

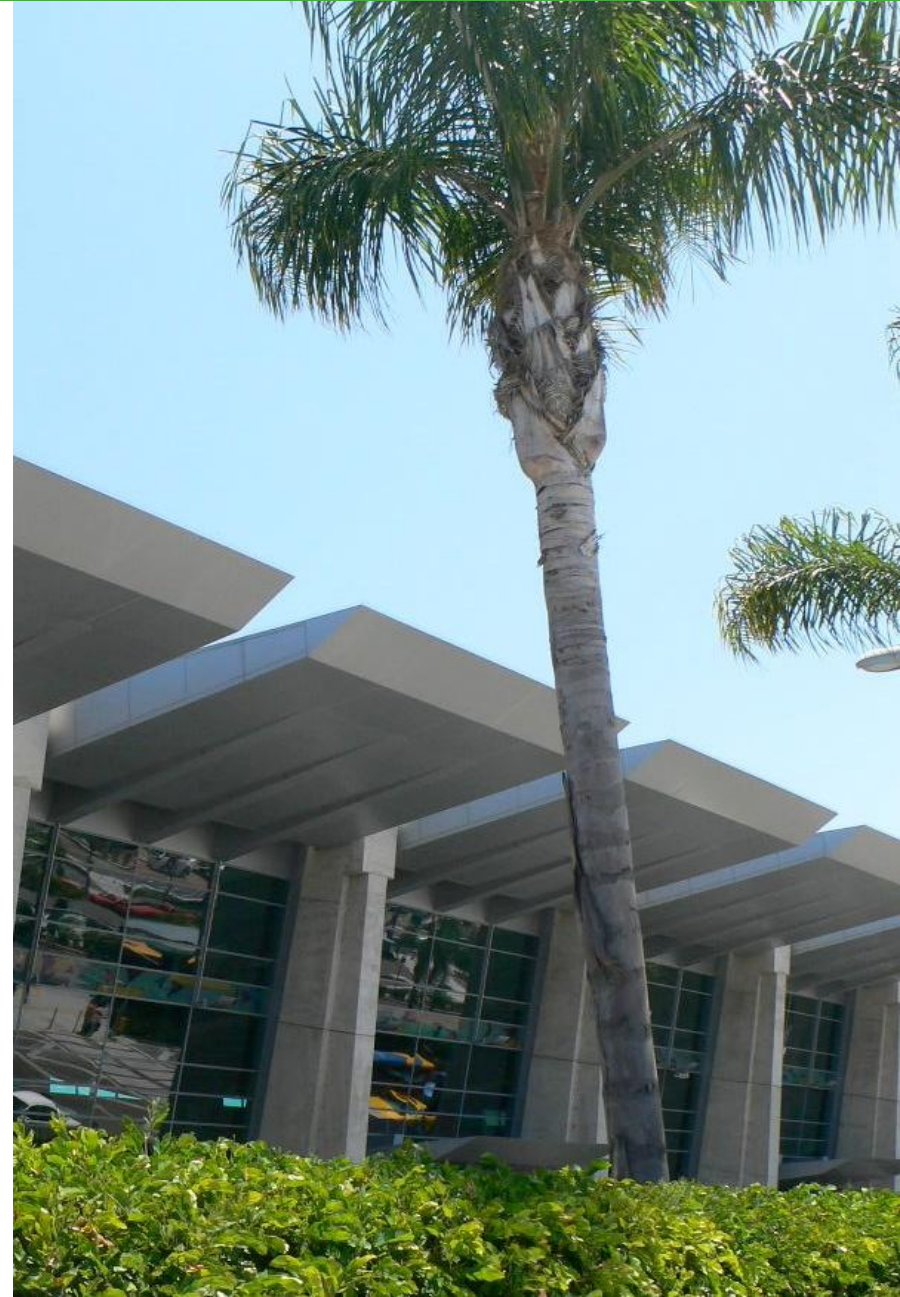


LEED

(**L**eadership in **E**nergy &
Environmental **D**esign)

Update

January 2011





- LEED Overview
- LEED Campus Boundary
- SAN Sustainability Initiatives
- LEED Check-in
- LEED Silver vs. Gold
- LEED Certified Airport Projects:
 - Airport Terminal Facilities
 - Ancillary Airport Facilities





