTURE

STORM CAPTURE PLAN VIEW
SCALE: 1/4" = 1'-0"

HEAVIEST PICK
WEIGHT = 28,000 LBS

TOP MODULE LIFTING DETAIL
N.T.S.

BOTTOM MODULE LIFTING DETAIL
N.T.S.

VIEW A
SCALE: 1/4" = 1'-0"

VIEW B
SCALE: 1/4" = 1'-0"

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STORMCAPTURE
INTERIOR DETAILS
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE INTERIOR DETAILS					REVISION —	SHEET 5 OF 7
SC - 12 ft diameteR LAX					REV DATE	

STORMCAPTURE

STORM CAPTURE CONFIGURATIONS
SCALE: 3/16" = 1'-0"

- PRELIMINARY -
NOT FOR CONSTRUCTION

Oldcastle Stormwater Solutions
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STORMCAPTURE
CONFIGURATIONS
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE CONFIGURATIONS					REVISION —	SHEET 6 OF 7
SC - 12 ft diameteR LAX					REV DATE	

STORMCAPTURE

GENERAL NOTES:

THE STORMCAPTURE SYSTEM BY OLDCASTLE STORMWATER SOLUTIONS IS PART OF THE STORMWATER MANAGEMENT SYSTEM FOR THE RESPECTIVE SITE, AS PREPARED BY THE PROJECT DESIGN ENGINEER. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO DETERMINE DESIGN FLOW RATES, PRE-TREATMENT AND POST-TREATMENT REQUIREMENTS, STORAGE VOLUME, AND ENSURE THE FINAL DESIGN MEETS ALL CONVEYANCE AND STORAGE REQUIREMENTS. SYSTEM DESIGN AND TYPE, SOIL ANALYSIS, LOADING REQUIREMENTS, COVER HEIGHT AND MODULE SIZE DETERMINE THE FOUNDATION TYPE AND REQUIREMENTS AS STATED HEREIN. ANY VARIATIONS FOUND DURING CONSTRUCTION FROM THE SITE AND SYSTEM ANALYSIS MUST BE REPORTED TO THE PROJECT DESIGN ENGINEER. THE PROJECT DESIGN ENGINEER IS RESPONSIBLE FOR OBTAINING A GEOTECHNICAL ENGINEERING REPORT VERIFYING THE BEARING CAPACITY STATED IN DESIGN NOTES.

DESIGN NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS20-44 W/ IMPACT.
   B. DEPTH OF COVER = 6" - 5'-0"
   C. ASSUMED WATER TABLE = BELOW BOTTOM.
   D. ASSUMED FILL PRESSURE = 45 PCF.
   E. LATERAL LIVE LOAD SURCHARGE = 80 PSF.
   F. NO LATERAL SURCHARGE FROM ADJACENT STRUCTURES.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 6,000 PSI.
3. STEEL REINFORCEMENT: REBAR, ASTM A-615, GRADE 60.
4. CEMENT: ASTM C-150 SPECIFICATION.
5. STORMCAPTURE MODULE TYPE = DETENTION.
6. REQUIRED BASE LAYER DEPTH = 2" SAND BEDDING LAYER.
7. REQUIRED MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF.
8. REFERENCED STANDARDS:
   A. ASTM C 890
   B. ASTM C 891
   C. ASTM C 913
9. LESS THAN 8" OR GREATER THAN 5' OF COVER REQUIRES CUSTOM STRUCTURAL DESIGN AND MAY REQUIRE THICKER SUBGRADE.

INSTALLATION NOTES:

STORMCAPTURE MODULES ARE TO BE INSTALLED IN ACCORDANCE WITH ASTM C891, INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES. PROJECT PLAN AND SPECIFIC DESIGN FOR THE PROJECT SITE MUST BE ACCURATE AND AVAILABLE REGULATIONS, PLAN LAYOUT, GRADE AND ELEVATIONS MUST BE FOLLOWED.

1. A. WHERE SPECIFIED, AN 8 OZ. NON-WOVEN GEOTEXTILE FABRIC MUST BE USED AS A SEPARATION LAYER AROUND THE STORMCAPTURE SYSTEM.
   B. WHERE SPECIFIED, A CONTAINMENT MEMBRANE LINER WITH THE FOLLOWING REQUIREMENTS MUST BE USED: MIN. THICKNESS = 40 MILS, MIN. TENSILE STRENGTH = 600 LBS WORST DIRECTION (ASTM D5034), MIN. MULLEN BURSTING STRENGTH = 1,000 PSI (ASTM D3786), AND MIN. MANUFACTURER'S WARRANTY OF 20 YEARS. WHERE THE MEMBRANE IS USED AN 8 OZ. NON-WOVEN GEOTEXTILE MUST BE PLACED ON BOTH THE INSIDE AND OUTSIDE OF THE ACTUAL CONTAINMENT MEMBRANE TO PREVENT PUNCTURES.
2. PENETRATIONS IN THE CONTAINMENT MEMBRANE MAY ONLY BE MADE WITH SMOOTH WALL PIPE. MAKE PENETRATIONS FOR ALL OUTLETS BEFORE MAKING PENETRATIONS FOR ANY INLETS.
3. SUBGRADE MATERIALS, IF SPECIFIED, SHALL BE CLEAN, DURABLE CRUSHED AGGREGATE COMPACTED AS DIRECTED BY THE ENGINEER. OLDCASTLE RECOMMENDS SIZE 5, 56, OR 57 (PER ASTM C33).
4. DESIGNATED EMBEDDED LIFTERS MUST BE USED. USE PROPER RIGGING TO ASSURE ALL LIFTERS ARE EQUALLY ENGAGED WITH A MINIMUM 60 DEGREE ANGLE ON SLINGS AS NOTED ON SHOP DRAWINGS. ALL LIFTERS MUST BE REMOVED AFTER SETTING.
5. MODULES MUST BE PLACED AS CLOSE TOGETHER AS POSSIBLE, AND GAPS SHALL NOT BE GREATER THAN 3/4". ALL EXTERIOR SYSTEM JOINTS SHALL BE COVERED WITH A MIN. 8" JOINT WRAP ON SIDES AND TOP (CS-212 CONSEAL OR EQUIVALENT). IN A CLASHFELL DESIGN INSTALL ONE ROW CS-102 CONSEAL (OR EQUIVALENT) BETWEEN PRECAST PIECES.
7. AUTHORIZATION SHALL BE GIVEN BY THE PROJECT ENGINEER OR DESIGNATED PERSON PRIOR TO PLACEMENT ON BACKFILL FOR THE SYSTEM. CARE MUST BE TAKEN DURING PLACEMENT OF BACKFILL NOT TO DISPLACE MODULES OR JOINT WRAP. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR AS SPECIFIED, AND SHALL NOT BE PLACED UNTIL SYSTEM IS INSPECTED.
8. CONSTRUCTION EQUIPMENT EXCEEDING DESIGN LOADING SHALL NOT BE ALLOWED ON STRUCTURE.
9. TERMINOUTS TO BE KNOCKED OUT AT SPECIFIED LOCATIONS IN FIELD BY OTHERS. SEE SITE LAYOUT FOR LOCATIONS.

INLETS AND RISERS:

ALL PIPE INLETS SHALL EXTEND INSIDE MODULE A MINIMUM OF 4". PLACE A NON-SHRINK, NON-METALIC GROUT, MIN. 3,000 PSI IN ANNULAR SPACE TO ELIMINATE ALL VOIDS.

STORM APTURE MAINTENANCE:

STORMCAPTURE MODULE - SYSTEM INSPECTION AND MAINTENANCE
THE STORMCAPTURE SYSTEM EXCELS WHERE MOST OTHER SYSTEMS FAIL, INCORPORATING FEATURES PROVIDING FOR MAXIMUM SYSTEM PERFORMANCE AND LIFE CYCLE. THE STORMCAPTURE SYSTEM IS A MAJOR COMPONENT OF THE STORMWATER MANAGEMENT SYSTEM. DESIGN AND FUNCTION OF THE SYSTEM IS THE RESPONSIBILITY OF THE PROJECT ENGINEER. MAINTENANCE OF THE STORMCAPTURE MODULES IS VITAL FOR SATISFACTORY PERFORMANCE AND LIFE CYCLE OF THE STORMWATER MANAGEMENT SYSTEM. PERMIT REQUIREMENTS, LOCAL, STATE AND FEDERAL REGULATIONS, ALONG WITH OLDCASTLE AND ANY INCORPORATED DEVICE MANUALS SHOULD BE REVIEWED TO ASSURE COMPLIANCE WITH ALL REQUIREMENTS. STORMCAPTURE DESIGN PROVIDES MANWAY ACCESS FOR EASE OF INSPECTION AND DEBRIS REMOVAL *IF REQUIRED. FLUSHING, WHICH CAN CAUSE PARTICLE DISPLACEMENT, UNDERMINING, AND INTERNAL DISTURBANCE, IS NOT RECOMMENDED FOR GRAVEL FOUNDATION; OPEN BOTTOM SYSTEMS. FLUSHING IS ACCEPTABLE IN SYSTEMS WITH CONCRETE BASES.* INLET CONTROLS, INTERNAL OR EXTERNAL, ARE RECOMMENDED FOR CONTROLLING, MONITORING, AND MAINTAINING THE STORMCAPTURE SYSTEM.

EXTERNAL INLETS ARE TYPICALLY DEVICES THAT ARE SEPARATE FROM THE STORMCAPTURE MODULES. THESE EXTERNAL DEVICES RECEIVE SITE STORMWATER AND ARE DESIGNED WITH MANWAY ACCESS FOR MAINTENANCE AND TYPICALLY INCLUDE AN INTERNAL SUMP FOR SEDIMENT CAPTURE. EXTERNAL INLETS MAY RECEIVE SINGLE OR MULTIPLE PIPES AND INCORPORATE AN OPEN GRATED TOP WITH AN OUTFALL PIPE TO THE STORMCAPTURE SYSTEM. GRATED INLETS MAY INCORPORATE PROTECTION DEVICES OR BAFFLES TO CAPTURE FLOATABLES OR THE "FIRST FLUSH." SCHEDULED INSPECTIONS AND MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY SEDIMENTATION BUILD-UP, DEBRIS OR SEDIMENTATION BUILD-UP WITHIN THE SUMP OF AN OUTFALL ELEVATION. INTERNAL COMPONENTS CAN BE INCORPORATED FOR PRE-TREATMENT. MANUFACTURER RECOMMENDATIONS SHALL BE FOLLOWED. SCHEDULED MAINTENANCE AND INSPECTION WILL INCLUDE REMOVAL OF DEBRIS BY MANUAL OR MECHANICAL MEANS.

MAINTENANCE MODULES (MMs) ARE OPTIONAL INTERNAL CONTROL MODULES BASED ON DESIGN PREFERENCE. MMs ARE MODULES WITH ROOF MANWAY ACCESS OPENINGS AND PROVIDE THE PRIMARY MEANS OF ACCESS TO THE STORMCAPTURE SYSTEM FOR SCHEDULED INSPECTION AND MAINTENANCE. IN ADDITION, MMs CAN INCORPORATE WEIRS OR BAFFLES TO ENHANCE SEDIMENT CAPTURE. THE PLACEMENT OF INTERNAL COMPONENTS MUST BE PART OF THE PLACEMENT OF INTERNAL COMPONENTS MUST BE PART OF THE SYSTEM ENGINEERING AND DESIGN. GRATED INLETS CAN BE INCORPORATED TO ACCOMMODATE SURFACE STORMWATER FLOWS INTO THE STORMCAPTURE MODULE AND MAY INCLUDE AN INLET PROTECTION DEVICE. SCHEDULED INSPECTION AND MANUFACTURER RECOMMENDATIONS FOR MAINTENANCE SHALL BE FOLLOWED.

CONCRETE SPLASH PADS MAY BE INSTALLED BELOW INLET GRATE OPENINGS AND PIPE INLETS TO PREVENT BASE EROSION. DURING SCHEDULED INSPECTION AND MAINTENANCE ACTIVITIES, THE CONCRETE SPLASH PADS MAY BE REMOVED TO ALLOW FOR INSPECTION AND MAINTENANCE. SHALL BE REMOVED. STANDARD STORMCAPTURE MODULE DESIGN INCORPORATES "WINDOWS" TO ACCOMMODATE INTERNAL STORMWATER CONVEYANCE BETWEEN MODULES. STANDARD PLACEMENT IS 12" ABOVE THE INTERNAL MODULE INVERT. ANY SEDIMENT AND DEBRIS BUILD-UP OVER 8" INSIDE A MODULE SHOULD BE REMOVED BY MANUAL OR MECHANICAL MEANS. *REMOVAL BY VACUUM IS RECOMMENDED.*

FOR INFILTRATION MODULES, INTERNAL FLUSHING IS NOT RECOMMENDED BECAUSE IT CAN CAUSE PARTICLE DISPLACEMENT, UNDERMINING, AND INTERNAL DISTURBANCE.

OLDCASTLE RECOMMENDS THAT THE STORMCAPTURE SYSTEM BE INSPECTED QUARTERLY, AND FOLLOWING ANY SIGNIFICANT RAIN EVENTS, WITHIN THE FIRST YEAR OF OPERATION. STANDARD OPERATING PROCEDURES SHOULD SPECIFY AN ANNUAL INSPECTION AND MAINTENANCE PLAN AS REQUIRED THEREAFTER OR AS STATED IN THE PERMIT OR AS REQUIRED BY OTHER GOVERNING REGULATIONS. ONLY AUTHORIZED AND TRAINED PERSONNEL SHALL INSPECT AND ENTER A STORMCAPTURE SYSTEM. IT IS IMPORTANT THAT PERSONNEL BE PROPERLY TRAINED AND EQUIPPED BEFORE ENTERING ANY UNDERGROUND OR CONFINED SPACE STRUCTURE. TRAINING INCLUDES BEING FAMILIAR WITH STATE, LOCAL, AND OSHA LAWS AND FEDERAL REGULATIONS, GOVERNING THE OPERATION, INSPECTION, AND MAINTENANCE OF UNDERGROUND STRUCTURES, AS WELL AS SPECIFIC STORMCAPTURE SYSTEM REQUIREMENTS.

NOTE:

DESIGN EXAMPLE SHOWN IS CONSISTENT WITH A SPECIFIC MANUFACTURER, SIMILAR PRODUCTS ARE AVAILABLE FROM CONTECH, JENSEN PRECAST, AND OTHERS.

- PRELIMINARY -
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STORMCAPTURE
NOTES
LAX PARKING GARAGE RAINWATER HARVESTING SYSTEM
LOS ANGELES, CA
SUBTITLE
ALL BIDDERS

DATE 8/21/16	DRAWN BB	CHKD BB	DRAWN BY ATS	DESIGNED JP	CHECKED JP	SALES ENGR —
STORMCAPTURE NOTES					REVISION —	SHEET 7 OF 7
SC - 12 ft diameteR LAX					REV DATE	

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CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY — ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY — CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:	MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	JDG
CHECKED BY:	JDV

SHEET TITLE:
STORM WATER CISTERN DETAILS

SHEET NO.
1-CU-501
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

G:\DA-LAX\0232\Dsk\Sheets\DA4881-1-CU-501.dwg, Plotted: Sep 21, 2016 - 3:36pm

500 GALLON SAND-OIL INTERCEPTOR

MODEL JP500SO

TRAFFIC RATED ACCEPTED BY UPC®

- LIQUID CAPACITY: 500 GALLONS.
- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK) EARTH COVER OVER TANK NOT TO EXCEED 6 FT.
- SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY, OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

MINIMUM EXCAVATION SIZE: 5'-0" X 7'-0" X DEPTH REQ'D.

THE DESIGN AND DETAIL OF THIS DRAWING ARE THE PROPERTY OF JENSEN PRECAST AND NOT TO BE USED EXCEPT IN CONNECTION WITH ITS OWN WORK. DESIGN AND INVENTION RIGHTS ARE RESERVED.

10-01-03
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JENSEN PRECAST

2000 GALLON SAND-OIL INTERCEPTOR

MODEL JP2000SO

TRAFFIC RATED ACCEPTED BY UPC®

- LIQUID CAPACITY: 2,000 GALLONS.
- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK) & EARTH COVER NOT TO EXCEED 6 FT.
- SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY, OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

MINIMUM EXCAVATION SIZE: 7'-11" X 10'-11" X DEPTH REQ'D.

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10-01-03
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JENSEN PRECAST

8000 GALLON BATTERY SAND-OIL INTERCEPTOR

MODEL 2XJZ4000-SO

FOR INSTALLATION INSTRUCTIONS, DESIGN AND PRODUCT INFORMATION, CONTACT JENSEN PRECAST.

LIQUID CAPACITY: 8,000 GALLONS.

BOX DESIGN LOAD: H-20 TRAFFIC FROM 1' TO 5' OF SOIL COVER.

9/23/02
80000SO_2XJZ4000.dwg
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JENSEN PRECAST

DVS-144C

NOTES:

1. STANDARD INLET/OUTLET PIPE CONFIGURATION TO ENTER & EXIT SEPARATOR AT 180°. CUSTOM ANGLED CONFIGURATIONS AVAILABLE UPON REQUEST, SPECIFIC MAXIMUM ANGLES & PIPE SIZES APPLY. CONTACT OLDCASTLE® STORMWATER SOLUTIONS FOR ENGINEERING DETAILS.
2. BOLTED & GASKETED MANHOLE ACCESS COVER ELEVATION MAY BE ADJUSTED TO GRADE, FIELD POURED CONCRETE COLLAR AS REQUIRED, BY OTHERS. INLET GRATES & ALTERNATE COVER OPTIONS AVAILABLE.
3. FOR DEPTHS LESS THAN THE MINIMUM SHOWN CONTACT OLDCASTLE® STORMWATER SOLUTIONS FOR ENGINEERING DESIGN ASSISTANCE.
4. CONCRETE COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION C478.
5. MATCH LINES PROVIDED TO FACILITATE PROPER ALIGNMENT OF ALL CONCRETE COMPONENTS DURING ASSEMBLY.

Hydrodynamic Separation

DVS-144C

Dual Vortex Separator ™

Circular Structure

Oldcastle® Stormwater Solutions

7521 Southpark Plaza, Suite 200 | Littleton, CO | 80120 | Ph: 800.579.8819 | oldcastlestormwater.com

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DRAWING NO.	REV.	DRAWN BY	DATE	SHEET
DVS-144C	B	JRR 12/8/14	JRR 4/25/11	SHEET 1 OF 1

STEEL LIST

ITEM AND LENGTH		QUANTITY
A-BARS	#4 deformed bars, 3'-2" Long	4
B-BARS	#4 deformed bars, 4'-2" Long	4
C-BARS	#3 deformed bars, 0'-10" Long	3
PERIMETER BARS	#3 deformed bars, Varies	4
VERTICAL BARS		
TRANS SECT.	#3 deformed bars, 0'-5" Long	4
INVERT SECT.	#3 deformed bars, 2'-2½" Long	2 Each Opening
	1" ϕ plain galvanized protection bar	See Notes
	¾" ϕ plain galvanized steps	See Notes
	Inlet Steel Plate with 2 each 7/8" ϕ Anchors	1 (See Detail)
	Manhole Frame and Cover Set	

NOTES FOR CATCH BASIN NO. 6I CONTINUED (PRECAST)

6. Concrete for the precast sections shall be Class 564-B-3250. When the basin is to be assembled within the limits of a proposed sidewalk, the top 2½-inches of the basin shall be poured monolithic with the sidewalk using the same class of concrete as the sidewalk and shall conform in slope, grade, color, finish and scoring to existing or proposed walk adjacent to the basin.
7. Standard Manhole Frame and Cover per Standard Plan B-2189 shall be placed at grade prior to pouring the catch basin top slab and shall be located as shown herein. Install Manhole Cover Locking Device per Standard Plan B-3233.
8. Dimensions:

Minimum V	3'-11"	5'-8"	3'-5"
Connector Pipe Diameter	18"	15"	12"

R=1'-3" unless otherwise specified
S=1'-9" unless otherwise specified — See Catch Basin Inlet Detail on Sheet No.1
T=1'-1½" unless otherwise specified

9. Joints of Inlet Section, Transition Section, Grade Rings, and Invert Section shall be filled with Class "C" mortar and neatly pointed on the inside of basin.
10. Curvature of the Inlet Section sidewalls shall be formed by curved forms and shall not be made by plastering.
11. Junction of Invert Section and connector pipe(s) shall be filled with Class "C" mortar. Interior surface of the connection shall be smooth, clean and free from pockets and protuberances.
12. Precast section shall have handling devices to provide mechanical placement of the sections. The Inlet Section shall have a Superior Concrete Accessories' 1"x3½" Type "S" Coil or equal centered on the exterior of each sidewall. The Transition and Invert Sections shall have slots integrally cast in the interior walls for lifting bars.
13. Alignment - The top frontal edge of the Inlet Section shall be aligned with the top frontal edge of the adjacent curb.
14. Steps are required 12-inches apart when "V" is greater than 4 feet 6 inches. The top step shall be 2-inches below the soffit and 2½-inches from the wall. Only one step 12-inches from the bottom is required for "V" less than 4 feet 6 inches. Steps shall be 4-bend, ¾-inch round galvanized steel, 14-inches wide, with 10-inch tags, Alhambra Foundry Company's Step No.A-3309 or equal. The steps shall be 6-inches from the wall of the basin, with the exception of the top step as above. Install steps in basin wall in 1-inch diameter drilled holes and grout.
15. Anchors shall be ½-inch round steel anchors or Nelson H4F Head Anchors, or equal, electrically welded, ½-inch in diameter by 8-inches long.
16. Bedding Material for the catch basin or any material conforming to the Standard Specification requirements for select material for base shall be spread to a minimum depth of 6-inches over the bottom of the excavation. Bedding for the inlet and outlet pipes shall be Class 470-B-2000 concrete poured between wall of excavation and wall of catch basin per detail on Sheet 3.
17. Epoxy that is approved by the Engineer shall be placed on surfaces of Inlet Section before placing gutter.
18. Monolithic Connection shall be tied to catch basin with ½-inch diameter by 8-inch long foundation bolts.

STANDARD PLAN NO. S-361-0 | VAULT INDEX NUMBER B-3606 | SHEET 4 OF 4 SHEETS

NOTES

1. UNLESS OTHERWISE INDICATED ON THE PROJECT PLANS, TYPE I MANHOLE SHALL BE CONSTRUCTED.
2. CONCRETE SHALL BE CLASS 560-C-3250 PER SECTION 201 OF THE STANDARD SPECIFICATIONS.
3. DIMENSIONS
   H = 4'-0". (SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR MAY INCREASE "H" PROVIDED THE MINIMUM REQUIREMENTS OF "M" AND "P" ARE MET.)
   L = 4'-0". (SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR MAY INCREASE "L" OR CHANGE THE LOCATION OF THE STATION POINT IN ORDER TO MEET PIPE CODE OR OTHER FIELD CONDITION.)
   P = AS INDICATED HEREON. (SUBJECT TO THE APPROVAL OF THE ENGINEER, "P" MAY BE REDUCED TO NOT LESS THAN 6-INCHES WHEN A LARGER VALUE OF "P" WOULD CAUSE "M" TO BE LESS THAN 3'6".)
   B = 3'6"
   T = 8" min ≤ ± 8"-0"; T = 10" WHEN H > 8'-0"
   R = SEE PROJECT PLANS
   A = SEE PROJECT PLANS
4. REINFORCEMENT SHALL CONFORM TO SECTION 201 OF THE STANDARD SPECIFICATIONS AND AS SHOWN HEREON.
5. A STEEL FRAME; SURFACE SHALL BE PROVIDED FOR THE CONCRETE FLOOR OF THE STRUCTURE AND TO THE INSIDE CONCRETE WALLS FROM THE INVERT TO THE SPRING LINE.
6. CONCRETE FOR THE STRUCTURE SHALL BE PLACED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR MAY, AT HIS OPTION, PLACE AT THE SPRING LINE A CONSTRUCTION JOINT WITH A 2-INCH BY 4-INCH HORIZONTAL KEYWAY.
7. WHERE LATERALS ENTER ON BOTH SIDES OF THE STRUCTURE, THEY SHALL BE DESIGNATED ON THE PROJECT PLANS AS RIGHT OR LEFT, FACING IN THE DIRECTION OF STATIONING.
8. MANHOLES SHALL BE LOCATED SO THAT THE VERTICAL SIDE OF THE MANHOLE SHAFT AND THE ECCENTRIC REDUCER SHALL BE LOCATED ABOVE AND IN LINE WITH THE SIDE OF THE MAINLINE BELOW THE MANHOLE AND ON THE SIDE OPPOSITE THE LATERAL. IF LATERALS ENTER BOTH SIDES OF THE STRUCTURE, THE MANHOLE SHALL BE LOCATED ON THE SAME SIDE AS THE SMALLER LATERAL.
9. INSTALL STEPS CONFORMING TO STANDARD PLAN S-340.
10. RINGS, REDUCER, PIPE AND PIPE SEAT FOR MANHOLE SHAFT SHALL CONFORM TO STANDARD PLAN S-367.
11. INSTALL MANHOLE FRAME AND COVER CONFORMING TO STANDARD PLAN S-283.
12. PLACE PIPES AS INDICATED ON THE PROJECT PLANS. UNLESS OTHERWISE DETAILED ON THE PROJECT PLANS, THE PIPE CENTERLINE SHALL INTERSECT THE MIDPOINT OF THE INSIDE FACE OF THE INDICATED MANHOLE WALL. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO INSURE MINIMUM 3 INCH PIPE EMBEDMENT, ALL AROUND, WITHIN THE MANHOLE WALL, AND 3 INCH RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CONNECTION PER STANDARD PLAN S-351 SHALL BE USED TO JOIN THE PIPE TO THE MANHOLE WHENEVER ANGLE "A" IS LESS THAN 70 DEGREES OR GREATER THAN 110 DEGREES. THE OPTIONAL USE OF A MONOLITHIC CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CONNECTIONS MAY BE EXTENDED UP TO 4 FEET IN LENGTH TO AVOID CUTTING STANDARD LENGTHS OF PIPE.

STANDARD PLAN NO. S-381-0 | VAULT INDEX NUMBER B-4035 | SHEET 2 OF 2 SHEETS

NOTE:

DESIGN EXAMPLE SHOWN IS CONSISTENT WITH A SPECIFIC MANUFACTURER, SIMILAR PRODUCTS ARE AVAILABLE FROM CONTECH, JENSEN PRECAST, AND OTHERS.

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

APPROVED BY

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	AS NOTED
DATE:	2016-09-23
DESIGNED BY:	JDV
DRAWN BY:	SJQ
CHECKED BY:	JDV

SHEET TITLE:

OIL-WATER SEPARATOR, CATCH BASIN, AND MANHOLE DETAILS

SHEET NO.

