



**Standard airport  
departure**

**Brown Field  
refueling location**

Hunte Parkway Staging Yard

Salt Creek Sub Site

Lonestar Rd

SS 33  
2  
1 SS 1

St  
Boeing St  
Madonia

Blvd

Rd



GS 1  
2  
3  
4  
5  
6  
7  
8  
9  
10

GS 29

GS 33

Salt Creek Sub Site

GS 49

50

1

SS 14

Hunte Parkway Staging Yard

Avoid

↑

↓

↗

**Refueling  
operations  
only**

Existing Staging Yard

Approach and Departure Path

SS 1

48

47

SS 2

46

45

100616

44

43

SS 4

42

41

39 P1

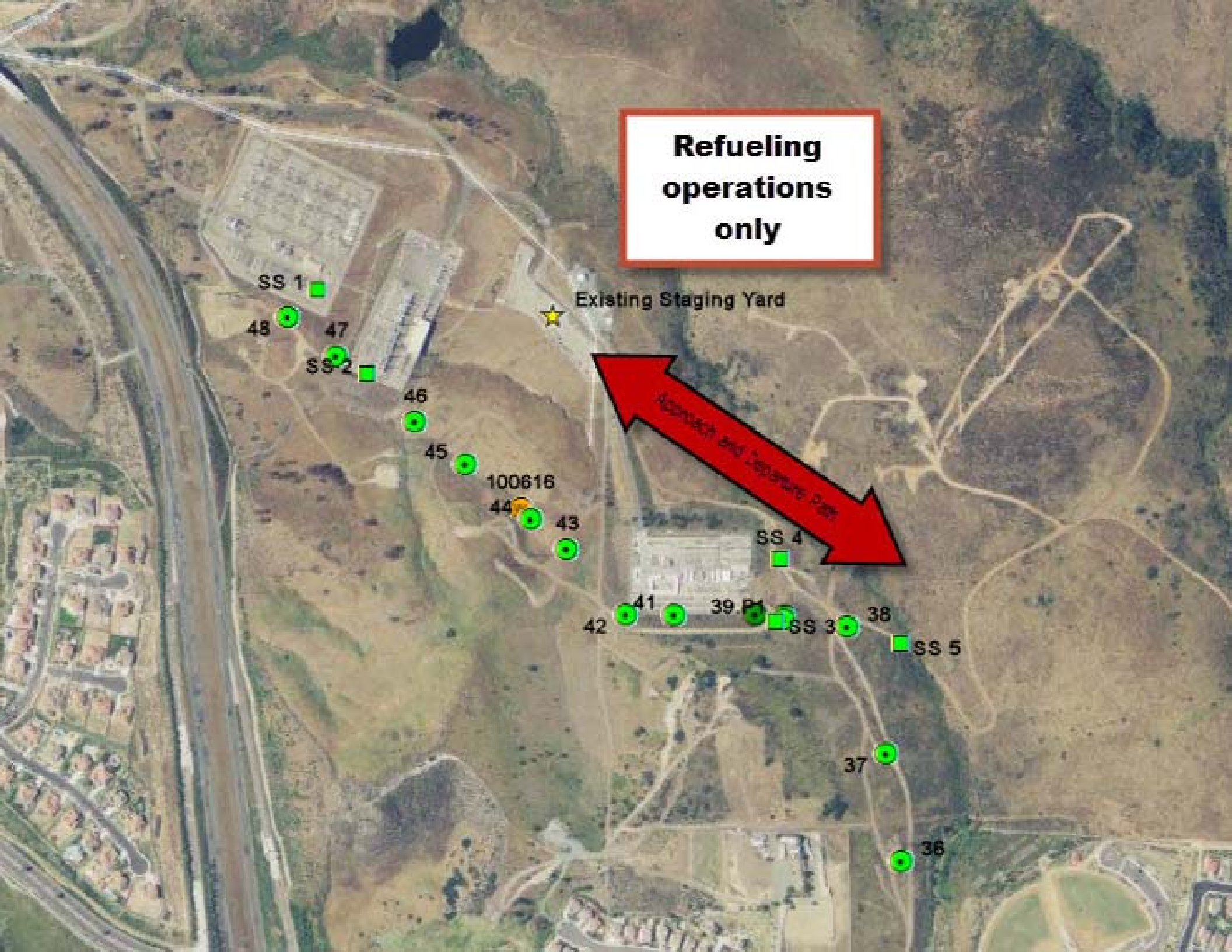
SS 3

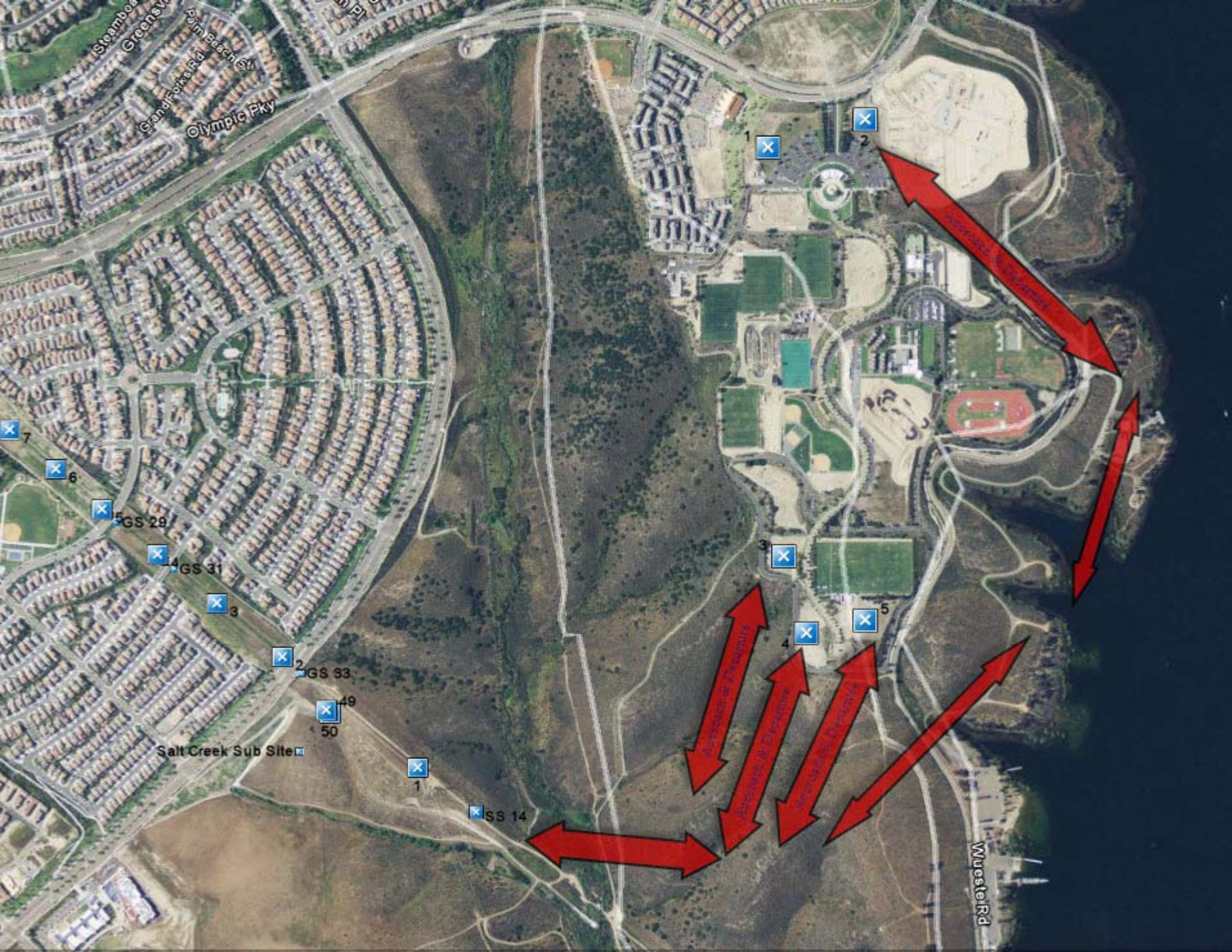
38

SS 5

37

36





Steamboat  
Greenway  
Palm Beach  
Grandfords Rd  
Olympic Pky

7  
6  
5 GS 29  
4 GS 31  
3  
2 GS 33  
49  
50  
Salt Creek Sub Site

1  
SS 14

1  
2

3

4

5

Muester Rd

**Attachment DR.2-1**

Equipment Information Spreadsheet

**Table A-1. Schedule - Construction of a 120MVA 69/12 kilovolt (kV) Salt Creek Substation**

Activity	Equipment	Use	Quantity	Approximate Start Date	Duration on Site (work days)
<b>General Construction</b>	<b>Task Schedule</b>			<b>9/4/2014</b>	<b>125</b>
	Truck	support	3	9/4/2014	125
	Air Compressor	Operate air tools	1	9/4/2014	125
	Mechanic Truck	refuel	1	9/4/2014	125
	Delivery Trucks		1	9/4/2014	125
<b>Substation General Construction</b>	<b>CMU Wall, Below &amp; Above</b>			<b>11/24/2014</b>	<b>260</b>
	<b>Testing/Energization/Cutover (2</b>			<b>12/9/2015</b>	<b>40</b>
	Truck	support	3	11/24/2014	280
	Air Compressor	Operate air tools	1	11/24/2014	280
	Generator		1	11/24/2014	280
	Mechanic Truck	refuel	1	11/24/2014	280
	Delivery Trucks		1	11/24/2014	280
<b>Demolition</b>	<b>Task Schedule</b>		<b>z</b>	<b>9/4/2014</b>	<b>15d</b>
	Pickup Truck	workers	9	9/4/2014	15
	Bulldozer	Demo	1	9/4/2014	10
	Grader/Blade	Upgrade roads	1	9/18/2014	5
	Excavator	and load	1	9/4/2014	15
	Breaker	PCC	1	9/4/2014	15
	Loader	dump trucks	1	9/4/2014	15
	Loader	dump trucks	1	9/4/2014	15
	Rubber tire	Excavation	1	9/4/2014	15
	Water Truck	Suppress dust	2	9/4/2014	15
	Truck	/ export material	2	9/11/2014	5
		cubic yards	PCC		
<b>Site and Access Road Grading Including: clear, grub, prep, import &amp; finish</b>	<b>Task Schedule</b>			<b>9/4/2014</b>	<b>90d</b>
	Pickup Truck	workers	12	9/4/2014	75
	Bulldozer	access roads	1	9/4/2014	75
	Grader/Blade	maintain, and	1	9/4/2014	75
	Scraper	access roads	2	9/11/2014	25
	Compactor	clear, grub,	1	9/4/2014	75
	skid steer	Misc	1	9/4/2014	75
	Water Truck	condition soil	2	9/4/2014	75
	Street Sweeper	import	1	10/16/2014	30
	Truck	import material	12	10/16/2014	30
	Amount, cubic	& C/F + 35,000			
<b>Retaining Walls</b>	<b>Task Schedule</b>			<b>9/11/2014</b>	<b>30d</b>
	Pickup Truck	workers	8	9/11/2014	30
	Bulldozer	Backfill Walls	1	9/11/2014	30
	Grader/Blade	maintain, and	1	9/11/2014	30
	Scraper	Backfill Walls	2	9/18/2014	10
	Compactor	Backfill Walls	1	9/18/2014	10
	Loader	construct &	1	9/11/2014	30
	Backhoe	construct &	1	9/11/2014	10
	Water Truck	condition soil	1	9/11/2014	30
	Truck	backfill material	4	9/25/2014	5
	Excavator / Drill	for walls	1	9/18/2014	15
	Amount, cubic	8000 cy			
<b>Storm Drain System and Erosion Control</b>	<b>Task Schedule</b>			<b>10/20/2014</b>	<b>40d</b>
	Pickup Truck	workers	10	10/20/2014	40
	Compactor	Compact soil	1	11/17/2014	20
	Loader	pipe &	1	10/20/2014	40
	Water Truck	Suppress dust, condition soil	1	10/20/2014	40
	Truck	backfill material	2	12/1/2014	10
	Excavator	pipe &	1	10/20/2014	40
		Amount, cubic	2000 cy		
<b>Public Improvements and Access Road Paving</b>	<b>Task Schedule</b>			<b>12/22/2014</b>	<b>20d</b>
	Pickup Truck	workers	6	12/22/2014	20
	Skid Steer / Skip	Fine Grade	1	12/22/2014	20
	Grader/Blade	curb	1	12/22/2014	10
	Backhoe Loader	Fine Grade	1	12/22/2014	20
	Water Truck	Suppress dust	1	12/22/2014	20
	Truck	import/export	2	12/22/2014	10
		Amount, cubic	500 cy		
	<b>Task Schedule</b>			<b>11/24/2014</b>	<b>20d</b>

<b>Substation CMU Wall</b>	Pick-up Truck	Workers	6	11/24/2014	20
	Fork Lift	Equipment	1	11/24/2014	3
	Concrete Truck	(665 cy / 9 cy	74 (trips)	11/30/2014	8
	Compactor	Compact footing	1	11/30/2014	5
	Trencher/Ditch	Excavate	1	11/24/2014	10
	Water Truck	Suppress dust	1	11/24/2014	20
	Dump/Haul Truck	backfill material (665 cy / 16 cy	42 (trips)	12/1/2014	3
	Excavator/Drill	for wall	1	11/24/2014	7
	Amount, cubic	665 cy			
	<b>Substation Below Grade Construction</b>	<b>Task Schedule</b>			<b>1/2/2015</b>
Pick-up Truck		Workers	6	1/2/2015	120
Concrete Truck		(3000 cy / 9 cy	333 (trips)	1/24/2015	11
Backhoe		foundations	1	1/2/2015	60
Fork Lift/Skid Steer Loader		equipment, masonry, and	1	1/2/2015	120
Witch Loader		trenches material	1	1/2/2015	120
Loader		material	1	4/10/2015	20
Water Truck		Suppress dust	1	1/2/2015	120
Compactor		Compact soil	1	2/2/2015	15
Truck		import/export	188 (trips)	2/2/2015	12
Delivery Trucks		equipment	1	1/2/2015	20
Amount, cubic		haul trip)			
<b>Substation Wiring</b>		<b>Task Schedule</b>			<b>7/9/2015</b>
	Wiring Truck	Workers	1	7/9/2015	90
	Delivery Truck	Panels	1	7/9/2015	5
<b>Telecom</b>	<b>Task Schedule</b>			<b>7/9/2015</b>	<b>60d</b>
	Pick up Truck	Workers	1	7/9/2015	60
	Delivery Truck	rack/equipment	1	7/9/2015	2
<b>Substation Above Grade Construction</b>	<b>Task Schedule</b>			<b>5/25/2015</b>	<b>60d</b>
	¾-ton or 1-ton Pickup Truck	support construction	3	5/25/2015	60
	Truck/Manlift	install	1	5/25/2015	60
	Large Crane	and Switchgear	1	7/30/2015	4
	Boom Truck	Lift/Set Steel	1	5/25/2015	60
	Fork Lift/Skid Steer Loader	move material (CB/Disc -	1	6/24/2015	20
	Cable Dolly (trailer)	of conductor (no engine, can be	1	7/1/2015	0
	Processing	transformer Oil	1	8/1/2015	2
	Flat bed truck with trailer	circuit breakers disc, panels,	1	6/24/2015	3
			1	6/24/2015	8
<b>Relay Testing</b>	<b>Task Schedule</b>			<b>1/2/2016</b>	<b>40d</b>
	Relay/Telecom munication Van	support construction	1	1/2/2016	40
<b>Salt Creek Energization (using TL6965)</b>	<b>Task Schedule</b>			<b>2/21/2016</b>	<b>5d</b>
	Pick up Truck	Start Engineer	2	2/21/2016	5
	Relay/Telecom munication Van	support construction	1	2/21/2016	5
<b>69kV Substation Cutover</b>	<b>Task Schedule</b>			<b>3/8/2016</b>	<b>15d</b>
	Pick up Truck	Start Engineer	2	3/8/2016	15
	munication Van	telecommunicati	1	3/8/2016	15

**Table A-2. Schedule - Construction of a new 69kV Transmission Tie Line 6965 (TL6965) from the existing Miguel Substation to the proposed Salt Creek Substation**