- LEED (Leadership in Energy & Environmental Design)
- The Green Build is utilizing LEED NCv2.2 as the certification standard. (Version 3 just released.)
- LEED NCv2.2 - Total of 69 potential points available and 4 levels





- LEED program is a tool to assist in the design, construction, and operation of sustainable buildings (primarily commercial office buildings)
- The Green Build is targeting two Silver Certified projects:
 - Terminal 2-W
 - PMO/USO, departure pavilions and parking lot
- LEED certification is a lengthy process that includes:
 - Design
 - Construction
 - Operation (Min. 1 year)



- **Sustainable Site**

- Reduce (or filter) storm water runoff
- Remediate and use a “Brownfield” site
- Encourage alternate transportation (bikes, shuttles, etc.)
- Community “Connectivity”
- Provide “Open Spaces”

- **Water Efficiency**

- Landscape watering requirement (reduce by 50% and 100%)
- Waste water management (reduce flow by 50%)
- Domestic water (plumbing) management (reduce by 20% and 30%)

- **Energy & Atmosphere**

- Design for improved energy performance (reduce power requirement by 10.5% with nine additional 3.5% increments)
- Factor in “Process (or mission critical) Energy” requirements , e.g. BHS, MRIs, copiers, etc.



- **Materials & Resources**
 - Construction waste management
 - Use of recycled and renewable materials
 - Use of regional materials (500 mile circumference)
- **Indoor Environmental Quality**
 - Controllability by occupants
 - View of outside from the space
 - Daylight within the space
 - Improved ventilation or air quality (30% above code requirement)
 - Flush building – new materials off-gas (approximately two weeks)
- **Innovation in Design**
 - Use environmentally friendly janitorial products for cleaning
 - Recycling program adopted by the Owner
 - Green education program developed/provided by Owner

LEED Project Boundaries for Each Joint Venture:

Contract 1

Airside Expansion
Terminal 2 West Expansion
Central Utility Plant (CUP) Expansion

Contract 2

Landside Infrastructure Improvements
Smart Curb
USO / PMO





- The Green Build is using the LEED “Campus Approach”
- Depending upon the situation it can afford the opportunity to leverage certain LEED credits on both Contracts 1 & 2.
- Allows the achievement of a credit that might not otherwise be achievable independently by one of the contracts.
- Reduces cost--information is generated once and can benefit both certifications.
- Examples of shared credits:
 - Parking capacity & electric charging stations
 - CUP enhancements
 - Brownfield site
 - Green cleaning materials
 - SAN sustainability education program



- SAN's award winning "*Recycling Program*" is being used to support the certification process.
- SAN's existing "*Pest Management Program*" will likely be used as an "Innovation in Design" credit.





- The Current “*Education Program*” which highlights the Airport’s overall sustainability credentials will be used as an “Innovation in Design”.
- The “*Landfill Remediation Program*” will be used to demonstrate compliance with the “Brownfield Remediation” credit.





- Common Tracking Logs Used by Both Contracts for:
 - Waste Management
 - Recycled Materials
 - Regional Materials
 - Low Volatile Organic Compound (VOC) Materials
- Ongoing LEED Coordination Meetings Held Between the Contracts Throughout Construction.





- Green Building Council Project Points:
Silver: **33** to 38 Gold: **39** to 51
- Airfield/Terminal (Contract 1)
38 – Yes; 7 – Maybe
- Landside (Contract 2)
33 – Yes; 13 – Maybe



The Cost of Gold





Potential Gold Upgrades (Minimum of 1 Required – 5 Recommended):

- \$ 10 M – Additional Central Utility Plant (CUP) modifications
- \$ 4 M – Provide triple window glazing throughout
- \$ 3 M – Provide photovoltaic (PV) throughout
- \$ 2 M – Modify Landscaping/Utilize gray water system
- \$ 2 M – Provide more renewable resources
- \$ 21 M – Total (5 Additional LEED Credits)

PRELIMINARY ESTIMATES – ENERGY MODELING PENDING



Potential Gold Upgrades (Minimum of 6 Required - 10 Recommended):