1-CU-502

SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

POST TENSIONED CONCRETE:

1. P.T. STEEL QUALITY:
ONE SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND BUILDING DEPARTMENT BEFORE STRESSING OF TENDONS. POST-TENSIONING TENDONS SHALL BE STRESS RELIEVED OR LOW RELAXATION, AND CONFORM TO THE FOLLOWING:

DESCRIPTION	DATA
SEVEN WIRE STRAND ASTM DESIGNATION	A416
1/2" DIAMETER TENDON AREA	0.153 SQ IN
ULTIMATE STRENGTH (fpu)	270 KSI
JACKING STRESS (.8 fpu)	216 KSI 33.0 KIPS
ANCHORING STRESS (.70 fpu MAX)	189 KSI 28.9 KIPS
EFFECTIVE DESIGN STRESS: LOW RELAXATION	175 KSI 26.5 KIPS (*)

(*) HIGHER VALUES MAY BE USED WHEN SUPPORTED BY CALCULATION. CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

2. FORCES SHOWN ON STRUCTURAL DRAWINGS ARE EFFECTIVE FORCES AFTER ALL LOSSES. TOTAL LOSSES DUE TO KEEP SHRINKAGE STEEL RELAXATION AND ELASTIC SHORTENING MAY BE ASSUMED TO BE 14 KSI. THE POST-TENSIONING SUPPLIER SHALL PROVIDE FRICTION AND LONG-TERM CALCULATIONS FOR ENGINEER'S APPROVAL. REFERENCE ITEM 3.H BELOW FOR ADDITIONAL SHOP DRAWING SUBMITTAL REQUIREMENTS. ONE SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. ENGINEER CERTIFICATE MAY BE SUBMITTED IN LIEU OF INDEPENDENT TESTING. TEST RESULTS OR MILL CERTIFICATES SHALL BE SUBMITTED TO THE ENGINEER BEFORE ANY TENDONS ARE INSTALLED.

3. SHOP DRAWINGS:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW. THE DRAWINGS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS. SHOP DRAWINGS INCLUDE, BUT ARE NOT LIMITED TO:

A. TENDON LAYOUT: INCLUDING DIMENSIONS, LOCATING TENDONS IN HORIZONTAL PLAN. DETAIL HORIZONTAL CURVATURE OF TENDONS AT BLOCK-OUTS, OPENINGS IN SLAB AND BEAMS. CLEARLY DESIGNATE EACH TENDON.

B. TENDON PROFILES: SHOWING CHAIR HEIGHTS AND LOCATIONS AND REQUIRED SUPPORT STEEL. INCLUDE ALL ACCESSORIES SPECIFIED AND/OR REQUIRED TO SUPPORT POST-TENSIONED TENDONS AND MILD REINFORCING ASSOCIATED WITH POST-TENSIONED SYSTEM. CLEARLY SHOW LOCATIONS OF EACH TENDON AND METHOD OF SUPPORT.

C. DETAILS OF ANCHORAGES, POCKET FORMERS, COUPLERS AND OTHER RELATED HARDWARE.

D. DETAILS OF SPECIAL REINFORCEMENT AROUND STRESSING POCKETS, CLOSURES AND OPENINGS. INCLUDING BURSTING REINFORCEMENT, AND ANY INTERFERENCE WITH TENDONS. COORDINATE WITH MILD REINFORCING STEEL DRAWINGS AS REQUIRED.

E. CLEARANCE REQUIREMENTS FOR THE HYDRAULIC JACKING REQUIREMENTS AND THE DIMENSIONS OF ANY STRESSING POCKET REQUIRED.

F. SEQUENCE OF CONSTRUCTION, INCLUDING INSTALLATION, POURING AND STRESSING SEQUENCES.

G. SHOW ALL CONSTRUCTION JOINTS AND/OR CLOSURE STRIPS AND RELATED TENDON DETAILS.

H. POST-TENSION SUPPLIER SHALL SUBMIT CALCULATIONS FOR DESIGN AND/OR SPECIFICATIONS OF THE POST-TENSIONING SYSTEM INCLUDING REQUIRED TENDONS, LOSSES, BEARING STRESSES, ELONGATIONS, ANCHORAGE, SPECIAL REINFORCEMENTS AROUND STRESSING POCKETS, CLOSURES AND OPENINGS INCLUDING BURSTING REINFORCEMENTS, COUPLINGS, TENDON SUPPORTS, AND TENDON STRESSING. THE CALCULATIONS SUBMITTED SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

4. CONTRACTOR SUBMISSIONS: A RECORD OF ALL JACKING FORCES AND FIELD MEASURED ELONGATION'S SHALL BE SUBMITTEDTO THE ENGINEER.

5. FIELD PLACEMENT REVIEW: THE TENDON AND MILD STEEL INSTALLATION SHALL BE REVIEW BY THE ENGINEER OF THE ENGINEER'S DESIGNATED REPRESENTATIVE PRIOR TO THE CONCRETE POUR. THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF THE POUR.

6. POWER DRIVEN FASTENERS: POWER DRIVEN FASTENERS OR INSERTS SHALL NOT BE SHOT OR DRILLED INTO POST-TENSIONED SLABS AFTER THE CONCRETE IS PLACED UNLESS THERE IS WRITTEN AUTHORIZATION FROM THE ENGINEER. DRILLED OR POWDER-DRIVEN FASTENERS WILL ONLY BE PERMITTED IF THEY ARE LOCATED TO AVOID THE TENDONS AND ANCHORAGES AND IT CAN BE SHOWN THAT THEY WILL NOT SPALL THE CONCRETE.

7. OPENINGS: OPENING, PENETRATION AND INSERT LOCATIONS SHALL BE DETERMINED TO THE FULLEST EXTENT POSSIBLE PRIOR TO TENDON LAYOUT. CORE DRILLING IS NOT ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

8. PROFILES: SHALL CONFORM TO CONTROLLING POINTS SHOWN ON THE DRAWINGS AND SHALL BE IN AN APPROXIMATE PARABOLIC DRAPE BETWEEN SUPPORTS, U.N.O.. LOW POINTS ARE AT MID-SPAN U.N.O. HARPED TENDONS SHALL BE STRAIGHT BETWEEN CONTROL POINTS.

9. TENDON ADJUSTMENTS: SLIGHT DEVIATIONS IN THE SPACING OF THE SLAB TENDONS MAY BE PERMITTED WHEN REQUIRED TO AVOID OPENINGS, INSERTS, AND DOWELS WHICH ARE SPECIFICALLY LOCATED. WHERE LOCATIONS OF TENDONS SEEM TO INTERFERE WITH EACH OTHER, ONE TENDON MAY BE MOVED HORIZONTALLY IN ORDER TO AVOID THE INTERFERENCE.

10. CHLORIDES: GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED.

11. PUMPED CONCRETE: IF CONCRETE IS PLACED BY THE PUMPED METHOD, A HOSE SUPPORT SHALL BE USED TO SUPPORT THE HOSE. THE HOSE SHALL NOT BE ALLOWED TO RIDE THE TENDONS. THIS REQUIREMENT IS MANDATORY.

12. PT HARDWARE QUALITY: ALL ANCHORAGES, COUPLERS, AND MISCELLANEOUS HARDWARE SHALL BE STANDARD PRODUCTS AND APPROVED BY GOVERNING AGENCIES AND THE ENGINEER.

13. TWISTING: TWISTING OR ENTWINING OF INDIVIDUAL TENDONS WITHIN A GROUP SHALL NOT BE PERMITTED. ENTWINING OF GROUPS WITHIN A BEAM SHALL NOT BE PERMITTED.

14. VERTICAL PROFILES: PROFILES SHALL CONFORM TO CONTROL POINTS SHOWN ON THE DRAWINGS AND SHALL BE AN APPROXIMATE PARABOLIC DRAPE BETWEEN SUPPORTS UNLESS NOTED OTHERWISE. LOW POINTS SHALL BE AT MIDSPAN UNLESS NOTED OTHERWISE. HARPED TENDONS SHALL BE STRAIGHT BETWEEN HIGH AND LOW POINTS.

15. SUPPORT BARS: SUPPORT BARS SHALL BE MINIMUM #4 BARS. SUPPORT BARS LOCATED AT THE FACE OF DROP PANELS WIDER THAN 4 FOOT SHALL BE #6 OR GREATER. ADDITIONAL # 6 OR GREATER SUPPORT BARS MAY BE REQUIRED AT THE CENTER OF THE DROP PANEL TO ENSURE THAT THE CORRECT HIGH POINT CGS IS MAINTAINED.

16. ANCHORAGES: ANCHORAGE DEVICES SHALL BE RECESSED A MINIMUM OF 2 INCHES. TWO CONTINUOUS #4 BACKUP BARS SHALL BE PLACED BEHIND ALL ANCHORAGES UNLESS OTHERWISE NOTED. SPLICE LENGTHS FOR BACKUP BARS SHALL BE 24 IN. MINIMUM AND SHALL BE STAGGERED AT LEAST FIVE FOOT. HAIRPIN REINFORCEMENT SHALL BE PROVIDED IN SLABS IF THERE ARE SIX OR MORE ANCHORS FOR 1/2 NICHE DIAMETER STRAND TENDONS SPACED AT 12 INCH OR LESS ON CENTER.

17. BLOCKOUTS/POCKETS: ALL BLOCKOUTS OR POCKETS REQUIRED FOR ACCESS TO ANCHORAGES IN BEAMS OR SLABS SHALL BE ADEQUATELY REINFORCED SO AS NOT TO DECREASE THE STRENGTH OF THE STRUCTURE. ALL BLOCKOUTS AND POCKETS SHOULD BE SEALED IN SUCH A MANNER AS TO ELIMINATE WATER LEAKAGE THROUGH OR INTO THE BLOCKOUT OR POCKET.

18. MINIMUM CHAIRING: TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION DURING AND AFTER THE PLACING OF CONCRETE AND SHALL BE SUPPORTED AT A MAXIMUM OF 3 FEET 6 INCHES ON CENTER. CHAIRS SHALL BE STAPLED TO FORM.

19. SUPPORT BARS: SUPPORT BARS LOCATED AT FACES OF DROP PANELS SHALL BE #6 OR GREATER. DROP CAPS GREATER THAN 4 FEET IN SIZE SHALL HAVE AN ADDITIONAL #6 OR GREATER SUPPORT BAR AT THE CENTER. THE MINIMUM SIZE OF OTHER SUPPORT BARS SHALL BE #4.

20. PIPES: PLASTIC OR METAL CONDUITS MAY BE EMBEDDED IN THE SLAB PROVIDING THE FOLLOWING CRITERIA ARE MET:

A. THE OUTSIDE DIAMETER OF THE CONDUIT DOES NOT EXCEED 1/4 OF THE SLAB THICKNESS OR 2 INCHES WHICHEVER IS LESS.

B. CONDUITS WITH DIAMETER GREATER THAN OR EQUAL TO 1 INCH ARE LOCATED WITHIN THE MIDDLE THIRD OF THE SLAB.

C. CONDUITS WITH DIAMETER SMALLER THAN 1 INCH DIAMETER MAY BE LOCATED ANYWHERE WITHIN THE SLAB AS LONG AS THE MINIMUM COVER REQUIREMENTS ARE OBSERVED.

D. CENTER-TO-CENTER SPACING OF THE CONDUITS IS NOT LESS THAN THREE TIMES THE DIAMETER OF THE LARGEST CONDUIT.

E. CONDUITS DO NOT INTERRUPT OR DISPLACE THE POST-TENSIONED TENDONS.

F. NO CONDUIT MAY BE PLACED WITHIN THE COLUMN SHEAR CONE, UNLESS APPROVED BY THE ENGINEER OF RECORD.

G. IT IS UNDESIRABLE TO HAVE A LARGE NUMBER OF CONDUITS ENTERING THE SLAB AT ONE LOCATION. IF THIS OCCURS, THE CONDUITS MUST BE FANNED OUT IMMEDIATELY.

POST TENSIONED CONCRETE (CONTINUED):

21. CONCRETE PLACEMENT: CONCRETE SHALL BE PLACED IN SUCH MANNER AS TO ENSURE THAT ALIGNMENT OF POST-TENSIONING TENDONS REMAIN UNCHANGED. SPECIAL PROVISIONS SHALL BE MADE TO INSURE PROPER VIBRATION OF THE CONCRETE AROUND THE ANCHORAGE PLATES. TENDON POSITIONING SHALL BE MONITORED DURING THE POUR.

22. CONCRETE CONSOLIDATION: THE CONTRACTOR SHALL TAKE PRECAUTIONS TO ASSURE COMPLETE CONSOLIDATION AND DENSIFICATION OF CONCRETE BEHIND ALL POST-TENSIONING ANCHORAGES. CARE SHALL BE TAKEN NOT TO ALLOW THE VIBRATOR TO CONTACT THE REINFORCING OR THE POST-TENSIONING TENDONS.

23. CONCRETE STRENGTH AT STRESSING: CONCRETE SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF F'c=3,000 PSI PRIOR TO STRESSING. MINIMUM CONCRETE STRENGTH SHALL BE ESTABLISHED BY BREAKING CONCRETE TEST CYLINDERS. STRESSING SHALL NOT COMMENCE UNTIL THE CONCRETE REACHES THE SPECIFIED STRENGTH. TENDONS SHOULD BE STRESSED WITHIN 72 HOURS AFTER THE CONCRETE IS PLACED TO MINIMIZE EARLY AGE CONCRETE CRACKING.

24. CALIBRATION: STRESSING JACKS AND GAUGES SHALL BE INDIVIDUALLY IDENTIFIED AND CALIBRATED TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 30 DAYS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE BEING USED SHALL BE KEPT AT THE JOB SITE AND SHALL BE AVAILABLE UPON REQUEST.

25. STRESS UNIFORMLY DISTRIBUTED SLAB TENDONS BEFORE STRESSING BANDED TENDONS OR BEAM TENDONS.

26. ELONGATIONS: FIELD READINGS OF ELONGATIONS AND/OR STRESSING FORCES SHALL NOT VARY BY MORE THAN +/- 7% FROM CALCULATED REQUIRED VALUES SHOWN ON THE INSTALLATION DRAWINGS.

27. TENDONS SHALL NOT BE PLACED WITH LESS THAN 2" COVER FROM ANY OPENING IN THE CONCRETE STRUCTURE.

28. CONTRACTOR SHALL SUBMIT POUR SEQUENCES FOR LEVELS TO THE ENGINEER FOR APPROVAL. PROVIDE CLOSURE POURS FOR ADJOINING STIFF ELEMENTS WHICH COULD PREVENT ELASTIC SHORTENING OF POST-TENSIONED ELEMENTS. PROVIDE FOR CONTINUATION OF REINFORCING STEEL AND LOAD TRANSFER.

29. POUR STRIPS, WHERE INDICATED, SHALL NOT BE CAST UNTIL THE BEAMS AND SLABS FOR THAT LEVEL ARE STRESSED.

30. TENDON ENDS: TENDON ENDS WITHIN A SECTION OF THE PROJECT SHALL NOT BE CUT UNTIL 24 HOURS AFTER STRESSING AND ALL POST-TENSIONING TENDONS IN THAT SECTION HAVE BEEN SATISFACTORILY STRESSED. IT IS RECOMMENDED THAT TENDON TAILS NOT BE CUT UNTIL ALL FORMWORK WITHIN A SPECIFIC SECTION HAS BEEN REMOVED AND A VISUAL INSPECTION OF THE UNDERSIDE OF THE FLOOR FRAMING SYSTEM IS COMPLETED. IF AN ENCAPSULATED SYSTEM IS SPECIFIED. THE TENDONS ENDS SHALL BE SPRAYED WITH "RUSTOLEUM" PAINT AND ENCOTED WITH A GREASE-FILLED CAP WITHIN ONE DAY OF CUTTING OFF THE TENDON ENDS. CONNECTION OF THE CAP TO THE ANCHORAGE SHALL BE WATERTIGHT.

31. SHORING: UNLESS FULL SHORING IS REQUIRED TO CARRY THE FLOOR ABOVE, THE SHORING SUPPORTING SLABS AND BEAMS MAY BE STRIPPED WHEN ALL TENDONS HAVE BEEN SATISFACTORILY STRESSED. IN AREAS SUPPORTING A PARTIAL SPAN SUCH AS NEAR A POUR STRIP OR CONSTRUCTION JOINT, THE SHORING IN THE PARTIAL SPAN SHALL STAY IN PLACE UNTIL THE REMAINING SECTION OF SPAN HAS BEEN POURED AND STRESSED.

STEEL DECK :

1. REFERENCE STANDARDS:
EXCEPT AS INDICATED, DESIGN, MANUFACTURE AND ERECTION OF COMPOSITE FLOOR DECK, FORM DECK AND ROOF DECK
SHALL BE GOVERNED BY:
SDI DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS, 2007.
AWS D1.3, STRUCTURAL WELDING CODE – SHEET STEEL, 1998.

2. MATERIALS:
FY = 33 KSI

3. ATTACH DECK TO SUPPORTING STRUCTURE AS INDICATED ON THE DRAWINGS. ATTACHMENT MUST COMPLY WITH SDI DIAPHRAGM DESIGN MANUAL LOAD TABLES. ATTACHMENT SHALL BE BY PUDDLE WELDS, UNLESS NOTED OTHERWISE.

4. PROVIDE 16 GA. (0.0598") TERMINATION STRIPS WHERE EDGE OF DECK DOES NOT CONTACT SUPPORTING STRUCTURE.

5. STEEL ROOF DECK SHALL BE CONTINUOUS OVER TWO SPANS MINIMUM.

PRECAST/PRESTRESSED CONCRETE:

1. EXCEPT AS INDICATED, THE DESIGN, FABRICATION AND ERECTION OF ALL PRECAST/PRESTRESSED CONCRETE MEMBERS SHALL BE THE RESPONSIBILITY OF AND DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH ACI 318 AND PCI MNL-116, FOR THE LOADS INDICATED PER THE "DESIGN CRITERIA NOTES", AS WELL AS FOR ALL HANDLING AND ERECTION LOADINGS.

2. CONCRETE: NORMAL WIEGHT CONCRETE (145 PCF) WITH THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS, UNLESS NOTED OTHERWISE:
PRECAST COLUMNS - 5000 PSI
PRECAST GIRDERS, BEAMS, TEES AND SPANDRELS - 5000 PSI

3. MATERIALS:
PRESTRESSING STRAND, (A416), Fy: 270 KSI (ULTIMATE)
REINFORCING BARS, (A615), Fy: 60 KSI
WELDED WIRE MESH, (A185), Fy: 70 KSI

4. PRECAST MEMBER SIZES: WHERE INDICATED ON THE PLANS SIZES ARE ESTIMATED. ACTUAL SUPPLIED SIZES MAY DIFFER SUBJECT TO THE REVIEW AND ACCEPTANCE BY THE STRUCTURAL ENGINEER. NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY WHERE DIFFERENT SIZE MEMBERS ARE REQUIRED BY DESIGN. UPON ACCEPTANCE BY STRUCTURAL ENGINEER, PROVIDE SUCH MEMBERS AT NO ADDITIONAL COST TO OWNER.

5. DESIGN LOADS: SEE PLANS FOR DESIGN LOADS.

6. SUBMITTALS: SHOP DRAWINGS AND STRUCTURAL CALCULATIONS SIGNED BY AND BEARING THE SEAL OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS FOR FABRICATION AND ERECTION OF ALL PRECAST ELEMENTS SHALL BE SUBMITTED TO STRUCTURAL ENGINEER FOR REVIEW AND TO GOVERNING CODE AUTHORITY FOR APPROVAL. INDICATE ALL INFORMATION INCLUDING STRESSES AND ADDITIONAL REINFORCING AS NEEDED IN CALCULATIONS. INDICATE EMBED ITEMS, REINFORCING, LIFT POINTS, RIGGING AND TEMPORARY BRACING ON SHOP DRAWINGS.

7. CONCRETE VIBRATORS: SHALL NOT CONTACT CASTING BED.

8. REINFORCING STEEL SHALL BE PLACED IN CENTER OF WALL PANELS, UNLESS NOTED OTHERWISE.

9. EMBED ALL NECESSARY ELEMENTS SUCH AS PLATES, ANCHOR BOLTS, ETC..

10. GROUT PADS: PROVIDE 2" GROUT PAD UNDER FULL AREA OF PILASTERS. FILL REMAINING VOIDS BETWEEN PANELS AND FOOTINGS SOLID WITH GROUT. OBTAIN APPROVAL FOR MODIFICATIONS TO ERECTION PAD DESIGN AS INDICATED IN GENERAL SECTION. ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 7500 PSI AND SHALL CONFORM TO ASTM C 1107.

11. NEOPRENE OR KOROLATH PADS: SHALL BE ADEQUATE FOR DESIGN LOADS WHERE INDICATED.

12. TOPPING SLAB: THICKNESS AS SHOWN ON THE PLANS. PROVIDE MINIMUM COVERAGE IN CENTER OF BAY. REFER TO ARCHITECTURAL DRAWINGS FOR SLOPES AND DRAINAGE. CONCRETE TOPPING SHALL HAVE MINIMUM REINFORCING AS REQUIRED BY CODE OR DESIGN USE A MINIMUM OF 6x6-W1.4xW1.4 WWF. DESIGN OF ALL TOPPING SLABS AND REINFORCEMENT FOR ALL TOPPING SLABS ARE DELEGATED DESIGN ITEMS. ALL CONCRETE TOPPINGS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS OTHERWISE REQUIRED BY THE PRECAST/PRESTRESSED CONCRETE MANUFACTURER.

13. THE PRECAST/PRESTRESSED CONCRETE MANUFACTURER SHALL PROVIDE MINIMUM CLEAR COVER TO REINFORCING IN ACCORDANCE WITH ACI 318.

14. REFER TO CAST-IN-PLACE CONCRETE AND REINFORCING STEEL SECTIONS FOR BALANCE OF CONCRETE AND REINFORCING STEEL REQUIREMENTS.

15. ALL SLEEVES AND DOWELS REQUIRED FOR CONNECTIONS TO CAST-IN-PLACE CONCRETE TO BE PROVIDED BY PRECASTER AS INDICATED ON THE DRAWINGS.

16. PRECAST BUILDING LATERAL SYSTEMS ARE A DELEGATED DESIGN ITEM. SUGGESTED FRAME LOCATIONS ARE SHOWN ON THE PLANS. ACTUAL NUMBER AND LOCATION OF FRAMES MAY VARY IN FINAL DESIGN.

17. REFER TO SPECIFICATIONS FOR ALL STAINLESS STEEL CONNECTOR AND EPOXY COATED REINFORCEMENT REQUIREMENTS.

18. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ALL FIRE RATING REQUIREMENTS AND ASSURE THE STRUCTURE IS IN COMPLIANCE.

19. CONNECTION DETAILS SHOWN ARE SCHEMATIC ONLY. ALL CONNECTION DETAILS SHALL BE DESIGNED BY THE PRECAST/PRESTRESSED CONCRETE MANUFACTURER TO SUIT THE SPECIFIED LOADINGS. ALL CONNECTIONS SHALL ACCOUNT FOR THERMAL MOVEMENT, SHRINKAGE AND CREEP OF PRECAST/PRESTRESSED CONCRETE MEMBERS.

20. ALL WELD PLATES, INSERTS, ANCHOR BOLTS, WELDING, LIFTING HARDWARE, GROUT SLEEVES, ETC SHALL BE DESIGNED AND PROVIDED BY THE P/C MANUFACTURER.

DESIGN LOAD CRITERIA:

1. REFERENCE STANDARDS:
CALIFORNIA BUILDING CODE CBC - 2013, COUNTY OF LOS ANGELES, 2014 BUILDING CODE.
ASCE 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES,
20__. REFER TO LOADING PLANS
FOR MORE LOAD INFORMATION.

2. BUILDING RISK CATEGORY II

3. LOADS:
DEAD LOADS: THE SELF WEIGHT OF EACH STRUCTURAL ELEMENT AND THE FOLLOWING SUPERIMPOSED LOADS
PARTITIONS - 20 PSF
MECHANICAL, ELECTRICAL AND LIGHTING AT PARKING AREA - 5 PSF
MECHANICAL, ELECTRICAL, LIGHTING AND CEILING AT OFFICES AND PUBLIC AREAS - 20 PSF
MECHANICAL, ELECTRICAL AT QUICK TURN-AROUND (QTA) - 15PSF
MECHANICAL, ELECTRICAL AT QTA HELIX - 10PSF
LIVE LOADS:
GROUND FLOOR LIVE LOADS - 100 PSF
OFFICES - 50 PSF
OFFICE PARTITIONS - 20 PSF
CORRIDORS - 100 PSF
PARKING LEVEL LIVE LOADS - 50 PSF (NON-REDUCIBLE)
QTA HELIX LIVE LOADS - 50PSF (NON-REDUCIBLE)
PUBLIC AREAS, LOBBIES & STAIRS - 100 PSF
LIGHT STORAGE - 125 PSF
MECHANICAL ROOM - 125 PSF
ROOF LIVE LOAD - 20 PSF REDUCIBLE
ROOF APM = 100 PSF

4. WIND DESIGN CRITERIA: (WIND LOADS ARE BASED ON ASCE 7-10)
A. ALL OTHER EXCEPT AS NOTED.
BASIC WIND SPEED (3 SECOND GUST SPEED) - 130 MPH - SPECIAL WIND REGION
WIND IMPORTANCE FACTOR, Iw - 1.0
WIND EXPOSURE FACTOR - C
ENCLOSURE CLASSIFICATION - PARTIALLY ENCLOSED
GUST EFFECT FACTOR - 0.85 RIGID BUILDING

5. SEISMIC DESIGN CRITERIA:
SITE CLASS - D
SEISMIC DESIGN CATEGORY - D
Ie - 1.0
Ss - 1.686
S1 - 0.619
Fa - 1.0
Fv - 1.5
Sds - 1.124
Sd1 - 0.619
SEISMIC ANALYSIS - EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC LATERAL SYSTEM: SPECIAL CONCRETE SHEAR WALLS

6. CONNECTIONS FOR SUPPORTED EQUIPMENT, FACIA AND OTHER NON-STRUCTURAL ITEMS SHALL BE DESIGNED TO ACCOUNT FOR UNEXPECTED ECCENTRICITIES IN THE LOADED PARTS AND RESULTING PRYING EFFECTS. CONNECTIONS WHICH RELY ON MULTIPLE FASTENERS AT ONE LOCATION SHALL TAKE INTO ACCOUNT THE STIFFNESS OF THE CONNECTED ELEMENTS AND THEIR ABILITY TO REDISTRIBUTE LOADS TO OTHER ANCHORS IN THE EVENT OF FASTENER YIELD OR SLIP.

7. ALL ANCHORS EMBEDDED IN CONCRETE OR MASONRY SHALL BE PROPORTIONED TO EXCEED THE STRENGTH OF THE CONNECTED HARDWARE. ALL ANCHORS SHALL BE SHOWN TO BE IN COMPLIANCE WITH ACI 318 APPENDIX D.

STRUCTURAL STEEL:

1. REFERENCE STANDARDS:
EXCEPT AS INDICATED, ALL DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE GOVERNED BY:
AISC MANUAL OF STEEL CONSTRUCTION - 14TH EDITION, 2010.
AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, 2010.
AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL, 2010.
AISC FCD QUALITY CERTIFICATION PROGRAM, 1995.
AWS D1.1, STRUCTURAL WELDING CODE - STEEL, 2010.

2. MATERIALS:
WIDE FLANGE SHAPES - ASTM A992, Fy = 50 KSI
HOLLOW STRUCTURAL SECTIONS (HSS) RECT. - ASTM A500 GRADE B, Fy = 46 KSI
ROUND (HSS) - ASTM A500 GRADE B, Fy = 42 KSI
PIPE - ASTM A53 GRADE B, Fy = 35 KSI
CHANNELS - ASTM A36, Fy = 36 KSI
HIGH STRENGTH PLATES - ASTM A572, Fy = 50 KSI
ANGLES, PLATES AND MISCELLANEOUS STEEL - ASTM A36, Fy = 36 KSI

WELDING ELECTRODES - AWS A5.1 OR A5.5 SERIES E70
HIGH STRENGTH BOLTS - ASTM A 325
ANCHOR BOLTS - ASTM F 1554 GRADE 36

3. PROVIDE CONNECTIONS FOR MEMBERS PER TYPICAL DETAILS AND LOCATIONS OF SPECIFIC SECTIONS.

4. ALL STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF CALIFORNIA AND SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.