Activity	Equipment	Use	Quantity	Approximate Start Date	Duration on Site (work days)		Duration of Use (hours/day)	Workers per Equipment
<b>Site Grading/Re-establish and Extend Existing Access Roads</b>	<b>Task Schedule</b>			12/15/2014	<b>66d</b>			
	Bulldozer	Grade pads and access roads	1	12/15/2014	20	1/12/2015	4	1
	Road Grader/Blade	Construct, maintain, and upgrade roads	1	12/15/2014	66	3/17/2015	3	1
	Scraper	Grade pads and access roads	2	12/15/2014	66	3/17/2015	3	1
	Compactor	Compact soil	2	12/15/2014	66	3/17/2015	3	1
	Loader	Load dump trucks and stockpile	2	12/15/2014	66	3/17/2015	6	1
	Backhoe	Trench Excavation	2	12/15/2014	66	3/17/2015	6	1
	Water Truck	Suppress dust	3	12/15/2014	66	3/17/2015	8	1
	Dump/Haul Truck	Transport import/export material	2	12/15/2014	66	3/17/2015	6	1
	Excavator	Excavate and load material	1	12/15/2014	20	1/12/2015	4	1
	Delivery Trucks		3	12/15/2014	66	3/17/2015	4	1
	Earthmoving Amount, cubic yards		2,640 c.y.	12/15/2014	NA	#VALUE!	NA	NA
	<b>Foundation Installations</b>	<b>Task Schedule</b>			3/17/2015	<b>5d</b>		
Concrete Truck		Pour Concrete Foundation	3	3/24/2015	1	3/25/2015	3	1
Drill Rig with Augers		Foundation Construction	1	3/17/2015	3	3/21/2015	8	2
Backhoe		Foundation Construction	1	3/17/2015	5	3/24/2015	8	1
Generator		Foundation Construction	1	3/17/2015	30	4/28/2015	3	0
Dump/Haul Truck		Haul excavated materials and import backfill	1	3/17/2015	3	3/21/2015	8	1
Delivery Trucks			1	3/17/2015	3	3/21/2015	8	1
<b>Underground Trench/Conduit/Substructure</b>		<b>Task Schedule</b>			8/21/2015	<b>15d</b>		
	Dump/Haul Truck	Transport excavated materials and import backfill	3	8/21/2015	15	9/11/2015	8	1
	Backhoe	Excavate trenches	2	8/21/2015	15	9/11/2015	8	2
	Concrete Truck	Pour Concrete	5	8/21/2015	15	9/11/2015	4	5
	Excavator	Excavate trenches	1	8/21/2015	5	8/28/2015	8	1
	Delivery Trucks		2	8/21/2015	15	9/11/2015	8	4
	<b>Steel Structure Installations</b>	<b>Task Schedule</b>			12/9/2014	<b>30d</b>		
2-ton Flatbed Truck		Deliver poles to site	1	12/9/2014	30	1/20/2015	8	1
Large Crane		Foundation Pole Erection	1	12/9/2014	30	1/20/2015	8	2
* Bucket Truck/Manlift		Foundation & SW Pole Erection	4	12/9/2014	30	1/20/2015	8	2
Delivery Trucks		Deliver material to site	1	12/9/2014	30	1/20/2015	8	1
* Foreman Pick-up (F-450 4x4)		Transport Foreman and light materials, provide communications w radio	2	12/9/2014	30	1/20/2015	8	1
* Digger/Boom Truck w Matl Trailer (Typically Altec 3060 on 6x6 International Chassis)		Used dig holes, set SW poles, install anchors, handle material, store tools	2	12/9/2014	30	1/20/2015	8	1
* Material/Crew Truck (F-550 4x4 Crew Cab-'Crummy')		Transport crew, tools & materials	2	12/9/2014	30	1/20/2015	8	2
* 30T Crane (Typically Manitex on Freightliner Chassis)		Handle material, load/set SW poles, manlift	2	12/9/2014	30	1/20/2015	8	1
<b>OH Conductor Pulling and Tensioning</b>		<b>Task Schedule</b>			7/21/2015	<b>35d</b>		
	* Bucket Truck/Manlift	Conductor Installation	4	7/21/2015	35	9/8/2015	8	2
	Puller	Pull the conductor into position and secure it at the correct tension	1	7/21/2015	30	9/1/2015	8	2
	Bull wheel Tensioner	Control conductor at pulling tension during pulling operation	1	7/21/2015	30	9/1/2015	8	2
	Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	2	7/21/2015	30	9/1/2015	8	1
	Helicopter	Cable installation	1	7/21/2015	4	7/26/2015	5	1
	Delivery Trucks	Deliver poles to site	1	7/21/2015	30	9/1/2015	8	1
	* Foreman Pick-up (F-450 4x4)	Transport Foreman and light materials, provide communications w radio	2	7/21/2015	30	9/1/2015	8	1
	* Digger/Boom Truck w Matl Trailer (Typically Altec 3060 on 6x6 International Chassis)	Used to set dig holes, install anchors, handle material, store tools	2	7/21/2015	30	9/1/2015	8	1
	* Material/Crew Truck (F-550 4x4 Crew Cab-'Crummy')	Transport crew, tools & materials	2	7/21/2015	30	9/1/2015	8	2
	* 30T Crane (Typically Manitex on Freightliner Chassis)	Handle material, load cable reels, manlift	2	7/21/2015	30	9/1/2015	8	1
	<b>Task Schedule</b>				10/2/2015	<b>5d</b>		
* Bucket Truck/Manlift		Conductor Installation	2	10/2/2015	5	10/9/2015	8	2



<b>UG Cable Pulling</b>	Puller	Pull the conductor into position and secure it at the correct tension	1	10/2/2015	2	10/5/2015	8	2
	Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	1	10/2/2015	2	10/5/2015	8	1
	Splice Trailer (UG Cable)	Store splicing supplies	1	10/2/2015	5	10/9/2015	8	1
	* Foreman Pick-up (F-450 4x4)	Transport Foreman and light materials, provide communications w radio	1	10/2/2015	5	10/9/2015	8	1
	* Digger/Boom Truck w Matl Trailer (Typically Altec 3060 on 6x6 International Chassis)	Used to set dig holes, install anchors, handle material, store tools	1	10/2/2015	5	10/9/2015	8	1
	* Material/Crew Truck (F-550 4x4 Crew Cab-'Crummy')	Transport crew, tools & materials	1	10/2/2015	5	10/9/2015	8	2
	* 30T Crane (Typically Manitex on Freightliner Chassis)	Handle material, load cable reels, manlift	1	10/2/2015	5	10/9/2015	8	1

**\* Typical Vehicles on a Contract Transmission Crew**

**Table A-3. Schedule - Construction of a 69kV Transmission Tie Line Loop-in (TL6910) to the Salt Creek Substation**

Activity	Equipment	Use	Quantity	Approximate Start Date	Duration on Site (work days)		Duration of Use (hours/day)	Workers per Equipment
<b>Foundation Installations</b>	<b>Task Schedule</b>			<b>2/9/2015</b>	<b>45d</b>			
	Concrete Truck	Pour Concrete	3	2/16/2015	2	2/19/2015	3	1
	Drill Rig with Augers	Foundation Construction	1	2/9/2015	6	2/17/2015	8	1
	Backhoe	Foundation Construction	1	2/9/2015	6	2/17/2015	8	1
	Generator	Foundation Construction	1	2/9/2015	10	2/23/2015	3	0
	Dump/Haul Truck	Haul excavated materials and import backfill	4	2/9/2015	3	2/13/2015	8	1
	Delivery Trucks		2	2/9/2015	2	2/12/2015	8	1
<b>Underground Trench/Conduit/Substructure</b>	<b>Task Schedule</b>			<b>8/10/2015</b>	<b>30d</b>			
	Dump/Haul Truck	Transport excavated materials and import backfill		8/10/2015				
	Backhoe	Excavate trenches	2	8/10/2015	15	8/31/2015	8	1
	Concrete Truck	Pour Concrete	4	8/10/2015	15	8/31/2015	4	1
	Excavator	Excavate trenches	1	8/10/2015	10	8/24/2015	8	1
	Delivery Trucks		4	8/10/2015	5	8/17/2015	8	1
	<b>Steel Structure Installations</b>	<b>Task Schedule</b>			<b>4/13/2015</b>	<b>10d</b>		
Large Crane		Foundation Pole Erection	1	4/13/2015	2	4/16/2015	8	2
* Bucket Truck/Manlift		Foundation Pole Erection	2	4/13/2015	2	4/16/2015	8	2
Delivery Trucks		Deliver material to site	1	4/13/2015	2	4/16/2015	8	1
* Foreman Pick-up (F-450 4x4)		Transport Foreman and light materials, provide communications w radio	1	4/13/2015	2	4/16/2015	8	1
* Digger/Boom Truck w Matl Trailer (Typically Altec 3060 on 6x6 International Chassis)		Used dig holes, set poles, install anchors, handle material, store tools	1	4/13/2015	2	4/16/2015	8	1
* Material/Crew Truck (F-550 4x4 Crew Cab-'Crummy')		Transport crew, tools & materials	1	4/13/2015	2	4/16/2015	8	2
(Typically Manitex on)		Handle material, manlift	1	4/13/2015	2	4/16/2015	8	1
<b>UG Cable Pulling</b>	<b>Task Schedule</b>			<b>9/21/2015</b>	<b>30d</b>			
	* Bucket Truck/Manlift	Conductor Installation & pothead splicing	2	9/21/2015	10	10/5/2015	8	2
	Puller	Pull the conductor/cable into position or duct	1	9/21/2015	4	9/26/2015	8	2
	Reel Trailer	Feed new conductor or cable during pull	1	9/21/2015	4	9/26/2015	8	1
	Delivery Trucks	Deliver cable to site	1	9/21/2015	4	9/26/2015	8	1
	Splice Trailer (UG Cable)	Store splicing supplies	1	9/21/2015	10	10/5/2015	8	1
	* Foreman Pick-up (F-450 4x4)	Transport Foreman and light materials, provide communications w radio	1	9/21/2015	10	10/5/2015	8	1

* Digger/Boom Truck w Matl Trailer (Typically Altec 3060 on 6x6 International Chassis)	Used to set dig holes, install anchors, handle material, store tools	1	9/21/2015	10	10/5/2015	8	1
* Material/Crew Truck (F-550 4x4 Crew Cab-'Crummy')	Transport crew, tools & materials	1	9/21/2015	10	10/5/2015	8	2
* 30T Crane (Typically Manitex on Freightliner Chassis)	Handle material, load cable reels, manlift	1	9/21/2015	10	10/5/2015	8	1

\* Typical Vehicles on a Contract

\*\*This work included in the substation site prep work

Table A-4. Schedule - Construction of underground 12kV distribution circuits from the Salt Creek Substation

Activity	Equipment	Use	Quantity	Approximate Start Date	Duration on Site (work days)		Duration of Use (hours/day)	Workers per Equipment
<b>Underground Trench/Conduit/Substructure</b>	<b>Task Schedule</b>			<b>3/23/2015</b>	<b>166d</b>			
	Boom Truck	Lift and place materials	1	3/23/2015	8.00	4/3/2015	6	1
	Crane	Lift and place materials	1	3/23/2015	7.00	4/2/2015	6	1
	Bobcat	Excavate trenches	2	3/23/2015	34.00	5/9/2015	6	1
	Backhoe	Excavate trenches	3	3/23/2015	35.00	5/11/2015	6	1
	Cat Track Hoe	Excavation	1	3/23/2015	10.00	4/6/2015	6	1
	Dump/Haul Truck	Transport excavated materials and import backfill	7	3/23/2015	35.00	5/11/2015	6	1
	Construction Truck	Trenching/Conduit installation Crew Truck	1	3/23/2015	94.00	8/1/2015	6	2
	Pickup Truck	Assist Trenching/Conduit Crew	4	3/23/2015	34.00	5/9/2015	6	2
	Pickup w/Saw Cut Trailer	Saw cut pavement	1	3/23/2015	28.00	5/1/2015	6	1
	Dump Truck w/compressor & emulsion Sprayer	Street Repair	1	3/23/2015	15.00	4/13/2015	6	3
	Pickup Truck	Street Repair	2	3/23/2015	29.00	5/2/2015	6	2
	Roller	Street Repair	2	3/23/2015	48.00	5/29/2015	6	1
	Concrete Truck	Backfill Trench w/slurry	10	3/23/2015	37.00	5/14/2015	6	1
	Asphalt Grinder	Grind Asphalt	1	3/23/2015	10.00	4/6/2015	6	2
	Spreader	Spread Asphalt	1	3/23/2015	7.00	4/2/2015	6	2
<b>Steel Structure Installations</b>	2-ton Flatbed Truck	Deliver pole to site	---		N/A		---	---
	Large Crane	Tower Erection	---		N/A		---	---
	Bucket Truck/Manlift	Tower Erection and Conductor Installation	---		N/A		---	---
	Delivery Trucks		---		N/A		---	---
<b>Cable/Conductor Pulling and Tensioning</b>	<b>Task Schedule</b>			<b>10/22/2015</b>	<b>45d</b>		<b>0</b>	
	Cable Dolly	Cable pulling	1	10/22/2015	12.00	11/7/2015	6	1
	7000 LB UG Puller trailer	Cable pulling	1	10/22/2015	12.00	11/7/2015	6	1
	HD Flatbed W/Reel Carriers	Cable pulling	1	10/22/2015	12.00	11/7/2015	6	1
	Line Assist Truck	Cable pulling/connecti ons	3	10/22/2015	38.00	12/14/2015	6	2
	UG Combo Truck	Cable pulling/connecti ons	3	10/22/2015	38.00	12/14/2015	6	2

Table A-5. Schedule - Installation of new 69kV position at the Miguel Substation

Activity	Equipment	Use	Quantity	Approximate Start Date	Duration on Site (work days)		Duration of Use (hours/day)	Workers per Equipment
<b>Miguel Substation General Construction</b>	<b>Task Schedule</b>			<b>3/31/2015</b>	<b>80</b>			
	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	3	3/31/2015	80	7/21/2015	1	1
	Air Compressor	Operate air tools	1	3/31/2015	40	5/26/2015	6	0
	Mechanic Truck	Maintain and refuel equipment	1	3/31/2015	40	5/26/2015	2	1
	Delivery Trucks		1	3/31/2015	60	6/23/2015	1	1
<b>Substation Below Grade Construction</b>	<b>Task Schedule</b>			<b>3/31/2015</b>	<b>20d</b>			
	Pick-up Truck	Transport Workers	6	3/31/2015	20	4/28/2015	1	1
	Concrete Truck	Pour concrete (20 cy / 9 cy per trip)	3 (trips)	3/31/2015	1	4/1/2015	8	1
	Backhoe	Excavate pad foundations	1	3/31/2015	3	4/4/2015	6	1
	Fork Lift/Skid Steer Loader	Move rebar, equipment, masonry, and other materials	1	3/31/2015	3	4/4/2015	1	1
	Drill Rig w/ Auger	Pier Foundations	1	3/31/2015	3	4/4/2015	6	1
	Loader	Move bulk material	1	3/31/2015	5	4/7/2015	6	1
	Water Truck	Suppress dust	1	3/31/2015	20	4/28/2015	3	1
	Handheld Compactor	Compact soil	1	3/31/2015	20	4/28/2015	6	1
	Dump/Haul Truck	Transport import/export material	2 (trips)	3/31/2015	1	4/1/2015	6	1
	Delivery Trucks	Transport equipment	1	3/31/2015	1	4/1/2015	1	1
	Earthmoving Amount, cubic yards	20 cy (16 cu / haul trip)		3/31/2015		3/31/2015		
<b>Substation Above Grade Construction</b>	<b>Task Schedule</b>			<b>4/28/2015</b>	<b>20d</b>			
	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	3	4/28/2015	20	5/26/2015	1	1
	Bucket Truck/Manlift	Set steel and install equipment	1	4/28/2015	20	5/26/2015	6	1
	Boom Truck	Lift/Set Steel	1	4/28/2015	20	5/26/2015	2	1
	Fork Lift/Skid Steer Loader	Unload and move material (CB/Disc - offloading and setting)	1	4/28/2015	5	5/5/2015	4	1
	Cable Dolly (trailer)	Transport reels of conductor (no engine, can be pulled by assist truck)	1	4/28/2015	0	4/28/2015	0	0
	Flat bed truck	Delivering circuit breakers	1	4/28/2015	1	4/29/2015	2	1
	Boom truck with trailer	Delivering steel, disc, panels, insulators	1	4/28/2015	5	5/5/2015	2	1
<b>Substation Wiring</b>	<b>Task Schedule</b>			<b>5/26/2015</b>	<b>20d</b>			
	Wiring Truck	Transport Workers	1	5/26/2015	20	6/23/2015	1	2
	Delivery Truck	Deliver Relay Panels	1	5/26/2015	2	5/29/2015	1	1
<b>Relay Testing</b>	<b>Task Schedule</b>			<b>12/9/2015</b>	<b>20d</b>			
	Relay/Telecommunication Van	Transport and support construction personnel	1	12/9/2015	20	1/6/2016	1	2
<b>Miguel Side Salt Creek Energization (using TL6965)</b>	<b>Task Schedule</b>			<b>2/21/2016</b>	<b>5d</b>			
	Pick up Truck	Start Engineer +Engineer	2	2/21/2016	5	2/28/2016	1	1
	Relay/Telecommunication Van	Transport and support construction personnel	1	2/21/2016	5	2/28/2016	1	2
<b>69kV Substation Cutover</b>	<b>Task Schedule</b>			<b>3/8/2016</b>	<b>15d</b>			
	Pick up Truck	Start Engineer +Engineer	2	3/8/2016	15	3/29/2016	1	1
	Relay/Telecommunication Van	Test relay and telecommunications devices	1	3/8/2016	15	3/29/2016	1	2