\$ 300 K – Provide a Measurement and Verification Plan

\$ 10 K – Third party Renewable Energy Credits (REC)

\$ 5 K – Double the amount of REC purchased

\$ 350 K – Increase use of Recycled Content from 10% to 20%

\$ 450 K – Increase use of Regional Materials from 10% to 20%

\$ 3 K – Provide Thermal Comfort Survey, 1st year Occupancy

\$ 1.1 M – Total (6 Additional LEED Credits)

PRELIMINARY ESTIMATES – ENERGY MODELING PENDING



- Utilize Daylight Throughout Public Spaces
- Ensure a Comprehensive Commissioning Process
- Utilize Campus Approach for Shared Credits.
- Energy Efficient Fixtures
- Re-Use of Demolished Materials.





- Utilize a High Efficiency Façade & MEP Solution to Achieve an Energy Reduction in Excess of 20% from the California Title 24 Baseline.
- High Efficiency Plumbing Fixtures.
- Ensure a Comprehensive Commissioning Process.





Boston Logan – Terminal B - LEED Certified 2006



San Jose – Terminal B - LEED Silver 2010



Oakland – Terminal B - LEED Silver 2010



Los Angeles – Tom Bradley - LEED EB Silver 2010 (Interior Remodel)



Toronto Airport Fire Fighting Control Facility – LEED Silver 2009



Proposed





Proposed

Atlanta – LEED Gold 2012 Application (Ground up Construction)



Santa Barbara Rental Car Facility – LEED Gold 2010



Atlanta – CONRAC LEED Gold 2010



Seattle FAA Radar Control Facility – LEED Gold 2004

San Diego International Airport

The Green Build

Moving Forward. Soaring Higher.



SAN.ORG
San Diego International Airport

SAN



Questions?



TDP LEED SUMMARY REPORT



CONTRACT 1 PROJECT INFORMATION	
Contract Name	Contract 1: Terminal 2 West Expansion
Design Build Contractor:	Turner Construction
Architect:	HNTB
LEED Consultant	AEC
CxA	Turner Facility Management

LEED INFO	
LEED Program:	LEED NC v2.2
LEED Online Ref:	361086161181856
Number of FTEs	Shift FTEs: 889, Daily Total FTEs (WE3): 1261
Parking Criteria	Reduction from 1355 to 1326
LEED CERTIFICATION LEVEL	TARGET CURRENT ("Y" credits)
	SILVER SILVER

LEED POINT SUMMARY	Y	?	N
Sustainable Sites	8	1	5
Water Efficiency	3	1	1
Energy and Atmosphere	4	4	9
Materials and Resources	6	1	6
Indoor Env. Quality	12	0	3
Innovation in Design	5	0	0
Points Total	38	7	24

CONTRACT 2 PROJECT INFORMATION	
Contract Name	Contract 2: Smart Curb & Landside Improvements
Design Build Contractor:	Kiewit Sundt
Architect:	URS
LEED Consultant	Drew George & Partners
CxA	Enovity

LEED INFO	
LEED Program:	LEED NC v2.2
LEED Online Ref:	1514212331175330
Number of FTEs	USO: 250(400peak), PMO 60 per shift x 3 shifts
Parking Criteria	Reduction from 1355 to 1326
LEED CERTIFICATION LEVEL	TARGET CURRENT ("Y" credits)
	SILVER SILVER

LEED POINT SUMMARY	Y	?	N
Sustainable Sites	7	1	6
Water Efficiency	3	0	2
Energy and Atmosphere	5	5	7
Materials and Resources	4	2	7
Indoor Env. Quality	10	4	1
Innovation in Design	4	1	0
Points Total	33	13	23

CONTRACT 1 REPORT INFO	
Report Date:	12/7/2010
Project Phase:	DDs

Project Milestones	Target	Actual
Concept Submittal		
Schematic Submittal		
DD Submittal		
CD Submittal	6/24/2011	
Construction Start		
Occupancy	7/13/2013	

LEED Schedule	Target	Actual
Registration	6/22/2007	6/22/2007
Design Submittal	4/30/2010	
Construction Submittal	9/30/2013	

ENERGY / WATER EFFICIENCY SUMMARY	Target	Actual
Energy Reduction	21.0%	6.0%
Water Reduction	40.0%	30.0%
% On-site Renewables	2.5%	-