5. WELDING SHALL BE PERFORMED ONLY BY OPERATORS QUALIFIED BY THE AWS STANDARD QUALIFICATION PROCEDURE TO PERFORM THE PARTICULAR TYPE OF WORK REQUIRED.

6. MINIMUM SIZE OF ALL FILLET WELDS SHALL CONFORM TO AISC SPECIFICATIONS.

7. ALL WELDS ALONG LENGTHS OF MEMBERS INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS BUT NOT SIZED SHALL BE A MINIMUM OF 3/16"x3" FILLET WELD.

8. ALL FASTENERS USED FOR CONNECTIONS BETWEEN STRUCTURAL STEEL MEMBERS SHALL BE DIRECT TENSION INDICATING BOLTS. FASTENERS MAY NOT BE REUSED ONCE INSTALLED.

9. PAINT AND PROTECTION:
TOUCH UP PAINT ON FASTENERS, WELDS AND ABRADED AREAS AFTER ERECTION. STEEL ITEMS PROPOSED TO WEATHER INFINISHED STRUCTURE SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED. ALL FASTENERS USED IN EXTERIOR APPLICATIONS SHALL BE GALVANIZED.

10. COLUMN BASE PLATES SHALL BE SET TO THE ELEVATION INDICATED ON THE DRAWINGS AND LEVELED USING STEEL SHIMS OR BY DOUBLE NUTS ON ANCHOR BOLTS. BASE PLATES SHALL THEN BE GROUTED WITH A MINIMUM 1" OF NON-SHRINK, HIGH STRENGTH NONMETALLIC GROUT. TIGHTEN ANCHOR BOLTS AFTER SUPPORTED MEMBERS HAVE BEEN POSITIONED AND PLUMBED.

11. HOLE SIZES IN BASEPLATES SHALL BE OVERSIZED BY 5/16 INCHES LARGER THAN ANCHOR BOLT SIZE.

12. FABRICATE AND ASSEMBLE STRUCTURAL ASSEMBLIES IN SHOP TO GREATEST EXTENT POSSIBLE.

13. FABRICATE STRUCTURAL STEEL MEMBERS WITH NATURAL CAMBER UP EXCEPT AS INDICATED.

14. PUNCH, SUB-PUNCH AND REAM OR DRILL ALL BOLT HOLES. DO NOT USE A CUTTING TORCH TO ENLARGE BOLT HOLES, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER OF RECORD.

15. DIMENSIONAL TOLERANCES OF FABRICATE STRUCTURAL STEEL SHALL CONFORM TO SECTION 6.4 OF THE AISC CODE OF STANDARD PRACTICE UNLESS NOTED OTHERWISE.

16. ERECTION TOLERANCES OF ANCHOR BOLTS, EMBEDDED ITEMS, AND ALL STRUCTURAL STEEL UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS SHALL CONFORM TO THE AISC CODE OF STANDARD PRACTICE.

17. CONTRACTOR SHALL PROTECT ANY UNPRIMED STRUCTURAL STEEL FROM DETRIMENTAL EFFECTS OF CORROSION, AS REQUIRED, UNTIL THE STEEL IS ENCLOSED AND PROTECTED BY THE NEW CONSTRUCTION.

18. SPLICING OR FIELD CUTTING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION, TYPE OF SPLICE OR MODIFICATION TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.

19. PRIME PAINT ALL STEEL UNLESS NOTED OTHERWISE.

20. ALL STEEL TO BE EMBEDDED IN CONCRETE AND NOT PERMANENTLY EXPOSED TO WEATHER SHALL BE UNPRIMED.

21. CONTRACTOR SHALL COORDINATE STRUCTURAL STEEL FIREPROOFING REQUIREMENTS. ALL INTERIOR STRUCTURAL STEEL, INCLUDING STEEL JOISTS, SCHEDULED OR INDICATED TO RECEIVE SPRAY APPLIED FIREPROOFING SHALL BE DELIVERED TO THE PROJECT SITE UNPRIMED. STEEL EXPOSED TO CORROSIVE CONDITIONS AFTER INSTALLATION SHALL BE PRIMED WITH A PROTECTIVE COATING WHICH DOES NOT DIMINISH THE BOND BETWEEN THE SPRAY APPLIED FIREPROOFING, AND THE STEEL SUBSTRATE, ANY PRIMER, AND/OR COATING APPLIED TO STRUCTURAL STEEL SHALL BE APPROVED FOR USE IN THE APPLICABLE U.L. FIRE RESISTANCE ASSEMBLY USED ON THE PROJECT.

ARCHITECTURAL CLADDING:

1. TYPICAL DETAILS INDICATE GENERAL CRITERIA FOR ASSUMED CONNECTIONS OF ARCHITECTURAL CLADDING TO BASE BUILDING STRUCTURE. PROVIDE DESIGNS THAT MEET INDICATED CRITERIA AND CONFORM TO LISTED CODES AND STANDARDS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2. ALL INSERTS, ANCHORS AND SLEEVES SHALL BE CAST IN PLACE. DRILLED AND POWDER DRIVEN FASTENERS WILL BE PERMITTED ONLY WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND ARE LOCATED SO AS TO AVOID THE TENDONS AND ANCHORAGE'S AND ONLY WHEN APPROVED IN WRITING BY THE ENGINEER OF RECORD.

CAST-IN-PLACE CONCRETE:

1. REFERENCE STANDARDS:
EXCEPT AS INDICATED, ALL CONCRETE WORK AND DETAILING, FABRICATION AND PLACING OF REINFORCING SHALL BE
GOVERNED BY:
2. ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, 2010.
ACI 305.1, HOT WEATHER CONCRETING, 2006.
ACI 306, COLD WEATHER CONCRETING, 2010.
ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, 1999.
ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2011.

3. THE CAST-IN-PLACE CONCRETE AT 28 DAYS OF AGE MINIMUM STRENGTH SHALL BE AS FOLLOWS:
PILE CAP - 5,000 PSI
SLAB-ON-GRADE - 4,000 PSI
WALLS - 5,000 PSI
ELEVATED FLOORS TOPPING - 4,000 PSI
ALL POST TENSIONED BEAMS AND SLABS - 6,000 PSI
COLUMNS - 6,000 PSI
QTA HELIX - 6,000 PSI
HELICES - 5,000 PSI
BRIDGES - 5,000 PSI

4. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS ALL VERTICAL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS IN ACCORDANCE

STRUCTURAL TESTS AND SPECIAL INSPECTIONS TABLES(13)

REQUIRED VERIFICATION OR INSPECTION	CONTINUOUS (15)	PERIODIC (15)	REFERENCED STANDARD	IBC REFERENCE	COMMENTS
A. CONCRETE CONSTRUCTION					
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSED TENDONS, AND PLACEMENT INCLUDING PNEUMATICALLY PLACED CONCRETE (PPC)		X	ACI 318: 3.5 7.1-7, 7	1910.4	
2. INSPECTION OF ANCHORS CAST IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE		X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1	
3. INSPECTION OF ANCHORS POST-INSTALLED INSTALLED IN HARDENED CONCRETE		X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1	
4. VERIFY USE OF REQUIRED DESIGN MIX INCLUDING PNEUMATICALLY PLACED CONCRETE (PPC)		X	ACI 318: 4, 5.2 - 5.4	1904.2.2, 1910.2, 1910.3	
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X		ASTM C172 / ASTM C31 / ACI 318: 5.6, 5.8	1910.10	
6. INSPECTION OF CONCRETE AND PNEUMATICALLY PLACED CONCRETE (PPC) PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X		ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8	
7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 5.11-5.13	1910.9	
8. INSPECTION OF POST-TENSIONED CONCRETE: A. APPLICATION OF POST-TENSIONING FORCES	X X		ACI 318: 18.20, 18.18.4		
9. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		X	ACI 318: 6.2		
10. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSION OF THE CONCRETE MEMBER BEING FORMED.		X	ACI 318: 6.1.1		
11. STRENGTH TEST FOR PNEUMATICALLY PLACED CONCRETE (PPC) TEST PANELS		X			
12. STRENGTH TEST FOR PNEUMATICALLY PLACED CONCRETE (PPC) IN-PLACE WORK		X			
B. STEEL CONSTRUCTION					
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:					
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	AISC 360, QUALITY ASSURANCE INSPECTION REQUIREMENTS AND APPLICABLE ASTM MATERIAL STANDARDS	1705.2	
B. MANUFACTURE'S CERTIFICATE OF COMPLIANCE REQUIRED.		X	AISC 360	1705.2	
2. INSPECTION OF HIGH-STRENGTH BOLTING:					
A. SNUG-TIGHT JOINTS		X	AISC 360,	1705.2	
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:					
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.		X	AISC 360,	1705.2	
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	APPLICABLE ASTM MATERIAL STANDARDS	1705.2	
C. MANUFACTURER'S CERTIFIED TEST REPORTS.		X		1705.2	
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:					
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	AISC 360,AND APPLICABLE AWS A5 DOCUMENTS	1705.2	
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X		1705.2	
5. INSPECTION OF WELDING:					
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:					
1) COMPLETE AND PART.IAL JOINT PENETRATION GROOVE WELDS.	X		AWS D1.1 - ALL WELDS - ULTRASONIC TESTING, OR APPROVED EQUAL	1705.2	Note 9
2) MULTIPASS FILLET WELDS	X		AWS D1.1 - 15% LIQUID DYE PENETRATION - REMAINING VISUAL INSPECTION		Note 9
3) SINGLE-PASS FILLET WELDS > 5/16"	X				Note 9
4) PLUG AND SLOT WELDS.	X				Note 9
5) SINGLE-PASS FILLET WELDS <= 5/16"		X			Note 9
6) FLOOR AND ROOF DECK WELDS		X	AWS D1.3 - VISUAL INSPECTION	1705.2	
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:					
A. DETAILS SUCH AS BRACING AND STIFFENING.		X			Note 16
B. MEMBER LOCATIONS.		X			Note 16
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION		X			Note 16
7. ADDITIONAL ITEMS					
A. EMBED PLATES		X			
B. WELDING OF ANCHOR AND STUDS		X			
C. WELDING OF STAIRCASE/ RAILING SYSTEMS		X			
8. COLD FORMED / LIGHT GAUGE METAL WELDING		X	AWS D1.3		
C. SOILS					
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X			
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X			
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X			
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL AND VERIFICATION OF THE REQUIRED PVR	X				
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X			
6. VERIFY FINISHED GRADE REQUIREMENTS		X			
7. SOIL NAILS - REFER S-304 VOLUME 1 FOR TESTING PROCEDURES		X			
D. CAST-IN-PLACE DEEP FOUNDATION ELEMENTS, PILES , DRILLED PIERS AND CAISSONS					
1 . OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X				
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X				
3. FOR CONCRETE ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH CONCRETE CONSTRUCTION SECTION.					

STRUCTURAL TESTS AND SPECIAL INSPECTIONS TABLES(13)

REQUIRED VERIFICATION OR INSPECTION	CONTINUOUS (15)	PERIODIC (15)	REFERENCED STANDARD	IBC REFERENCE	COMMENTS
F. MASONRY CONSTRUCTION (LEVEL B QUALITY ASSURANCE)					
1 . COMPLIANCE WITH REQUIRED PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 1.5		
2. VERIFICATION OF F'M.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 1.4B		
3. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
A . PROPORTIONS OF SITE-PREPARED MORTAR.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 2.1, 2.6A		
B. CONSTRUCTION OF MORTAR JOINTS		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 3.3B		
C. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 3.4, 3.6A		
4. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
A. GROUT SPACE IS CLEAN.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 3.2D, 3.2F		
B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND ANCHORAGES		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 2.4, 3.4		TMS 402 / ACI 530 / ASCE 5, SEC. 1.16
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES.		X	TMS 602 /ACI 530.1 / ASCE 6, ART. 3.2E, 3.4, 3.6A		TMS 402 / ACI 530 / ASCE 5, SEC. 1.16
D. PROPORTIONS OF SITE-PREPARED GROUT.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 2.6B, 2.4 G.1.b		
E. PLACEMENT OF GROUT IS IN COMPLIANCE	X		TMS 602 / ACI 530.1 / ASCE 6, ART. 3.5, 3.6C		
5. DURING CONSTRUCTION THE SPECIAL INSPECTION PROGRAM SHALL VERIFY:					
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 3.3F		
B. TYPE, SIZE, GRADE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.		X	TMS 402 / ACI 530 / ASCE 5, SEC. 1.16.4.3, 1.17.1		
C. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEG F) AND HOT WEATHER (TEMPERATURES ABOVE 90 DEG. F).		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 1.8C, 1.8D		
D. PLACEMENT OF GROUT IS IN COMPLIANCE	X		TMS 602 / ACI 530.1 / ASCE 6, ART. 3.5, 3.6C		
E. CONSTRUCTION OF MORTAR JOINTS		X	TMS 602 / ACI 530.1 / ASCE 6, ART. 3.3B		
6. OBSERVE PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS.		X	TMS 602 / ACI 530.1 / ASCE 6, ART.. 1.4B.2.a.3, 1.4B.2.c.3, 1.4B..3, 1.4B.4		
G. PREFABRICATED CONSTRUCTION					NOTE 17
H. SPRAY APPLIED FIRE PROOFING	X				

STRUCTURAL TESTS AND SPECIAL INSPECTIONS:

THE GENERAL CONTRACTOR SHALL MAINTAIN A QUALITY CONTROL PROGRAM SEPARATE FROM THE SPECIAL INSPECTION PROGRAM PROVIDED BY THE OWNER. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. THE CONTRACTOR/SUBCONTRACTOR(S) SHALL NOT USE THE OWNER'S SPECIAL INSPECTIONS FOR A SUBSTITUTE FOR HIS QUALITY CONTROL. THE CONTRACTOR/SUBCONTRACTOR(S) SHALL DESIGNATE A QUALITY CONTROL REPRESENTATIVE FOR EACH AREA LISTED UNDER SPECIAL INSPECTIONS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBCONTRACTOR(S) PROVIDING QUALITY CONTROL AND SHALL BE RESPONSIBLE FOR THE ENTIRE QUALITY CONTROL PROGRAM.

1. GENERAL QUALIFICATIONS OF INSPECTORS AND TESTING AGENCIES:
   a. THE TESTING AGENCIES ARE REQUIRED TO SUBMIT EVIDENCE OF QUALIFICATIONS TO PERFORM THE SPECIFIED TESTS.
   b. THE INSPECTORS MUST SHOW EVIDENCE OF QUALIFIED PROFESSIONAL STAFF EMPLOYED TO MAKE INSPECTIONS.
   c. LABORATORY TESTING FACILITIES MUST BE ACCREDITED BY A NATIONALLY-RECOGNIZED AGENCY SUCH AS THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (AALA), THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST); NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NAVLAP), OR THE WASHINGTON AREA COUNCIL ENGINEERING LABORATORIES (WACEL).

2. THE SPECIAL INSPECTOR(S) SHALL REVIEW THE PROJECT PLANS, SPECIFICATIONS, AND CONSTRUCTION SCHEDULE TO BECOME FAMILIAR WITH THE SCOPE OF THE INSPECTION AND TESTING SERVICES REQUIRED.

3. THE SPECIAL INSPECTOR(S) TO KEEP RECORDS OF INSPECTIONS.

4. THE SPECIAL INSPECTOR(S) TO FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.

5. INSPECTION OF WORK SHALL INCLUDE: VERIFICATION OF DIMENSIONS, DIMENSIONAL TOLERANCE, LOCATION AND NUMBER OF ITEMS SUPPLIED; VERIFICATION OF PROPER CARE OR CONSTRUCTION MATERIALS DURING PERIODS OF DELETERIOUS WEATHER CONDITIONS; AND VERIFICATIONS OF PROPER CONSTRUCTION IN TERMS OF MATERIALS, LOCATION, DIMENSIONAL TOLERANCE, AND CONSTRUCTION DETAILS.

6. THE SPECIAL INSPECTOR(S) TO BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR(S) SHALL BRING DISCREPANCIES TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK.

7. THE SPECIAL INSPECTOR(S) TO PERIODICALLY SUBMIT A REPORT OF INSPECTIONS DOCUMENTING REQUIRED INSPECTIONS AND METHOD OF CORRECTION ACTION OF ALL DISCREPANCIES NOTED IN THE INSPECTIONS AT A FREQUENCY DETERMINED BY THE BUILDING OFFICIAL.

8. THE SPECIAL INSPECTOR(S) TO VERIFY THAT EACH FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION, CONTROL OF WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR(S) SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR FABRICATOR'S SCOPE OF WORK. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE FABRICATOR IS APPROVED AS DESCRIBED BELOW.

9. THE SPECIAL INSPECTION OF FABRICATORS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION PER IBC SECTION 1704.2.5. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLETION WITH THE APPROVED CONSTRUCTION DOCUMENTS.

10. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE WORK BEING INSPECTED TO THE SPECIAL INSPECTOR AND SHALL PROVIDE ONE DAY BUSINESS NOTICE, MINIMUM, OF THE INTENTION OF ANY WORK REQUIRED TO HAVE SPECIAL INSPECTIONS. REGARDLESS OF NOTICE PROVIDED TO THE SPECIAL INSPECTOR, ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION WILL BE SUBJECT TO REMOVAL AT THE DISCRETION OF THE ARCHITECT, DESIGN ENGINEER, OR BUILDING OFFICIAL AT NO COST TO THE OWNER.

11. ANY REWORK REQUIRED DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ANY REWORK REQUIRED BY THE CONTRACTOR DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE NOTED AND TIME KEPT SEPARATE BY THE SPECIAL INSPECTOR(S). ANY FURTHER INSPECTION(S) AND TESTING THAT ARE REQUIRED DUE TO NON-CONFORMING WORK SHALL BE PAID BY THE CONTRACTOR.

12. SPECIAL INSPECTOR(S) AND REPRESENTATIVES OF THE TESTING AGENCIES ARE NOT AUTHORIZED TO ALTER ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS NOR APPROVE OR ACCEPT ANY PORTION OF THE WORK.

13. STRUCTURAL WORK REQUIRING SPECIAL INSPECTION AND STRUCTURAL TESTING SHALL BE AS LISTED UNDER "STRUCTURAL TESTS AND SPECIAL INSPECTION TABLES" AS A MINIMUM.

14. THE ITEMS CHECKED WITH "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE PROJECT SPECIFICATIONS AND SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR AND BUILDING OFFICIAL. ANY MATERIAL THAT FAILS TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.

15. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION (IBC CHAPTER 2). PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.

16. THE STEEL FRAME SHALL BE INSPECTED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

17. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.

18. THE GEOTECHNICAL REPORT AND CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE. THE GEOTECHNICAL ENGINEER SHOULD ALSO VERIFY COMPLIANCE.

TranSystems
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FAX: (562) 594-6975

NOT FOR CONSTRUCTION

CONSULTANTS:

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

APPROVED BY
CHIEF AIRPORTS ENGINEER

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	12" = 1'-0"
DATE:	09-23-2016
DESIGNED BY:	AA
DRAWN BY:	CH
CHECKED BY:	AA

SHEET TITLE:
SPECIAL INSPECTIONS TABLE

SHEET NO.
1-S-002

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IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

1 ARCHITECTURAL SITE PLAN
1" = 80'-0"

KEYPLAN

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CONSULTANTS:

Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

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SHEET TITLE:

ARCHITECTURAL SITE PLAN

SHEET NO.

1-A-010

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1 LEVEL 2 OVERALL PLAN
1" = 80'-0"

KEYPLAN

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CONSULTANTS:

Los Angeles World Airports

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LAX Consolidated Rental Car Facility

Los Angeles International Airport

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ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

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SHEET TITLE:

LEVEL 2 OVERALL FLOOR PLAN

SHEET NO.

1-A-020

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1 LEVEL 3 OVERALL PLAN
1" = 80'-0"

KEYPLAN

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ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

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DATE:	09/23/2016
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SHEET TITLE:

LEVEL 3 OVERALL FLOOR PLAN

SHEET NO.

1-A-030

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1 LEVEL 4 OVERALL PLAN
1" = 80'-0"

KEYPLAN

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NOT FOR CONSTRUCTION

CONSULTANTS:

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Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

REVISIONS:			
MARK	DATE	DESCRIPTION	

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SCALE:	1" = 80'-0"
DATE:	09/23/2016
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DRAWN BY:	Author
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SHEET TITLE:

LEVEL 4 OVERALL FLOOR PLAN

SHEET NO.

1-A-040

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EQUIPMENT ANCHORAGE NOTES

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED ASCE 7–05 SECTIONS 6.5, 13.3, 13.4 & 13.6.

THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS.

EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.

TEMPORARY OR MOVABLE EQUIPMENT.

EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.

EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL AND THE FIELD ENGINEER.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7–05 SECTION 13.3 AS DEFINED IN ASCE 7–05 SECTION 13.6.8, 13.6.7. AND 13.4.5.5., ITEM 6. RESPECTIVELY.

THE SEISMIC BRACING AND ANCHORAGE OF PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE IN ACCORDANCE WITH THE "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS", PUBLISHED BY RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS", PUBLISHED BY SMACNA AND PPIC, OR ANY SEISMIC BRACING AND ANCHORAGE SYSTEM WITH CURRENT OSHPD OPA & (SAT, MASON, B–LINE, ETC...)

COPIES OF THE SMACNA OR OPA MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

APPLICABLE CODES

CODE ANALYSIS

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

PARTIAL LIST OF APPLICABLE CODES

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

2013 CALIFORNIA ADMINISTRATIVE CODE – CCR, TITLE 24, PART 1 (2010 CHAPTER 10 APPLIES THRU 06–30–14)

2013 CALIFORNIA BUILDING CODE (CBC) – CCR, TITLE 24, PART 2 – WITH L.A. 2014 AMENDMENTS, BASED ON 2012 IBC

2013 CALIFORNIA ELECTRICAL CODE (CEC) – CCR, TITLE 24, PART 3 – WITH L.A. 2014 AMENDMENTS, BASED ON 2011 NEC

2013 CALIFORNIA MECHANICAL CODE (CMC) – CCR, TITLE 24, PART 4 – WITH L.A. 2014 AMENDMENTS, BASED ON 2012 UMC

2013 CALIFORNIA PLUMBING CODE (CPC) – CCR, TITLE 24, PART 5 – WITH L.A. 2014 AMENDMENTS, BASED ON 2012 UPC

2013 CALIFORNIA ENERGY CODE – CCR, TITLE 24, PART 6 (2013 VERSION APPLIES AFTER 07–01–14)

2013 CALIFORNIA FIRE CODE (CFC) – CCR, TITLE 24, PART 9 – BASED ON 2012 IFCm

2013 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN) – CCR, TITLE 24, PART 11 – WITH L.A. 2014 AMENDMENTS

2013 CALIFORNIA REFERENCED STANDARDS CODE – CCR, TITLE 24, PART 12

2014 CALIFORNIA PUBLIC SAFETY – CCR, TITLE 19, DIVISION 1 – STATE FIRE MARSHAL

PARTIAL LIST OF STANDARDS, APPLICABLE AS NEEDED

2013 NFPA 13 AUTOMATIC SPRINKLER SYSTEMS

2012 NFPA 101LIFE SAFETY CODE

2013 NFPA 72 NATIONAL FIRE ALARM CODE (WITH CALIFORNIA AMENDMENTS AS APPLICABLE)

GENERAL NOTES

1. OFFSET PIPES AS REQUIRED TO CLEAR MECHANICAL DUCTWORK.
2. FURNISH AND INSTALL A SHUT–OFF VALVE, PLUG COCK OR STOP AT EACH PIECE OF EQUIPMENT FURNISHED BY OTHERS REQUIRING DRAIN, WASTE, WATER, GAS, ETC.
3. SEAL ALL PENETRATIONS WATERTIGHT.
4. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF ALL AC UNITS. IN AN EVENT OF CONFLICT, AC EQUIPMENT GOVERNS THE PLUMBING ROUTE
5. UNLESS OTHERWISE NOTED, ALL CONDENSATE AND GAS DROPS SHALL BE CONCEALED IN WALLS.
6. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL OFFSETS, BENDS, SPECIAL FITTINGS AND LOCATIONS ARE NOT EXACTLY LOCATED. THE CONTRACTOR SHALL LOCATE ALL OFFSETS, BENDS, AND SPECIAL FITTINGS TO SUIT JOB SITE CONDITIONS.
7. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM, TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
8. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF MECHANICAL EQUIPMENT MATERIAL ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATION TO ENSURE COMPLETE AND OPERABLE SYSTEMS.
9. BEFORE ORDERING ANY PIECE OF EQUIPMENT, THE CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS, AND SHOP DRAWINGS WITH EQUIPMENT DIMENSIONS, AND SITE CLEARANCE AVAILABLE. WHERE REQUIRED BY SPACE LIMITATIONS HAVE UNITS SHIPPED IN SECTIONS.
10. REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF ALL PLUMBING FIXTURES AND FIXTURE HEIGHTS.
11. ALL SINKS, LAVATORY AND URINALS TO HAVE WALL CLEAN–OUTS.
12. ALL HANDICAP ACCESSIBLE PLUMBING FIXTURES SHALL MEET ADA REQUIREMENTS.
13. ALL PIPE BRANCH CONNECTIONS SHALL OFF–SET. NO "BULL HEAD" CONNECTIONS WILL BE ALLOWED.
14. INSTALL WATER HAMMER ARRESTORS IN THE HOT AND COLD WATER SUPPLY TO EACH FIXTURE OR IN THE HEADER SUPPLY TO A BATTERY OF FIXTURES SIZED PER PDI STANDARD WH–201.
15. NEW COLD WATER TO BE SUPPLIED TO 5 FT. FROM BUILDING. PROVIDE SHUT OFF VALVE IN YARD BOX.
16. COORDINATE PLANS FOR CONTINUITY OF WORK.
17. RUN UNDERGROUND PIPING IN COORDINATION WITH STRUCTURAL DETAILS.
18. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
19. COORDINATE ALL EXPOSED PIPING WITH ARCHITECT.
20. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF CBC SECTION 1115B.
21. HEIGHTS AND LOCATION OF ALL FIXTURES SHALL BE ACCORDING TO CBC SECTION 1115B.4 SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF CBC SECTION 1115B.
22. FIXTURE CONTROLS SHALL COMPLY WITH CBC SECTIONS 1115B.4.3 ITEM 1 FOR LAVATORIES, 1115B.4.1 ITEM 5 FOR TOILETS AND 1115.4.2 ITEM 3 FOR URINALS.
23. EACH ACCESSIBLE SINK SHALL BE A MAXIMUM OF 6 1/2" DEEP. SINKS SHALL BE MOUNTED WITH THE COUNTER OR RIM NO HIGHER THAN 34" ABOVE THE FINISH FLOOR. CBC SECTION 1115B.4.7 ITEM 1.
24. FOR ALL PLUMBING SYSTEM SIZES REFER TO RISER DIAGRAMS.