## **Attachment DR.3-1**

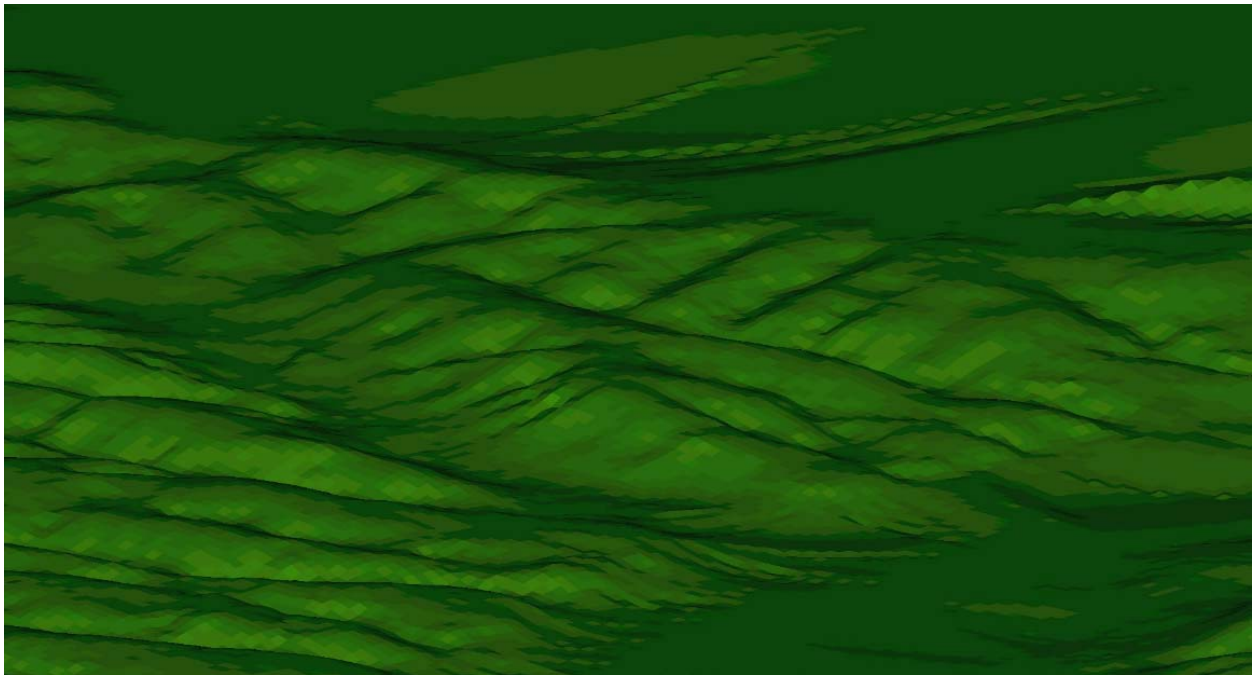
Visual Simulation Methodology

## Visual Simulation Methodology

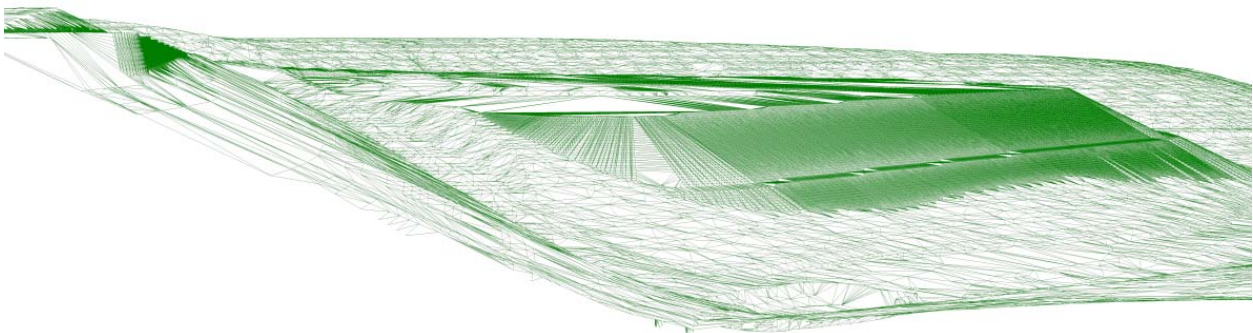
November 22, 2013

### 3D MODELING PROCESS

AUTOCAD WAS USED TO CREATE A 3D IMAGE USING AVAILABLE 3D DATA OBTAINED FROM SANGIS. AN AUTOCAD DRAWING WAS CREATED BY IMPORTING THE 3D CONTOUR SHAPE FILES AVAILABLE FROM SANGIS. THE RESULTANT COUNTOURS WERE EXTRACTED IN AUTOCAD TO PRODUCE A DIGITAL TERRAIN MODEL (DTM) SURFACE. A TRIANGULATED GRID WAS CREATED TO CREATE AS MUCH ACCURACY AS POSSIBLE FROM THE AVAILABLE DATA. WHERE GPS DATA WAS AVAILABLE FOR EACH PHOTOGRAPH, THE LOCATION OF EACH PHOTOGRAPH AS IMPORTED INTO THE DTM MODEL. SEE EXAMPLES BELOW.



**SHADED DTM MODEL OF SALT CREEK AREA**



**AN EXAMPLE OF KEY VIEW 7 - DIGITAL TERRAIN MODEL PROPOSED GRADING WITH HIDDEN LINES REMOVED**

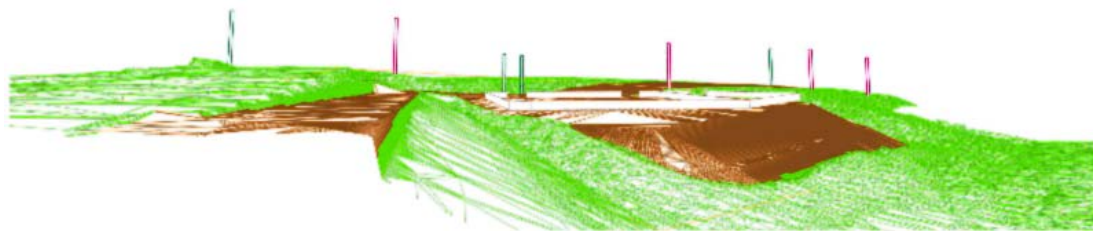
THE ELEVATION OF EACH PHOTOGRAPH WAS ENTERED. SINCE DETAILED CONTOURS WERE NOT AVAILABLE FOR ALL LOCATIONS, THE 3D LOCATION AND ANGLE OF EACH PHOTOGRAPH WAS INTERPOLATED AND/OR ADJUSTED UNTIL THE 3D PERSPECTIVE CREATED THROUGH AUTOCAD MATCHED THE EXISTING PHOTOGRAPH.

### **HOW THE FINAL PHOTO MONTAGE WAS PRODUCED**

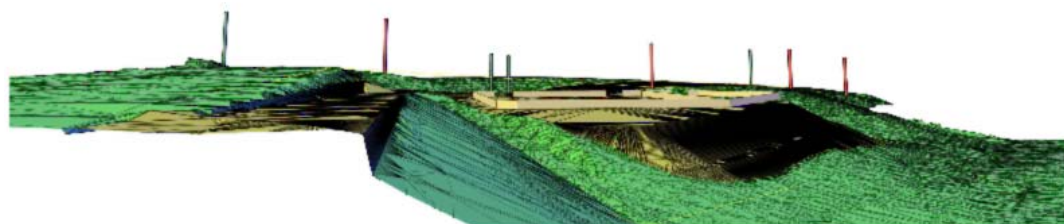
THE PERSPECTIVE MODEL CREATED BY AUTOCAD WAS IMPORTED INTO PHOTOSHOP AS A SEPARATE LAYER AND USED AS A BASIS FOR THE SIMULATION. SEE EXAMPLE BELOW.



**EXISTING PHOTOGRAPH**



**DTM LINE DRAWING FROM THE AUTOCAD 3D MODEL**



**DTM SHADED IMAGE CREATED FROM THE AUTOCAD 3D FILE**





**THE AUTOCAD 3D FILE WAS BROUGHT INTO THE EXISTING IMAGE AND SLIGHTLY ADJUSTED TO COINCIDE WITH THE EXISTING IMAGE.**



**THE LANDSCAPE AND STRUCTURE DETAIL WAS ENTERED AND ADJUSTED WITH THE COMPLETED SIMULATION SHOWN HERE.**

## **DATA FOR EACH PHOTOGRAPH USED**

THE FOLLOWING IS THE INFORMATION REQUESTED FOR EACH IMAGE. NOTE THAT SOME OF THE PHOTOS DO NOT HAVE A GPS OR TIME STAMP AS THAT INFORMATION WAS NOT IMPRINTED ON THE ORIGINAL FILE. WHEN THAT OCCURED, THE LOCATION AND ANGLE OF THE PHOTOGRAPH WERE INTERPOLATED BASED ON SURROUNDING AND DISTANT PHYSICAL FEATURES AND WERE THEN CONVERTED TO A COORDINATE LOCATION.

---

### **KEY VIEW 1**



#### **SINGLE FRAME**

3264 x 2448 24-bit color

Original date/time: 2012:11:06 07:14:13

Exposure time: 1/400

Shutter speed: 1/403.45

F-stop: 2.8

ISO speed: 80

Focal length: 6.2000

Exposure mode: Auto

White balance: Auto

Aperture: 2.9688

Exposure bias: 0.0000

Metering mode: Pattern

Digital zoom ratio: 1.0000

Canon image size: Large

Canon ISO: Auto

Canon AF point: 16390

Canon long focal length: 18600

Canon short focal length: 6200

Canon focal length units: 1000

Canon subject distance: 6.553000

Canon firmware version: Firmware Version 1.01  
Canon image number: 1000005  
Camera make: Canon  
Camera model: Canon PowerShot SD1100 IS  
X resolution: 180.0000  
Y resolution: 180.0000  
Resolution unit: Inches  
Colorspace: sRGB

---

## KEY VIEW 2



### SINGLE FRAME

3264 x 2448 24-bit color

Original date/time: 2012:11:06 07:36:23

Exposure time: 1/640

Shutter speed: 1/635.83

F-stop: 2.8

ISO speed: 80

Focal length: 6.2000

Exposure mode: Auto

White balance: Auto

Aperture: 2.9688

Exposure bias: 0.0000

Metering mode: Pattern

Custom rendered: Normal

Scene capture type: Standard

Digital zoom ratio: 1.0000

Canon macro mode: Normal

Canon quality: Normal

Canon digital zoom: None

Canon contrast: Normal

Canon saturation: Normal  
Canon sharpness: Normal  
Canon ISO: Auto  
Canon focus type: Auto  
Canon AF point: 16390  
Canon long focal length: 18600  
Canon short focal length: 6200  
Canon focal length units: 1000  
Canon white balance: Auto  
Canon subject distance: 6.553000  
Canon firmware version: Firmware Version 1.01  
Camera make: Canon  
Camera model: Canon PowerShot SD1100 IS  
X resolution: 180.0000  
Y resolution: 180.0000  
Resolution unit: Inches  
Colorspace: sRGB

---

## KEY VIEW 3



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2012:05:29 17:27:49

Exposure time: 1/1600

F-stop: 4.0

ISO speed: 160

Focal length: 4.3000

Focal length (35mm): 26

Metering mode: Pattern

Exposure program: Landscape

Digital zoom ratio: 0.0000

Contrast: Normal

Saturation: Normal

Sharpness: Normal  
GPS Tag Version: 02,03,00,00  
GPS Latitude: 32° 37' 23.8000"  
GPS Longitude: 116° 57' 14.7800"  
GPS Satellites: 6  
GPS Status: A  
GPS Measure Mode: 2  
GPS Degree of Precision: 0.8000  
GPS Map Datum: WGS-84  
Camera make: Panasonic  
Camera model: DMC-ZS10  
X resolution: 180.0000  
Y resolution: 180.0000  
Resolution unit: Inches  
Camera version: Ver.1.0  
Colorspace: sRGB

---

## KEY VIEW 4



### SINGLE FRAME

3630 x 1726 24-bit color

Camera make: Panasonic  
Camera model: DMC-ZS10  
X resolution: 180.0000  
Y resolution: 180.0000  
Resolution unit: Inches  
Camera version: Ver.1.0  
Colorspace: Srgb

(GPS IMPRINTED DATA AND TIME/DATE STAMP MISSING)

---

## KEY VIEW 5



### SINGLE FRAME

3264 x 2448 24-bit color

Original date/time: 2012:11:06 08:07:06

Exposure time: 1/160

Shutter speed: 1/158.96

F-stop: 8.0

ISO speed: 80

Focal length: 6.2000

Aperture: 6.0000

Exposure bias: 0.0000

Metering mode: Pattern

Digital zoom ratio: 1.0000

Canon digital zoom: None

Canon AF point: 16390

Canon long focal length: 18600

Canon short focal length: 6200

Canon focal length units: 1000

Canon subject distance: 6.553000

Canon firmware version: Firmware Version 1.01

Camera make: Canon

Camera model: Canon PowerShot SD1100 IS

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Colorspace: sRGB

---

## KEY VIEW 6



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2013:07:09 14:29:49

Exposure time: 1/2000

F-stop: 3.3

ISO speed: 100

Focal length: 4.3000

Focal length (35mm): 26

Exposure mode: Auto

White balance: Manual

Scene type: Photograph

Custom rendered: Normal

Digital zoom ratio: 0.0000

GPS Tag Version: 02,03,00,00

GPS Latitude: 32° 37' 25.9700"

GPS Longitude: 116° 57' 11.9700"

GPS Satellites: 5

GPS Status: A

GPS Measure Mode: 2

GPS Degree of Precision: 0.8000

GPS Map Datum: WGS-84

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: sRGB

---

## KEY VIEW 7



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2013:07:09 14:23:43

Exposure time: 1/2000

F-stop: 3.3

ISO speed: 100

Focal length: 4.3000

Focal length (35mm): 26

Exposure mode: Auto

Exposure bias: 0.0000

Exposure program: Aperture priority

Digital zoom ratio: 0.0000

GPS Tag Version: 02,03,00,00

GPS Latitude: 32° 37' 5.8500"

GPS Longitude: 116° 57' 8.2000"

GPS Satellites: 5

GPS Status: A

GPS Measure Mode: 2

GPS Degree of Precision: 0.8000

GPS Map Datum: WGS-84

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: sRGB



---

## KEY VIEW 8



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2013:07:09 14:11:30

Exposure time: 1/1600

F-stop: 3.3

ISO speed: 100

Focal length: 4.3000

Focal length (35mm): 26

White balance: Manual

Exposure bias: 0.0000

Metering mode: Pattern

Exposure program: Aperture priority

Digital zoom ratio: 0.0000

GPS Tag Version: 02,03,00,00

GPS Latitude: 32° 37' 11.2800"

GPS Longitude: 116° 57' 2.2500"

GPS Satellites: 4

GPS Status: A

GPS Measure Mode: 2

GPS Degree of Precision: 1.5000

GPS Map Datum: WGS-84

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: sRGB

---

## KEY VIEW 9



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2013:07:09 14:02:21

Exposure time: 1/3200

F-stop: 3.3

ISO speed: 100

Focal length: 4.3000

Focal length (35mm): 26

Exposure bias: 0.0000

Metering mode: Pattern

Digital zoom ratio: 0.0000

GPS Tag Version: 02,03,00,00

GPS Latitude: 32° 37' 15.3900"

GPS Longitude: 116° 56' 57.9000"

GPS Satellites: 5

GPS Status: A

GPS Measure Mode: 2

GPS Degree of Precision: 0.8000

GPS Map Datum: WGS-84

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: sRGB

---

## KEY VIEW 10



### SINGLE FRAME

4320 x 2432 24-bit color

Original date/time: 2013:07:09 13:53:39

Exposure time: 1/2000

F-stop: 3.3

ISO speed: 100

Focal length: 4.3000

Focal length (35mm): 26

Exposure bias: 0.0000

Digital zoom ratio: 0.0000

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: sRGB

---

## KEY VIEW 11



### DIGITAL STITCH

8659 x 3044 24-bit color

Camera make: Panasonic

Camera model: DMC-ZS10

X resolution: 180.0000

Y resolution: 180.0000

Resolution unit: Inches

Camera version: Ver.1.0

Colorspace: Srgb

(GPS IMPRINTED DATA AND TIME/DATE STAMP MISSING)

In order to achieve an accurate KOP, this image was zoomed in optically to increase its resolution. However, this resulted in needing to “stitch” together two adjacent images in order to approximate one picture relative to the angle. Software was used to seamlessly stitch two images together, resulting in this image used for KOP 11. In addition, imprinted date/time/GPS information is not available since the date setting was not programmed when these specific images were taken.