CONTRACT 2 REPORT INFO	
Report Date:	9/5/2010
Project Phase:	DDs

Project Milestones	Target	Actual
Concept Submittal		
Schematic Submittal		
DD Submittal		
CD Submittal		
Construction Start		
Occupancy	12/18/2012	

LEED Schedule	Target	Actual
Registration	6/23/2009	6/23/2009
Design Submittal	2/28/2010	
Construction Submittal	02/31/2013	

ENERGY / WATER EFFICIENCY SUMMARY	Target	Actual
Energy Reduction	21.0%	24.0%
Water Reduction	40.0%	43.3%
% On-site Renewables	0.0%	-

It is noted that this report provides a snapshot on the current LEED status of the PDP program and that is updated periodically during the project



TDP LEED SUMMARY REPORT



CONTRACT 1 PROJECT INFORMATION	
Contract Name	Contract 1: Terminal 2 West Expansion
Design Build Contractor:	Turner Construction
Architect:	HNTB
LEED Consultant	AEC
CxA	Turner Facility Management

LEED INFO	
LEED Program:	LEED NC v2.2
LEED Online Ref:	361086161181856
Number of FTEs	Shift FTEs: 889, Daily Total FTEs (WE3): 1261
Parking Criteria	Reduction from 1355 to 1326
LEED CERTIFICATION LEVEL	TARGET CURRENT ("Y" credits)
	SILVER SILVER

LEED POINT SUMMARY	Y	?	N
Sustainable Sites	8	1	5
Water Efficiency	3	1	1
Energy and Atmosphere	4	4	9
Materials and Resources	6	1	6
Indoor Env. Quality	12	0	3
Innovation in Design	5	0	0

Points Total	38	7	24
--------------	----	---	----

CONTRACT 2 PROJECT INFORMATION	
Contract Name	Contract 2: Smart Curb & Landside Improvements
Design Build Contractor:	Kiewit Sundt
Architect:	URS
LEED Consultant	Drew George & Partners
CxA	Enovity

LEED INFO	
LEED Program:	LEED NC v2.2
LEED Online Ref:	1514212331175330
Number of FTEs	USO: 250(400peak), PMO 60 per shift x 3 shifts
Parking Criteria	Reduction from 1355 to 1326
LEED CERTIFICATION LEVEL	TARGET CURRENT ("Y" credits)
	SILVER SILVER

LEED POINT SUMMARY	Y	?	N
Sustainable Sites	7	1	6
Water Efficiency	3	0	2
Energy and Atmosphere	5	5	7
Materials and Resources	4	2	7
Indoor Env. Quality	10	1	1
Innovation in Design	4	1	0

Points Total	33	13	23
--------------	----	----	----

CONTRACT 1 REPORT INFO		
Report Date:	12/7/2010	
Project Phase:	DDs	
Project Milestones	Target	Actual
Concept Submittal		
Schematic Submittal		
DD Submittal		
CD Submittal	6/24/2011	
Construction Start		
Occupancy	7/13/2013	

LEED Schedule	Target	Actual
Registration	6/22/2007	6/22/2007
Design Submittal	4/30/2010	
Construction Submittal	9/30/2013	

ENERGY / WATER EFFICIENCY SUMMARY	Target	Actual
Energy Reduction	21.0%	6.0%
Water Reduction	40.0%	30.0%
% On-site Renewables	2.5%	-

CONTRACT 2 REPORT INFO		
Report Date:	9/5/2010	
Project Phase:	DDs	
Project Milestones	Target	Actual
Concept Submittal		
Schematic Submittal		
DD Submittal		
CD Submittal		
Construction Start		
Occupancy	12/18/2012	

LEED Schedule	Target	Actual
Registration	6/23/2009	6/23/2009
Design Submittal	2/28/2010	
Construction Submittal	02/31/2013	

ENERGY / WATER EFFICIENCY SUMMARY	Target	Actual
Energy Reduction	21.0%	24.0%
Water Reduction	40.0%	43.3%
% On-site Renewables	0.0%	-

It is noted that this report provides a snapshot on the current LEED status of the PDP program and that is updated periodically during the project