LEGEND AND ABBREVIATIONS

SYMBOL	ABBREV.	DESCRIPTION
	C.W.	COLD WATER
	H.W.	HOT WATER
	H.W.R.	HOT WATER RETURN
G	G.	FUEL GAS
MPG	MPG	MEDIUM PRESSURE GAS
CD	C.D.	CONDENSATE DRAIN
FCD	FCD	FURNACE CONDENSATE DRAIN
	V	SANITARY VENT
	W OR SS	WASTE OR SANITARY SEWER
RW	RW	RECLAIM WATER
RWS	RWS	RECLAIM WATER SUPPLY
SD	SD	STORM DRAIN
OD	OD	OVERFLOW DRAIN
	FWS	FUEL WATER SEPARATOR
	S.O.V.	SHUT OFF VALVE
	G.C.	GAS COCK
	H.B.	HOSE–BIBB
		PIPE–UP OR RISER
		PIPE–DOWN OR DROP
		UNION
	COYB	CLEANOUT IN YARD BOX
	POC	POINT OF CONNECTION
	W/	WITH
	I.E.	INVERT ELEVATION OF PIPE BELOW FLOOR
	ADA	AMERICAN DISABILITIES ACT
	CONC.	CONCRETE
	F.C.O.	FLOOR CLEANOUT
	N.T.S.	NOT TO SCALE
	CONT.	CONTINUATION
	FIN.	FINISH
	F.F.E.	FINISH FLOOR ELEVATION
	FLR.	FLOOR
	F.U.	FIXTURE UNIT
	GR.	GRADE
	LOC.	LOCATION
	ABV.	ABOVE
	BEL.	BELOW
	C.I.	CAST IRON
	CLG.	CEILING
	CONN.	CONNECT OR CONNECTION
	WHA	WATER HAMMER ARRESTOR
	TYP.	TYPICAL
		PLUMBING EQUIPMENT IDENTIFICATION
		PLUMBING FIXTURE IDENTIFICATION
	VTC	VENT THROUGH CANOPY
	VTR	VENT THROUGH ROOF
	W.C.O.	WALL CLEANOUT
	Y.B.	YARD BOX
	TDL	TOTAL DEVELOPED LENGTH
	RD	ROOF DRAIN
	OD	OVERFLOW DRAIN
	S.O.V.	SHUT OFF VALVE ON RISER

PIPE MATERIAL TABLE

SERVICE	PIPE	FITTINGS	REMARKS
DOMESTIC HOT AND COLD WATER SYSTEM	SEAMLESS COPPER TUBING, TYPE L ABOVE GROUND, DRAWN TEMPER, ASTM B88, TYPE K BELOW GROUND	WROUGHT COPPER, SOLDER – JOINT, ANSI B16.22 OR CAST BRONZE ANSI B16, 23, ANSI 16 , 18	JOINTS: 95 – 5 (TIN AND ANTIMONY) SOLDER. ALL EXPOSED WATER PIPING AT PLUMBING FIXTURES SHALL BE CHROME PLATED.
SOIL, WASTE AND VENT	STANDARD WEIGHT CAST IRON NO–HUB TYPE SOIL PIPE, TYLER WIDE BODY OR EQUAL	STANDARD WEIGHT CAST IRON NO–HUB TYPE SOIL FITTINGS WITH NEOPRENE GASKET AND STAINLESS STEEL BANDS AND SHIELD, NO–HUB	NSF LISTED
CONDENSATE DRAIN	SEAMLESS COPPER TUBING, TYPE L HARD DRAWN TEMPER, ASTM B88	WROUGHT COPPER, SOLDER – JOINT, ANSI B16.22 OR CAST BRONZE ANSI B16, 23, ANSI 16 , 18	JOINTS: 95 – 5 (TIN AND ANTIMONY) SOLDER.
STORM DRAIN	STANDARD WEIGHT CAST IRON NO–HUB TYPE SOIL PIPE, TYLER WIDE BODY OR EQUAL	STANDARD WEIGHT CAST IRON NO–HUB TYPE SOIL FITTINGS WITH NEOPRENE GASKET AND STAINLESS STEEL BANDS AND SHIELD, NO–HUB COUPLINGS	
NATURAL GAS	STEEL PIPE ASTM A53/A 53M BLACK STEEL SCHEDULE 40 TYPE E OR S GRADE B	MALLEABLE IRON THREADED FITTINGS ASTM B16.3, CLASS 150 STANDARD PATTERN	
RECLAIMED WATER	SEAMLESS COPPER TUBING, TYPE L ABOVE GROUND, DRAWN TEMPER, ASTM B88, PURPLE PVC BELOW GROUND	WROUGHT COPPER, SOLDER – JOINT, ANSI B16.22 OR CAST BRONZE ANSI B16, 23, ANSI 16, 18 PVC–REQ'TS OF ASTM F477 & ASTM D3139	ALL PIPES TO BE CONTINUOUSLY WRAPPED WITH PURPLE COLORED PANTONE #512 MYLAR TAPE READING "CAUTION RECLAIMED WATER DO NOT DRINK

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NOT FOR CONSTRUCTION

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Proj. No.: 2015-067-00

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

APPROVED BY _____ CHIEF AIRPORTS ENGINEER

SUBMITTED BY _____ ASST. CHIEF AIRPORTS ENGINEER

JONI ANA PMD LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: N.T.S.
DATE: 09/23/2016
DESIGNED BY: JW
DRAWN BY: JW
CHECKED BY: NP

SHEET TITLE:
NOTES, CODES, AND LEGENDS

SHEET NO.
1-P-001
SHEET OF

P:\2015\2015-067-00\BIM_Vol-01_CD\FINAL\DA4881-1-P-001.dwg, Plotted Sep 21, 2016 - 4:13pm
IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

1 BUILDING A&B - QTA - LEVEL 1 OVERALL FLOOR PLAN
SCALE: 1" = 60'

KEY NOTES

1. TRENCH DRAIN TO WASTE RECLAMATION EQUIPMENT IN BASEMENT.
2. CARWASH VERTICAL RISER SUPPLY LINES FOR EACH CAR WASH BAY. WASH LINE, RINSE 1 LINE, RINSE 2 LINE. SUPPLY PIPING CONNECTED INTO CARWASH WATER SUPPLY WITHIN BASEMENT. CARWASH BAY PIPING WITHIN PLUMBING DOCUMENT SCOPE.
3. WASTE, WATER, VENT AND WATER HEATING TO BE PROVIDED FOR STAFF RESTROOMS.
4. DRAINAGE WITHIN WASHING ZONE BOUNDARY DOWN TO BASEMENT RECLAMATION TANKS.
5. FLOOR DRAINS WITHIN FUELING ZONE BOUNDARY DRAIN TO FUEL/WATER SEPARATOR PRIOR TO SEWER.
6. DRAINAGE WITHIN WASHING ZONE BOUNDARY TO RECLAMATION TANKS ON LEVEL 1.

KEYPLAN

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Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY CHIEF AIRPORTS ENGINEER

ONE LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: 1" = 60'
DATE: 09/23/2016
DESIGNED BY: JW
DRAWN BY: JW
CHECKED BY: NP

SHEET TITLE:
PLUMBING SITE PLAN

SHEET NO.
1-P-010
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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GENERAL NOTES

CODE ANALYSIS
THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

PARTIAL LIST OF APPLICABLE CODES

BUILDING OCCUPANCY CLASSIFICATION: GROUP S2

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

2013 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
(2009 INTERNATIONAL BUILDING CODE AND 2010 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
(2011 NATIONAL ELECTRICAL CODE AND 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
(2009 UNIFORM MECHANICAL CODE AND 2010 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
(2009 UNIFORM PLUMBING CODE AND 2010 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
2013 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
(2009 INTERNATIONAL FIRE CODE AND 2010 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
2013 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
TITLE 19 C.C.R., PUBLIC SAFETY; STATE FIRE MARSHAL REGULATIONS.

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	2013 EDITION
NFPA 14	STANDPIPE SYSTEMS (CA AMENDED)	2013EDITION
NFPA 17a	WET CHEMICAL SYSTEMS	2013 EDITION
NFPA 20	STATIONARY PUMPS	2013 EDITION
NFPA 24	PRIVATE FIRE MAINS (CA AMENDED)	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CA AMENDED)	2013 EDITION
NFPA 80	FIRE DOOR AND OTHER OPENING PROTECTIVES	2013 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2012 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS - 2010 CBC (SFM) CHAPTER 35. SEE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS.

STANDARDS INFORMATION: LOS ANGELES WORLD AIRPORTS

1. LAWA Design and Construction Hand Book JULY, 2016.
http://www.lawa.org/uploadedFiles/LAXDev/News_for_LAXDev/Design_Construction_HandbookFinal.pdf

1. THE SEISMIC BRACING AND ANCHORAGE OF ELECTRICAL CONDUITS, BUS DUCT, WIREWAY, AND CABLE TRAY SHALL BE IN ACCORDANCE WITH THE UNIFORM BUILDING CODE ,CHAPTER 23 AND "GUIDELINE FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS," PUBLISHED BY SMACNA AND PPIC, OR THE SUPERSTRUT-SEISMIC RESTRAINT SYSTEM, OR THE KNA-LINE SEISMIC RESTRAINT SYSTEM.

2. ALL ELECTRICAL PREFABRICATED EQUIPMENT SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER THAT ALL PORTIONS, ELEMENTS, SUB-ASSEMBLIES AND/OR PARTS OF SAID EQUIPMENT, AND THE EQUIPMENT AS A WHOLE INCLUDING ITS ATTACHMENTS, WILL RESIST A LOAD WHICH EXCEEDS THE FORCE LEVEL USED TO RESTRAIN AND ANCHOR THE EQUIPMENT TO THE SUPPORTING STRUCTURE.

3. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:

AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
AMERICAN STANDARD ASSOCIATION (ASA)
NATIONAL FIRE PROTECTION AGENCY (NFPA)
AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
CALIFORNIA ELECTRICAL CODE (CEC) - LATEST EDITION
CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
ALL LOCAL CODES HAVING JURISDICTION. WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT RULE SHALL APPLY AS DETERMINED BY ENGINEER.

4. LIST OF DEFERRED APPROVAL BY CONTRACTOR (DESIGN-BUILD SCOPE)
   a. FIRE ALARM SYSTEM

5. ALL ITEMS SUCH AS SERVICE CONDUIT, CONDUCTORS, DUCTS, CONCRETE PADS, TRANSFORMERS, RISERS, MANHOLES, PULL BOXES, AND PROTECTIVE COVERING FROM SERVICE LOCATION SHALL BE PROVIDED AND SHALL BE VERIFIED WITH THE SERVING UTILITY COMPANY, THE CONTRACTOR SHALL PROVIDE THE SERVICE IN COMPLIANCE WITH THE SERVING UTILITY AGENCY, AND SHALL PAY ALL CHARGES LEVIED BY THE SERVING UTILITY AGENCY FOR SERVICE EXCEPT THE FIRST BILLING DEPOSIT.

6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL SYSTEMS REQUIRED THROUGH THE COURSE OF CONSTRUCTION AND TO COORDINATE SERVICES WITH THE UTILITY AGENCY.

7. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.

8. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION AND CONFIGURATION OF THEIR RESPECTIVE EQUIPMENT, SUPPLY POWER AND MAKE CONNECT TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT, DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, CONDUIT FOR MECHANICAL, MISC. 120V POWER REQUIREMENTS AND PLUMBING OPERATIONS SHALL BE PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

9. EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND OPENINGS IN CONCRETE OR MASONRY WALLS, GRADEBEAMS, FLOORS OR STRUCTURAL STEEL MEMBERS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER. PERFORM CORING, SAWCUTTING, PATCHING, AND REFINISHING OF WALLS AND SURFACES WHEREVER IT IS NECESSARY TO PENETRATE. OPENINGS SHALL BE SEALED IN AN APPROVED METHOD TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR OR CEILING. EXACT METHOD AND LOCATIONS OF CONDUIT PENETRATIONS AND OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE FOR UL APPROVED SYSTEMS.

10. CONNECTIONS TO VIBRATING EQUIPMENT, MECHANICAL AND PLUMBING EQUIPMENT AND SEISMIC SEPARATIONS: LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN ALL LOCATIONS MAXIMUM LENGTH OF FLEXIBLE CONDUIT RUNS SHALL BE 6'-0" UNLESS OTHERWISE NOTED.

11. CONDUIT SHALL NOT BE INSTALLED IN ANY FLOOR SLAB. CONDUIT SHALL BE INSTALLED CONCEALED IN THE CEILING SPACE, CONCEALED IN WALLS, OR BELOW SLAB UNLESS NOTED OTHERWISE.

12. ATTENTION IS CALLED TO THE FACT THAT THE CEILING SYSTEMS FOR THE MOST PART ARE CONSIDERED TO BE INACCESSIBLE. THE CONTRACTOR SHALL STRATEGICALLY LOCATE BOXES, ETC., IN AN ACCESSIBLE CEILING SPACE. COORDINATE ROUTING WITH ARCHITECT.

13. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING OR WALL ASSEMBLY IN WHICH THEY ARE INSTALLED.

14. WHENEVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, GROUND FAULT PROTECTION SYSTEMS, ETC. (ALL MATERIALS), ARISES ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ARCHITECT/ENGINEER.

15. UTILITY PENETRATIONS OF ANY KIND IN FIRE AND SMOKE PARTITIONS AND CEILING ASSEMBLIES, SHALL BE FIRESTOPPED AND SEALED WITH AN APPROVED MATERIAL SECURELY INSTALLED STEEL ELECTRICAL OUTLET BOXES WHICH DO NOT EXCEED 16 SQUARE INCHES IN AREA, NEED NOT BE PROTECTED IN ONE HOUR OR TWO HOUR FIRE RATED WALLS, PARTITIONS, CEILINGS, OR AREA SEPARATION UNLESS THEY:

OCCUR ON OPPOSITE SIDES OF THE WALL WITHIN 24 INCH HORIZONTAL DISTANCE OF ONE ANOTHER. IN THIS CASE, ONLY ONE OUTLET BOX NEED TO PROTECTED BY AN APPROVED FIRESTOP MATERIAL OR DETAIL TO CORRECT THIS CONDITION.

OCCUR IN COMBINATION WITH OUTLET BOXES OF ANY SIZE SUCH THAT THE AGGREGATE AREA OF UNPROTECTED OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. IN THIS CASE, ONLY A SUFFICIENT NUMBER OF OUTLET BOXES NEED BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO DECREASE THE AGGREGATE AREA OF UNPROTECTED UTILITY BOXES TO LESS THAN 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL.

STEEL ELECTRICAL OUTLET BOXES WHICH EXCEED 16 SQUARE INCHES IN AREA, AND ALL OTHER STEEL UTILITY OUTLET BOXES REGARDLESS OF SIZE, SHALL BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL AS LISTED.

UTILITY AND ELECTRICAL OUTLETS OR BOXES SHALL BE SECURELY FASTENED TO THE STUD OF FRAMING OF THE WALL, PARTITION OR CEILING ASSEMBLY. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT SO THAT THE CLEARANCE BETWEEN THE BOX AND THE GYPSUM BOARD DOES NOT EXCEED 1/8 INCH IN SMOKE WALLS OR PARTITIONS, THE 1/8 INCH CLEARANCE SHALL BE FILLED WITH AN APPROVED FIRE-RATED SEALANT.
REFER TO SINGLE LINE DIAGRAM AND FEEDER SCHEDULES FOR CONDUIT AND CONDUCTOR SIZE TO PANELS, TRANSFORMERS, ETC., CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT ARE PART OF THIS CONTRACT.

16. STRAIGHT FEEDER, BRANCH CIRCUIT, AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES AS REQUIRED BY CODE. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.

17. MAXIMUM NUMBER OF CONDUCTORS IN OUTLET OR JUNCTION BOXES SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE, ARTICLE 314-16, BUT IN NO CASE SHALL CONTAIN MORE THAN THE FOLLOWING NUMBER OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED. THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1 1/2 INCHES DEEP. SQUARE BY 1 1/2" D=9 CONDUCTORS 4" SQUARE BY 2 1/8" D=13 CONDUCTORS 4 11/16" SQUARE BY 1 1/2" D=11 CONDUCTORS 4 11/16" SQUARE BY 2 1/8" D=18 CONDUCTORS ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED, TWO DEVICES DOUBLE GANGED, MINIMUM.

18. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS INDICATING THE SAME PANELBOARD CIRCUIT NUMBER, PROVIDE JUNCTION BOX ABOVE ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO CIRCUIT BREAKERS.

19. THE EXACT LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED IN THE FIELD PRIOR TO INSTALLATION.

20. DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT SHOW SPECIAL CONDUIT ROUTING OR LENGTHS REQUIRED FOR A COMPLETE INSTALLATION. ROUTING OF RACEWAYS SHALL BE COORDINATED IN THE FIELD WITH OTHER TRADES BUT SHALL BE IN STRICT COMPLIANCE WITH STRUCTURAL REQUIREMENTS AND SPECIFICATIONS UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER TRADES. NO CONDUIT SHALL BE ROUTED HORIZONTALLY IN MASONRY WALLS IN EXCESS OF 48". DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL ITEMS OR FEATURES, REFER TO ARCHITECTURAL AND STRUCTURAL DIMENSIONAL DRAWINGS.

21. THE EQUIPMENT GROUNDING CONDUCTOR ALTHOUGH NOT SHOWN ON CONDUIT RUNS, SHALL BE INSTALLED AND RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SO THAT IF DEVICE IS REMOVED, GROUND WILL NOT BE INTERRUPTED. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS-ALTERNATE METHODS OF IDENTIFICATION SHALL NOT BE USED. CONTRACTOR SHALL NOTIFY ELECTRICAL ENGINEER TO EXAMINE CONDUCTOR INSTALLATION PRIOR TO INSTALLATION OF DEVICES.

22. FURNISH AND INSTALL POWER DISTRIBUTION PANELBOARDS AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL COMPLY WITH NEMA STANDARD FOR PANELBOARDS AND FEDERAL SPECIFICATION W-P-115A. PANELBOARDS SHALL BE COMPLETE WITH COPPER BUS BARS AND 75 DEGREE CELSIUS THERMAL MAGNETIC BOLT-ON TYPE CIRCUIT BREAKERS AS INDICATED ON DRAWINGS, U.O.N.

23. PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR STANDING EQUIPMENT. PROVIDE SIZES REQUIRED FOR EQUIPMENT TO BE INSTALLED. REFER TO SPECIFICATION SECTION 260530 3.5A FOR MORE INFO

24. JUNCTION AND PULL BOXES: FOR INTERIOR DRY LOCATIONS, BOXES SHALL BE GALVANIZED ONE-PIECE, DRAWN STEEL, KNOCKOUT TYPE WITH REMOVABLE MACHINE SCREW SECURED COVERS, FOR OUTSIDE, DAMP, OR SURFACE LOCATIONS, BOXES SHALL BE HEAVY CAST ALUMINUM OR CAST IRON WITH REMOVABLE, GASKETED, NON-FERROUS MACHINE SCREW SECURED COVERS. BOXES SHALL BE SIZED FOR THE NUMBER AND SIZES OF CONDUCTORS AND CONDUIT ENTERING THE BOX AND EQUIPPED WITH PLASTER EXTENSION RINGS WHERE REQUIRED. BOXES SHALL BE LABELED TO INDICATE PANEL AND CIRCUIT NUMBER, OR TYPE OF SIGNAL OR COMMUNICATIONS SYSTEM.

25. DURING CONSTRUCTION AND AT CLOSE OF PROJECT CONTRACTOR SHALL MODIFY/UPDATE PANEL SCHEDULES TO REFLECT ACTUAL ROOMS/SPACES WHERE OUTLETS WERE INSTALLED, USING OWNERS DESIGNATION. TYPEWRITTEN IS REQUIRED.

26. WHEN CONFLICTS OCCUR ON DRAWINGS, THE MOST STRINGENT APPLICATION SHALL APPLY AND SHALL BE PART OF THE BASE BID.

27. REFER TO DETAIL-5 ON SHEET E501 FOR CONDUIT SEISMIC SEPARATION JOINT DETAIL.

28. IT IS THE INTENT OF THE DRAWINGS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS,HANGERS, BRACKETS, CLAMPS, COUPLINGS, BOXES, CONNECTORS AND HARDWARE REFER ALSO TO WRITTEN SPECIFICATIONS FOR GENERAL, MECHANICAL AND ELECTRICAL SECTIONS.

29. PROCURE ALL PERMITS FROM CITY OF LOS ANGELES, ARRANGE FOR ALL INSPECTIONS AND PAY ALL COST FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE PLANS AUTHORIZES DEVIATION FROM APPLICABLE CODES.

30. DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF OWNER AND ENGINEER FOR VISUAL AND STRUCTURAL REASONS. IT IS THE CONTRACTORS RESPONSIBILITY TO BE FAMILIAR WITH THE EXISTING CONGESTED CONDITIONS AND PROVIDE NEW CONDUIT ROUTING WITHIN THESE EXISTING SPACES AS REQUIRED.

31. EXAMINE PLANS TO DISCERN CEILINGS WITH A FIRE RATING OF ONE HOUR OR MORE, PROVIDE A ONE HOUR FIRE-RATED ENCLOSURE OVER EACH LIGHT FIXTURE RECESSED THEREIN.

32. LIST LENGTH OF FEEDERS OR BRANCH CIRCUITS SHOWN ON ALL DRAWINGS ARE FOR USE IN DESIGN CALCULATIONS ONLY AND NOT TO BE USED FOR ANY OTHER PURPOSES.

33. THE ELECTRICAL CONTRACTOR SHALL MAKE ARRANGEMENTS FOR TEMPORARY POWER AS NEEDED AND SHALL COORDINATE WITH THE CAR (OWNER'S AUTHORIZED REPRESENTATIVE) FOR ALL POWER OUTAGES SCHEDULE WHEN TRANSFERRING BUILDING POWER SERVICE TO DISTRIBUTION/PANELBOARD.

34. THE CONTRACTOR SHALL RUN AN X-RAY, SURVEY OF THE UNDERGROUND STRUCTURES ON THE PATH OF THE NEW TRENCH SHOWN ON THESE PLANS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ACCURATELY LOCATE ANY BELOW GROUND STRUCTURE THAT MAY INTERFERE WITH WORK. ANY DAMAGE TO EXISTING STRUCTURES RESULTING FROM THIS WORK SHALL BE REPAIRED IMMEDIATELY TO MATCH EXISTING AT NO ADDITIONAL COST TO THE OWNER.

35. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.

36. ALL FUSED DISCONNECTS SHALL BE FUSE-REJECTION TYPE.

37. ALL DOORS OF ELECTRICAL ROOMS WITH ELECTRICAL DISTRIBUTIONS EQUIPMENTS, ETC., RATED AT 1200 AMPERES OR GREATER SHALL BE OPEN OUTWARD AND SHALL PROVIDED WITH PANIC HARDWARE.

38. ALL NEW EQUIPMENT SHOWN SHALL BE FIELD VERIFIED FOR ITS EXACT LOCATION TO ENSURE ALL CLEARANCE REQUIREMENTS ARE MET WITH EXISTING CONDITIONS AND APPLICABLE CODE REQUIREMENTS.

39. CONTRACTOR SHALL ADJUST ALL ELECTRICAL ROOM EQUIPMENT LAYOUTS TO HAVE CODE COMPLIANCE CLEARANCES.

40. ALL ELECTRICAL EQUIPMENT LOCATIONS SHALL BE FIELD VERIFIED AND APPROVED BY "LAWA" PRIOR TO THEIR INSTALLATION.

41. ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE NEMA 4X AND 3R STAINLESS STEEL ENCLOSURE PER SPECIFICATIONS. NEMA 3R STAINLESS STEEL SHALL ADDITIONALLY BE GASKETED.

42. ALL THE SWITCHGEARS SHALL BE FULLY RATED, INCLUDING BRANCH CIRCUIT BREAKERS.

43. ALL SERVICES, FEEDERS OR BRANCH CIRCUITS SUPPLYING A BUILDING SHALL HAVE COMMON GROUNDING ELECTRODE SYSTEM.

44. ALL GROUNDING ELECTRODES THAT ARE PRESENT AT EACH BUILDING OR STRUCTURE SHALL BE BONDED TOGETHER.

45. SEPARATE GROUNDING CONDUCTOR SHALL BE INSTALLED IN NON-METALLIC CONDUIT RUNS.

46. INDOOR DRY TYPE TRANSFORMERS OVER 112.5KVA SHALL BE INSTALLED IN MINIMUM 1-HOUR FIRE RATED ROOM.

47. TRANSFORMERS OVER 50KVA SHALL NOT BE INSTALLED IN HOLLOW SPACES, CEILING SPACES OF THE BUILDING.

48. REFER TO SPECIFICATION SECTION 260533 FOR TYPE OF CONDUITS USED.

49. PROVIDE SEISMIC BRACING AS REQUIRED BY CODE AND SUPPORT FOR ALL NEW EXPOSED CONDUIT, PIPING, NETWORK, ETC. CONTRACTOR TO FIELD VERIFY LOCATION.

50. EQUIPMENT SUBMITTALS TO SHOW THE EXACT LOCATIONS FOR ALL PANELS SHOWN ON THE DRAWINGS.

51. LOW VOLTAGE POWER CONDUCTORS AND CABLES
   A. #12 AWG FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SOLID.
   B. ALL OTHER FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE STRANDED.

52. RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
CONDUIT
   A. ALL CONDUITS, CABLES AND WIRING SHALL BE CONCEALED FROM PUBLIC VIEW.
   B. ALL CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT) FOR BUILDING INTERIOR DRY LOCATIONS ONLY AND RIGID GALVANIZED STEEL, (RGS) FOR BUILDING EXTERIOR & U.O.N. RGS CONDUIT SHALL BE INSTALLED IN ALL AREAS SUBJECT TO PHYSICAL DAMAGE. DRY LOCATIONS, EXPOSED AND CONCEALED: PROVIDE ELECTRICAL METALLIC TUBING CONDUIT, RIGID GALVANIZED STEEL CONDUIT SHALL BE USED IN AREA SUBJECT TO PHYSICAL DAMAGE. PROVIDE SHEET METAL BOXES. PROVIDE FLUSH MOUNTING OUTLET BOX IN FINISHED AREAS.

   C. SPARE CONDUITS SHALL BE PROVIDED WITH PULL LINES.
   D. THE MINIMUM CONDUIT SIZE SHALL BE 3/4 INCH.
   E. ROMEX, MC CABLE AND ALUMINUM FLEX CONDUITS ARE NOT ALLOWED.
ENCLOSURES
   A. INDOOR DRY ENCLOSURES SHALL BE NEMA TYPE 1.
   B. OUTDOOR ENCLOSURES SHALL BE NEMA TYPE 4X STAINLESS STEEL.
   C. ENCLOSURES EXPOSED TO DUST OR MOISTURE SHALL BE NEMA TYPE 12 OR TYPE 3R/12.

   NOTE: CONTRACTOR TO CONFIRM WITH LAWA FOR ENCLOSURE REQUIREMENTS PRIOR TO ANY PROCUREMENT.

53. IDENTIFICATION FOR ELECTRICAL SYSTEMS

   NAMEPLATES ON EQUIPMENT
   A. ENGRAVED PLASTIC NAMEPLATES AND SIGNS: ENGRAVING STOCK, MELAMINE PLASTIC LAMINATE, MINIMUM 1/16 INCH (1.6 MM) THICK FOR SIGNS UP TO 20 SQ. IN. (129 SQ. CM) AND 1/8 INCH (3.2 MM) THICK FOR LARGER SIZES. ENGRAVED LEGEND WITH WHITE LETTERS ON BLACK FACE FOR EMERGENCY POWER.
      PUNCHED OR DRILLED FOR MECHANICAL FASTENERS.
      TEXT IS AT 1/2-INCH (13 MM) HIGH LETTERING

   B. NAMEPLATES SHALL ADEQUATELY DESCRIBE THE FUNCTION OF THE PARTICULAR EQUIPMENT INVOLVED. WHERE NAMEPLATES ARE DETAILED ON THE DRAWINGS, INSCRIPTION SHALL BE AS SHOWN ON DRAWINGS.