**Attachment DR.4-1**

Comparison of Equipment

**Comparison of Equipment**

<b>Construction Equipment Types Considered in AQ/GHG Analysis</b>	<b>Equipment Listed in CPUC Deficiency Letter (DR.4)</b>	<b>Comments</b>
Foreman Pick-up (F-450 4x4)	Pick-up Truck	
Pickup Truck	Pick-up Truck	
Chassis)	Crane (30-ton)	
Bucket Truck/Manlift		
3060 on 6x6 International Chassis)	Digger/Boom Truck with Material Trailer	
'Crummy')	Material/Crew Truck	
100-hp Oil Processing Truck	Oil processing rig	
2-ton Flatbed Truck	Flatbed Truck (2-ton)	
¾-ton or 1-ton Pickup Truck	Pick-up Truck (¾-ton or 1-ton)	
7000 LB UG Puller trailer		
Air Compressor		
Asphalt Grinder	Asphalt Grinder	
Backhoe		
Backhoe Loader		
Backhoe, loader, skid steer		
Bobcat		
Boom Truck		
Boom truck with trailer	Boom truck with trailer	
Bucket Truck/Manlift		
Bull wheel Tensioner		
Bulldozer		
Cable Dolly	Cable dolly	
Cable Dolly (trailer)		
Cat Track Hoe	Cat Track Hoe	
Compactor		
Concrete Truck		
Construction Truck		
Crane	Crane (30-ton)	
Delivery Trucks		
Drill Rig w/ Auger		
Dump Truck w/compressor & emulsion Sprayer	sprayer	
Dump/Haul Truck		
Excavator		
Excavator / Drill		
Excavator w/ Breaker		
Flat bed truck	Flatbed Truck	
Fork Lift		
Fork Lift/Skid Steer Loader		
Handheld Compactor	Handheld Compactor	
HD Flatbed W/Reel Carriers	HD flatbed with reel carriers	
Large Crane	Large Crane	
Line Assist Truck	Line Assist Truck	
Loader		
Mechanic Truck		
Pickup w/Saw Cut Trailer	Pickup with saw cut trailer/Concrete Saw	The concrete saw is the same as the pickup with saw cut trailer.
Puller		
Reel Trailer		
Relay/Telecommunication Van		
Road Grader/Blade		
Roller	Roller	
Scraper	Scraper	
Skid Steer Loader		
Splice Trailer (UG Cable)	Splice trailer (UG Cable)	The splice trailer is the same as the splice trailer (UG Cable). In addition, this does not include a motor and does not generate emissions.
Spreader	Spreader	
Street Sweeper		This piece of equipment should have been included in the PEA Project Description Table 3-5.
Trencher/Ditch Witch		This piece of equipment should have been included in the PEA Project Description Table 3-5.
UG Combo Truck	UG Combo Truck	
Water Truck		
Wiring Truck		
<b>Equipment Not Included in the Original Analysis</b>		
	Helicopter	We noted that a helicopter could be used for transmission line construction. A helicopter has been added to the updated AQ/GHG Analysis.
	Generator*	A generator was added to the analysis and should also be included in the PEA Project Description Table 3-5.
	Vacuum pump	A vacuum pump was added to the AQ/GHG Analysis.

\*A generator was not specifically identified in the CPUC deficiency request. However, as part of the equipment comparison exercise, SDG&E recognized that a generator should have been included. It was subsequently added to the analysis.

**Attachment DR.5-1**

Air Quality and GHG Calculation Spreadsheets

Construction Heavy Equipment Emissions  
Salt Creek Substation Construction

Table A-1. 2014 Maximum Daily Construction Emissions, Construction Heavy Equipment Use

Equipment/Phase	Emission Factors												Emissions										
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Salt Creek Substation - General Construction</b>																							
Air Compressor	DIESEL	78	0.48	0.0758	0.3054	0.3897	0.0006	0.0248	0.0220381	47.0	0.0068	0.0370	1	8	0.61	2.44	3.12	0.00	0.20	0.18	375.60	0.05	0.30
Mechanic Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	9	1.19	3.39	9.94	0.02	0.33	0.30	1498.91	0.11	0.94
Generator	DIESEL	5	0.74	0.0758	0.0489	0.0434	0.0002	0.0049	0.0043558	10.2	0.0013	0.0041	1	3	0.23	0.15	0.13	0.00	0.01	0.01	30.62	0.00	0.01
<b>Subtotal</b>															<b>2.03</b>	<b>5.98</b>	<b>13.19</b>	<b>0.02</b>	<b>0.54</b>	<b>0.48</b>	<b>1905.13</b>	<b>0.17</b>	<b>1.25</b>
<b>Salt Creek Substation - Substation General Construction</b>																							
Air Compressor	DIESEL	78	0.48	0.0758	0.3054	0.3897	0.0006	0.0248	0.0220381	47.0	0.0068	0.0370	1	6	0.45	1.83	2.34	0.00	0.15	0.13	281.70	0.04	0.22
Mechanic Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	2	0.27	0.75	2.21	0.00	0.07	0.07	333.09	0.02	0.21
<b>Subtotal</b>															<b>0.72</b>	<b>2.58</b>	<b>4.55</b>	<b>0.01</b>	<b>0.22</b>	<b>0.20</b>	<b>614.79</b>	<b>0.06</b>	<b>0.43</b>
<b>Salt Creek Substation Site Access and Grading</b>																							
Bulldozer	DIESEL	358	0.4	0.3072	0.8208	1.2776	0.0026	0.0474	0.0421455	264.8725	0.0277	0.1214	1	8	2.46	6.57	10.22	0.02	0.38	0.34	2118.98	0.22	0.97
Road Grader/Blade	DIESEL	162	0.41	0.1386	0.5418	0.6023	0.0014	0.0322	0.0286707	124	0.0125	0.0572	1	8	1.11	4.33	4.82	0.01	0.26	0.23	991.37	0.10	0.46
Compactor	DIESEL	84	0.38	0.0921	0.2604	0.3323	0.0007	0.0211	0.0187889	59.0	0.0083	0.0316	1	8	0.74	2.08	2.66	0.01	0.17	0.15	471.91	0.07	0.25
Backhoe, loader, skid steer	DIESEL	37	0.37	0.0443	0.1237	0.1606	0.0003	0.0136	0.0120874	25.5	0.0040	0.0153	1	8	0.35	0.99	1.28	0.00	0.11	0.10	204.15	0.03	0.12
Water Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	2	8	2.12	6.02	17.68	0.03	0.59	0.52	2664.73	0.19	1.68
Street Sweeper	DIESEL	88		0.0991	0.5098	0.6481	0.0009	0.0543	0.0483083	75.0	0.0089	0.0616	1	8	0.79	4.08	5.18	0.01	0.43	0.39	600.32	0.07	0.49
Dump/Haul Truck	DIESEL	381		0.2065	0.3761	1.1048	0.0027	0.0368	0.0327961	272.3	0.0186	0.1050	12	2	4.96	9.03	26.52	0.06	0.88	0.79	6536.02	0.45	2.52
<b>Subtotal</b>															<b>12.53</b>	<b>33.10</b>	<b>68.36</b>	<b>0.14</b>	<b>2.82</b>	<b>2.51</b>	<b>13587.48</b>	<b>1.13</b>	<b>6.49</b>
<b>Salt Creek Substation Storm Drain System and Erosion Control</b>																							
Loader	DIESEL	87	0.37	0.0902	0.2626	0.3351	0.0007	0.0213	0.0189478	58.9	0.0081	0.0318	1	8	0.72	2.10	2.68	0.01	0.17	0.15	471.31	0.07	0.25
Water Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	8	1.06	3.01	8.84	0.01	0.29	0.26	1332.36	0.10	0.84
Excavator	DIESEL	157	0.38	0.1134	0.4866	0.5410	0.0013	0.0289	0.02575271	112	0.0102	0.0514	1	8	0.91	3.89	4.33	0.01	0.23	0.21	897.77	0.08	0.41
<b>Subtotal</b>															<b>2.69</b>	<b>9.00</b>	<b>15.85</b>	<b>0.03</b>	<b>0.70</b>	<b>0.62</b>	<b>2701.44</b>	<b>0.24</b>	<b>1.51</b>
<b>Salt Creek Substation CMU Wall</b>																							
Fork Lift	DIESEL	83	0.4	0.0877	0.2708	0.3456	0.0007	0.0220	0.0195423	62.4	0.0079	0.0328	2	2	0.35	1.08	1.38	0.00	0.09	0.08	249.80	0.03	0.13
Trencher/Ditch Witch	DIESEL	69	0.5	0.1212	0.2814	0.4046	0.0008	0.0228	0.0203075	64.9	0.0109	0.0384	1	6	0.73	1.69	2.43	0.00	0.14	0.12	389.37	0.07	0.23
Water Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	3	0.40	1.13	3.31	0.01	0.11	0.10	499.64	0.04	0.31
Excavator/Drill	DIESEL	157	0.38	0.1134	0.4866	0.5410	0.0013	0.0289	0.02575271	112	0.0102	0.0514	1	6	0.68	2.92	3.25	0.01	0.17	0.15	673.33	0.06	0.31
<b>Subtotal</b>															<b>2.16</b>	<b>6.82</b>	<b>10.37</b>	<b>0.02</b>	<b>0.51</b>	<b>0.45</b>	<b>1812.14</b>	<b>0.19</b>	<b>0.99</b>
<b>Simultaneous Construction Equipment</b>															<b>20.12</b>	<b>57.48</b>	<b>112.32</b>	<b>0.22</b>	<b>4.79</b>	<b>4.27</b>	<b>20620.98</b>	<b>1.80</b>	<b>10.67</b>



Table B-2  
Construction and Operational Truck Trip Emissions  
Salt Creek Substation Construction

Table A-2. 2014 Maximum Daily Construction Emissions, Construction Truck Trips

Vehicle	Vehicle Class	Peak No. of Trucks per day	Speed (mph)	VMT (mi/vehicle day)	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM10		PM2.5			CO2	CH4	N2O	Emissions, lbs/day											
					Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O
<b>Salt Creek Substation - General Construction</b>																												
Foreman Pick-Up	Light Duty Truck 1, Diesel	3	15	60	0.271736729	0.610084	0.051753579	0.003186	0.040573	0.007999958	0.036749816	0.037327	0.00199999	0.01574992	295.2811	0.016873246	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
Delivery Trucks	Heavy Duty Truck, Diesel	1	35	80	1.119564193	7.828027	0.296728351	0.010712	0.224693	0.011999937	0.130339319	0.206717	0.002999984	0.055859708	1111.549	0.06351726	0.03	0.20	1.38	0.05	0.00	0.06	0.05	0.00	0.00	196.04	0.01	0.01
<b>Subtotal</b>																		<b>0.31</b>	<b>1.62</b>	<b>0.07</b>	<b>0.00</b>	<b>0.10</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>313.22</b>	<b>0.02</b>	<b>0.01</b>
<b>Substation General Construction</b>																												
Foreman Pick-Up	Light Duty Truck 1, Diesel	3	15	60	0.271736729	0.610084	0.051753579	0.003186	0.040573	0.007999958	0.036749816	0.037327	0.00199999	0.01574992	295.2811	0.016873246	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
Delivery Trucks	Heavy Duty Truck, Diesel	1	35	80	1.119564193	7.828027	0.296728351	0.010712	0.224693	0.011999937	0.130339319	0.206717	0.002999984	0.055859708	1111.549	0.06351726	0.03	0.20	1.38	0.05	0.00	0.06	0.05	0.00	0.00	196.04	0.01	0.01
<b>Subtotal</b>																		<b>0.31</b>	<b>1.62</b>	<b>0.07</b>	<b>0.00</b>	<b>0.10</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>313.22</b>	<b>0.02</b>	<b>0.01</b>
<b>Site and Access Road Grading</b>																												
Pickup Truck	Light Duty Truck 1, Diesel	12	15	60	0.271736729	0.610084	0.051753579	0.003186	0.040573	0.007999958	0.036749816	0.037327	0.00199999	0.01574992	295.2811	0.016873246	0.01	0.43	0.97	0.08	0.01	0.14	0.09	0.00	0.00	468.71	0.03	0.01
Dump/Haul Trucks (a)	Heavy Duty Truck, Diesel	1	35	6400	1.119564193	7.828027	0.296728351	0.010712	0.224693	0.011999937	0.130339319	0.206717	0.002999984	0.055859708	1111.549	0.06351726	0.03	15.80	110.45	4.19	0.15	5.18	3.75	0.00	0.00	15683.58	0.90	0.40
<b>Subtotal</b>																		<b>16.23</b>	<b>111.42</b>	<b>4.27</b>	<b>0.16</b>	<b>5.31</b>	<b>3.83</b>	<b>0.00</b>	<b>0.00</b>	<b>16152.29</b>	<b>0.92</b>	<b>0.41</b>
<b>Storm Drain System and Erosion Control</b>																												
Pickup Truck	Light Duty Truck 1, Diesel	10	15	60	0.271736729	0.610084	0.051753579	0.003186	0.040573	0.007999958	0.036749816	0.037327	0.00199999	0.01574992	295.2811	0.016873246	0.01	0.36	0.81	0.07	0.00	0.11	0.07	0.00	0.00	390.59	0.02	0.01
<b>Subtotal</b>																		<b>0.36</b>	<b>0.81</b>	<b>0.07</b>	<b>0.00</b>	<b>0.11</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>390.59</b>	<b>0.02</b>	<b>0.01</b>
<b>Substation CMU Wall</b>																												
Pickup Truck	Light Duty Truck 1, Diesel	6	15	60	0.271736729	0.610084	0.051753579	0.003186	0.040573	0.007999958	0.036749816	0.037327	0.00199999	0.01574992	295.2811	0.016873246	0.01	0.22	0.48	0.04	0.00	0.07	0.04	0.00	0.00	234.36	0.01	0.01
<b>Subtotal</b>																		<b>0.22</b>	<b>0.48</b>	<b>0.04</b>	<b>0.00</b>	<b>0.07</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>	<b>234.36</b>	<b>0.01</b>	<b>0.01</b>
<b>Simultaneous Construction Trucks</b>																		<b>17.41</b>	<b>115.96</b>	<b>4.52</b>	<b>0.17</b>	<b>5.69</b>	<b>4.09</b>	<b>0.00</b>	<b>0.00</b>	<b>17403.68</b>	<b>0.99</b>	<b>0.45</b>

(a) Construction trucks would travel a total of 6,400 miles per day, divided among trucks importing fill material to the site.

Table B-3  
Construction and Operations Worker Commute Emission Calculations  
Salt Creek Substation Construction

Table A-3. 2014 Maximum Daily Construction Emissions, Worker Trips

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO2		CH4		N2O			
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Exhaust (g/mi)	Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
					General Construction	Light-Duty Truck, catalyst	3	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328
Substation General Construction	Light-Duty Truck, catalyst	3	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328	
Site and Access Road Grading	Light-Duty Truck, catalyst	8	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328	
Storm Drain System and Erosion Control	Light-Duty Truck, catalyst	5	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328	
Substation CMU Wall	Light-Duty Truck, catalyst	8	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328	

EMFAC2011 emission factors for 2014

Assume startup after 8 hours  
Assume 45 minutes run time total

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O
General Construction	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Substation General Construction	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Site and Access Road Grading	Light-Duty Truck, catalyst	8	35	80	5.04	0.46	0.26	0.01	0.07	0.03	0.07	0.03	533.51	0.03	0.05
Storm Drain System and Erosion Control	Light-Duty Truck, catalyst	5	35	80	3.15	0.29	0.16	0.00	0.04	0.02	0.04	0.02	333.44	0.02	0.03
Substation CMU Wall	Light-Duty Truck, catalyst	8	35	80	5.04	0.46	0.26	0.01	0.07	0.03	0.07	0.03	533.51	0.03	0.05
Simultaneous Worker Trips					<b>17.02</b>	<b>1.57</b>	<b>0.86</b>	<b>0.02</b>	<b>0.24</b>	<b>0.11</b>	<b>0.23</b>	<b>0.09</b>	<b>1800.60</b>	<b>0.09</b>	<b>0.16</b>

**Table A-4. 2014 Maximum Daily Construction Emissions, Fugitive Dust  
Salt Creek Substation**

**Site and Access Road Grading**

**Grading - Bulldozer Operations**

Emission factor from SCAQMD CEQA Air Quality Handbook, Table A9-9-F

$$E = ((0.45 \times (([G]^1.5)/([H]^1.4))) \times I) \times J$$

where

G = silt content of material in percent, assumed to be 7.5%

Assume H = 2.0% moisture - uncontrolled

Assume H = 15.0% moisture - watering 3 times daily

I = 2.2046 lb/kg

J = hours of bulldozing operations, based on construction scenario, 8 hrs/day for 75 days

E = ((0.45 x (([G]^1.5)/([H]^1.4))) x I) x J =	Uncontrolled	Controlled	
	61.770655	3.678717483	lbs/day
	2.3163996	0.137951906	total tons

**Earthmoving - Material Handling**

Emission Factor from SCAQMD CEQA Air Quality Handbook, Table A9-9-G

$$E = [0.00112 \times (([G/5]^1.3)/([H/2]^1.4))] \times [I/J]$$

where

G = Mean wind speed in miles per hour

H = Moisture content of surface material

I = Pounds of overburden handled per day

J = lbs/ton, 2000

For the Salt Creek Substation, assume 12 miles per hour daily maximum wind speed

Assume H = 2.0% moisture - uncontrolled

Assume H = 15.0% moisture - watering 3 times daily

I = 95,000 cubic yards x 1600 lbs/cubic yard = 152,000,000 lbs

Assume earthmoving occurs over 30 days, maximum per day could be 10 x daily average

E = [0.00112 x (([G/5]^1.3)/([H/2]^1.4))] x [I/J] =	Uncontrolled	Controlled	
	88.549268	5.273503101	lbs/day
	0.0079103	0.007910255	total tons

**Storm Drain**

**Earthmoving - Material Handling**

Emission Factor from SCAQMD CEQA Air Quality Handbook, Table A9-9-G

$$E = [0.00112 \times (([G/5]^1.3)/([H/2]^1.4))] \times [I/J]$$

where

G = Mean wind speed in miles per hour

H = Moisture content of surface material

I = Pounds of overburden handled per day

J = lbs/ton, 2000

For the Salt Creek Substation, assume 12 miles per hour daily maximum wind speed

Assume H = 2.0% moisture - uncontrolled

Assume H = 15.0% moisture - watering 3 times daily

I = 2,000 cubic yards x 1600 lbs/cubic yard = 3,200,000 lbs

Assume earthmoving occurs over 30 days, maximum per day could be 10 x daily average

E = [0.00112 x (([G/5]^1.3)/([H/2]^1.4))] x [I/J] =	Uncontrolled	Controlled	
	1.8641951	0.111021118	lbs/day
	0.0027963	0.000166532	total tons

**Substation CMU Wall**

**Earthmoving - Material Handling**

Emission Factor from SCAQMD CEQA Air Quality Handbook, Table A9-9-G

$$E = [0.00112 \times (([G/5]^1.3)/([H/2]^1.4))] \times [I/J]$$

where

G = Mean wind speed in miles per hour

H = Moisture content of surface material

I = Pounds of overburden handled per day

J = lbs/ton, 2000

For the Salt Creek Substation, assume 12 miles per hour daily maximum wind speed

Assume H = 2.0% moisture - uncontrolled

Assume H = 15.0% moisture - watering 3 times daily

I = 665 cubic yards x 1600 lbs/cubic yard = 800,000 lbs

Assume earthmoving occurs over 30 days, maximum per day could be 10 x daily average

E = [0.00112 x (([G/5]^1.3)/([H/2]^1.4))] x [I/J] =	Uncontrolled	Controlled	
	0.6198449	0.036914522	lbs/day
	0.0009298	5.53718E-05	total tons

Table B-1  
Construction Heavy Equipment Emissions  
Salt Creek Substation Construction

Table A-5. 2015 Daily Maximum Construction Emissions, Construction Heavy Equipment Use, Salt Creek Substation

Equipment/Phase	FUEL	HP	Load Factor	Emission Factors									Emissions										
				ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Salt Creek Substation - Substation General Construction</b>																							
Air Compressor	DIESEL	78	0.48	0.0758	0.3054	0.3897	0.0006	0.0248	0.0220381	47.0	0.0068	0.0370	1	6	0.45	1.83	2.34	0.00	0.15	0.13	281.70	0.04	0.22
Mechanic Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	2	0.27	0.75	2.21	0.00	0.07	0.07	333.09	0.02	0.21
<b>Subtotal</b>															<b>0.72</b>	<b>2.58</b>	<b>4.55</b>	<b>0.01</b>	<b>0.22</b>	<b>0.20</b>	<b>614.79</b>	<b>0.06</b>	<b>0.43</b>
<b>Salt Creek Substation Wiring</b>																							
Wiring Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	2	0.27	0.75	2.21	0.00	0.07	0.07	333.09	0.02	0.21
<b>Subtotal</b>															<b>0.27</b>	<b>0.75</b>	<b>2.21</b>	<b>0.00</b>	<b>0.07</b>	<b>0.07</b>	<b>333.09</b>	<b>0.02</b>	<b>0.21</b>
<b>Salt Creek Substation Above Grade Construction</b>																							
Boom Truck	DIESEL	235		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	8	1.06	3.01	8.84	0.01	0.29	0.26	1332.36	0.10	0.84
Water Truck	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	8	1.06	3.01	8.84	0.01	0.29	0.26	1332.36	0.10	0.84
<b>Subtotal</b>															<b>2.12</b>	<b>6.02</b>	<b>17.68</b>	<b>0.03</b>	<b>0.59</b>	<b>0.52</b>	<b>2664.73</b>	<b>0.19</b>	<b>1.68</b>
<b>Simultaneous Construction Equipment</b>															<b>3.11</b>	<b>9.36</b>	<b>24.43</b>	<b>0.04</b>	<b>0.89</b>	<b>0.79</b>	<b>3612.61</b>	<b>0.28</b>	<b>2.32</b>

Table B-2  
Construction and Operational Truck Trip Emissions  
Salt Creek Substation Construction

Table A-6. Daily Maximum Construction Emissions, Construction Truck Trips, Salt Creek Substation

Vehicle	Vehicle Class	Peak No. of Trucks per day	Total No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM10			PM2.5			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Emissions, lbs/day										
						Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>Substation General Construction</b>																													
Foreman Pick-Up	Light Duty Truck 1, Diesel	3		15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
Delivery Trucks	Heavy Duty Truck, Diesel	1		35	80	1.119564193	7.828027	0.29672835	0.010712	0.224693	0.01199994	0.13033932	0.206717	0.003	0.0558597	1111.549	0.06351726	0.03	0.20	1.38	0.05	0.00	0.06	0.05	0.00	0.00	196.04	0.01	0.01
<b>Subtotal</b>																		<b>0.31</b>	<b>1.62</b>	<b>0.07</b>	<b>0.00</b>	<b>0.10</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>313.22</b>	<b>0.02</b>	<b>0.01</b>	
<b>Substation Above Grade Construction</b>																													
Pickup Truck	Light Duty Truck 1, Diesel	3		15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
<b>Subtotal</b>																		<b>0.11</b>	<b>0.24</b>	<b>0.02</b>	<b>0.00</b>	<b>0.03</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>117.18</b>	<b>0.01</b>	<b>0.00</b>	
<b>Telecom</b>																													
Pick-Up	Light Duty Truck 1, Diesel	1		15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.04	0.08	0.01	0.00	0.01	0.01	0.00	0.00	39.06	0.00	0.00
<b>Subtotal</b>																		<b>0.04</b>	<b>0.08</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>39.06</b>	<b>0.00</b>	<b>0.00</b>	
<b>Simultaneous Construction Trucks</b>																		<b>0.45</b>	<b>1.95</b>	<b>0.10</b>	<b>0.00</b>	<b>0.14</b>	<b>0.10</b>	<b>0.00</b>	<b>0.00</b>	<b>469.46</b>	<b>0.03</b>	<b>0.01</b>	

Table B-3  
Construction and Operations Worker Commute Emission Calculations  
Salt Creek Substation Construction

Table A-7. Daily Maximum Construction Emissions, Worker Trips, Salt Creek Substation

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO2		CH4		N2O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
Substation General Construction	Light-Duty Truck, catalyst	3	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284
Substation Wiring	Light-Duty Truck, catalyst	3	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284
Substation Above Grade Construction	Light-Duty Truck, catalyst	10	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284
Telecom	Light-Duty Truck, catalyst	2	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284

EMFAC2011 emission factors for 2014

Assume startup after 8 hours

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O
Substation General Construction	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Substation Wiring	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Substation Above Grade Construction	Light-Duty Truck, catalyst	10	35	80	6.30	0.58	0.32	0.01	0.09	0.04	0.08	0.03	666.89	0.03	0.06
Telecom	Light-Duty Truck, catalyst	2	35	80	1.26	0.12	0.06	0.00	0.02	0.01	0.02	0.01	133.38	0.01	0.01
Simultaneous Worker Trips					1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02

Table B-4  
Construction Heavy Equipment Emissions  
TL 6965 Construction

Table A-8. Daily Maximum Construction Emissions, Construction Heavy Equipment Use, TL6965

Equipment/Phase	Emission Factors												Emissions										
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Trans: TL6965 - OH Conductor Pulling and Tensioning</b>																							
Manlift	DIESEL	34	0.31	0.0534	0.0953	0.1236	0.0003	0.0105	0.0093062	19.6	0.0048	0.0117	2	8	0.85	1.52	1.98	0.00	0.17	0.15	313.80	0.08	0.19
Puller	DIESEL	300		0.1379	0.5080	1.3457	0.0025	0.0441	0.0392193	254.2	0.0124	0.1278	1	8	1.10	4.06	10.77	0.02	0.35	0.31	2033.91	0.10	1.02
Bull Wheel Tensioner	DIESEL	300		0.1379	0.5080	1.3457	0.0025	0.0441	0.0392193	254.2	0.0124	0.1278	1	8	1.10	4.06	10.77	0.02	0.35	0.31	2033.91	0.10	1.02
Reel Trailer	DIESEL	300		0.1379	0.5080	1.3457	0.0025	0.0441	0.0392193	254.2	0.0124	0.1278	1	8	1.10	4.06	10.77	0.02	0.35	0.31	2033.91	0.10	1.02
Boom Truck	DIESEL	235		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	8	1.06	3.01	8.84	0.01	0.29	0.26	1332.36	0.10	0.84
Crane	DIESEL	399	0.29	0.1468	0.6632	1.1632	0.0018	0.0383	0.0340549	180.1	0.0132	0.1105	1	8	1.17	5.31	9.31	0.01	0.31	0.27	1440.81	0.11	0.88
<b>Subtotal</b>															<b>6.40</b>	<b>22.03</b>	<b>52.42</b>	<b>0.09</b>	<b>1.83</b>	<b>1.62</b>	<b>9188.70</b>	<b>0.58</b>	<b>4.98</b>
<b>Trans: TL6965 - Underground Trench/Conduit/Substructure</b>																							
Dump Trucks	DIESEL	381		0.2065	0.3761	1.1048	0.0027	0.0368	0.0327961	272.3	0.0186	0.1050	3	8	4.96	9.03	26.52	0.06	0.88	0.79	6536.02	0.45	2.52
Backhoe	DIESEL	87	0.37	0.0634	0.2626	0.3351	0.0006	0.0213	0.0189478	51.7280	0.0057	0.0318	2	8	1.01	4.20	5.36	0.01	0.34	0.30	827.65	0.09	0.51
Concrete Trucks	DIESEL	235		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	5	4	2.65	7.52	22.10	0.04	0.74	0.66	3330.91	0.24	2.10
Excavator	DIESEL	157	0.38	0.1657	0.4866	0.5410	0.0023	0.0289	0.02575271	234	0.0149	0.0514	1	8	1.33	3.89	4.33	0.02	0.23	0.21	1869.88	0.12	0.41
<b>Subtotal</b>															<b>9.95</b>	<b>24.64</b>	<b>58.30</b>	<b>0.13</b>	<b>2.19</b>	<b>1.95</b>	<b>12564.45</b>	<b>0.90</b>	<b>5.54</b>
<b>Total</b>															<b>16.35</b>	<b>46.68</b>	<b>110.72</b>	<b>0.22</b>	<b>4.02</b>	<b>3.58</b>	<b>21753.16</b>	<b>1.47</b>	<b>10.52</b>





Table A-10. Daily Maximum Construction Emissions, Worker Trips, TL6965

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)
OH Conductor Pulling and Tensioning	Light-Duty Truck, catalyst	24	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328
UG Trench Conduit Substructure	Light-Duty Truck, catalyst	33	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328

EMFAC2011 emission factors for 2014

Assume startup after 8 hours  
Assume 45 minutes run time total

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
OH Conductor Pulling and Tensioning	Light-Duty Truck, catalyst	24	35	80	15.13	1.39	0.77	0.02	0.21	0.09	0.20	0.08	1600.53	0.08	0.14
UG Trench Conduit Substructure	Light-Duty Truck, catalyst	33	35	80	20.80	1.92	1.06	0.02	0.29	0.13	0.28	0.11	2200.73	0.10	0.19
<b>Total</b>					<b>35.93</b>	<b>3.31</b>	<b>1.82</b>	<b>0.04</b>	<b>0.50</b>	<b>0.22</b>	<b>0.48</b>	<b>0.20</b>	<b>3801.27</b>	<b>0.18</b>	<b>0.33</b>

Table B-7  
 Construction Heavy Equipment Emissions  
 TL 6910 Construction

Table A-11. Daily Maximum Construction Emissions, Construction Heavy Equipment Use, TL6910

Equipment/Phase	Emission Factors											Emissions											
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Trans: TL6910 - Underground Trench/Conduit/Substructure</b>																							
Dump Trucks	DIESEL	381		0.2065	0.3761	1.1048	0.0027	0.0368	0.0327961	272.3	0.0186	0.1050	4	8	6.61	12.04	35.35	0.09	1.18	1.05	8714.69	0.60	3.36
Backhoe	DIESEL	87	0.37	0.0634	0.2626	0.3351	0.0006	0.0213	0.0189478	51.7280	0.0057	0.0318	2	8	1.01	4.20	5.36	0.01	0.34	0.30	827.65	0.09	0.51
Concrete Trucks	DIESEL	235		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	4	4	2.12	6.02	17.68	0.03	0.59	0.52	2664.73	0.19	1.68
Excavator	DIESEL	157	0.38	0.1657	0.4866	0.5410	0.0023	0.0289	0.02575271	234	0.0149	0.0514	1	8	1.33	3.89	4.33	0.02	0.23	0.21	1869.88	0.12	0.41
<b>Subtotal</b>															<b>11.07</b>	<b>26.15</b>	<b>62.72</b>	<b>0.14</b>	<b>2.34</b>	<b>2.08</b>	<b>14076.94</b>	<b>1.00</b>	<b>5.96</b>



Table A-13. Daily Maximum Construction Emissions, Worker Trips, TL6910

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
UG Trench/Conduit/Substructure	Light-Duty Truck, catalyst	5	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328

EMFAC2011 emission factors for 2014

Assume startup after 8 hours  
Assume 45 minutes run time total

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
UG Trench/Conduit/Substructure	Light-Duty Truck, catalyst	4	35	80	3.15	0.29	0.16	0.00	0.04	0.02	0.04	0.02	333.44	0.02	0.03
<b>Simultaneous Worker Emissions</b>					<b>3.15</b>	<b>0.29</b>	<b>0.16</b>	<b>0.00</b>	<b>0.04</b>	<b>0.02</b>	<b>0.04</b>	<b>0.02</b>	<b>333.44</b>	<b>0.02</b>	<b>0.03</b>

Table B-7  
Construction Heavy Equipment Emissions  
TL 6910 Construction

Table A-14. Daily Maximum Construction Emissions, Construction Heavy Equipment Use, 12kV Distribution

Equipment/Phase	Emission Factors											Emissions											
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Trans: TL6910 - Underground Trench/Conduit/Substructure</b>																							
Dump Trucks	DIESEL	381		0.2065	0.3761	1.1048	0.0027	0.0368	0.0327961	272.3	0.0186	0.1050	1	8	1.65	3.01	8.84	0.02	0.29	0.26	2178.67	0.15	0.84
Compactor	DIESEL	84	0.38	0.0921	0.2604	0.3323	0.0007	0.0211	0.0187889	59.0	0.0083	0.0316	1	8	0.74	2.08	2.66	0.01	0.17	0.15	471.91	0.07	0.25
<b>Subtotal</b>															<b>2.39</b>	<b>5.09</b>	<b>11.50</b>	<b>0.03</b>	<b>0.46</b>	<b>0.41</b>	<b>2650.58</b>	<b>0.22</b>	<b>1.09</b>
<b>Total</b>															<b>2.39</b>	<b>5.09</b>	<b>11.50</b>	<b>0.03</b>	<b>0.46</b>	<b>0.41</b>	<b>2650.58</b>	<b>0.22</b>	<b>1.09</b>



Table A-16. Daily Maximum Construction Emissions, Worker Trips, 12kV Distribution

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
UG Conduit	Light-Duty Truck, catalyst	48	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328

EMFAC2011 emission factors for 2014

Assume startup after 8 hours

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
UG Conduit	Light-Duty Truck, catalyst	48	35	80	30.26	2.79	1.54	0.03	0.42	0.19	0.41	0.17	3201.07	0.15	0.28
<b>Simultaneous Worker Emissions</b>					<b>30.26</b>	<b>2.79</b>	<b>1.54</b>	<b>0.03</b>	<b>0.42</b>	<b>0.19</b>	<b>0.41</b>	<b>0.17</b>	<b>3201.07</b>	<b>0.15</b>	<b>0.28</b>

Table B-16  
Fugitive Dust Emission Calculations  
Salt Creek Substation Construction

**Table A-17. 2015 Maximum Daily Construction Emissions, Fugitive Dust, Salt Creek Substation Salt Creek Substation**

**Substation Below Grade Construction**

**Earthmoving - Material Handling**

Emission Factor from SCAQMD CEQA Air Quality Handbook, Table A9-9-G

$$E = [0.00112 \times \left( \frac{G}{5} \right)^{1.3} / \left( \frac{H}{2} \right)^{1.4}] \times [I/J]$$

where

G = Mean wind speed in miles per hour

H = Moisture content of surface material

I = Pounds of overburden handled per day

J = lbs/ton, 2000

For the Salt Creek Substation, assume 12 miles per hour daily maximum wind speed

Assume H = 2.0% moisture - uncontrolled

Assume H = 15.0% moisture - watering 3 times daily

I = 3000 cubic yards x 1600 lbs/cubic yard = 4,800,000 lbs

Assume earthmoving occurs over 30 days, maximum per day could be 10 x daily average

	Uncontrolled	Controlled	
E = [0.00112 x ((G/5) <sup>1.3</sup> /(H/2) <sup>1.4</sup> )] x [I/J] =	2.7962927	0.166531677	lbs/day
	0.0041944	0.000249798	total tons



Table B-1  
Construction Heavy Equipment Emissions  
Salt Creek Substation Construction

Table A-18. 2016 Maximum Daily Construction Emissions, Construction Heavy Equipment, Salt Creek Substation

Equipment/Phase	Emission Factors											Emissions											
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Salt Creek Energization</b>																							
Relay/Telecommunication Van	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	2	0.27	0.75	2.21	0.00	0.07	0.07	333.09	0.02	0.21
<b>Subtotal</b>															<b>0.27</b>	<b>0.75</b>	<b>2.21</b>	<b>0.00</b>	<b>0.07</b>	<b>0.07</b>	<b>333.09</b>	<b>0.02</b>	<b>0.21</b>
<b>Simultaneous Construction Equipment</b>																							

Table B-2  
Construction and Operational Truck Trip Emissions  
Salt Creek Substation Construction

Table A-19. 2016 Maximum Daily Construction Emissions, Construction Trucks, Salt Creek Substation

Vehicle	Vehicle Class	Peak No. of Trucks per day	Total No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM10			PM2.5			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Emissions, lbs/day										
						Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>Salt Creek Energization</b>																													
Foreman Pick-Up	Light Duty Truck 1, Diesel	3		15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
<b>Simultaneous Construction Trucks</b>																													
																			0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00