   C. NAMEPLATES SHALL BE SECURED TO EQUIPMENT FRONT USING STAINLESS STEEL SCREWS OR RIVETS.

   D. CUSTOM METAL MASTER NAMEPLATES SHALL BE FURNISHED AND INSTALLED BY THE MANUFACTURER ON EACH DISTRIBUTION SECTION, SWITCHBOARD SECTION AND MOTOR CONTROL CENTER INDICATING THE MANUFACTURER'S NAME, AMPERE RATING, SHORT-CIRCUIT RATING (BUS BRACING) AND DATE. PAPER STICKERS ARE NOT ACCEPTABLE.
      FOR EXAMPLE, ABC SWITCHBOARD CO.
      AMPERE RATING: 5000A
      SHORT CIRCUIT RATING: 100KAIC
      DATE: 01/01/2011

54. PANELBOARD DIRECTORIES
   A. PANELBOARD DIRECTORIES SHALL BE TYPEWRITTEN, ARRANGED IN NUMERICAL ORDER, AND SHALL LIST EACH CIRCUIT LOAD AND ROOM NUMBER IN WHICH EACH LOAD IS LOCATED. DIRECTORIES SHALL BE MOUNTED IN A 6 BY 8 INCH METAL FRAME UNDER TRANSPARENT PLASTIC INSIDE EACH PANELBOARD DOOR.

55. PERMANENT MARKING
   A. ALL CONDUITS, BUSWAYS, CABLE TRAYS AND PULLBOXES SHALL BE IDENTIFIED WITH PERMANENT BLACK LETTERS AND NUMBERS WHICH INDICATE THE SOURCE PANEL (FEEDER SUPPLY SOURCE), CIRCUIT NUMBERS, AND DESIGNATED PANEL OR LOAD. FOR EXAMPLE, "PA-1-3,5 TO MG". FOR CONDUITS, THE LETTER HEIGHT SHALL BE ONE-THIRD (1/3) THE CONDUIT SIZE WITH 1/4 INCH MINIMUM HEIGHT. FOR PULLBOXES AND BUSWAYS, THE LETTER HEIGHT SHALL BE 1/2 INCH MINIMUM HEIGHT AND NOT LARGER THAN 3/4 INCH HEIGHT.

   B. THE IDENTIFICATIONS FOR CONDUITS, BUSWAYS AND CABLE TRAYS SHALL BE PLACED AT EVERY 50 FEET INTERVALS AND WITHIN 10 FEET OF WALL AND FLOOR PENETRATIONS, PULLBOXES, PANELS, DISTRIBUTION BOARDS, SWITCHBOARDS, AND ELECTRICAL EQUIPMENT.

   C. THE PERMANENT MARKING IDENTIFICATIONS ON THE RACEWAYS AND PULLBOXES SHALL BE VISIBLE AFTER THE INSTALLATIONS ARE MADE.

   D. ALL RECEPTACLE AND SWITCH FACEPLATES SHALL BE LABELED WITH THE SOURCE PANEL AND CIRCUIT NUMBER. THE LABEL SHALL BE BLACK ARIAL FONT ON WHITE OR CLEAR TAPE, PRODUCED BY A P-TOUCH OR OTHER LABEL MACHINE.

   E. REFER TO SPECIFICATION SECTION 260554 FOR ADDITIONAL INFORMATION.

56. CONDUCTOR IDENTIFICATION
   A. ALL POWER AND BRANCH CIRCUIT CONDUCTORS SHALL BE PROVIDED WITH COLOR-CODED INSULATION OR COLOR-CODED SELF-LADHESIVE VINYL TAPE NOT LESS THAN 3 MILS THICK BY 1 TO 2 INCHES WIDE. VINYL TAPE SHALL BE USED IN VAULTS, PULL AND JUNCTION BOXES, MANHOLES AND HANDHOLES. IDENTIFY THE SOURCE AND CIRCUIT NUMBER OF EACH SET OF CONDUCTORS WITH WRITE-ON TAGS.

   B. COLOR CODING SHALL BE AS FOLLOWS:

PHASE	208Y/120V	480Y/277V
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
NEUTRAL	WHITE	WHITE WITH BLACK STRIPE
GROUND	GREEN	GREEN

57. UNDERGROUND WARNING TAPE
   A. DESCRIPTION: PERMANENT, DETECTABLE, RED COLORED, CONTINUOUS PRINTED, POLYETHYLENE TAPE WITH SUITABLE WARNING LEGEND DESCRIBING BURIED ELECTRICAL LINES. TAPE SHALL BE MINIMUM 6 INCHES WIDE BY 4 MILS THICK. OTHER COLOR CODES INCLUDE:
      SAFETY RED ELECTRIC AND LIGHTING CONDUIT AND CABLES
      SAFETY YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
      SAFETY ORANGE TELEPHONE, ALARM, OR SIGNAL CABLES AND CONDUIT
      SAFETY BLUE POTABLE WATER OR IRRIGATION
      SAFETY GREEN SEWER OR DRAIN LINES

58. MANHOLE AND UNDERGROUND PULLBOX COVER LABEL
   A. ALL MANHOLE AND UNDERGROUND PULLBOX COVERS SHALL HAVE THE FOLLOWING CAST-IN OR BEAD WELDED AND GALVANIZED IDENTIFICATION LABEL PERMANENTLY AFFIXED TO THE EXTERIOR:
      "ELEC-LV" FOR ELECTRICAL POWER CIRCUITS 600 VOLTS OR LESS
      "ELEC-HV" FOR ELECTRICAL POWER CIRCUITS OVER 600 VOLTS
      "COMM" FOR COMMUNICATIONS CIRCUITS
   B. A CUSTOM 3-DIGIT NUMBER SHALL BE ADDED TO THE COVER. CONTACT THE ENGINEER FOR NUMBER ASSIGNMENT.
   C. THE MINIMUM LETTER HEIGHT SHALL BE ONE (1) INCH.

59. LOW VOLTAGE TRANSFORMERS

   A. THE EQUIPMENT, MAJOR COMPONENTS AND ANCHORAGE SHALL BE SUITABLE FOR AND CERTIFIED TO MEET ALL APPLICABLE SEISMIC REQUIREMENTS DEFINED IN DIVISION 26 SECTION VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS.
   B. TRANSFORMER COILS SHALL BE WOUND OF ELECTRICAL GRADE COPPER WITH CONTINUOUS WOUND CONSTRUCTION.

60. SWITCHBOARDS

   A. SWITCHBOARDS SHALL BE "FULLY-RATED" FOR THE AVAILABLE SHORT CIRCUIT CURRENT. "SERIES-RATED" EQUIPMENT IS NOT ACCEPTABLE. MAIN 480 VOLT SERVICE SWITCHBOARDS IN THE TERMINALS SHALL BE RATED 100KAIC.
   B. THE MANUFACTURER OF THE SWITCHBOARD ASSEMBLY SHALL BE THE SAME AS THE MANUFACTURER OF THE CIRCUIT BREAKERS INSTALLED WITHIN THE ASSEMBLY.
   C. THE EQUIPMENT, MAJOR COMPONENTS AND ANCHORAGE SHALL BE SUITABLE FOR AND CERTIFIED TO MEET ALL APPLICABLE SEISMIC REQUIREMENTS DEFINED IN DIVISION 26 SECTION VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS.
   D. DISTRIBUTION BUS BARS SHALL BE SILVER-PLATED OR TIN-PLATED COPPER AND SHALL HAVE BUS EXTENSIONS PROVIDED AT THE ENDS WHERE FUTURE SECTIONS CAN BE ADDED. BUS BARS SHALL BE FULLY RATED FOR THE ENTIRE LENGTH OF THE SWITCHBOARD.
   E. SWITCHBOARDS SHALL BE POSITIONED SO THERE IS OPEN SPACE ON EITHER S

LADWP NOTES

LADWP METHANE NOTES:

1. ALL HOMERUN AND FEEDER CONDUITS ENTERING OR LEAVING THE GROUND SHALL BE SEALED.
2. THE CROSS SECTIONAL AREA OF CONDUCTORS IN A CONDUIT SEAL SHALL NOT EXCEED 25 PERCENT FILL OF A RIGID METAL CONDUIT OF THE SAME TRADE SIZE, UNLESS THE SEAL IS SPECIFICALLY APPROVED FOR A HIGHER PERCENTAGE FILL.
3. THE SEAL FITTING THAT IS SUBJECT TO A LIQUID OR WATER CONDENSATION TRAP WITHIN A RACEWAY SYSTEM SHALL CONTAIN AN APPROVED DRAIN TO PREVENT ACCUMULATION OR TO PERMIT PERIODIC DRAINAGE.
4. CONDUIT SEALS SHALL BE FILLED WITH AN APPROVED SEALING COMPOUND. THE COMPOUND SHALL HAVE MELTING POINT OF MORE THAN 200 DEGREES F
5. THE CONDUIT SEAL SHALL HAVE A MINIMUM THICKNESS NOT LESS THAN THE TRADE SIZE OF THE CONDUIT, BUT IN NO CASE SHALL BE SMALLER THAN 5/8 IN.
6. NO SPLICING OR TAPS SHALL BE MADE WITHIN CONDUIT.

LADWP GENERAL:

1. ALL WORK PERFORMED ACCORDING TO THE DRAWINGS LADWP SHALL BE DONE AS TO COMPLY WITH ALL THE CONDITIONS, RESTRICTIONS, CONSTRUCTION METHODS AND SAFETY REQUIREMENTS IMPOSED BY THE EXCAVATION PERMIT ISSUED TO DWP, AND THOSE REQUIREMENTS IMPOSED BY CAL OSHA. OWNERSHIP OF CONDUIT SYSTEM WITHIN DEDICATED STREET SHALL BE TRANSFERRED TO THE DEPARTMENT OF WATER AND POWER.
2. THE DEVELOPER IS RESPONSIBLE FOR THE FINAL RESURFACING OF THE STREET, IF APPLICABLE.
3. DWP ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE SUBSTRUCTURE INFORMATION PROVIDED. THE USER ASSUMES RESPONSIBILITY FOR VERIFYING SUBSTRUCTURE LOCATIONS BEFORE EXCAVATING AND ASSUMES ALL LIABILITY FOR DAMAGE TO UNDERGROUND FACILITIES AS A RESULT OF SUCH EXCAVATION. CALL UNDERGROUND SERVICE ALERT ON (800) 227-2600 TWO (2) DAYS BEFORE DIGGING.

LADWP SURVEY

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL HAVE THE REQUIRED CONSTRUCTION REQUIRED LAID OUT BY A LAND SURVEYOR LICENSED IN THE STATE OF CALIFORNIA.
2. CONTRACTOR SHALL MAINTAIN ALL SURVEY MARKS REQUIRED TO COMPLETE CONSTRUCTION. MISSING OR DAMAGED SURVEY MARKS SHALL BE REPLACED BY THE CONTRACTOR'S SURVEYOR AS REQUIRED.
3. CONTRACTOR SHALL PROVIDE A COPY OF THE SURVEYOR'S FIELD NOTES TO THE DEPARTMENT REPRESENTATIVE ON THE FIRST DAY OF CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE AN AS-BUILT FOR THE CONSTRUCTED ELECTRICAL UNDERGROUND CONDUIT AND SUBSTRUCTURES. THE INFORMATION SHOWN ON THE AS BUILT SURVEY SHALL INCLUDE, BUT NOT BE LIMITED TO, CONDUIT DEPTHS, PRECAST SUBSTRUCTURE INFORMATION, AND APPROVED CHANGES. CONDUIT DEPTHS SHALL BE SHOWN AT 50 FOOT INTERVALS AND WHENEVER THERE IS A SUDDEN CHANGE IN THE CONDUIT DEPTH. ALL DEPTHS SHALL BE GOVERN FROM THE STREET GUTTER GRADE TO THE TOP OF THE CONCRETE ENCASEMENT. PRECAST SUBSTRUCTURE INFORMATION SHALL INCLUDE THE DEPTH OF INSTALLED SUBSTRUCTURE FROM THE FINISH GRADE TO THE TOP OF THE ROOF, AND THE DEPTH FROM FINISH GRADE TO THE CONDUIT ENTERING THE SUBSTRUCTURE. THE AS BUILT ALIGNMENT OF THE CONDUIT SYSTEM SHALL BE VERIFIED AND RECORDED BY THE CONTRACTOR'S SURVEYOR PRIOR TO THE CONCRETE ENCASEMENT OF THE CONDUIT.
5. WHERE CONDUIT WORK REQUIRES SURVEY, THE LOCATION OF CURBS AS SHOWN ON THE DRAWING SHALL BE VERIFIED AND NOTED AT THE TIME OF SUCH SURVEY.
6. SURVEY WILL CONTACT THE ENGINEER AFTER JOB HAS BEEN STAKED.

LADWP CONDUIT DRAWING NOTES

1. NO CHANGES FROM DESIGN, EITHER HORIZONTAL OR VERTICAL, SHALL BE MADE WITHOUT FIRST OBTAINING PERMISSION FROM THE LADWP DESIGN ENGINEER. FOREMAN'S COMPLETED PRINT MUST SHOW DEPTH OF CONDUIT AT MANHOLES AND DEPTHS OF MANHOLES. ANY CHANGE IN CONDUIT POSITION SHALL BE SHOWN AND ANY CHANGE IN DEPTH SHALL BE SHOWN AT THAT POINT.
2. ALL PLASTIC CONDUIT IS PVC ENCASED BURIED (EB) UNLESS OTHERWISE NOTED.
3. COVER OVER ALL CONDUIT SHALL BE 30 INCHES MINIMUM BELOW GUTTER GRADE.

LADWP NOTIFICATION AND INSPECTION

1. FULL INSPECTION AND APPROVAL BY THE DEPARTMENT OF WATER AND POWER (DWP) IS REQUIRED BEFORE FINAL ACCEPTANCE OF UNDERGROUND CONSTRUCTION. ACCEPTANCE IS REQUIRED PRIOR TO THE INSTALLATION OF CABLE AND EQUIPMENT.
2. NOTIFY DWP AT THE FOLLOWING TELEPHONE NUMBER, TWO (2) NORMAL WORKING DAYS IN ADVANCE OF CONSTRUCTION: # (213) 367-2697.

LADWP SPECIFICATIONS AND STANDARDS

1. UNDERGROUND CONDUIT AND SUBSTRUCTURE WILL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH DEPARTMENT OF WATER AND POWER STANDARD SPECIFICATION 104 AND APPENDIX I OF SAME AS LAST REVISED AND U.G. CONSTRUCTION STANDARDS 1-120.1, STANDARD DWG H-168 R-31, UB745-06, UB730-01, and C730-10, UNLESS MODIFIED HEREON.
2. MAINTAIN A MINIMUM CLEARANCE OF 6" WHEN CROSSING AND 36" WHEN PARALLELING FOREIGN SUBSTRUCTURES.
3. ALL DIMENSIONS ARE BASED ON STREET CENTERLINE AS SHOWN ON CITY ENGINEER'S DRAWINGS.
4. ALL PLASTIC CONDUIT SHALL CONFORM TO ASTM F 512, TYPE EB-35 FOR STRAIGHT PORTIONS, AND TYPE DB-120 FOR SWEEPS AND BENDS.
5. IN GENERAL, TRENCHES FOR DUCT WORK SHALL NOT BE WIDER THAN NECESSARY FOR PROPER PLACEMENT OF SUCH WORK. REMOVAL OF SURFACING SHALL BE IN STRAIGHT AND PARALLEL LINES. PAVEMENT SHALL BE SAW CUT TO A MINIMUM DEPTH OF TWO INCHES PRIOR TO REMOVAL.
6. COVER OVER ALL CONDUIT ENCASEMENT SHALL BE 30" MINIMUM BELOW GUTTER GRADE IN IMPROVED AREAS AND 36" MINIMUM BELOW FINISHED GRADE IN UNIMPROVED AREAS, UNLESS OTHERWISE NOTED.
7. CONCRETE FOR ENCASEMENT SHALL CONFORM TO DWP MIX STANDARD 330-C-1700 OR EQUAL. INSPECTION AND APPROVAL OF INSTALLED CONDUIT IS REQUIRED PRIOR TO ENCASING IN CONCRETE.
8. ALL EXCAVATING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH SECTIONS 62.00 TO 62.05 OF THE LOS ANGELES MUNICIPAL CODE. WHEN CONDUIT ENCASED IN CONCRETE IS REQUIRED, BACKFILL SHALL NOT BE MADE UNTIL CONDUIT HAS BEEN INSPECTED AND CONCRETE ENCASEMENT HAS BEEN PLACED FOR NOT LESS THAN TWO (2) HOURS UNLESS OTHERWISE APPROVED. BACKFILL SHALL E SAND-CEMENT SLURRY STANDARD MIX 100-E-100.
9. ALL CONDUIT THAT THE DEPARTMENT ACCEPTS AS PART OF ITS DISTRIBUTION SYSTEM WILL BE APPROVED AND TESTED BY THE DEPARTMENT OF WATER AND POWER. TEST SAMPLES OF CONDUIT SHALL BE MADE AVAILABLE FOR INSPECTION TWO (2) NORMAL WORKING DAYS PRIOR TO INSTALLATION. WHERE CONDUIT FAILS TO MEET DEPARTMENT OF WATER AND POWERS (DWP) STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE SUBSTANDARD WITH STANDARD CONDUIT.
10. ALL PRECAST SUBSTRUCTURES IN PUBLIC PROPERTY SHALL BE APPROVED BY THE LOS ANGELES DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, AND BE ACCEPTABLE TO DWP. CERTIFICATES OF APPROVAL MAY BE REQUIRED FROM THE SUPPLIERS OF ANY PRECAST STRUCTURE. BUILDING PERMIT IS REQUIRED BY DEPARTMENT OF BUILDING AND SAFETY FOR STRUCTURES ON PRIVATE PROPERTY.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN TEMPORARY RESURFACING ON ALL EXCAVATIONS IN PAVED STREETS AND SIDEWALK. THE MAINTENANCE ON THE TEMPORARY RESURFACING SHALL CONTINUE UNTIL PERMANENT RESURFACING IS PLACED BY THE CONTRACTOR.
12. NO FOREIGN SUBSTRUCTURES SHALL ENTER ANY PART OF PRECAST SUBSTRUCTURES.
13. PRECAST SUBSTRUCTURES SHALL BE SET ON WELL COMPACTED SOIL WITH 6 INCH MINIMUM DEPTH OF TAMPED CRUSHED AGGREGATE BASE, MEETING THE REQUIREMENTS OF SECTION 200-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION. THE SUMPS SHALL BE LEFT SEALED.
14. PRECAST SUBSTRUCTURES SHALL NOT HAVE MORE THAN 4'-0" OF COVER, UNLESS THE CONTRACTOR HAS THE APPROVAL OF THE LADWP DESIGN ENGINEER.
15. ALL WATER AND DEBRIS SHALL BE REMOVED FROM COMPLETE STRUCTURES.
16. SPECIAL ATTENTION IS CALLED TO APPENDIX I OF DWP STANDARD SPECIFICATION NO. 104 (INSTALLATION INSTRUCTIONS FOR PLASTIC CONDUIT)
17. PRIOR TO ACCEPTANCE, A CYLINDRICAL MANDREL, AS SPECIFIED IN UNDERGROUND CONSTRUCTION STANDARD 2-210, SHALL BE DRAWN, BY THE CONTRACTOR, THROUGH EACH COMPLETED DUCT BY HAND WITHOUT MECHANICAL ASSISTANCE. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ANY DUCT SECTION THROUGH WHICH THE MANDREL WILL NOT PASS. REPLACED OR REPAIRED CONDUIT SHALL BE LEFT EXPOSED FOR INSPECTION.
18. NO FIELD BEND SHALL HAVE LESS THAN A 12 TIMES THE CONDUIT TRADE SIZE. NO FIELD BEND SHALL BE MADE UNLESS APPROVED AND INSPECTED BY THE ENGINEER.
19. ALL CONDUIT SPACERS SHALL BE SO INSTALLED AS TO BE SELF SUPPORTING AND SHALL TRANSMIT NO VERTICAL LOAD TO ANY CONDUIT.
20. PULL TAPE SHALL BE INSTALLED IN EACH DUCT PER SPECIFICATION 104.
21. A CLASS "A" LICENSED CONTRACTOR IS REQUIRED TO WORK ON THIS JOB.
22. EXCAVATIONS/SHORING SHALL COMPLY WITH REQUIREMENTS OF "CAL-OSHA" EXCAVATIONS TRENCHES EARTHWORK, CONSTRUCTION SAFETY ORDERS, SECTIONS 1504, 1539-1543 LATEST EDITION. DEPTH OF EXCAVATION SHALL NOT EXCEED 20 FT.

UTILITIES NOTES

1. THE EXISTENCE, LOCATION, AND DEPTH OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE OBTAINED THROUGH A SEARCH OF AVAILABLE RECORDS AND ARE THEREFORE APPROXIMATE. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR ANY DAMAGE TO ANY UTILITY OR STRUCTURE CAUSED BY HIS OPERATIONS, TO THE SATISFACTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL EXPOSE AND VERIFY BY SURVEY THE DEPTH AND ALIGNMENT OF ALL EXISTING UNDERGROUND UTILITIES ON THE CONSTRUCTION SITE FOR EACH PHASE. THE CONTRACTOR SHALL LOCATE ALL UTILITIES WHERE THEY ENTER THE HORIZONTAL LIMITS OF ANY PROPOSED PAVEMENT CONSTRUCTION AND ANYWHERE THEY CROSS A PROPOSED ELECTRICAL DUCT INSTALLATION.
3. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING UTILITIES AS SHOWN ON THE PLANS, WERE PROTECTION IS NOT SPECIFICALLY STATED, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO EXCAVATION OR DEMOLITION, BUT SHALL NOT BE RELIEVED OF ANY LIABILITY OF DAMAGES TO UTILITIES CAUSED BY THE CONTRACTOR'S ACTIONS.

SYMBOLS LIST

POWER SYMBOLS LIST

- CONDUIT RUN, CONCEALED IN CEILING, WALLS OR UNDER FLOORS.
- CONDUIT RUN EXPOSED.
- CONDUIT RUN UNDERGROUND.
- CONDUIT STUBBED OUT AND CAPPED. PULL LINE IN PLACE.
- AIC — "AMPERES INTERRUPTING CAPACITY"
- RMS — "ROOT MEAN SQUARED"
- KW — "KILOWATT"
- KVA — "KILOVOLT - AMPERES"
- V — "VOLTS"
- A — "AMPS"
- WP — WEATHERPROOF, NEMA 3R
- KWH — KILOWATT HOURS
- AFF — ABOVE FINISHED FLOOR
- O.C. — "ON CENTER"
- UNO — UNLESS NOTED OTHERWISE
- C.O. — "CONDUIT ONLY". PROVIDE PULL ROPE FOR ALL EMPTY CONDUIT.
- C. — "CONDUIT", WITH CONDUCTORS AS REQUIRED BY DRAWINGS OR SPECIFICATIONS.
- B-1,3 — CONDUIT HOMERUN TO PANELBOARD. LETTER AND NUMERALS INDICATE ELECTRICAL PANEL AND CIRCUIT NUMBER.
- ISOLATED GROUND WIRE. RUN IN ADDITION TO REGULAR GROUND WIRE.
- SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD.
- RECESSED BRANCH CIRCUIT PANELBOARD.
- P1 — PANEL DESIGNATION.
- RECESSED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.
- SURFACE MOUNTED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.
- JUNCTION BOX IN ACCESSIBLE CEILING SPACE OR FLUSH IN WALL WITH BLANK COVER PLATE TO MATCH DEVICE PLATES.
- J — JUNCTION BOX FLUSH FLOOR MOUNTED.
- J — JUNCTION BOX PEDESTAL TYPE FLOOR MOUNTED.
- J — JUNCTION BOX STEM MOUNTED.
- DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECTED TO EMERGENCY CIRCUIT.
- DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECTED TO EMERGENCY CIRCUIT.
- DUPLEX TRANSIENT VOLTAGE SURGE SUPPRESSOR RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- DUPLEX TRANSIENT VOLTAGE SURGE SUPPRESSOR RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECT TO EMERGENCY CIRCUIT.
- TWO DUPLEX GROUNDING TYPE RECEPTACLES (UNCONTROLLED) IN 4S BOX, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- C — CEILING MOUNTED TWO DUPLEX GROUNDING TYPE RECEPTACLES, (UNCONTROLLED) IN 4S BOX, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- TWO DUPLEX GROUNDING TYPE RECEPTACLES, (UNCONTROLLED) IN 4S BOX, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECTED TO EMERGENCY CIRCUIT.
- Q — FLUSH FLOOR MOUNTED QUAD GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- FLUSH FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECTED TO EMERGENCY CIRCUIT.
- PEDESTAL TYPE FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
- PEDESTAL TYPE FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, (UNCONTROLLED) 20 AMP, 125 VOLT, 2 POLE, 3 WIRE CONNECTED TO EMERGENCY CIRCUIT.
- IG — ANY RECEPTACLE INDICATED WITH"IG" ADJACENT SHALL BY ISOLATED GROUND TYPE WITH INDIVIDUAL GROUND WIRE TO PANELBOARD.
- A — SPECIAL PURPOSE OUTLET (UNCONTROLLED) MOUNTED IN FLUSH WALL BOX. LETTER INDICATES TYPE.
  - A - NEMA TYPE 14-20R (125/250V, 3 POLE, 4 WIRE, GROUNDING, 20 AMP)
  - B - NEMA TYPE 6-20R (250V, 2 POLE, 3 WIRE, GROUNDING, 20 AMP)
  - C - NEMA TYPE 6-30R (250V, 2 POLE, 3 WIRE, GROUNDING, 30 AMP)
  - D - NEMA TYPE 14-50R (125/250V, 3 POLE, 4 WIRE, GROUNDING, 50 AMP)
  - E - NEMA TYPE 5-30R (125V, 2 POLE, 3 WIRE, GROUNDING, 30 AMP)
  - F - NEMA TYPE 15-30R (250V, 3 PHASE, 3 POLE 4 WIRE, GROUNDING, 30 AMP)
  - G - NEMA TYPE 15-60R (250V, 3 PHASE, 3 POLE, 4 WIRE, GROUNDING, 60 AMP)
  - H - NEMA TYPE L5-20R (125 V, 1 PHASE, 2 POLE, 3 WIRE, GROUNDING, 20 AMP, TWIST LOCK)
  - K - NEMA TYPE 15-60R (250 V, 3 PHASE, 3 POLE, 4 WIRE, GROUNDING, 60 AMP)
  - M - NEMA TYPE 10-20R (125/250 VOLT, 1 PHASE, 3 POLE, 3 WIRE, UNGROUNDED, 20 AMP)
  - N - NEMA TYPE L6-20R (250 VOLT, 1 PHASE, 2 POLE, 3 WIRE, GROUNDING, 20 AMP TWIST LOCK)
  - P - NEMA TYPE 5-20R (120 VOLT, 1 PHASE, 2 POLE, 3 WIRE, GROUNDING, SINGLE, 20 AMP)
- FLUSH FLOOR MOUNTED SPECIAL PURPOSE OUTLET (UNCONTROLLED). TYPE AS INDICATED ABOVE.
- PEDESTAL TYPE SPECIAL PURPOSE OUTLET (UNCONTROLLED). TYPE AS INDICATED ABOVE.
- 100AS — NON-FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING.
- 100AS 60AFU — FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING. "AFU" INDICATES FUSE AMPERE RATING.
- VFD II — MAGNETIC MOTOR STARTER. ROMAN NUMERAL INDICATES NEMA STARTER SIZE. ADDITIONAL SUBSCRIPTS INDICATE STARTER TYPE AND SIZE. (TYPICAL FOR ALL MAGNETIC STARTER SYMBOLS.)
  - NO SUBSCRIPT - FULL VOLTAGE, NON REVERSING
  - PR - PRIMARY RESISTOR REDUCED VOLTAGE
  - AT - AUTOTRANSFORMER REDUCED VOLTAGE
  - WD - WYE-DELTA REDUCED VOLTAGE
  - PW - PART WINDING REDUCED VOLTAGE
  - SS - SOLID STATE REDUCED VOLTAGE
  - REV - REVERSING TYPE
  - 2S - TWO SPEED
  - 2W - TWO WINDINGS
  - CH - CONSTANT HORSEPOWER
  - CT - CONSTANT TORQUE
  - VT - VARIABLE TORQUE
  - VFD - VARIABLE FREQUENCY DRIVE
- COMBINATION MAGNETIC MOTOR STARTER AND NON-FUSED DISCONNECT SWITCH.
- COMBINATION MAGNETIC MOTOR STARTER AND CIRCUIT BREAKER.
- COMBINATION MAGNETIC MOTOR STARTER AND MOTOR CIRCUIT PROTECTOR.
- SINGLE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER MOTOR.