Table B-3  
Construction and Operations Worker Commute Emission Calculations  
Salt Creek Substation Construction

Table A-20. 2016 Maximum Daily Construction Emissions, Worker Trips, Salt Creek Substation

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5			CO2		CH4		N2O			
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Exhaust (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
Salt Creek Energization	Light-Duty Truck, catalyst	3	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284

EMFAC2011 emission factors for 2014

Assume startup after 8 hours

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O
Salt Creek Energization	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Simultaneous Worker Trips					1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02

Table B-1  
Construction Heavy Equipment Emissions  
Salt Creek Substation Construction

Table A-21. 2016 Maximum Daily Construction Emissions, Construction Heavy Equipment, Miguel Substation

Equipment/Phase	Emission Factors											Emissions											
	FUEL	HP	Load Factor	ROG (lb/hr)	CO (lb/hr)	NOX (lb/hr)	SOX (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)	N2O (lb/hr)	No of Equipment	Hrs Per Day	ROG lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CH4 lbs/day	N2O lbs/day
<b>Salt Creek Energization</b>																							
Relay/Telecommunication Van	DIESEL	175		0.1326	0.3761	1.1048	0.0019	0.0368	0.0327961	166.5	0.0120	0.1050	1	2	0.27	0.75	2.21	0.00	0.07	0.07	333.09	0.02	0.21
<b>Subtotal</b>															<b>0.27</b>	<b>0.75</b>	<b>2.21</b>	<b>0.00</b>	<b>0.07</b>	<b>0.07</b>	<b>333.09</b>	<b>0.02</b>	<b>0.21</b>
<b>Simultaneous Construction Equipment</b>																							

Table B-2  
Construction and Operational Truck Trip Emissions  
Salt Creek Substation Construction

Table A-22. 2016 Maximum Daily Construction Emissions, Construction Trucks, Miguel Substation

Vehicle	Vehicle Class	Peak No. of Trucks per day	Total No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM10			PM2.5			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Emissions, lbs/day										
						Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>Salt Creek Energization</b>																													
Foreman Pick-Up	Light Duty Truck 1, Diesel	3		15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00
<b>Simultaneous Construction Trucks</b>																													
																		0.11	0.24	0.02	0.00	0.03	0.02	0.00	0.00	117.18	0.01	0.00	

Table B-3  
Construction and Operations Worker Commute Emission Calculations  
Salt Creek Substation Construction

Table A-23. 2016 Maximum Daily Construction Emissions, Worker Trips, Miguel Substation

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO2		CH4		N2O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Exhaust (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
Salt Creek Energization	Light-Duty Truck, catalyst	3	35	80	3.097499636	38.14685119	0.301283873	2.236170577	0.094166774	3.031413185	1.876347192	0.796435959	0.200509602	1.078686691	0.004047839	0.005840781	0.00437055	0.034040096	0.007999958	0.036749816	0.00399961	0.031110746	0.00199999	0.01574992	372.0083571	488.7328404	0.0177	0.024075468	0.03	0.010593284

EMFAC2011 emission factors for 2014

Assume startup after 8 hours

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day										
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O
Salt Creek Energization	Light-Duty Truck, catalyst	3	35	80	1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02
Simultaneous Worker Trips					1.89	0.17	0.10	0.00	0.03	0.01	0.03	0.01	200.07	0.01	0.02

**Table A-24. Maximum Daily Uncontrolled Construction Emissions, Summary**

<b>2014</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	20.12	57.48	112.32	0.22	4.79	4.27
Construction Truck Trips	4.52	17.41	115.96	0.17	5.69	4.09
Worker Trips	0.86	17.02	1.57	0.02	0.46	0.20
Fugitive Dust (Uncontrolled)					152.80	32.09
<b>Total</b>	<b>25.51</b>	<b>91.92</b>	<b>229.84</b>	<b>0.41</b>	<b>163.75</b>	<b>40.64</b>

<b>2015</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	32.91	87.27	209.37	0.43	7.71	6.86
Construction Truck Trips	0.68	2.62	17.13	0.03	0.86	0.61
Worker Trips	3.62	71.24	6.56	0.08	1.94	0.83
Fugitive Dust (Uncontrolled)					2.80	0.59
<b>Total</b>	<b>37.20</b>	<b>161.13</b>	<b>233.07</b>	<b>0.54</b>	<b>13.30</b>	<b>8.89</b>

<b>2016</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	0.53	1.50	4.42	0.01	0.15	0.13
Construction Truck Trips	0.04	0.22	0.48	0.00	0.07	0.04
Worker Trips	0.19	3.78	0.35	0.00	0.10	0.04
<b>Total</b>	<b>0.76</b>	<b>5.50</b>	<b>5.25</b>	<b>0.01</b>	<b>0.32</b>	<b>0.22</b>

**Table A-25. Maximum Daily Controlled Construction Emissions, Summary**

<b>2014</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	20.12	57.48	112.32	0.22	4.79	4.27
Construction Truck Trips	4.52	17.41	115.96	0.17	5.69	4.09
Worker Trips	0.86	17.02	1.57	0.02	0.46	0.20
Fugitive Dust (Controlled)					9.10	1.91
<b>Total</b>	<b>25.51</b>	<b>91.92</b>	<b>229.84</b>	<b>0.41</b>	<b>20.05</b>	<b>10.47</b>

<b>2015</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	32.91	87.27	209.37	0.43	7.71	6.86
Construction Truck Trips	0.68	2.62	17.13	0.68	0.86	0.61
Worker Trips	3.62	71.24	6.56	0.08	1.94	0.83
Fugitive Dust (Controlled)					0.17	0.03
<b>Total</b>	<b>37.20</b>	<b>161.13</b>	<b>233.07</b>	<b>1.19</b>	<b>10.67</b>	<b>8.34</b>

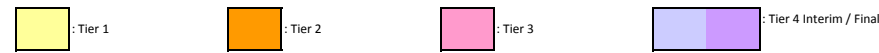
<b>2016</b>		<b>Maximum Daily Construction Emissions, lbs/day</b>				
<b>Source</b>	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Equipment	0.53	1.50	4.42	0.01	0.15	0.13
Construction Truck Trips	0.04	0.22	0.48	0.00	0.07	0.04
Worker Trips	0.19	3.78	0.35	0.00	0.10	0.04
<b>Total</b>	<b>0.76</b>	<b>5.50</b>	<b>5.25</b>	<b>0.01</b>	<b>0.32</b>	<b>0.22</b>



**Table A-26. ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr). When ARB and USEPA standards differ, the standards shown here represent the more stringent of the two.**

Maximum horsepower	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
<11	See Table 2 footnote (a)					7.8 / 6.0 / 0.75			5.6 / 6.0 / 0.6			5.6 / 6.0 / 0.30 <sup>b</sup>									
11@hp<25	See Table 2 footnote (a)					7.1 / 4.9 / 0.60			5.6 / 4.9 / 0.60			5.6 / 4.9 / 0.30									
25@hp<50	-					7.1 / 4.1 / 0.60			5.6 / 4.1 / 0.45			5.6 / 4.1 / 0.22			3.5 / 4.1 / 0.02						
50@hp<75	-					-			5.6 / 3.7 / 0.30			3.5 / 3.7 / 0.22 <sup>c</sup>			3.5 / 3.7 / 0.02 <sup>c</sup>						
75@hp<100	-					- / 6.9 / - / - <sup>b</sup>			-			3.5 / 3.7 / 0.30			0.14 / 0.30 / 3.7 / 3.7 /						
100@hp<175	-					-			4.9 / 3.7 / 0.22			3.0 / 3.7 / 0.22			0.14 / 2.5 / 3.7 / 0.015 <sup>b</sup> / 0.015 <sup>b</sup>						
175@hp<300	-					-			4.9 / 2.6 / 0.15			-			0.14 / 0.30 / 2.2 / 2.6 / 0.015 <sup>b</sup> / 0.015 <sup>b</sup>						
300@hp<600	-					1.0 / 6.9 / 8.5 / 0.40 <sup>b</sup>			4.8 / 2.6 / 0.15			3.0 / 2.6 / 0.15 <sup>d</sup>			0.14 / 1.5 / 2.6 / 0.015 <sup>b</sup> / 0.015 <sup>b</sup>						
600@hp@750	-					-			-			-			-						
Mobile Machines > 750hp	-					-			-			-			0.30 / 2.6 / 2.6 / 0.07 <sup>b</sup> / 0.03 <sup>b</sup>						
750hp<GEN @1200hp	-					-			-			-			0.14 / 0.50 / 2.6 / 2.6 / 0.02 <sup>b</sup>						
GEN>1200 hp	-					1.0 / 6.9 / 8.5 / 0.40 <sup>b</sup>			4.8 / 2.6 / 0.15			-			0.30 / 0.50 / 2.6 / 0.07 <sup>b</sup> / 0.02 <sup>b</sup>						

a) The PM standard for hand-start, air cooled, direct injection engines below 11 hp may be delayed until 2010 and be set at 0.45 g/bhp-hr.  
 b) Standards given are NMHC/NOx/CO/PM in g/bhp-hr.  
 c) Engine families in this power category may alternately meet Tier 3 PM standards (0.30 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012  
 d) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available  
 e) Certain manufacturers have agreed to comply with these standards by 2005.



Maximum horsepower	TIER 2 Emission Factors					
	NOx		CO		PM	
	g/bhp-hr	lb/bhp-hr	g/bhp-hr	lb/bhp-hr	g/bhp-hr	lb/bhp-hr
<11	5.32	0.0117284	6	0.0132275	0.6	0.0013228
11@hp<25	5.32	0.0117284	4.9	0.0108025	0.6	0.0013228
25@hp<50	5.32	0.0117284	4.1	0.0090388	0.45	0.0009921
50@hp<75	5.32	0.0117284	3.7	0.008157	0.3	0.0006614
75@hp<100	5.32	0.0117284	3.7	0.008157	0.3	0.0006614
100@hp<175	4.655	0.0102623	3.7	0.008157	0.22	0.000485
175@hp<300	4.655	0.0102623	2.6	0.0057319	0.15	0.0003307
300@hp<600	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
600@hp@750	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
Mobile Machines > 750hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
750hp<GEN @1200hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
GEN>1200 hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307



Maximum horsepower	TIER 3 Emission Factors					
	NOx		CO		PM	
	g/bhp-hr	lb/bhp-hr	g/bhp-hr	lb/bhp-hr	g/bhp-hr	lb/bhp-hr
<11	5.32	0.0117284	6	0.0132275	0.6	0.0013228
11@hp<25	5.32	0.0117284	4.9	0.0108025	0.6	0.0013228
25@hp<50	5.32	0.0117284	4.1	0.0090388	0.45	0.0009921
50@hp<75	5.32	0.0117284	3.7	0.008157	0.3	0.0006614
75@hp<100	3.325	0.0073302	3.7	0.008157	0.3	0.0006614
100@hp<175	2.85	0.0062831	3.7	0.008157	0.22	0.000485
175@hp<300	2.85	0.0062831	2.6	0.0057319	0.15	0.0003307
300@hp<600	2.85	0.0062831	2.6	0.0057319	0.15	0.0003307
600@hp@750	2.85	0.0062831	2.6	0.0057319	0.15	0.0003307
Mobile Machines > 750hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
750hp<GEN @1200hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307
GEN>1200 hp	4.56	0.0100529	2.6	0.0057319	0.15	0.0003307

**Composite Emission Factors - 70% Tier 2, 30% Tier 3**

NOx	CO	PM
lb/bhp-hr	lb/bhp-hr	lb/bhp-hr
0.011728395	0.013227513	0.001322751
0.011728395	0.010802469	0.001322751
0.011728395	0.009038801	0.000992063
0.011728395	0.008156966	0.000661376
0.010408951	0.008156966	0.000661376
0.009068563	0.008156966	0.000485009
0.009068563	0.005731922	0.000330688
0.008921958	0.005731922	0.000330688
0.008921958	0.005731922	0.000330688
0.01005291	0.005731922	0.000330688
0.01005291	0.005731922	0.000330688
0.01005291	0.005731922	0.000330688
0.01005291	0.005731922	0.000330688

**% reduction from TIER 2 to TIER 3**

NOx	CO	PM
0.00%	0.00%	0.00%
0.00%	0.00%	0.00%
0.00%	0.00%	0.00%
0.00%	0.00%	0.00%
37.50%	0.00%	0.00%
38.78%	0.00%	0.00%
38.78%	0.00%	0.00%
37.50%	0.00%	0.00%
37.50%	0.00%	0.00%
0.00%	0.00%	0.00%
0.00%	0.00%	0.00%
0.00%	0.00%	0.00%

**Table A-27. PSR Offroad Load Factors**

Used in conjunction with Tier 2-3 emission factors.

Source: mailout MSC99-32,

<http://www.arb.ca.gov/msei/onroad/downloads/pubs/mo9932.zip> (4/2/2009)

Category	Equipment	Load
Commercial	Air Compressor	0.48
	Generators	0.74
	Pressure Washer	0.30
	Pumps	0.74
	Welders	0.45
	Manlift	0.46
Construction	Drill Rig	0.75
	Concrete Saw	0.73
	Crane	0.43
	Crawler Tractor	0.64
	Crushing/Proc. Equipment	0.78
	Excavator	0.57
	Excavator w/ Breaker	0.57
	Excavator/Drill	0.57
	Road Grader/Blade	0.61
	Off-Highway Tractor	0.65
	Dump/Haul Truck	0.57
	Water Truck	0.57
	Cable Dolly	0.62
	Paver	0.62
	Paving Equipment	0.53
	Compactor	0.56
	Fork Lift	0.60
	Bulldozer	0.59
	Backhoe - Rubber tire	0.54
	Scraper	0.72
	Signal Board	0.78
	Backhoe, loader, skid steer	0.55
	Skid Steer Loader	0.55
	Skid Steer / Skip Loader	0.55
	Surfacing Equipment	0.45
	Street Sweeper	
	Backhoe	0.55
Loader	0.55	
Trencher/Ditch Witch	0.75	

Table A-28. Maximum Daily Operational Emissions, Trucks

Operational Vehicles	Vehicle Class	Peak No. of Trucks per day	Speed (mph)	VMT (mi/vehicle-day)	CO	NO <sub>x</sub>	ROG	SO <sub>x</sub>	PM10			PM2.5			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Emissions, lbs/day										Total Emissions, tons																
					Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Support Days	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O				
Support/Delivery Vehicles	Light Duty Truck 1, Diesel	2	15	60	0.271736729	0.610084	0.05175358	0.003186	0.040573	0.00799996	0.03674982	0.037327	0.002	0.0157499	295.2811	0.01687325	0.01	0.07	0.16	0.01	0.00	0.02	0.01	0.00	0.00	78.12	0.00	0.00	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.0001	0.0000

Table A-29. Maximum Daily Operational Emissions, Worker Trips

Construction Phase	Vehicle Class	No. of Daily Workers Operations	Speed (mph)	VMT (mi/vehicle-day)	CO		NO <sub>x</sub>		ROG					SO <sub>x</sub>		PM10				PM2.5				CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O		
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
General Construction	Light-Duty Truck, catalyst	10	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.005841	0.004371	0.03404	0.008	0.03675	0.004	0.031111	0.002	0.01575	372.0084	488.7328	0.0177	0.02407547	0.03	0.01059328

EMFAC2011 emission factors for 2014

Assume startup after 8 hours  
Assume 45 minutes run time total

Operations	Vehicle Class	No. of Daily Workers Operations	Speed (mph)	VMT (mi/vehicle-day)	Emissions, lbs/day											Total Emissions, tons											
					CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Work Days	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Inspection and Maintenance	Light-Duty Truck, catalyst	10	35	40	3.57	0.31	0.24	0.00	0.04	0.02	0.05	0.02	338.83	0.02	0.03	250	0.22	0.02	0.01481	2.31E-04	0.00275	0.00124	0.00282	0.00116	21	0.00101	0.00181

**Table A-30. Maximum Daily Controlled Operational Emissions, Summary**

<b>Source</b>	<b>Maximum Daily Operational Emissions, lbs/day</b>					
	<b>ROG</b>	<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5</b>
Construction Truck Trips	0.01	0.07	0.16	0.00	0.02	0.01
Worker Trips	0.24	3.57	0.31	0.00	0.09	0.04
<b>Total</b>	<b>0.25</b>	<b>3.64</b>	<b>0.48</b>	<b>0.00</b>	<b>0.11</b>	<b>0.05</b>

**Attachment DR.5-2**

Revised PEA Tables 4.3-7 and 4.7-3

**Table 4.3-7: Proposed Project Construction Air Emissions**

Emissions Source	Pollutant (pounds per day) <sup>1</sup>					
	ROG	CO	NOx	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>2014</b>						
Uncontrolled Emissions	25.51	91.92	229.84	0.41	164.53	40.81
Controlled Emissions <sup>2</sup>	25.51	91.92	229.84	0.41	20.82	10.63
SDAPCD Thresholds	75	550	250	250	100	55
Is Threshold Exceeded?	No	No	No	No	No	No
<b>2015</b>						
Uncontrolled Emissions	37.20	161.13	233.07	0.54	13.30	8.89
Controlled Emissions <sup>2</sup>	37.20	161.13	233.07	1.19	10.67	8.34
SDAPCD Thresholds	75	550	250	250	100	55
Is Threshold Exceeded?	No	No	No	No	No	No
<b>2016</b>						
Uncontrolled Emissions	0.76	5.50	5.25	0.01	0.32	0.22
Controlled Emissions <sup>2</sup>	0.76	5.50	5.25	0.01	0.32	0.22
SDCAPCD Thresholds	75	550	250	250	100	55
Is Threshold Exceeded?	No	No	No	No	No	No

ROG = reactive organic gases; NO<sub>x</sub> = nitrogen oxides; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = particulate matter, up to 10 microns; PM<sub>2.5</sub> = particulate matter, up to 2.5 microns

**Notes:**

1. Refer to Appendix 4.3-A, Air Quality Assessment, for assumptions used in this analysis, including quantified emissions reduction by control measures.
2. Controlled emissions calculated assuming standard fugitive dust control measures, including watering the site three times daily, as SDG&E's construction restrictions require.