- THERMOSTAT OUTLET. MOUNT AT +48 INCHES UNLESS OTHERWISE NOTED.
- T — TRANSFORMER, PRIMARY & SECONDARY VOLTAGE AND KVA RATING AS NOTED. TYPE AND CONFIGURATION AS SPECIFIED. PROVIDE DRY TYPE, COPPER WOUND, WALL OR BOX MOUNTED UNLESS NOTED OTHERWISE.
- E — EQUIPMENT WITH "E" ADJACENT IS EXISITNG TO REMAIN.
- R — EQUIPMENT WITH "R" ADJACENT IS EXISTING TO BE COMPLETELY DISCONNECTED AND REMOVED.
- R-REL — EQUIPMENT WITH "R-REL" ADJACENT IS EXSTING TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW LOCATION AND RECONNECTED AS REQUIRED.
- E-REL — RELOCATED EQUIPMENT SHOWN IN NEW LOCATION.
- RR — EXISTING EQUIPMENT WITH "RR" ADJACENT IS TO BE DISCONNECTED REMOVED AND REPLACED WITH NEW AND RECONNECTED AS REQUIRED UNLESS OTHERWISE NOTED
- E — EXISTING CONDUIT RUN TO REMAIN. EXISTING CONDUCTORS TO REMAIN UNLESS NOTED OTHERWISE ON DRAWINGS.
- EA — EXISTING CONDUIT RUN TO BE ABANDONED. REMOVE CONDUCTORS AND CAP ENDS OF CONDUIT.
- EX — EXISTING CONDUIT RUN TO BE REWIRED. REFER TO PLANS FOR WIRING REQUIREMENTS.
- R — EXISTING CONDUIT AND WIRE RUN TO BE COMPLETELY DISCONNECTED AND REMOVED BACK TO LAST REMAINING OUTLET OR DEVICE.
- R X E — "X" INDICATES APPROXIMATE POINT OF INTERCEPTION OF EXISTING CONDUIT RUN. CONDUIT TO BE REMOVED AT "R" SIDE OF "X". REMOVE ALL CONDUCTORS PRIOR TO CUTTING CONDUIT. EXACT LOCATION OF ALL CONDUITS SHALL BE FIELD VERIFIED. EXTEND CONDUIT AS INDICATED ON PLANS.
- PANELBOARD
- M — THREE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER MOTOR. NUMERAL IN PLACE OF "M" INDICATES HORSEPOWER.
- 100AF 70AT — MOLDED CASE CIRCUIT BREAKER. "AF" INDICATES AMPERE FRAME, "AT" INDICATES AMPERE TRIP RATING AND NUMBER OF POLES AS INDICATED. SUBSCRIPT INDICATES TYPE.
  - NO SUBSCRIPT — THERMAL MAGNETIC
  - NA — NON-AUTOMATIC
  - MO — MAGNETIC ONLY
  - CL — CURRENT LIMITING
  - SS — SOLID STATE
  - EM — ELECTRONIC METERING PACKING
- DRAW-OUT TYPE CIRCUIT BREAKER.
- 100AS 90FU — FUSED SWITCH. "AS" INDICATED AMPERE SWITCH RATING, "AFU" INDICATES AMPERE FUSE RATING, NUMBER OF POLES AS INDICATED.
- VOLTAGE TRANSFORMER, FLOOR MOUNTD, COPPER WOUND, DRY TYPE UNLESS SPECIFIED OTHERWISE.
- CURRENT TRANSFORMERS, "C.T.s"
- POTENTIAL TRANSFORMER, P.T.s".
- M — UTILITY METER SOCKET, WITH C.T.s, CLIPS, ETC., PER SERVING UTILITY COMPANY.
- GROUND, "GRD".
- GFI — "GROUND FAULT INTERRUPTER"
- G — GROUND FAULT PROTECTION DEVICE.
- GFS — GROUND FAULT SENSOR.
- AS — AMMETER SWITCH, FOUR POSITION "PHASE A", "PHASE B", "PHASE C", AND OFF.
- VS — VOLTMETER SWITCH, SEVEN POSITION "PHASE A-N", "PHASE B-N", "PHASE C-N", "PHASE AB", "PHASE BC", "PHASE CA", AND OFF.
- A — AMMETER.
- V — VOLTMETER.
- KWH — DEMAND (KILOWATT) METER.
- KW — USAGE (KILOWATT HOUR) METER.

LIGHTING SYMBOLS LIST

- 1a — CEILING LIGHT FIXTURE AND OUTLET, HID, OR LED. FLUORESCENT, OR INCANDESCENT. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED SYMBOL INDICATES FIXTURE WITH EMERGENCY POWER PROVISIONS.
- 1a — FLUORESCENT LIGHT FIXTURE OUTLET. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED CIRCLE DENOTES FIXTURE WITH EMERGENCY POWER PROVISIONS.
- 1a — FLUORESCENT OR LED STRIP FIXTURE. LOWER CASE LETTER INDICATES CONTROLLING SWITCH. NUMERAL INDICATES CIRCUIT. SHADED CIRCLE DENOTES FIXTURE WITH EMERGENCY POWER PROVISIONS.
- 1a — BRACKET OR WALL MOUNTED LIGHT FIXTURE AND OUTLET, HID, FLUORESCENT OR INCANDESCENT OR LED. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED CIRCLE DENOTES FIXTURE WITH EMERGENCY POWER PROVISIONS.
- TANDEM WIRED, MASTER-SLAVE COMBINATION FLUORESCENT LIGHTING FIXTURE. CIRCLE INDICATES MASTER. DASHED LINE INDICATES FACTORY FURNISHED, PREWIRED FIXTURE WHIP.
- 1a — CEILING DOWNLIGHT FIXTURE. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED SYMBOL INDICATES FIXTURE WITH EMERGENCY POWER PROVISIONS.
- ILLUMINATED LED EXIT LIGHT FIXTURE. SIDE, BACK, CEILING, OR PENDANT MOUNTED. SINGLE OR DOUBLE FACED AS NOTED BY SHADED ARC, WITH OR WITHOUT DIRECTIONAL ARROW AS NOTED ON THE DRAWINGS. NOT TO BE USED AS JUNCTION BOX OR "THROUGH-WIRE" DEVICE.
- Q 106 +9'-0" — LIGHTING FIXTURE IDENTIFICATION SYMBOL. LETTER INDICATES FIXTURE TYPE. NUMERALS IN LOWER HALF OF HEXAGON INDICATE FIXTURE WATTAGE (INCLUDING BALLAST WHERE APPLICABLE). NUMERAL OUTSIDE BOTTOM OF HEXAGON INDICATES MOUNTING HEIGHT FROM FLOOR TO BOTTOM OF FIXTURE. OMISSION OF MOUNTING HEIGHT INDICATES CEILING MOUNTING.
- FCU X — MECHANICAL / PLUMBING IDENTIFICATION SYMBOL. REFER TO MECHANICAL / PLUMBING DRAWING FOR EXACT EQUIPMENT LOCATION AND TYPE.
- WALL MOUNTED DUAL HEAD EMERGENCY LIGHTING FIXTURE UNIT.
- D — 0-10V LIGHTING DIMMER SWITCH. REFER TO SPECIFICATIONS.
- DF — FLUORESCENT LIGHTING DIMMER. REFER TO SPECIFICATIONS.
- S — WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR. MOUNT AT + 48 INCHES.
- OS — CEILING MOUNTED OCCUPANCY SENSOR COMPLETE WITH ALL POWER SUPPLIES, RELAY PACKS AND CONNECTIONS. REFER TO SPECIFICATIONS FOR TYPE AND DESCRIPTION.
- 3k Sa — SWITCH. LOWER CASE LETTER AT BOTTOM INDICATES OUTLETS CONTROLLED. CAPITAL SUPERSCRIPT INDICATES SWITCH TYPE.
  - NO SUPERSCRIPT - SINGLE POLE SWITCH
  - 2 - DOUBLE POLE
  - 3 - THREE WAY
  - 4 - FOUR WAY
  - I - ILLUMINATED HANDLE
  - K - KEYED SWITCH
  - LC - LOCKABLE COVER
  - M - MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION
  - MC - MOMENTARY CONTACT
  - P - PILOT LIGHT
  - PR - PRESS TYPE
  - TP - THREE POSITION
  - T - TIMER, 0-6 HR ROTARY OR AS NOTED
- EP — LOW LEVEL EXIT PATHWAY MARKING SYSTEM. REFER TO SPECIFICATIONS. MOUNT AT +6 INCHES ABOVE FINISHED FLOOR.
- EPP — LOW LEVEL EXIT PATHWAY POWER SUPPLY. "EPPS". LOCATE AS CALLED FOR ON DRAWINGS. PROVIDE CONNECTION TO FIRE ALARM SYSTEM AND EMERGENCY POWER PROVISIONS.

KEYNOTES

- TYPICAL KEYNOTE SYMBOL

- PC — PHOTOCELL.
- DS — DAYLIGHT SENSOR. COORDINATE EXACT LOCATION AND QUANTITY.
- OSM — SENSOR MODULE. COORDINATE EXACT LOCATION AND QUANTITY.

ABBREVIATIONS

AFF	AMPERE FRAME RATING OF CIRCUIT BREAKERS
AFU	AMPERE FUSE RATING
AIC	AMPS INTERRUPTING CAPACITY RATING (RMS SYMMETRICAL)
AMP, A	AMPERES
AS	AMPERE SWITCH RATING
AT	AMPERE TRIP RATING OF BREAKER
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BIDS	BAGGAGE INFORMATION DISPLAY SYSTEM
BIR	BAGGAGE INSPECTION ROOM
C.	CONDUIT
CAB	CABINET
CAT.	CATEGORY
CCTV	CLOSE CIRCUIT TELEVISION
C.O.	CONDUIT ONLY
CR	CONTROL RELAY (MAGNETICALLY HELD UNLESS NOTED OTHERWISE)
CU	COPPER
D	DEMOLISH/REMOVE
DISTR	DISTRIBUTION
DWG	DRAWING
ELEV	ELEVATION
EMERG	EMERGENCY
EQPT	EQUIPMENT
EXH	EXHAUST
E, EX, (E)	EXISTING TO REMAIN
FAA	FIRE ALARM ANNUNCIATOR
FDR	FEEDER
FF	FINISHED FLOOR
FG	FINISHED GRADE
FS	FLOW SWITCH
FIDS	FLIGHT INFORMATION DISPLAY SYSTEM
FIS	FEDERAL INSPECTION SERVICES
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
F.O.	FIBER OPTIC
FUT	FUTURE
GND	GROUND
HTR	HEATER
HZ	HERTZ
IDF	INTERMEDIATE DISTRIBUTION FRAME
INS	IMMIGRATION & NEUTRALIZATION SERVICES
J.B.	JUNCTION BOX
K	THOUSAND (KILO)
KV	KILOVOLTS
KW	KILOWATTS
KWH	KILOWATT HOURS
KVA	KILOVOLT AMPERES
LAWA	LOS ANGELES WORLD AIRPORTS
LS	LIMIT SWITCH
LT, LTS	LIGHT, LIGHTS
LTG	LIGHTING
MDF	MAIN DISTRIBUTION FRAME
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MH	MANHOLE
MS	MANUAL MOTOR STARTER
MT, MTD, MTG	MOUNT, MOUNTED, MOUNTING
NEC	NATIONAL ELECTRICAL CODE
NO, NOS	NUMBER, NUMBERS
NTS	NOT TO SCALE
PNL	PANEL
PWR	POWER
R,(R)	REMOVE
RR	REMOVE AND REPLACE
REL/REP	EXISTING EQUIPMENT IS TO BE REPLACED WITH NEW &RELOCATED AT NEW LOCATION
RECPTS	RECEPTACLES
REQD	REQUIRE
SCH	SCHEDULE
SEC	SECONDS, SECONDARY
SEQ	SEQUENCE
SHT	SHEET
SM	SINGLE MODE
SPECS	SPECIFICATIONS
STA	STATION
SYS	SYSTEM
TBD	TO BE DETERMINED
TR	TIME DELAY RELAY
TS	TAMPER SWITCH
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UGPS	UNDERGROUND PULL SECTION
V	VOLTMETER
VFD	VARIABLE FREQUENCY D

LAX CONRAC Facility Preliminary Electrical Load (kVA)			
Area Description	Sq Ft	KVA	Remarks
RAC Ready/Return Garage	3,169,776	2,621	
Idle Storage Garage	2,505,294	1,348	
Customer Service Building	95,280	2,695	
QTA Buildings	1,118,143	6,818	
	6,888,493	13,483	KVA
		1,873	AMPS @4160V

LAX CONRAC									09/13/16
Load Type		Lighting	General Power	Electric Vehicle Charging	Plumbing	HVAC	Spare Capacity (15%)	Total	Remarks
		0.30	0.15	0.30	0.04	0.02	0.12	0.93	VA/sq Ft
RAC Ready/Return Garage (levels 1, 2 & 3)	2,448,791	735	367	730	98	49	297	2,275	
		0.10	0.00	0.33	0.00	0.00	0.06	0.49	
RAC Ready/Return Garage (level 4 = roof))	704,984	70	0	230	0	0	45	346	
Roof (APM)	16,001								
	3,169,776								
						Grand Total		2,621	KVA
								364	AMPS @4160V

Assumptions:

Lighting- 0.3W/Sq.ft for RAC garage, considering 10-20FC for sales floor.
Power- General power includes power for receptacles and misc. items such as IT/Security and signage.
Electric Vehicle Charging- Includes 5% of 7600 cars (lvl 1,2,3) =380 carsx16A@120V=729,600VA + 10% of 1200 cars (lvl 4) =120 cars x16A@120V=230,400VA.
HVAC- HVAC includes power for HVAC equipment for booths.

LAX CONRAC									09/13/16
Load Type		Lighting	General Power	Electric Vehicle Charging	Plumbing	HVAC	Spare Capacity (15%)	Total	Remarks
		0.20	0.10	0.00	0.04	0.01	0.05	0.40	VA/sq Ft
Idle Storage Garage (levels 1, 2 & 3)	1,882,667	377	188	0	75	19	99	758	
		0.10	0.00	0.72	0.00	0.00	0.12	0.95	
Idle Storage Garage (level 4 = roof)	622,627	62	0	451	0	0	77	591	
	2,505,294								
	Sq Ft					Grand Total		1,348	KVA
								187	AMPS @4160V

Assumptions:

Lighting- 0.2W/Sq.ft for parking at 10FC on levels 1, 2 & 3, and 0.10W/sf for paking at 5FC on roof.
Power- General power includes power for receptacles and misc. items such as IT/Security and signage(if required).
Electric Vehicle Charging- Includes 0% of 10,600 cars (lvl 1,2,3) and 10% of 2350 employee/visitor cars on roof = 235 x 16A @120V = 451,200 VA.

LAX CONRAC									09/13/16
Load Type		Lighting	General Power	Vertical Transport	Plumbing	HVAC	Spare Capacity (15%)	Total	Remarks
		1.00	3.00	12.60	1.00	7.00	3.69	28.29	VA/sq Ft
Customer Service Building	95,280	95	286	1,201	95	667	352	2,695	
	Sq Ft					Grand Total		2,695	KVA
								375	AMPS @4160V

Assumptions:

VT = (18 Elevators x 40KVA = 720KVA) + (24 Escalators x 20KVA = 480KVA) = 1200KVA
Lighting- 1W/Sq.ft for CSB considering 30-40 FC
Power- General power includes power for receptacles and misc. items such as IT/Security.
HVAC- HVAC includes power for HVAC equipment such AHUs, VAVs, split system and exhaust fans.

LAX CONRAC									09/13/16
Load Type		Lighting	General Power	Vertical Transport	Plumbing	HVAC	Spare Capacity (15%)	Total	Remarks
		0.60	0.50	0.14	0.40	0.50	0.32	2.47	VA/sq Ft
QTA Buildings	847,968	509	424	122	339	424	273	2,091	This total KVA does not include QTA System load
QTA roof (green roof)	270,175	0	0	0	0	0	0	0	
"QTA System Load (See Separate Calculations)"								4,727	
	1,118,143								
	Sq Ft					Grand Total		6,818	KVA
								947	AMPS @4160V

Assumptions:

VT = 3 Elevators = 3 x 40KVA = 120KVA
Lighting- 0.6W/Sq.ft for QTA considering different FC levels for different areas
Power- General power includes power for receptacles and misc. items such as IT/Security
HVAC- HVAC includes power for HVAC equipment in restrooms/Offices

QTA SYSTEM LOAD CALCULATIONS				
	VA, each	QTY	kVA	
Gasoline, WWF				
STP 4 HP w VFD	5200.00	30.00	156.00	
Dispenser	600.00	90.00	54.00	
Monitoring	150.00	6.00	0.90	
WWF Pump	6400.00	2.00	12.80	
Misc Control Loads			10.00	
Total Gas, WWF			233.70	
Per Fuel Position		180.00	1.30	
Per Dispenser		90.00	2.60	
Vacuum				
25HP/6 Positions	27100.00	30.00	813.00	
Compressors (15 HP+ Dryer)	16800.00	10.00	168.00	
Lifts (20A/208V)	7196.80	63.00	453.40	
Car Wash (based on 39 Bays Total)				
	VA	Qty	kVA	
Brush Motors - 6.5A/480V	5397.60	39.00	210.51	
RO System (2 HP)	2240.00	24.00	53.76	6000 GPD units assumed, 144,000 GPD total
25HP Reclaim	27100.00	13.00	352.30	1 pump set per 3 bays assumed - assumeds flooder arch
10HP Rinse	11200.00	13.00	145.60	1 pump set per 3 bays assumed
Blowers (50 HP)	56000.00	39.00	2184.00	
Pressure Washer	5625.00	20.00	112.50	Electrical hot water, 1 per 2 bays assumed)
Total Car Wash			3058.67	
Per Bay (39 assumed)			78.43	
Total all QTA Equipment Loads			4726.76	kVA

GENERAL NOTES

1. ELECTRICAL EQUIPMENT SHOWN ON THIS DRAWING LOCATED OUTDOORS, SHALL BE GASKETTED NEMA 3R STAINLESS STEEL.
2. ENTIRE ELECTRICAL SWITCHBOARD SHALL BE PROVIDED WITH BOTTOM SEAL TO PREVENT GAS INTRUSION COMING FROM THE GROUND.
3. ALL CONDUIT OPENINGS (KNOCK-OUTS) AT BOTTOM OF SWITCHBOARD SHALL BE PROVIDED WITH LADBS APPROVED SEAL TO MAINTAIN EQUIPMENT INTEGRITY.
4. ALL ELECTRICAL CONDUITS FOR THE ENTIRE PROJECT SHALL BE PROVIDED WITH LA CITY APPROVED CONDUIT SEALS FOR METHANE MITIGATION AFTER INSTALLATION OF CONDUCTORS.
5. ALL ELECTRICAL EQUIPMENT, DEVICES AND METHOD OF CONSTRUCTION SHALL COMPLY WITH LOS ANGELES CITY ORDINANCE NO. 175790 FOR METHANE MITIGATION.
6. ALL EQUIPMENT SHOWN ON THIS PLAN SHALL HAVE MINIMUM RATING OF 130%%% OF AVAILABLE FAULT CURRENT AT THAT LOCATION.
7. CONTRACTOR TO COORDINATE WITH LADWP FOR CONSTRUCTION DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL WORK RELATED LADWP.

KEY NOTES

1. 1*C., 1#4/0 BARE COPPER TO GROUNDING ELECTRODE SYSTEM. SEE SHEET 1-E-XXX DETAIL #XX.
2. PV POWER COLLECTOR/ IN VERTER BY PV CONTRACTOR AT CONRAC/ CSB BUILDING.
3. PV POWER IN VERTER BY PV CONTRACTOR AT IDLE STORAGE BUILDING.
4. (10)4*C.0. EACH FOR FUTURE PV POWER AND CONTROL AS REQUIRED . VERIFY IN FIELD.
5. PROVIDE DOUBLE INCOMING TERMINAL FOR FUTURE TAP IN PV POWER AT MAIN BREAKER. VERIFY IN FIELD.
6. PV POWER IN VERTER BY PV CONTRACTOR AT QTA BUILDING.

MEDIUM VOLTAGE FEEDER SCHEDULE	
FEEDER	SIZE
F1,F2,F9	(2)4"C., 3#250 KCMIL, TYPE MV105, 5KV SHIELDED CABLE & 1#1/0 GND. (EACH)
F3, F4	4"C., 3#350 KCMIL, TYPE MV105, 5KV SHIELDED CABLE & 1#2 GND. (1) 4"C.O. SPARE (EACH).
F5, F6 (TYPICAL)	4"C., 3#3/0 KCMIL, TYPE MV105, 5KV SHIELDED CABLE & 1#2 GND. (1) 4"C.O. SPARE (EACH).
F7, F8 (TYPICAL)	(2)4"C., 3#500 KCMIL, TYPE MV105, 5KV SHIELDED CABLE & 1#3/0 GND. (EACH)
F-M1 & F-M2	(6)5"C., 3#500 KCMIL, TYPE MV105, 5KV SHIELDED CABLE & 1#600 KCMIL GND. (EACH) (OR PER LADWP REQUIREMENT)

OVERALL SINGLE LINE DIAGRAM

SCALE: N.T.S.

TranSystems
801 South Grand
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NOT FOR CONSTRUCTION

CONSULTANTS:
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Proj. No.: 2015-067-00

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

APPROVED BY
CHIEF AIRPORTS ENGINEER

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

ONT ANA PMD LAX

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO: DA4881
SCALE: N.T.S.
DATE: 09/23/2016
DESIGNED BY: NB
DRAWN BY: AC
CHECKED BY: KS

SHEET TITLE:
OVERALL SINGLE LINE DIAGRAM

SHEET NO.
1-E-003
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

P:\2015\2015-067-00\MPE-Vault_OVERALL\DA4881-1-E-003.dwg, Plotted Sep 21, 2016 - 2:23pm

ALL DIMENSIONS ARE IN INCHES [MM]
ALL WEIGHTS ARE IN LBS [KG]

GENERAL DESCRIPTION

SYSTEM DETAILS:	
LINE TO LINE VOLTAGE:	4160 V
BASIC IMPULSE LEVEL:	60 KV
SYSTEM GROUND:	LOW RESISTANCE
NUMBER OF PHASES:	3 PH
FREQUENCY:	60 HZ
PHASE SEQUENCE:	123
SYMMETRICAL SHORT CIRCUIT RATING:	25 KA
ENCLOSURE DETAILS:	
ENCLOSURE:	OUTDOOR AISLELESS
REAR ACCESS:	COVERS
REAR LATCHING:	BOLTED
FRONT LATCHING:	2PT LATCH W/PADLOCK
AISLE EQUIPMENT:	N/A
REAR COMPARTMENT FLOOR:	STEEL
OTHER REQUIREMENTS:	NONE
ENCLOSURE EXTERIOR:	ANSI-61 LIGHT GREY
VERTICAL SECTION INTERIOR:	ANSI-61 LIGHT GREY
AISLE INTERIOR:	N/A
BUS DETAILS:	
BUS RATING:	3000 A SILVER PLATED
JOINT HARDWARE:	ZINC/YELLOW-CHROMATE
SUPPORT INSULATION:	GLASS POLY
GROUND BUS:	0.25 X 2 NO PLATING
CODES AND STANDARDS:	
ANSI, IEEE, UL, IBC/CBC SEISMIC QUALIFIED CALIFORNIA CODE	
WIRING & CONTROL DETAILS:	
BREAKER CONTROL POWER:	CPT
BREAKER SOURCES:	
WIRE TYPE:	SIS VW-1
WIRE SIZE NON-CURRENT CKT'S:	# 14 MIN
WIRE SIZE CURRENT CKT'S:	# 14 MIN
WIRE SIZE (GROUND):	# 14 MIN
WIRE COLOR NON-CURRENT CKT'S:	GRAY
WIRE COLOR CURRENT CKT'S:	GRAY
WIRE COLOR (GROUND):	GRAY
TERMINALS (GENERAL):	INSULATED LOCK-FORK
TERMINALS (CT'S):	INSULATED RING
WIRE MARKERS (CTRL & BKR):	ADHESIVE WRAP-AROUND
WIRING HARNESS MARKERS:	PRINT-ON WIRE
TERMINAL BLOCKS (GENERAL):	50 A, 600 V, STANDARD
TERMINAL BLOCKS (CT'S):	600 V SHORTING, STANDARD
WIRE LABELING:	WIRE ID
HEATER POWER SOURCE:	N/A
VOLTAGE APPLIED TO HEATERS:	N/A
MISCELLANEOUS DETAILS:	
PENDANT CONTROL INT. RACKING	
OPTIONAL EQUIPMENT:	

FRONT VIEW

POWER FLOW VIEW

TOP PLAN VIEW

FOR MAIN SERVICE

SCALE: NTS

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JONT PMD ANA LAX

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SHEET TITLE:

SWITCHBOARD SECTIONS

SHEET NO.
1-E-004
SHEET OF

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* = INDICATES DOOR SWING FOR MINIMUM RECOMMENDED CLEARANCES AROUND THE SWITCHGEAR. REFER TO FLOOR PLAN DETAIL VIEWS.

FLOOR PLAN VIEW

SIDE DETAIL VIEW

(1) = LOCATION FOR STATION GROUND CONNECTION

(2) = ATTACH SWITCHGEAR TO FOUNDATION USING ONE OF THE TWO HOLES. USE 5/8" GRADE 5 OR BETTER BOLT. TORQUE TO 150 FT-LBS. (TOTAL OF 4 MOUNTING BOLTS PER VERTICAL SECTION, ONE AT EACH CORNER.)

(3) = POWER CABLE ENTRANCE SPACE. REFER TO SHOP ORDER BASE PLAN DRAWING FOR CONDUIT LOCATIONS. CONDUIT PROJECTION NOT TO EXCEED 8" [203mm].

(4) = SECONDARY CONTROL WIRING CONDUIT ENTRANCE SPACE. CONDUIT STUB UPS NOT TO PROJECT MORE THAN 7" [178mm].