**Table 4.7-3: Greenhouse Gas Construction Emissions**

	<b>GHG Emissions (metric tons[MT])</b>		
	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>
TOTAL EMISSIONS, Duration of Construction	3,370	0.55	1.61
Global Warming Potential	1	21	310
CO <sub>2</sub> Equivalent	3,370	12	499
CO <sub>2</sub> Equivalent Total	3,882		
Amortized Construction Emissions (amortized over 30 years)	129		



**Attachment DR.6-1**

Revised PEA Tables 3-3 and 3-4

**Table 3-3  
Special Status Plant Species Known or with Potential to Occur in the BSA**

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
San Diego thorn-mint <i>Acanthomintha ilicifolia</i>	FT/SE - 1B.1 – NCCP NE	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/ April–June	Not observed on-site. Moderate potential to occur. If present on-site, this species would have been observed.	ND - M	ND - L	ND - M
Nuttall's acmispon <i>Acmispon prostratus</i>	1B.1	Coastal dunes; sand/annual herb/March-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
California adolphia <i>Adolphia californica</i>	2.1	Chaparral, coastal scrub, valley and foothill grassland; clay/shrub/ December–May	Eleven individuals were observed within the BSA in coastal sage scrub in the northern portion of the BSA.	ND - L	ND - L	P
San Diego bur-sage <i>Ambrosia chenopodiifolia</i>	2.1	Coastal scrub/shrub/April–June	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Singlewhorl burrobrush <i>Ambrosia monogyra</i>	2.2	Chaparral/shrub/sandy/August–November	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
San Diego ambrosia <i>Ambrosia pumila</i>	FE - 1B.1 – NCCP NE	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; often in disturbed areas/perennial herb/May–October	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Del Mar manzanita <i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	FE - 1B.1	Chaparral, closed-cone coniferous forest, sandy coastal mesas and ocean bluffs; in chaparral or Torrey pine forest/perennial evergreen shrub/December-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Otay manzanita <i>Arctostaphylos otaynensis</i>	1B.2	Chaparral, cismontane woodland; metavolcanic/perennial evergreen shrub/January-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego sagewort <i>Artemisia palmeri</i>	4.2	Chaparral, coastal scrub, riparian forest and scrub; sandy/shrub/May–September	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
San Diego milk- vetch <i>Astragalus oocarpus</i>	1B.2	Chaparral, cismontane woodland, meadows; openings in chaparral or on gravelly flats and slopes in thin oak woodland/perennial herb/May-August	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Coulter's saltbush <i>Atriplex coulteri</i>	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/ March–October	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
South Coast saltscale <i>Atriplex pacifica</i>	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/ March–October	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Encinitas baccharis <i>Baccharis vanessae</i>	FT/SE – 1B.1	Chaparral; on sandstone soils in steep, open, rocky areas with chaparral associates/perennial deciduous shrub/August-November	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego County sunflower <i>Bahiopsis [=Viguiera] laciniata</i>	4.2	Chaparral, coastal scrub/ shrub/ February–June	Approximately 19,450 individuals were observed throughout the BSA in coastal sage scrub and grasslands.	P	P	P
San Diego goldenstar <i>Bloomeria clevelandii</i>	1B.1 - NCCP	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ bulbiferous herb/ May	Not observed on-site. Moderate potential to occur. If present on-site, this species would have been observed.	ND - M	ND - M	ND - M

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Orcutt's brodiaea <i>Brodiaea orcuttii</i>	1B.1 - NCCP	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/ May–July	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Brewer's calindrinia <i>Calandrinia breweri</i>	4.2	Chaparral, coastal scrub, disturbed sites and burns/ annual herb/ March–June	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Round-leaved filaree <i>California macrophylla</i>	1B.1	Cismontane woodland, valley and foothill grassland; clay/ annual herb/ March–May	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Lewis's evening primrose <i>Camissoniopsis lewisii</i>	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ March–June	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Lakeside ceanothus <i>Ceanothus cyaneus</i>	1B.2	Closed-cone coniferous forest, chaparral/perennial evergreen shrub/April-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Otay Mountain ceanothus <i>Ceanothus otayensis</i>	1B.2	Chaparral; metavolcanic or gabbroic/perennial evergreen shrub/January-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Wart-stemmed ceanothus <i>Ceanothus verrucosus</i>	2B.2	Chaparral/perennial evergreen shrub/December-May	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed during rare plant surveys.	ND - L	ND - L	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Salt marsh bird's beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	FE/SE – 1B.2	Coastal dunes, marshes and swamps/Annual herb (hemiparasitic)/May-October	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Delicate clarkia <i>Clarkia delicata</i>	1B.2	Chaparral, cismontane woodland; often gabbroic/annual herb/April-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Miguel savory <i>Clinopodium chandleri</i>	1B.2	Chaparral, cismontane woodland, coastal scrub, rip woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic substrate/perennial shrub/March-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Summer holly <i>Camarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	1B.2	Chaparral, cismontane woodland/perennial evergreen shrub/April-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Small-flowered morning-glory <i>Convolvulus simulans</i>	4.2	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentine seeps/ annual herb/ March– July	There were 178 individuals mapped within the BSA in grasslands on clay soils.	ND - L	P	P
Snake cholla <i>Cylindropuntia californica</i> var. <i>californica</i>	1B.1	Chaparral, coastal scrub/perennial stem succulent/April-may	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed during rare plant surveys.	ND - L	ND - L	ND - L
Otay tarplant <i>Deinandra [=Hemizonia] conjugens</i>	FT/ SE - 1B.1 - NCCP	Coastal scrub, valley and foothill grassland; clay/ annual herb/ May–June	There were 934 individuals mapped within the BSA in grasslands and in grassy openings in coastal sage scrub, on clay soils.	ND - M	P	P

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Tecate tarplant <i>Deinandra floribunda</i>	1B.2	Chaparral, coastal scrub; often in little drainages or disturbed areas/annual herb/August-October	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Western dichondra <i>Dichondra occidentalis</i>	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/ rhizomatous herb/ March–May	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Orcutt’s dudleya <i>Dudleya attenuata ssp. attenuata</i>	2B.1	Coastal scrub, coastal bluff scrub, chaparral; rocky mesas, canyons, and ridges/perennial herb/May-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Variegated dudleya <i>Dudleya variegata</i>	1B.2 - NCCP	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/ perennial herb/ May–June	Sixty individuals were mapped in a grassy opening in coastal sage scrub, on the southern end of the BSA.	ND - M	ND - M	P
Vanishing wild buckwheat <i>Eriogonum evanidum</i>	1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland; sandy or gravelly/annual herb/July-October	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Abrams’ spurge <i>Euphorbia abramsiana</i>	2B.2	Mojavean and Sonoran desert scrub/annual herb/August-November	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego barrel cactus <i>Ferocactus viridescens</i>	2.1 - NCCP	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ shrub/ May–June	Approximately 140 plants were observed in coastal sage scrub, in both the northern and southern regions of the BSA.	P	P	P

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Palmer's frankenia <i>Frankenia palmeri</i>	2B.1	Coastal dunes, marshes and swamps/perennial herb/May-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Chaparral ash <i>Fraxinus parryi</i>	2B.2	Chaparral/perennial shrub/March-May	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Mexican flannelbush <i>Fremontodendron mexicanum</i>	FE/SR - 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland; usually scattered along the borders of creeks or in dry canyons; found on gabbro, serpentine, or metavolcanics/perennial evergreen shrub/March-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Desert bedstraw <i>Galium proliferum</i>	2B.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; rocky, limestone substrate/annual herb/March-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Palmer's grapplinghook <i>Harpagonella palmeri</i>	4.2 - NCCP	Chaparral, coastal scrub, valley and foothill grassland; clay/ annual herb/ March-May	Approximately 1,065,000 individuals were observed in wildflower field, coastal sage scrub, and nonnative grassland, on heavy clay soils in the southern portion of the BSA.	P	ND - H	P
Tecate cypress <i>Hesperocyparis forbesii</i>	1B.1	Closed-cone coniferous forest, chaparral; primarily on north-facing slopes; groves often associated with chaparral. on clay or gabbro/	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Graceful tarplant <i>Holocarpha virgata</i> ssp. <i>elongata</i>	4.2	Coastal scrub, cismontane woodland, chaparral, valley and foothill grassland/ annual herb/ August–November	Approximately 13,060 individuals were mapped in grasslands in the northern portion of the BSA, on clay soils.	ND - L	NP - L	P
Ramona horkelia <i>Horkelia truncata</i>	1B.3	Chaparral, cismontane woodland; clay or gabbroic/perennial herb/May-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Otay Mountain lotus <i>Hosackia crassifolia</i> var. <i>otayensis</i>	1B.1	Chaparral; metavolcanic, often in disturbed areas/perennial herb/May-August	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego marsh-elder <i>Iva hayesiana</i>	2.2	Marshes and swamps, playas/ perennial herb/ April–September	Approximately 1,860 plants were mapped on-site along the perennial stream channels traversing the northern and southern regions of BSA.	ND - L	P	P
Southwestern spiny rush <i>Juncus acutus</i> spp. <i>leopoldii</i>	4.2	Coastal dunes, meadows and seeps (alkaline), saltwater marsh and swamp/ rhizomatous herb/ May–June	There were 130 individuals mapped on-site along stream channels in the northern and southern regions of the BSA.	ND - L	P	P
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	1B.1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools; usually found on alkaline soils in playas, sinks, and grasslands/annual herb/February-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Gander's pitcher sage <i>Lepechinia ganderi</i>	1B.3	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland; gabbro or metavolcanic/	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP



Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Robinson's pepper grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	1B.2	Chaparral, coastal scrub/ annual herb/ January–July	There were 37 individuals mapped in coastal sage scrub in the northern and southern regions of BSA.	ND - L	ND - L	P
Felt-leaved monardella <i>Monardella hypoleuca</i> ssp. <i>lanata</i>	1B.2	Chaparral, cismontane woodland; occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland; sandy soil/perennial rhizomatous herb/June-August	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Mud nama <i>Nama stenocarpum</i>	2B.2	Marshes and swamps; lake shores, river banks, intermittently wet areas/annual or perennial herb/January-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Spreading navarretia <i>Navarretia fossalis</i>	FT - 1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas/annual herb/April-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Coast woolly-heads <i>Nemacaulis denudata</i> var. <i>denudata</i>	1B.2	Coastal dunes/annual herb/April-September	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Slender cottonheads <i>Nemacaulis denudata</i> var. <i>gracilis</i>	2B.2	Coastal dunes, desert dunes, Sonoran desert scrub; in dunes or sand/annual herb/March-May	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Dehesa nolina <i>Nolina interrata</i>	SE – 1B.1	Chaparral; typically on rocky hillsides or ravines on ultramafic soils (gabbro or metavolcanic)/perennial herb/June-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
California Orcutt grass <i>Orcuttia californica</i>	FE/SE - 1B.1	Vernal pools/annual herb/April-August	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Baja California birdbush <i>Ornithostaphylos oppositifolia</i>	SE – 2B.1	Chaparral/perennial evergreen shrub/January-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Gander's ragwort <i>Packera ganderi</i>	SR – 1B.2	Chaparral; recently burned sites and gabbro outcrops/perennial herb/April-June	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego mesa mint <i>Pogogyne abramsii</i>	FE/SE – 1B.1	Vernal pools/annual herb/March-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Otay Mesa mint <i>Pogogyne nudiuscula</i>	FE/SE – 1B.1	Vernal pools/annual herb/May-July	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Cedros Island oak <i>Quercus cedrosensis</i>	2B.2	Closed-cone coniferous forest, chaparral, coastal scrub/perennial evergreen tree/April-May	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Moreno currant <i>Ribes canthariforme</i>	1B.3	Chaparral, riparian scrub/perennial deciduous shrub/February-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Santa Catalina Island currant <i>Ribes viburnifolium</i>	1B.2	Chaparral, cismontane woodland/perennial evergreen shrub/February-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Munz's sage <i>Salvia munzii</i>	2.2	Chaparral, coastal scrub/ perennial evergreen shrub/ February-April	Two individuals were mapped in coastal sage scrub in the southern region of the BSA.	ND - L	ND - L	P
Ashy spike-moss <i>Selaginella cinerascens</i>	4.1	Chaparral, coastal scrub (in openings)/ perennial herb/ March	Approximately 1.75 occupied acres were mapped within coastal sage scrub in the northern region of the BSA.	ND - L	ND - L	P
Rayless ragwort <i>Senecio aphanactis</i>	2.2	Chaparral, cismontane woodland, coastal scrub; alkaline/ annual herb/ January-April	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
Hammitt's clay-cress <i>Sibaropsis hammittii</i>	1B.2	Chaparral, valley and foothill grassland; clay/annual herb/March-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed.	ND - NP	ND - NP	ND - NP
Purple stemodia <i>Stemodia durantifolia</i>	2B.1	Sonoran desert scrub; sandy soils, mesic sites/perennial herb/January-December	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Oil neststraw <i>Stylocline citroleum</i>	1B.1	Chenopod scrub, coastal scrub; flats, clay soils in oil-producing areas/annual herb/March-April	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Estuary seablite <i>Suaeda esteroa</i>	1B.2	Marshes and swamps; coastal salt marshes in clay, silt, and sand substrates/perennial herb/May-January	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
San Diego County needlegrass <i>Stipa diegoensis</i>	4.2	Chaparral, coastal scrub/ rocky, often mesic/ perennial herb/ February–June	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L
woven-spored lichen <i>Texosporium sancti- jacobi</i>	SR	Chaparral, open sites; with <i>Adenostoma fasciculatum</i> , <i>Eriogonum fasciculatum</i> , and <i>Selaginella</i>	Not observed on-site. No suitable habitat for this species occurs on-site. If present on-site, this species would have been observed during rare plant surveys.	ND - NP	ND - NP	ND - NP
Rush-like bristleweed <i>Xanthisma</i> [= <i>Macharantha juncea</i> ] <i>juncea</i>	4.3	Chaparral, coastal scrub/ perennial herb/ June–January	Not observed on-site. Low potential to occur. If present on-site, this species would have been observed.	ND - L	ND - L	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations/ Life Form / Blooming Period	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		

<sup>1</sup>Status:

- FE: Federally listed as endangered
- FT: Federally listed as threatened
- SCE: State candidate for listing as endangered
- SE: State-listed as endangered
- ST: State-listed as threatened
- SR: State rare

California Rare Plant Ranks:

- 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2: Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
- 3: Plants About Which We Need More Information – A Review List
- 4: Plants of Limited Distribution – A Watch List
- 0.1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2 – Fairly threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

SDG&E Natural Community Conservation Plan Covered Species (NCCP)

NE = SDG&E Narrow Endemic Species

Findings:

- P (present) – Species detected during Project surveys
- ND (not detected) – Species not detected during Project surveys
- NP (no potential) – Suitable habitat not present
- L (low potential) – Suitable habitat present, highly disturbed
- M (moderate potential) – Suitable habitat present, moderately disturbed
- H (high potential) – Suitable habitat present, and species known to occur within the vicinity