[ ] = DIMENSIONS IN MM

TYPICAL AISLELESS BASE PLAN INCLUDING SEISMIC APPLICATIONS

FLOOR PLAN DETAIL VIEW

FOR MAIN SERVICE

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SUBMITTED BY

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JONES PMD ANA LAX

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SHEET TITLE:

SWITCHBOARD SECTIONS

SHEET NO.

1-E-005

SHEET OF

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GENERAL LIGHTING NOTES

General Provisions

1. Provide all materials as detailed on drawings, specifications and/or schedules, and labor as required to achieve a complete and operating lighting system.
2. Contractor shall be responsible for all electrical permits and inspection fees. It is the responsibility of the contractor to schedule all electrical inspections required by the building department and serving utilities.
3. Contractor shall perform all work in strict accordance with all local and national governing codes, including seismic, if applicable. Work not in conformance with applicable codes shall be brought into compliance at the Contractor's expense.
4. All electrical material and equipment shall be in new condition when installed. All equipment shall be listed, labeled or certified by a nationally recognized testing laboratory. Immediately notify lighting designer if any specified lighting equipment is not appropriately listed, or arrives without appropriate labeling.
5. All equipment shall be factory tested to ensure proper operation prior to shipment to job site.
6. Contractor shall guarantee all materials and workmanship related to the electrical installation for a minimum period of one year from the date of ownership turnover. Any defects in materials or workmanship during this guarantee period shall be corrected at the contractor's expense.
7. Contractor shall visit site prior to bid date, to verify all existing conditions to be encountered in the installation of all new equipment, fixtures, devices, feeders, etc. Exact installation method and requirements shall be verified and determined prior to bid date. Contractor shall immediately notify lighting designer of any required modifications that are not shown on the drawings. Submittal of bid indicates contractor is cognizant of all job site conditions and work to be performed.
8. All equipment, electrical characteristics, locations, and connection requirements shall be verified prior to any rough-in work.
9. The complete electrical system shall be grounded in accordance with NEC requirements.
10. Electrical contractor shall be licensed in the jurisdiction where the project is located, and capable of employing the proper labor force necessary to complete the installation as instructed by owner.
11. Provide shipment of all lighting and related equipment to be delivered to the job site.
12. Delivery of equipment to the job site shall be in clearly identified crates, cartons, or appropriate shipping containers as to item, quantity, and installation location. Once received, lighting equipment shall be secured and protected from the elements.
13. Contractor shall be capable of making emergency warranty repairs within twenty-four (24) hours of notification when a system or component malfunctions during use.
14. All measurements found in lighting plans are approximate. Contractor shall make field measurements based on actual site conditions to develop complete orders and install systems per drawings and specifications.
15. Emergency egress lighting shall be the responsibility of the electrical engineer in consultation with the owner's representative.
16. Contractor shall properly verify all circuitry, dimming and control prior to test and adjust phase commencing.
17. Contractor to refer to Architectural (A) and Lighting Drawings (EL) and specification packages for all mounting heights and details for special mounting requirements.
18. Contractor services shall include necessary systems integration and engineering, project management and interface with owner, consultants, architects, contractors and all other parties necessary to provide a complete and working lighting system.
19. Contractor services shall include a Systems Integrator (SI) to properly coordinate the installation and set up of the specialty fixtures and control equipment (e.g. DMX, Ethernet, RS232, SMPTE etc.) on the job site regardless of the manufacturer of the fixtures or control equipment.

Installation

1. All fixture voltages shall be verified by the contractor prior to the release of fixture order
2. Fixtures shall have appropriate UL or other recognized testing agency label, as well as damp or wet listing as required by local codes.
3. Fixtures shall include accessories for installation according to local and national codes.
4. Prior to ordering lighting equipment, the contractor shall verify:
   a. Fixture locations
   b. Fixture mounting conditions
   c. Ceiling trim compatibility
   d. Recess depths
   e. Existence of IC or other restrictive conditions
   f. Fire rated ceiling or locations
   g. Fixture voltage
6. Contractor to provide and coordinate approved fire-rated enclosures for lighting fixtures located in a fire-rated ceiling.
7. Contractor to coordinate IC housing requirements, if any, as required.
8. Lamps and accessories (e.g. color filters, louvers, etc.) shall be installed in fixtures in accordance with the provided fixture schedule.
9. Ceiling thickness in excess of ¾" or 20mm shall be identified in writing by the Contractor or Architect.
10. Fixtures shall be ordered with the appropriate ballasts complete UL, , CBM or other recognized testing lab labels. Where required, ballasts shall conform to Title 24 or other energy code requirements for performance, switching, and wiring (e.g. tandem wired, bi-level switching, etc.).
11. Walls directly illuminated by uplight or downlight wall wash shall be installed and finished in a manner to eliminate shadows or blemishes (e.g. hang dry wall vertically, and level 5 drywall finish).
12. The drawings are diagrammatic and represent the design intent of the equipment, devices, etc. to be connected and the circuits to which they are to be connected to. Contractor shall install all conduit, j-boxes, etc., as required for a complete and operating system.
13. All custom length fixtures (e.g. continuous wall slot fixtures) shall be field measured prior to ordering, and manufacturer shop drawings issued to the lighting designer for review prior to release for manufacture
14. Contractor shall include all miscellaneous items required to complete work and make fixture and lighting systems fully operational.
15. Lighting fixtures, shown in these drawings, shall not be used as worklights during construction and shall be fully operational at the time of opening to the public.
16. Contractor shall provide Owner and Lighting Designer with one set each of electrical "As-Builts" at the completion of job.
17. Lighting Design Alliance specifically reserves the right to relocate any equipment or outlet at no increase in contract cost prior to its installation (in case of standard product) or release for manufacture (in the case of custom product), regardless of prior shop or design drawing review.
18. Contractor shall be responsible for rough and final aiming and focus of all lighting fixtures as directed by lighting designer during Test and Adjust phase.

Execution

1. All conduit runs shall be concealed unless shown otherwise, or approved.
2. Existing conditions shown are from available record drawings and visual field survey and are shown for reference only . Contractor shall verify actual existing conditions at site.
3. Contractor to supply a minimum of two electricians for each Lighting Designer directing focus during the Test and Adjust phase (AKA Focus and Programming). Electricians to be minimum journeyman level experience. Contractor must supply adequate support including ladders, lifts or other equipment required to access fixtures at the time for focus, including evening or night work as may be required due to schedule conflict or daylight impact.
4. Contractor to have all necessary equipment available throughout Test and Adjust phase including, but not limited to:
   - Standard contractor electrician hand tools.
   - Socket set
   - Clean lint-free towels or wipes to clean lenses and reflectors
   - Spare lamps for fixtures being focused
   - Ladders, fully-charged lifts or other means of access to areas being focused.
   - Safety harnesses or other devices as required.

Submittals

1. Contractor to submit for approval on the products he intends to furnish within (7) days of award of contract. Failure to submit within deadline constitutes a guarantee that only the base specified products will be supplied and that no other products, whether listed as alternates or not, will be considered.
2. Requests for approval of non-specified products must be accompanied by the following at least five (5) business days in advance of the bid submittal date:
   a. Specification data sheet complete with manufacturer name and specified model number, as well as manufacturer's published photometrics
   b. A list of comparable projects where the product has been used in the last (2) years
   c. Functioning sample of product, complete with cord and plug and specified lamp
3. Manufacturers of submitted products must have been in business for five years and in no instance will this project be the occasion of the first installation of this product if it is not listed on the specification.
4. Contractor shall allow proper ordering time for procurement of fixtures. Lighting Design Alliance shall be notified immediately of any product substitutions as a result of delivery, prior to ordering alternate product. Failure to order fixtures with adequate lead-time to meet the installation schedule does not relieve the contractor of the responsibility to provide and install the specified product, even after substantial completion, with all labor and material charges for other trades at the contractor's expense.
5. Should a manufacturer fail to deliver a product that has been ordered within reasonable lead-time, contractor shall notify Lighting Design Alliance with a proposed alternate fixture. Lighting Design Alliance shall maintain final authority for authorization of any substitution.
6. Lamps and any accessories specified shall be included in the submittal package for all fixtures. If no submittal is made on lamps, lamps must be provided as specified, or from approved manufacturers: Philips, Osram Sylvania, General Electric, Ushio, and Venture.
7. Contractor shall provide Complete Maintenance Manuals including, but not limited to:
   a. Required scheduled maintenance.
   b. Original Manufacturer's Equipment (OME) technical data sheets.
   c. Detailed operating procedures.
   d. A list of recommended spare parts and lamps.
   e. Installation wiring diagrams.
   f. Shop drawings
   g. Installation and/or construction As-Built drawings.

Fixture Specifications

1. All lighting fixtures shall be mounted and supported in accordance with applicable safety standards and all national and local electrical codes.
2. All exterior equipment shall be rated for wet location and the IP rating of all equipment shall conform to the conditions in which the fixture is mounted.
3. Contractor shall provide fixture-mounting kits as required to suit the exact type of ceiling or condition to which they are mounted.
4. All fixtures shall be supplied with accessories as listed.
5. All remote transformers and /or ballasts are to be located as close to the fixture as possible, hidden from guest view in an accessible compartment that is well ventilated to provide heat dissipation.
6. All transformers shall be fused on the secondary side.
7. Contractor to supply lamps only from approved lamp manufacturers. Approved manufacturers: Philips, Osram Sylvania, General Electric, Ushio, Venture
8. Color filters shall be glass or dichroic unless otherwise indicated in drawings or specifications.
   a. Where a specific color has not been called for in specifications, contractor shall confirm color with lighting designer prior to ordering.
   b. Contractor to provide 20% additional color filters for each color and size.
9. Contractor to permanently label all color media in a manner that does not interfere with light output.
10. Contractor to verify all fixtures specified with a color filter are supplied with any and all attachment devices for the filter. This includes frames, snap rings, attachment hardware and/or filter standoff. All attachment hardware must be submitted by supplier for review prior to ordering of fixture. Review and approval shall be by lighting designer.
11. Contractor to verify all fixtures specified with a template (pattern or "gobo") are supplied with any and all attachment devices for the pattern. This includes pattern holders, snap rings, and/or installation hardware. Contractor to verify size and type of template material in conjunction with fixture specifications and lighting instrument schedule. All attachment hardware must be submitted by supplier for review prior to ordering of fixture. Review and approval shall be by lighting designer.
12. Contractor to provide lamps for all fixtures in full cases to exceed the number required by no less than 10%.
13. Contractor to replace all burned out or inoperative lamps at the end of the construction phase prior to Test and Adjust (also known as "aiming" of "focusing") phase and once again prior to Owner occupancy or project opening.

System Integrator

1. Lighting "System Integrator" (SI) shall mean the contractor responsible to provide, furnish and/or install, as noted, the specialty lighting equipment, dimming and control systems.
2. The SI shall terminate all lighting control data connections including, but not limited to, remote console data stations, lighting dimmer cabinets, lighting relay cabinets, architectural lighting control stations, lighting control rack, and all other low voltage lighting controls required to provide a functioning and complete lighting control network.
3. The SI shall set all necessary DMX Network addresses for each fixture or device requiring or receiving control signal according to lighting design paperwork/instrument schedule.
4. The SI shall certify that all lighting data cables are terminated correctly and functioning.
5. Services shall include necessary systems integration and engineering, project management and interface with owner, consultants, architects, contractors and all other parties necessary to provide a complete and working lighting system.
6. Services may include site visits and or attendance at coordination meetings with installation personnel. A minimum of two (2) site visits and two (2) coordination meetings are required during project duration and shall be included in base bid. Additional meetings and onsite time, as required, will be negotiable.
7. Termination of Ethernet lighting network wiring may be completed by a qualified subcontractor under the direction of the SI. SI remains responsible for certifying or accepting certification that Ethernet system meets all Ethernet standards.
8. All equipment shall be thoroughly tested, addressed, configured and "burned in" by the SI prior to shipment to the site to ensure mechanical and electrical integrity.
9. The SI shall have been in the specialty lighting distribution and installation business for a minimum of (5) years and shall have provided complete engineering and installation services on a minimum of five jobs of similar size and scope in the past five years.
10. The SI shall include the services of a factory engineer, who shall be available to report to the job site within fourteen (14) days of receipt of request from the Owner, contractor, or Lighting Design Alliance, and shall remain at the job site until the system is fully operational to the satisfaction of the lighting designer and/or owner's representative.
11. Specialty lighting equipment, such as automated luminaires and any device transmitting or receiving lighting control data shall be provided by SI
12. Systems Integrators are subject to approval by Lighting Design Alliance and Owner

FIXTURE TYPE LABELING NOMENCLATURE

FIRST LETTER DENOTES MOUNTING:
- A RECESSED ADJUSTABLE
- B BOLLARD / POLE
- C DECORATIVE (SPEC'D BY LDA)
- D DECORATIVE (SPEC'D BY ID)
- E ELLIPSOIDAL/FRAMING PROJECTOR
- F SURFACE FIXED
- G IN-GRADE / WELL LIGHT / IN GROUND
- J SURFACE ADJUSTABLE
- L LANDSCAPE/STAKE MOUNT
- M MOVING LIGHT/DMX DEVICE (REQUIRES REMOTE DATA SOURCE)
- P PENDANT/STEM/CHANDELIER
- R RECESSED FIXED DOWNLIGT
- S LINEAR STRIPLIGHTS (FLUORESCENT, NEON, LOW VOLTAGE)
- T TRACK AND TRACK HEADS
- U UNDERWATER
- W WALL/BRACKET/STEPLIGHT
- X FIBER OPTICS (ILLUMINATOR AND FIBER)
- Z MISCELLANEOUS/SPECIALTY

SECOND LETTER DENOTES LAMP:
- A LINE VOLTAGE A LAMPS
- C COMPACT FLUORESCENT
- D LED/SOLID STATE LIGHTING
- F FLUORESCENT
- H HIGH/LOW PRESSURE SODIUM
- L LINE VOLTAGE (ALL OTHER LINE VOLTAGE)
- M METAL HALIDE
- N NEON / COLD CATHODE
- P LINE VOLTAGE PAR LAMPS / PENDANT
- R LOW VOLTAGE REFLECTOR LAMPS (E.G. MR16, AR111)
- S SURFACE MOUNT
- T TRACK/CABLE LIGHTING SYSTEMS (NOT TRACK HEADS THEMSELVES)
- V LOW VOLTAGE - MINIATURE LAMPS/STRIPLIGHTS
- W WALL MOUNT
- Y MERCURY VAPOR
- Z MISCELLANEOUS/SPECIALTY

ADDITIONAL NOTES:
1. A 2-LETTER CODE IS FOLLOWED BY A NUMBER, DENOTING DIFFERENT FIXTURE TYPES. (E.G. 'RR1' IS A DIFFERENT STYLE OF LIGHT FIXTURE THAN 'RR2')
2. SUBTLE VARIATIONS BETWEEN FIXTURES MAY BE NOTED WITH A 4TH LETTER CHARACTER (E.G. 'RR1' IS A RECESSED DOWNLIGHT, WHILE 'RR1A' IS AN IDENTICAL FIXTURE WITH A MINOR VARIATION SUCH AS A DIFFERENT REFLECTOR COLOR, LAMPING OR ACCESSORY).
3. WHERE POSSIBLE, THE 4TH LETTER DESIGNATION MAY INFER THE ACCESSORY TYPE (E.G. 'RR1G' MAY BE A RECESSED DOWNLIGHT WITH GREEN COLOR FILTER)

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	FINISH	LAMP(S)	REMARKS	MANUFACTURER & NO.
A1 / 51	RECESSED MOUNTED. 2'x4' LED W/0-10VDC DIMMABLE DRIVER.	-	LED 51.4W	UNV	LITHONIA LIGHTING #2ALL4 49L D50 LP835/ NULITE #L2D-4-50-LI-35-UNV-DIM METALUX #24EN-LD1-49-UNV-L835-CD1-U
E / 3.2	EXIT SIGN. SINGLE FACE EXIT SIGN WITH DIE CAST ALUMINUM HOUSING, BLACK TRIM AND BATTERY BACK-UP. PROVIDE EXIT SIGN WITH CHEVRONS AS INDICATED ON DRAWINGS.	-	LED 3.2W	UNV	LITHONIA LIGHTING #TLE1REL N DECO #DCK-R-1-A-BL-EM/ SURELITES #CX-71-R
S1 / 41	4' SUSPENDED STRIP WITH 10VDC DIMMABLE DRIVER. REFER TO ARCHITECTURE DRAWINGS FOR MOUNTING HEIGHTS.	-	LED 12W PER SQ. FT.	UNV	LITHONIA LIGHTING #2L1NL48 5000LM FST MVOLT 35K 80CRI. DECO #DCH-LED-4-45-35-UNM-DIM METALUX SNLED-LED-50-LW-UNV-L835-CD1
SP / -	(1)FULL CUTOFF AREA LIGHT MOUNTED TO 25' POLE W/TPE 3 OPTICS AND 1 FIXTURE AT 90 DEGREES.		N.A	McGraw Edison - GLEON-AE-05-LED-E1-T4FT	LITHONIA #DSXO LED 30C 700 50K T3M MVOLT R90 SSS 20 4G DM19AS DDB McGraw Edison - GLEON-AE-05-LED-E1-T4FT
SP1 / -	(1)FULL CUTOFF AREA LIGHT MOUNTED TO 12' POLE W/TPE 3 OPTICS AND 1 FIXTURE AT 90 DEGREES.		N.A	UNV	VALMONT DS330-S400Q120-D1-FP-DB
ST / -	SURFACE MOUNTED. 4" LOW PROFILE STAIRWELL LED FIXTURE WITH EMERGENCY BATTERY PACK.	-	N.A	UNV	LITHONIA #WL4-30-LP835 MSD7 EL14L DECO #DSBL-C-LED-BL-4-45-UNV-MV-PA-EM
SW / -	6URFACE MOUNTED . FULL CUTOFF WALL MOUNT LED LUMNAIRE	-	N.A	UNV Lumark - XTOR9A	LITHONIA #DSXW2 LED 30C 700 40K T3M MVOLT DDBXD/ US ENERGY #WAS-03-90W/LUMARK #XTOR90A

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ONE ANY PMD LAX

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LIGHTING FIXTURE SCHEDULE

SHEET NO.
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1 OVERALL ELECTRICAL SITE PLAN
SCALE: 1"=80'-0"

GENERAL NOTES

1. SEE SHEET E--- FOR EQUIPMENT SCHEDULE.
2. PROVIDE 4" HIGH CONCRETE PAD TO MOUNT ELECTRICAL EQUIPMENT.
3. ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R STAINLESS STEEL GASKETED.
4. FOR ALL OUTLETS, CONTRACTOR TO PROVIDE SUFFICIENT CONDUIT BENDS AND CLEARANCE.
5. ELECTRICAL SWITCHBOARD SHALL BE PROVIDED WITH BOTTOM SEAL TO PREVENT GAS INTRUSION COMING FROM THE GROUND.
6. ALL UNDERGROUND ELECTRICAL CONDUITS FOR THE ENTIRE PROJECT SHALL BE PROVIDED WITH LA CITY APPROVED CONDUIT SEALS FOR METHANE MITIGATION AFTER INSTALLATION OF CONDUCTORS.
7. ALL ELECTRICAL EQUIPMENT, DEVICES AND METHOD OF CONSTRUCTION SHALL COMPLY WITH LOS ANGELES CITY ORDINANCE NO. 175790 FOR METHANE MITIGATION.
8. ALL EQUIPMENT SHOWN ON THIS PLAN SHALL HAVE MINIMUM RATING OF 130% OF AVAILABLE FAULT CURRENT AT THAT LOCATION.
9. ALL UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED.

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SUBMITTED BY: ASST. CHIEF AIRPORTS ENGINEER
APPROVED BY: CHIEF AIRPORTS ENGINEER

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OVERALL ELECTRICAL SITE PLAN

SHEET NO.
1-E-010
SHEET OF

KEYPLAN

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

1. THIS PLAN IS FOR UTILITY COORDINATION.
2. CONTRACTOR SHALL FIELD VERIFY POTENTIAL CONFLICT WITH EXISTING UTILITIES PRIOR TO ROUGHIN.

KEY NOTES

1. LADWP EQUIPMENT, VISTA SWITCH. CONTRACTOR TO PROVIDE CONCRETE PAD PER LADWP CONSTRUCTION DRAWINGS AND SPECIFICATION.
2. 3/4"Ø X 10' GROUND ROD PER LADWP REQUIREMENT. GROUND WELL PER DETAIL X ON SHEET EXXXXX. PROVIDE GROUNDING CONDUCTOR PER CEC 250.66. TYPICAL OF 8.
3. BOLLARD, (TYPICAL). PROVIDE GROUNDING OF BOLLARD PER DWP REQUIREMENT AND DWP DRAWING C721-01.6.
4. 4" HIGH EQUIPMENT CONCRETE PAD. EXTEND 18" WIDE CONCRETE PAD FRONT.

1 ELECTRICAL ENLARGED PLAN
SCALE: 1/4"=1'-0"

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Proj. No.: 2015-067-00

Los Angeles World Airports
Project
LAX Consolidated Rental Car Facility
Los Angeles International Airport

SUBMITTED BY
ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY
CHIEF AIRPORTS ENGINEER

ONT LAX PMD

REVISIONS:		
MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: 1/4"=1'-0"
DATE: 09/23/2016
DESIGNED BY: NB
DRAWN BY: AC
CHECKED BY: KS

SHEET TITLE:
ELECTRICAL ENLARGED PLAN

SHEET NO.
1-E-401
SHEET OF

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

SURFACE MNTD PANEL/CABINET STEEL FRAMING — NOT TO SCALE — 1

SURFACE MNTD PANEL/CABINET WOOD FRAMING — NOT TO SCALE — 2

SURFACE MNTD PANEL/MASONRY WALL — NOT TO SCALE — 3

RECESSED MNTD PANEL/CABINET STEEL FRAMING — NOT TO SCALE — 4

RECESSED MNTD PANEL/CABINET WOOD FRAMING — NOT TO SCALE — 5

DISTRIBUTION PANEL BOARD ANCHORAGE — NOT TO SCALE — 6

TRANSFORMER MOUNTING DETAIL — NOT TO SCALE — 7

TRANSFORMER MOUNTING DETAIL — NOT TO SCALE — 8

NOTE:
THIS DETAIL APPLIES WHERE EQUIPMENT HOUSEKEEPING PADS ARE POURED AFTER THE FLOOR IS POURED. FOR SINGLE POUR APPLICATIONS. (NO EXISTING SLAB) EMBEDMENT SHALL BE AS PER SCHEDULE & MEASURED FROM TOP OF PAD.

ANCHOR BOLT ATTACHMENT DETAIL — NOT TO SCALE — 9

SYMBOL	H	W	D	WEIGHT	MIN. NO ANCHORS	SIZE OF ANCHORS	MINIMUM EMBEDMENT
MSE	92"	42"	36"	2500	4	5/8" Ø	3 1/4"

ANCHOR BOLT
ATTRIBUTE BOX

ANCHOR BOLT ATTRIBUTE BOX — NOT TO SCALE — 10

SWITCHBOARD ANCHORAGE DETAIL — NOT TO SCALE — 11

SECTION A-A

SWITCHBOARD ANCHORAGE DETAIL — NOT TO SCALE — 12

ROD DIA. "B"	MAX. VERTICAL DESIGN LOAD
3/8"	400 LBS
1/2"	700 LBS
5/8"	1200 LBS

MAX. BRACE LENGTH "D"
9'-4" (A-1200)
10'-0"(E-1200)

SPAN LENGTH "L" INCHES	MAX. LONGITUDINAL DESIGN LOAD	MAX. VERTICAL DESIGN LOAD
24	2150 LBS	2150 LBS
30	1944 LBS	1293 LBS
36	1620 LBS	1079 LBS
42	1388 LBS	920 LBS
48	1214 LBS	806 LBS
54	1080 LBS	713 LBS
60	972 LBS	646 LBS
66	882 LBS	588 LBS
72	810 LBS	540 LBS
84	694 LBS	446 LBS
96	606 LBS	404 LBS
108	540 LBS	360 LBS

MULTI-CONDUIT SUPPORT DETAIL — NOT TO SCALE — 13

DETAIL 2

D	E *	S
(IN)	(IN)	(IN)
12	4	6
8	4	12

* IF CONCRETE IS NOT THICK ENOUGH USE THRU BOLTS.

NOTES :
1. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.
2. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN. ALL NUMBERS USED FOR CHANNEL OR FITTINGS IS BASED ON MIDLAND-ROSS "SUPERSTRUT". FOR ATTACHMENT THROUGH STEEL DECK, SEE

SEISMIC BRACE ANCHORAGE DETAIL — NOT TO SCALE — 14

NOTE:
1. SIZE HANGER PER

HANGER THRU DECK DETAIL — NOT TO SCALE — 15

HANGER ROD DIA.	"Y"
3/8 "	13"
1/2 "	18"
5/8 "	23"

VIEW A-A

SECTION B-B
HANGER ROD 7/8" AND SMALLER

HANGER ROD STIFFENER DETAIL — NOT TO SCALE — 12

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PROJ.NO: DA4881
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DATE: 09/23/2016
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DRAWN BY: AC
CHECKED BY: KS

SHEET TITLE:
ELECTRICAL DETAILS

SHEET NO.
1-E-501
SHEET OF

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TRANSVERSE ANGLE BRACING SIZE SCHEDULE	
LENGTH "L"	ANGLE SIZE
TO 5'	1 1/2 x 1 1/2 x 16 GA
5'-0" TO 6'-7"	2 x 2 x 16 GA
6'-7" TO 8'-0"	2 1/2 x 2 1/2 x 14 GA
8'-0" TO 9'-0"	2 1/2 x 2 1/2 x 12 GA

SINGLE CONDUIT SUPPORT DETAIL — NOT TO SCALE — 1

CONDUIT THRU SEISMIC SEPARATION DETAIL — NOT TO SCALE — 2

CABLE TRAY @ SEISMIC SEPARATION DETAIL

SURFACE MNTD PANEL/MASONRY WALL — NOT TO SCALE — 3

SCHEDULE FOR TYPICAL CONNECTIONS TO STRUCTURAL SUPPORTING MEMBERS									
TYPE	MAX LOAD CAPACITY IN TENSION (POUNDS)	EXPANSION ANCHORS TO CONCRETE		CONCRETE CAST IN PLACE INSERT	MACHINE BOLT AT STL BEAM CLAMP	MACHINE BOLT AT WOOD	SPANCRETE ROD	ANGLE TO SUPPORTING STRUCTURAL MEMBER	ROD SIZE FOR PIPES DIA. (Ø)
		LT WT	HARD ROCK						
I	400	5/8"	1/2"	3/8"	3/8"	1/2"	3/8"	L 3-1/2"x2-1/2"x3/8"x3" LLH	1/2"
II	550	3/4"	5/8"	1/2"	3/8"	1/2"	3/8"	L 5"x3"x3/8"x3" LLH	5/8"
III	900	2 1/2"	2 3/8	1/2"	3/8"	3/4"	3/8"	2-L 4"x3"x5/16"x4" LLH	3/4"
IV	1300	2 5/8"	2 5/8"	1/2"	1/2"		1/2"	2-L 5"x3"x3/8"x4" LLH	3/4"
V	1800	2 3/4"	2 5/8"	5/8"	1/2"		1/2"	2-L 5-1/2"x3-1/2"x1/2"x4" LLH	7/8"
VI	2600	2 5/8"	4 1/2"	2 1/2"	5/8"			2-L 5"x3"x3/8"x10" LLH	7/8"
VII	3700	4 3/4"	4 5/8"	2 5/8"	5/8"			2- L 5-1/2"x3-1/2"x1/2"x11-1/2" LLH	7/8"

USE WITH VERTICAL, DIAGONAL & LONGITUDINAL L'S.

CONNECTIONS TO SPREADERS — NOT TO SCALE — 4

KEY NOTES:

1. WALL CONSTRUCTION:
   - (1A) STEEL STUDS PER ARCHITECTURAL/STRUCTURAL.
   - (1B) 5/8" TYPE X GYPSUM BOARD PER ARCHITECTURAL.
2. CONDUIT SIZE PER DRAWINGS.
3. FIRE STOP SYSTEM - ONE HOUR CAULK, APPLY TO INTERFACE WITH WALL SURFACE. CAULK AS MANUFACTURED BY 3M CO. #CP-25 S/L.

U.L. SYSTEM NO. WL 1001

NOTE: MAX. DIA. OF OPENING IS 13 1/2" ANNULAR SPACE OF MIN. 1/4" DIA. BEAD IS REQUIRED.

CONDUIT PENETRATION THRU 1-HOUR FIRE/SMOKE WALL DETAIL — NOT TO SCALE — 5

KEY NOTES:

1. CONCRETE FLOOR OR WALL PER ARCHITECTURAL/STRUCTURAL DRAWINGS. MAX. DIA. OF THROUGH OPENING IS 12 1/4".
2. CONDUIT SIZE PER DRAWINGS.
3. FIRE STOP SYSTEM-TWO HOUR MOLDABLE PUTTY MATERIAL KNEADED BY HAND AND PACKED TIGHTLY INTO ANNULAR SPACE, FLUSH WITH FLOOR, IN WALL ASSEMBLIES. REQUIRED PUTTY THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL.

NOTE: MAX. DIA. OF OPENING IS 12 1/4". MINIMUM FILL MATERIAL THICKNESS OF 1/2" IS REQUIRED.

U.L. SYSTEM NO. CAJ1027

CONDUIT PENETRATION THRU 2-HOUR CONCRETE FLOOR/WALL DETAIL — NOT TO SCALE — 6

CONDUIT PENETRATION THRU CONCRETE WALL DETAIL — NOT TO SCALE — 7

CONDUIT INSTALLED BELOW CONCRETE INSIDE BUILDING DETAIL — NOT TO SCALE — 8

"UFER" GROUNDING DETAIL — NOT TO SCALE — 9

GROUND BUS MOUNTING DETAIL — NOT TO SCALE — 10

GROUNDING ELECTRODE CONNECTION DETAIL — NOT TO SCALE — 11

GROUND ROD DETAIL — NOT TO SCALE — 12

CONDUIT TRADE SIZE	SIZE & EMBEDMENT OF ANCHOR BOLTS
1/2"C. ~~2-1/2"C.~~	1/4"O x 1 3/8"
3"C. ~~4"C.~~	5/16"O x 1 1/2"

CONDUIT WALL ARRANGEMENT DETAIL — NOT TO SCALE — 13

- — NOT TO SCALE — 14

- — NOT TO SCALE — 15

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DRAWN BY: AC
CHECKED BY: KS

SHEET TITLE:

ELECTRICAL DETAILS

SHEET NO.

1-E-502

SHEET OF

1 LIGHTING SITE PLAN
SCALE: 1"=80'-0"

GENERAL NOTES

1. CONTRACTOR SHALL CONSIDER PROVIDE LIGHT FOR UNDER PASS ROADWAY.

KEYPLAN

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CONO PMD ANA LAX

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: 1" = 80'-0"
DATE: 09/23/2016
DESIGNED BY: NB
DRAWN BY: AC
CHECKED BY: NB/PP

SHEET TITLE:
LIGHTING SITE PLAN

SHEET NO.
1-EL-010
SHEET OF

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Luminaire Schedule							
Symbol		Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
		118	W	SINGLE	N.A.	0.912	Lumark - XTOR9A
		55	A	SINGLE	N.A.	0.912	McGraw Edison - GLEON-AE-05-LED-E1-T4FT

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site	Illuminance	Fc	1.44	6.2	0.0	N.A.	N.A.

1 PHOTOMETRIC SITE PLAN
SCALE: 1"=80'-0"

GENERAL NOTES

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ONE LAX PMD

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: DA4881
SCALE: 1" = 80'-0"
DATE: 09/23/2016
DESIGNED BY: NB
DRAWN BY: AC
CHECKED BY: NB/PP

SHEET TITLE:

PHOTOMETRIC SITE PLAN

SHEET NO.
1-EL-011
SHEET OF

KEYPLAN

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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1 ELECTRICAL & FIRE COMMAND - LEVEL 1 ENLARGED LIGHTING PLAN
1/8" = 1'-0"

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APPROVED BY

CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	DA4881
SCALE:	1/8" = 1'-0"
DATE:	09/23/2016
DESIGNED BY:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET TITLE:

ELECTRICAL & FIRE COMMAND - LEVEL 1 ENLARGED LIGHTING PLAN

SHEET NO.

1-EL-401

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9/21/2016 4:18:04 PM

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TELECOM SYMBOL LEGENDS

NOTE:

1. ALL SYMBOLS ARE NOT NECESSARILY USED ON THESE PLANS.
2. ALL MOUNTING HEIGHTS ARE TO CENTERLINE OF ALL DEVICES AND EQUIPMENT UON.
3. IN GENERAL, SYMBOLS SHOWN WITH LIGHT LINES DENOTE EXISTING WORK, SYMBOLS SHOWN WITH HEAVY LINES DENOTE NEW WORK.

DRAWING REFERENCES

- 1 / A101 — DETAIL REFERENCE TAG
- A / TXXX — EXTERIOR/INTERIOR ELEVATION
- A / TXXX / B — INTERIOR MULTI-VIEW ELEVATION
- NORTH ARROW
- X — KEYNOTE
- 1 — REVISION NUMBER

JUNCTION AND PULL BOXES

- J — JUNCTION BOX
- P — PULL BOX
- H — HANDHOLE
- MH — MAINTENANCE HOLE

CONDUIT AND RACEWAY

- CONDUIT RUN CONCEALED IN CEILING OR WALL CONSTRUCTION
- CONDUIT RUN IN FLOOR CONSTRUCTION OR UNDERGROUND DUCTBANK
- CONDUIT RUN EXPOSED
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CABLE TRAY (REFER TO PLANS FOR SIZE)

WIRELESS

- M — DAS-XY-Z-## — DAS ANTENNA
  - SEQUENCE
  - LEVEL
  - AREA
  - BUILDING

EVIDS

- EVIDS — XXX-Y / XY-Z-## — EVIDS DISPLAY
  - TYPE
    BID BAGGAGE INFORMATION
    FID ARRIVALS / DEPARTURES INFORMATION
    GID GATE INFORMATION
  - DISPLAY TYPE, REFER TO EVIDS DETAILS
  - SEQUENCE
  - LEVEL
  - AREA
  - BUILDING

STRUCTURED CABLING

- DATA OUTLET (SURFACE MOUNT)
- DATA OUTLET (FLOOR MOUNT)
- DATA OUTLET (CEILING MOUNT)
- X-# / XYZ-## — DATA OUTLET TAG
  - TYPE, REFER TO OUTLET DETAILS
    TOTAL PORT QUANTITY
  - SEQUENTIAL NUMBER
  - AREA
  - LEVEL
  - BUILDING
- CP — CONSOLIDATION POINT
- ENCLOSED EQUIPMENT CABINET
  - FRONT OF CABINET
  - CABINET ALLOCATION TAG
  - CABINET CLEARANCE (TYP)
- FOUR POST EQUIPMENT RACK
  - CABINET ALLOCATION TAG
  - FRONT OF CABINET
  - CABINET CLEARANCE (TYP)
- WALL MOUNT ENCLOSURE
  - FRONT OF CABINET
  - CLEARAN
    CE
- TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (+18" AFF)
- TELECOMMUNICATIONS GROUNDING BUSBAR (+18" AFF)
- PLYWOOD BACKBOARD SHOWN FOR REFERENCE ONLY, REFER TO GENERAL TRADES

TELECOM ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
BBH	BACKBONE HUB
BC	BELOW CEILING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CCT	COMMUNICATION CABLE TRAY
CH	CHANNEL
CLG	CEILING
COMM	COMUNICATIONS
CPU	CENTRAL PROCESSING UNIT
CR	COMMUNICATIONS ROOM
DEMO	DEMOLISH
DWG	DRAWING
EA	EACH
EC	EMPTY CONDUIT
ELC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC/ELECTRICAL
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQ	EQUALIZER
EX	EXISTING
FAR	FEDERAL AVIATION REGULATION
FIS	FEDERAL INSPECTION SERVICE
FO	FIBER OPTIC
GC	GENERAL CONTRACTOR
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
IC	INTERCOM
IDF	INTERMEDIATE DISTRIBUTION FRAME
IR	INFRARED
IRM	INFORMATION AND RESOURCE MANAGEMENT
IT	INFORMATION TECHNOLOGY
JB	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LFMC	LIQUIT TIGHT FLEXIBLE METALLIC CONDUIT
LVL	LEVEL
MCR	MAIN COMMUNICATIONS ROOM
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE
MMFO	MULTI-MODE FIBER OPTIC
MOD	MODULE
MUFIDS	MULTI-USER FLIGHT INFORMATION DISPLAY SYSTEM
MPOE	MINIMUM POINT OF ENTRY
NIC	NOT IN CONTRACT
O/P	OUTPUT
OTS	OFF THE SHELF
PA	PUBLIC ADDRESS
PBX	PRIVATE BRANCH EXCHANGE
PC	PERSONAL COMPUTER
PP	PATCH PANEL
PR	PAIR
PVC	POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMJ	RACK UNIT
RU	RACK MOUNTED UNIT
SHLD	SHIELDED (AS IN CABLE)
SMFO	SINGLE-MODE FIBER OPTIC
SPP	SYSTEM POWER PANEL
SS	STAINLESS STEEL
TBD	TO BE DETERMINED
TDS	TELECOMMUNICATION DISTRIBUTION SYSTEM
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
USCBP	UNITED STATES CUSTOMS AND BORDER PROTECTION
USCS	UNITED STATES CUSTOMS SERVICE
VA	VETERANS ADMINISTRATION
VAC	VOLT ALTERNATING CURRENT
VDC	VOLT DIRECT CURRENT
VE	VOICE EVACUATION
VoIP	VOICE OVER INTERNET PROTOCOL (IP)
VSS	VISUAL SURVEILLANCE SYSTEM
W	WALL
WT	WATERTIGHT
XMTR	TRANSMITTER

TELECOM GENERAL NOTES

INSTALLATION REQUIREMENTS

1. BASIC ELECTRICAL RACEWAY SPECIFICATIONS REQUIREMENTS SHALL APPLY TO THIS WORK. REFER TO ELECTRICAL SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE ALL OPTICAL FIBER CABLE, INNERDUCT, EQUIPMENT CABINET, PATCH CORDS, PATCH PANELS, RELATED HARDWARE, TERMINATION EQUIPMENT, AND ANY OTHER APPURTENANCES. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, AND SERVICES NECESSARY TO TEST, LABEL, AND DOCUMENT THE CABLING SYSTEM, AND TO ENSURE THAT IT IS IN COMPLIANCE WITH REQUIREMENTS STATED HEREIN.
3. CONTRACTOR SHALL VERIFY THE SIZE OF ALL CONDUCTORS, CONDUIT, AND JUNCTION BOXES (40% MAXIMUM FILL). INSTALLATION SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL CODES HAVING JURISDICTION. TELECOM CONDUIT FILL SHALL NOT EXCEED 40%.
4. 120 VAC INPUT POWER CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME CONDUIT OR CABLE TRAY AS LOW VOLTAGE AUDIO, VIDEO, DC POWER, UTP OR ANY OTHER LOW VOLTAGE CABLES.
5. CONTRACTOR SHALL PROMPTLY NOTIFY ENGINEER PRIOR TO INSTALLAION OF WORK OF ANY MOUNTING LOCATIONS NOTED ON THE DRAWINGS ARE OBSTRUCTED AND/OR IF ANY CONFLICTS OR PROBLEMS ARE DISCOVERED.
6. INNERDUCT SHALL BE INSTALLED IN ALL CONDUITS IN WHICH FIBER CABLING IS TO BE INSTALLED. ALL OPTICAL FIBER CABLES SHALL BE PLACED WITHIN INNERDUCT. INNERDUCT SHALL BE MAXCELL (3) CELL.
7. INSTALL TRUE TAPE TYPE PULL STRINGS IN ALL DUCTS, CONDUITS OR INNERDUCTS. REPLACE PULL STRINGS THAT ARE USED WITH EQUIVALENT PULL STRINGS.
8. OPTICAL FIBER PATCH PANELS SHALL BE PROVIDED AS SHOWN ON DRAWINGS AND SHALL INCLUDE THE FOLLOWING IN QUANTITIES AS NECESSARY:
   A. BEJED, BJ-1646-047, METAL 6 PORT, SC DIE CUT ADAPTER PLATE
   B. ALCOA FUJIKURA C080810, GREEN, SC-APC ADAPTERS
   C. BEJED BJ-1742C-011, 24 FIBER SPLICE TRAY(INCLUDING METAL ROD REINFORCED HEATH SHRINKABLE FUSION SPLICE PROTECTOR SLEEVES).
   E. CORNING SC-APC POLISHED PIGTAILS OR EQUIVALENT
   F. PROVIDE CORNING ULTRA-PC POLISHED PIGTAILS OR EQUIVALENT
9. PROVIDE PATCH CABLES OR DUPLEX JUMPERS FROM EXISTING PATCH PANELS TO NEW FIBER PATCH PANELS. VERIFY WITH OWNER CONNECTOR TYPE ON EXISTING PATCH PANELS BEFORE ORDERING PATCH CABLES OR JUMPERS.
10. CONTRACTOR SHALL ONLY FUSION SPLICE PIGTAILS THAT HAVE HAD CONNECTORS INSTALLED AND POLISHED BY THE MANUFACTURER OR LOCAL CABLE ASSEMBLY HOUSE. THE CONTRACTOR SHALL NOT INSTALL OR POLISH FIBER OPTIC CONNECTORS, EITHER IN THE FIELD OR IN THEIR SHOP. PIGTAILS SHALL HAVE THE SAME GLASS SPECIFICATION AS THE FIBER CABLE. FOR SINGLEMODE FIBER, ONLY SC-APC, ANGLE POLISHED PRE-CONNECTORIZED, PRE-TERMINATED PIGTAILS SHALL BE FUSION SPLICED TO THE CABLE. ACCEPTABLE PRODUCTS: CORNING SMF-28e+ GLASS.
11. OUTSIDE PLANT FIBER SHALL BE SINGLEMODE OUTSIDE PLANT RATED CORNING OPTICAL FIBER SMF28e+ OR BETTER APPROVED EQUIVALENT. FIBER CABLE JACKETING SHALL BE EITHER CORNING ALTOS ALL DIELECTRIC GEL FREE OR APPROVED EQUIVALENT.
12. ALL CABLES SHALL BE CONTINUOUS FROM THE SOURCE TO THE DESTINATION AND SHALL NOT HAVE SPLICES IN BETWEEN PATCH PANELS EXCEPT IN MANHOLE 235 AS NOTED ON DRAWINGS.
13. CONTRACTOR SHALL USE FUSION SPLICER WITH VIEWING OPTICS, MAGNIFIED VISUAL DISPLAY, OR OTHER IMAGE PROCESSING SOFTWARE TO PERFORM CORE ALIGNMENT AND QUALITY VERIFICATION (FUJIKURA
15. PROVIDE (1) 48-STRAND FIBER CABLE (CORNING MIC CABLE 002) FROM THE QTA MPOE TO EACH DATA ROOM IN EACH BUILDING. MAXIMUM SPLICE LOSS REQUIREMENTS SHALL BE RESPLICED AND RETESTED.
16. PROVIDE (1) 100 PAIR COPPER CABLE (CAT3) FROM THE QTA MPOE TO EACH DATA ROOM IN EACH BUILDING. 10 FEET SHALL BE PROVIDED AT ALL CABLE ENDS. VERTICAL CABLES IN MANHOLES SHALL HAVE 30 FEET OF SLACK FOR A SERVICE LOOP.
17. PROVIDE (1) 6AWG COPPER GROUND CONDUCTOR FROM THE QTA BUILDING MPOE TO EACH DATA ROOM IN EACH BUILDING.
18. PROVIDE MAXCEL INNERDUCT FOR FIBER CABLES.
19. DO NOT RUN FIBER AND COPPER IN THE SAME CONDUIT.

TESTING AND LABELING REQUIREMENTS

1. CONTRACTOR SHALL TEST ALL STRANDS OF OPTICAL FIBER WITH AN APPROVED POWER METER AND LIGHT SOURCE. TESTER SHALL BE CAPABLE OF PERFORMING THE TESTS REQUIRED BY ANSI/TIA/EIA-568-C.2.1 ANNEX H, ANSI/TIA/EIA-526-14A, AND ANSI/TIA/EIA-526-7.
2. PRIOR TO SHIPMENT OF THE OPTICAL FIBER CABLE, 100 PERCENT OF THE FIBERS SHALL BE TESTED WITH AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR). COPIES OF THE TRACES SHALL BE FURNISHED AS PART OF THE SUBMITTALS. UPON DELIVERY TO THE SITE ALL FIBER STRANDS SHALL BE TESTED WITH AN OTDR BEFORE INSTALLATION BEGINS. SUBMIT (2) PAPER COPIES BEFORE INSTALLATION BEGINS.
3. THE CONTRACTOR SHALL VERIFY THE INTEGRITY OF THE INSTALLED FIBER BY TESTING WITH AN OTDR. TEST SHALL BE PERFORMED ON 100 PERCENT OF THE FIBERS AND REPEATED FROM THE OPPOSITE END OF EACH FIBER OR PERFORMED WITH A LAUNCH CABLE AT EACH END. SUBMIT COPIES OF TRACES.
4. IF OTDR TEST RESULTS ARE UNSATISFACTORY DUE TO CABLE DAMAGE, CABLE SEGMENT IS UNACCEPTABLE AND SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
5. PROVIDE END-TO-END ATTENUATION TESTING USING AN APPROVED POWER METER AND LIGHT SOURCE PER ANSI/TIA/EIA 455-53A.
6. FIBER SHALL BE TESTED IN BOTH DIRECTIONS AT BOTH 1310 NM AND 1550 NM. PERFORM OPTICAL ATTENUATION MEASUREMENTS FOR EACH OPTICAL FIBER AFTER CABLES HAVE BEEN CONNECTORIZED, DRESSED AND MOUNTED INTO PANELS TO SHOW LOSSES OF CABLE, CONNECTORS AND COUPLERS. ACCEPTABLE ATTENUATION FOR OSP BACKBONE CABLING IS 0.5 DB/KM AT BOTH TEST FREQUENCIES.
7. ALL CABLES AND PATCH CABLES SHALL HAVE A PERMANENT LABEL ATTACHED AT BOTH ENDS.
8. ALL INDOOR CABLE AND PATCH CABLE LABELS SHALL BE PRE-PRINTED USING BRADY TLS 2200 PRINTER OR EQUIVALENT AND SHALL BE PLACED LOOSE ON THE PATCH CABLE NEAR THE CONNECTOR END WITHOUT HEAT SHRINKING LABELS. LABELS SHALL USE A THREE LINE FORMAT WITH THE ORIGINATION PATCH PANEL AND PORT ON THE FIRST LINE, THE DESTINATION PATCH PANEL AND PORT ON THE SECOND LINE AND THE SYSTEM OR OTHER DESCRIPTIVE INFORMATION ON THE THIRD LINE. SEE LAWA ITMG FOR SAMPLE LABELS.
9. PATCH PANELS SHALL BE LABELED ON THE FRONT PANEL WITH 1" BLACK CHARACTERS ON A "SAFETY ORANGE" BACKGROUND LETTERING 3M KIT 5005-KIT OR EQUIVALENT.
10. ALL OUTDOOR CABLES SHALL BE LABELED WITH ACP FT-LAWATAG-2.5X4 PLASTIC TAGS AND PRE-PRINTED WITH PERMANENT INK. OUTDOOR CABLES SHALL BE LABELED (AND SECURED WITH HEAVY DUTY STRAPS) IN EVERY MANHOLE AND HANDHOLE WITHIN 12 INCHES OF WHERE THE CABLE INTERS THE MANHOLE, WITHIN 12 INCHES OF WHERE THE CABLE EXITS THE MANHOLE AND ON THE SLACK COIL.

SUBMITTAL REQUIREMENTS

1. SUBMIT FOR APPROVAL MANUFACTURER'S DATA SHEETS FOR ALL PROPOSED MATERIALS AND EQUIPMENT. SUBMIT A TWO-FOOT LENGTH SAMPLE OF EACH FIBER CABLE TYPE/COUNT TO BE INSTALLED.
2. SUBMIT CALIBRATION REPORTS FOR ALL TEST EQUIPMENT. THE CALIBRATION SHALL BE PERFORMED BY A MANUFACTURER CERTIFIED CALIBRATION FACILITY AND BE DATED NO MORE THAN SIXTY (60) DAYS PRIOR TO THE START OF TESTING.
3. SUBMIT (5) HARDBOUND COPIES OF ALL CABLE TEST RESULTS AND ONE ELECTRONIC COMPACT DISC.
4. SUBMIT ALL PROPOSED LABELING MATERIALS AND NOMENCLATURE FOR APPROVAL.
5. CONTRACTOR SHALL MAINTAIN A SET OF CONTRACT DRAWINGS DURING INSTALLATION AND RED-LINE MARK THEM TO INDICATE ANY CHANGES AS THEY OCCUR.
6. CONTRACTOR SHALL PROPOSE A TEAM THAT IS QUALIFIED TO PERFORM THE WORK OF THIS PROJECT (SUBMIT PROJECT BRIEFS AND RESUMES) INCLUDING AN EXPERIENCED PROJECT MANAGER THAT WILL SERVE AS A SINGLE POINT OF CONTACT AND RESPONSIBILITY FOR THE CONTRACTORS TEAM.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC MANAGEMENT AND SHALL SUBMIT TO LAWA AIRPORT AND FACILITIES PLANNING DIVISION ALL PROPOSED TRAFFIC MANAGEMENT METHODS AND PRODUCTS FOR APPROVAL. OUTSIDE PLANT CABLE INSTALLATION THAT REQUIRES OBSTRUCTION OF TRAFFIC SHALL BE DONE ON THE NIGHT SHIFT.
8. THE FIBER CABLING CONTRACTOR SHALL BE A CERTIFIED CORNING OPTICAL CABLE INSTALLER, WITH THE CAPABILITY OF PROVIDING A MANUFACTURER'S CERTIFICATION OF NOT LESS THAN FIFTEEN (15) YEARS FOR THE INSTALLED CABLING AND ASSOCIATED TERMINATION EQUIPMENT. THE CONTRACTOR SHALL SUBMIT PROOF OF CERTIFICATION TO OWNER PRIOR TO COMMENCING WORK. PROVIDE MAXIMUM INSTALLATION WARRANTY OFFERED BY THE MANUFACTURER.
9. PROJECT RECORD DOCUMENTS (AS-BUILTS) WILL BE PROVIDED UPON COMPLETION OF THE INSTALLATION. DRAWINGS WILL BE UPDATED ELECTRONICALLY AND SUBMITTED TO LAWA IN ACCORDANCE WITH THE SCHEDULE PROVIDED FOR THIS BY LAWA. DO NOT WAIT UNTIL THE END OF THE PROJECT. SUBMIT RECORD DRAWING FILES IN AUTOCAD RELEASE 2008 OR LATER.
10. CONTRACTOR WILL BE REQUIRED TO ATTEND REGULAR WEEKLY PROGRESS MEETINGS AND SUBMIT PROJECT STATUS REPORTS AND UPDATED SCHEDULES.

TELECOM KEYED NOTES

T01 PROVIDE 28"" X 38"" X 84"" HIGH EQUIPMENT CABINETS, DAMAC MODEL CSN1284Z22477-3 IT.

T02 PROVIDE 28" X 44" X 84" HIGH EQUIPMENT CABINETS, DAMAC MODEL CSN1284Z22477-3 IT.

T03 PROVIDE 4' X 8' FIRE RATED AC PLYWOOD WITH CUTOUTS FOR BRACKETS AND OUTLETS AS REQUIRED. PAINT WHITE AND LEAVE FIRE RATING STAMP EXPOSED.

T04 PROVIDE ELECTRICAL PANELBOARDS. REFER TO ELECTRICAL SHEETS.

T05 PROVIDE GROUND BUS BAR. REFER TO SHEET T3, DETAIL 12 BOND TO GROUND BUSBAR IN ELECTRICAL ROOM.

T06 PROVIDE 12" WIDE X 6" DEEP SUSPENDED CHALFANT SERIES 6 VENTED CABLE TRAY.

T07 PROVIDE (2) 2"C TO MPOE. REFER TO SHEET 2-T-112.

T08 PROVIDE (2) 2"C TO FIRE COMMAND CENTER. REFER TO SHEET 2-T-111.

T09 UNDERGROUND TELECOMMUNICATIONS DUCT BANK, REFER TO ELECTRICAL AND CIVIL DRAWINGS.

T10

T11 (4) 4"C FROM EXISTING MANHOLE TO MPOE.

T12 (2) 4"C FROM PULLBOX TO COMM ROOM EACH LEVEL, TYP.

T13 PROVIDE (1) 48-STRAND SINGLE MODE FIBER CABLE FROM THE MPOE TO EACH DATA ROOM.

T14 PROVIDE (1) 100 PR. CAT3 COPPER CABLE FROM THE MPOE TO EACH DATA ROOM.

T15 PROVIDE (1) 6 AWG COPPER CABLE FROM MPOE TO EACH DATA ROOM.

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Los Angeles World Airports

Project

LAX Consolidated Rental Car Facility

Los Angeles International Airport

SUBMITTED BY

ASST. CHIEF AIRPORTS ENGINEER

APPROVED BY

CHIEF AIRPORTS ENGINEER

REVISIONS:

MARK	DATE	DESCRIPTION
	09/23/2016	QTA 30% SUBMITTAL

PROJ NO:	DA4881
SCALE:	12" = 1'-0"
DATE:	09/23/2016
DESIGNED BY:	TEW
DRAWN BY:	R&B
CHECKED BY:	TEW

SHEET TITLE:

TELECOM LEGEND, NOTES, AND ABBREVIATIONS

SHEET NO.

1-T-001

IF THIS DRAWING IS LESS THAN 36" X 48" IT IS A REDUCED SIZE DRAWING

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GENERAL NOTES

1. DO NOT RUN COPPER AND FIBER CABLES IN SAME CONDUIT.
2. RUN ALL FIBER CABLES IN INNERDUCT.

TELECOM KEYED NOTES

T09	UNDERGROUND TELECOMMUNICATIONS DUCT BANK, REFER TO ELECTRICAL AND CIVIL DRAWINGS.
T10	
T11	(4) 4"C FROM EXISTING MANHOLE TO MPOE.
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T15	PROVIDE (1) 6 AWG COPPER CABLE FROM MPOE TO EACH DATA ROOM.

1 TELECOM SITE PLAN
1" = 60'-0"

KEYPLAN

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REVISIONS:

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	09/23/2016	QTA 30% SUBMITTAL

PROJ NO:	DA4881
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DESIGNED BY:	TEW
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SHEET TITLE:
TELECOM SITE PLAN

SHEET NO.
1-T-010

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