**Table 3-4  
Special Status Wildlife Species Known or with Potential to Occur in the BSA**

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
<b>INVERTEBRATES</b>						
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE, NCCP, SA	Restricted to shallow and small vernal pools, hardpan and claypan pools. Found in Orange and San Diego Counties, and Baja California.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Thorne's hairstreak <i>Callophrys thornei</i>	NCCP, SA	Habitat for this species is Tecate cypress ( <i>Cupressus forbesii</i> ), which is the larval food plant of this species	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Western tidal-flat tiger beetle <i>Cicindela gabbii</i>	SA	Dark-colored mud of estuaries and mudflats along the coast of Southern California and northern Baja California.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Sandy beach tiger beetle <i>Cicindela hirticollis grvida</i>	SA	Inhabits clean, dry sand along the sea coast from the San Francisco Bay area to Baja California.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Western beach tiger beetle <i>Cicindela latesignata latesignata</i>	SA	Beaches and mudflats from Los Angeles County to northern Baja California.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Senile tiger beetle <i>Cicindela senilis frosti</i>	SA	This beetle inhabits marine shoreline and is found on dark colored mud of the lower tidal zone and in dried salt pans in the upper zone.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Globose dune beetle <i>Coelus glabosus</i>	SA	This beetle inhabits coastal dune habitat and sand hummocks. It is often found under dune vegetation.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Monarch butterfly <i>Danaus plexippus</i>	SA	This species inhabits fields, meadows, and gardens where it feeds on milkweed ( <i>Asclepias</i> spp.). For roosting, they require still air associated with large groves of trees. A source of water is required at or near the roosting site.	This species has low potential to occur in the BSA, due to the low potential for milkweed to occur and with the lack of suitable roosting habitat.	ND – L	ND – L	ND - L
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	FE, NCCP, SA	Sunny openings within coastal sage scrub and chaparral scrublands. Requires plantain ( <i>Plantago</i> spp.) or owl's clover ( <i>Castilleja exserta</i> ) as a host plant.	This species has a high potential to occur in BSA due to the presence of suitable habitat and populations of dot-seed plantain ( <i>P. erecta</i> ) and owl's clover at the southern terminus of the transmission line corridor and proposed Salt Creek Substation.	ND - H	ND - H	ND - H
Hermes copper butterfly <i>Lycaena hermes</i>	SA	Hermes copper butterfly larvae utilize redberry ( <i>Rhamnus crocea</i> ) as a foodplant and the distribution of the Hermes copper is closely tied to the distribution of redberry, typically occurring in chaparral or coastal sage scrub. Adults visit flowers, especially those of flat-top buckwheat ( <i>Eriogonum fasciculatum</i> ).	This species has high potential to occur in the BSA due to the presence of spiny redberry for a larval host and populations of flat-top buckwheat for a nectar source.	ND – H	ND – H	ND - H
Wandering (saltmarsh) skipper <i>Panoquina errans</i>	NCCP NE, SA	It is restricted to estuarine and tideland habitats where adults are often associated salt grass ( <i>Distichlis spicata</i> ).	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND – N	ND – N	ND - N
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE, NCCP, SA	Restricted to shallow and small vernal pools, hardpan and claypan pools. Found in Orange and San Diego Counties, and Baja California.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
California brackishwater snail (mimic tryonia) <i>Tryonia imitator</i>	SA	Occurs in subtidal brackishwater habitats such as lagoons and salt marshes.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
<b>AMPHIBIANS</b>						
Arroyo toad <i>Anaxyrus californicus</i>	FE, CSC, NCCP, SA	They are typically associated with gravelly or sandy washes, stream and river banks, and arroyos. Adult toads spend most of the year in burrows in upland habitat near washes and streams. Non-breeding habitat includes sage scrub, mixed chaparral, Joshua tree woodland, and sagebrush habitats.	There is no potential for this species to occur in the BSA due to lack of suitable soils and breeding habitat.	ND - N	ND - N	ND - N
Western spadefoot <i>Spea hammondi</i>	CSC, NCCP, SA	Grasslands and occasionally in valley-foothill hardwood woodlands. Requires vernal pools for breeding and egg-laying.	This species has a low potential to occur in transmission line corridor and proposed Salt Creek Substation due to the presence of grasslands; however, vernal pools are not present.	ND - L	ND - L	ND - L
<b>REPTILES</b>						
Silvery legless lizard <i>Anniella pulchra pulchra</i>	CSC, SA	Occurs in moist warm loose soil with plant cover such as sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	There is low potential for this species to occur because of dry, unsuitable soils within the BSA.	ND - L	ND - L	ND - L



Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Belding's orange-throated whiptail (orangethroat whiptail) <i>Aspidoscelis</i> [= <i>Cnemidophorus</i> ] <i>hyperythra beldingi</i>	CSC, NCCP, SA	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	This species has a moderate potential to occur transmission line corridor and proposed Salt Creek Substation due to the presence of marginally suitable coastal sage scrub habitat and soils.	ND - M	ND - M	ND - M
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	SA	The coastal western whiptail is a lizard of deserts and semiarid habitats from sea-level to 2130 m. It is often associated with dense vegetation such as chaparral and sage scrub especially in and around sandy washes and streambeds (Stebbins 1985).	This species has a low potential to occur in the BSA due to the presence of marginally suitable coastal sage scrub habitat.	ND - L	ND - L	ND - L
Green turtle <i>Chelonia mydas</i>	FT, SA	Occurs worldwide, including the Pacific Ocean and San Diego Bay.	This species has no potential to occur in the BSA due to the lack of marine habitat.	ND - N	ND - N	ND - N
(Northern) red-diamond rattlesnake <i>Crotalus ruber ruber</i>	CSC, NCCP, SA	Coastal sage scrub, chaparral in inland and desert locales with rocky soils.	This species was detected during spring 2013 WBO surveys at the north end of the transmission line buffer in coastal sage scrub.	ND - H	ND - H	P
San Diego ringneck snake <i>Diadophis punctatus similis</i>	NCCP, SA	Suitable habitat for this species ranges from sage scrub and chaparral to open habitats where sufficient cover is available.	This species has a moderate potential to occur within the BSA due to the presence of marginally suitable, isolated scrub habitat.	ND - M	ND - M	ND - M
Western pond turtle <i>Emys marmorata</i>	CSC, NCCP, SA	Associated with permanent water or nearly permanent water from sea level to 6,000 feet. Prefers habitats with basking sites such as floating mats of vegetation, partially submerged logs, rocks, or open mud banks.	This species has a low potential to occur in the buffer in the vicinity of the proposed Salt Creek Substation, due to the presence of a perennial pond >200 meters away	ND - N	ND - N	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Coastal rosy boa <i>Lichanura trivigata roseofusca</i>	NCCP, SA	Coastal sage scrub, desert scrub, and chaparral with rocky soils.	This species has a moderate potential to occur within the BSA due to the presence of marginally suitable, isolated scrub habitat.	ND - M	ND - M	ND - M
San Diego (Coast) horned lizard <i>Phrynosoma coronatum blainvillii</i>	CSC, NCCP, SA	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	This species has a low potential to occur within the BSA due to the presence of marginally suitable scrub habitat and soils. No harvester ants ( <i>Pogonomyrmex</i> sp.), a main component of this species' diet, were observed within the BSA.	ND - L	ND - L	ND - L
Coronado Island skink <i>Plestiodon skiltonianus interparietalis</i>	CSC, NCCP, SA	Most commonly found in open areas, grassland, sparse brush, and in oak woodlands, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs.	This species has a moderate potential to occur within BSA due to the presence of marginally suitable sage scrub habitat.	ND - M	ND - M	ND - M
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	CSC, NCCP, SA	A variety of habitats including coastal sage scrub, chaparral, riparian, grasslands, and agricultural fields. Prefers open habitats with friable or sandy soils, burrowing rodents for food, and enough cover to escape predation.	This species has a moderate potential to occur within the BSA due to the presence of marginally suitable, isolated scrub habitat.	ND - M	ND - M	ND - M
Two-striped garter snake <i>Thamnophis hammondi</i>	CSC, NCCP, SA	Along permanent streams, creeks, vernal pools, and intermittent streams. Can occur a distance away from permanent water sources.	This species has a moderate potential to occur within the BSA due to the presence of suitable aquatic habitat observed near the survey buffer.	ND - M	ND - M	ND - M
<b>BIRDS</b>						

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Tricolored blackbird <i>Agelaius tricolor</i>	CSC, NCCP, SA	Nests in dense colonies in freshwater marshes and forages in nearby grasslands, pastures, or agricultural fields.	This species has moderate potential to occur within the BSA due to presence of moderately suitable foraging habitat throughout the BSA and suitable, though unoccupied, breeding habitat at ponds immediately north and south of the BSA.	ND - M	ND - M	ND - M
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	WL, NCCP, SA	Coastal sage scrub, chaparral, grassland; favors steep and rocky areas. Localized resident.	This species was observed within the footprint of proposed Salt Creek Substation and in the buffer of the southern terminus of the transmission corridor.	P	ND - H	P
Cooper's hawk <i>Accipiter cooperi</i>	WL (nesting), NCCP, SA	Mature forest, open woodlands, wood edges, and river groves. Parks and residential areas. Year-round resident.	This species was observed both within the transmission corridor south of Olympic Parkway and within the strip of riparian vegetation located southwest of the proposed Salt Creek Substation.	ND - H	P	P
Grasshopper sparrow <i>Ammodramus savannarum</i>	CSC (nesting) NCCP, SA	Grassland on rolling hills, lowland plains, and in valleys and on hillsides on lower mountain slopes.	This species was observed within the footprint of proposed Salt Creek Substation and in the buffer near the southern terminus of the transmission corridor.	P	ND - H	P
Bell's sage sparrow <i>Amphispiza belli belli</i>	WL, SA	Nests in chaparral dominated by chamise, but is also found in coastal sage scrub in south of this species' range.	This species was observed in the buffer at the northern terminus of the transmission corridor, just south of the Existing Staging yard.	ND - M	ND - M	P
Golden eagle <i>Aquila chrysaetos</i>	CFP, WL, NCCP, SA	Nests on cliff ledges, tree tops and steep slopes, forages in grassland, coastal sage scrub, and broken chaparral.	This species has moderate potential to occur in the BSA due to the presence of suitable foraging habitat throughout and suitable breeding habitat 6 miles east of the BSA on Otay Mountain.	ND - M	ND - M	ND - M

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Western burrowing owl <i>Athene cunicularia hypugaea</i>	CSC, NCCP NE, SA	Annual and perennial grasslands, deserts, agricultural areas, disturbed habitat, and scrublands, characterized by low-growing vegetation.	This species was observed within the proposed Salt Creek Substation during the 2011 Phase III Winter WBO survey. This species was also observed within the footprint of the substation during the 2012 QCB and CAGN surveys of the transmission corridor	P	P	ND - H
Ferruginous hawk <i>Buteo regalis</i>	WL (Wintering), NCCP, SA	Open grasslands, sagebrush flats, desert scrub, and low foothills. Forages mostly on rabbits, ground squirrels, and mice.	There is moderate potential for this species to forage in the BSA due to the presence of suitable grassland habitat with rabbits and ground squirrels that were observed during surveys of the BSA.	ND - M	ND - M	ND - M
Swainson's hawk <i>Buteo swainsoni</i>	ST (nesting), NCCP, SA	Breeds in grasslands with scattered trees and requires grasslands or grain fields that support rodent populations for foraging.	There is moderate potential for this species to forage in the BSA due to the presence of suitable grassland habitat and rodents that were observed during surveys of the site.	ND - M	ND - M	ND - M
Coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	CSC, NCCP NE, SA	Coastal sage scrub with extensive stands of tall prickly pear or cholla cacti ( <i>Opuntia</i> sp.).	There is no potential for this species to occur in the BSA, due to lack of suitable breeding habitat.	ND - N	ND - N	ND - N
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, CSC, NCCP, SA	Breeds on sandy beaches foraging on beaches and nearby mudflats.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Northern harrier <i>Circus cyaneus hudsonius</i>	CSC (nesting), NCCP, SA	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.	This species was observed foraging throughout the grassland and open sage scrub within the transmission corridor and proposed Salt Creek Substation.	P	P	P
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC, SE, SA	Riparian habitats of willows and cottonwoods with dense understory that abuts slow-moving watercourses, backwaters, or seeps.	There is low potential for this species to occur in the BSA as a migrant, breeding is not expected due to lack of suitable habitat.	ND - L	ND - L	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
White-tailed kite <i>Elanus leucurus</i>	CFP, SA	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland	This species was observed near the southern terminus and in the central portion of the transmission corridor, as well as the proposed Salt Creek Substation.	P	P	P
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE, SE, NCCP, SA	Dense, riparian woodlands of willow, cottonwood, and other deciduous trees with perennial water.	There is low potential for this species to occur in the BSA as a migrant. Breeding is unexpected due to lack of suitable habitat.	ND - L	ND - L	ND - L
California horned lark <i>Eremophila alpestris actia</i>	WL, SA	Grasslands and open habitats with low, sparse vegetation.	This species was observed in the Hunte Parkway Staging Yard during spring 2013 WBO surveys.	ND - H	ND - H	P
Prairie falcon <i>Falco mexicanus</i>	WL, SA	Inhabits grasslands, shrub-steppe, deserts, and other open areas of the West up to about 10,000 feet elevation. During the winter, they also reside in cultivated fields, lakeshores, desert scrub, as well as feedlots where European Starlings may provide a steady food source. Most nest on cliff ledges, occasionally using trees, power lines, and buildings.	This species has a moderate potential to occur in the BSA due to the presence of suitable foraging. It has low potential to nest within the BSA due to low quality nesting habitat.	ND - M	ND - M	ND - M
Yellow-breasted chat <i>Icteria virens</i>	CSC, SA	Riparian thickets consisting of willow and other brushy thickets near watercourses.	This species was observed just south of the southern terminus of the transmission corridor.	ND - M	ND - M	P
Least bittern <i>Ixobrychus exilis</i>	CSC, SA	Freshwater marshes with dense stands of cattail and tule	This species has low potential to occur in the BSA due to very limited suitable habitat.	ND - L	ND - L	ND - L
California black rail <i>Laterallus jamaicensis coturniculus</i>	SE, CFP, SA	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Extirpated as a breeder in San Diego County, last nesting on the desert slope in 1976. There is low potential for this species to occur in the BSA due to very limited suitable habitat.	ND - L	ND - L	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Belding's savannah sparrow <i>Passerculus sandwichensis beldingi</i>	SE, NCCP, SA	Narrowly restricted to coastal marshes dominated by pickleweed.	There is no potential for this species to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Double-crested cormorant <i>Phalacrocorax auritus</i>	WL (nesting colony) , SA	Fresh and saltwater habitats. Nests in trees surrounded by water or on the ground in sites isolated from predators.	There is high potential for this species to occur as a fly-over in the BSA; however, there is no potential for the species to nest due to lack of suitable breeding habitat.	ND - N	ND - N	ND - N
Coastal California gnatcatcher <i>Poliophtila californica californica</i>	FT, CSC, NCCP, SA	Coastal sage scrub, maritime succulent scrub. Resident.	This species was observed in the northern terminus and southern terminus of the transmission corridor and within the proposed Salt Creek Substation.	P	P	P
Light-footed clapper rail <i>Rallus longirostris levipes</i>	FE, SE, CFP, NCCP, SA	Primarily a bird of saltwater marshes dominated by cordgrass, recently discovered to be expanding into freshwater marshes.	This species has low potential to occur in the buffer due to very limited suitable habitat. It has no potential to occur in the transmission line corridor or proposed Salt Creek Substation due to lack of suitable habitat.	ND - N	ND - N	ND - L
Yellow warbler <i>Setophaga petechia</i>	CSC (nesting) , SA	Riparian plants associations. Prefers willow, cottonwood, aspen, sycamore, and alder species for nesting and foraging	This species was observed within the strip of riparian vegetation southwest of the proposed Salt Creek Substation.	ND - M	ND - M	P
Western bluebird <i>Sialia mexicana occidentalis</i>	NCCP	Open woodlands, farmlands, orchards.	This species has a low potential to nest within the BSA due to the presence of small patches of mature trees associated with ornamental vegetation.	ND - L	ND - L	ND - L
California least tern <i>Sternula antillarum browni</i>	FE, SE, CFP, NCCP, SA	Nests on sandy beaches or bare ground near large bodies of water for foraging. Occasionally forages over inland lakes, rivers and ponds.	This species has no potential to nest within the BSA, but has low potential to occur as a fly-over due to presence of potential foraging habitat adjacent to the BSA.	ND - N	ND - N	ND - N

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE, SE, NCCP, SA	Willow riparian woodlands. Migrant and summer resident.	This species was observed in riparian habitat southwest and southeast (outside) of the BSA at the southern terminus of the transmission corridor	ND - M	ND - M	ND - M
<b>MAMMALS</b>						
Pallid bat <i>Antrozous pallidus</i>	CSC, SA	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect them from high temperatures.	This species has low potential to occur in the BSA due to the lack of roosting habitat. Possible occurrences include perching in tall trees inside and outside the corridor.	ND - L	ND - L	ND - L
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	CSC, NCCP, SA	Slopes covered with chaparral and live oaks.	This species has a low potential to occur in the BSA due to the presence of sparse scrub habitat and lack of oaks.	ND - L	ND - L	ND - L
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	CSC, NCCP, SA	San Diego County west of mountains in sparse, disturbed coastal sage scrub or grasslands with sandy soils.	This species has a low potential to occur in the BSA due to the presence of sparse scrub habitat; however, suitable sandy soils are limited in the transmission corridor and proposed substation.	ND - L	ND - L	ND - L
Mexican long-tongued bat <i>Choeronycteris mexicana</i>	CSC, SA	Uses caves, mines and buildings as day roosts and nursing sites, preferring dimly-lit sites. Feeds from mostly nectar of flowering plants.	This species has low potential to occur in the BSA due to the lack of suitable roosting and nursing sites. There is potential foraging habitat outside the transmission corridor in ornamental (residences) and native plants.	ND - L	ND - L	ND - L
Townsend's big eared bat <i>Corynorhinus townsendii</i>	CSC, SA	This bat is often found in cold mines or caves, not far from the entrance.	The species has low potential to occur in the BSA due to the lack of mines and caves for roosting. Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND - L	ND - L	ND - L

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Western mastiff bat <i>Eumops perotis californicus</i>	CSC, SA	Chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices.	This species has low potential to occur in the BSA due to the lack of crevices, rocky habitat, and other roosting habitats. Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND – L	ND – L	ND - L
Western red bat <i>Lasiurus blossevillii</i>	CSC, SA	Roosts in forests and woodlands; forages over grasslands, shrublands, open woodlands and forests, urban edges, and croplands.	This species has low potential to occur in the BSA due to marginal roosting habitat within and near the corridor (ornamental trees, towers, urban edge). Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND – L	ND – L	ND - L
Hoary bat <i>Lasiurus cinereus</i>	SA	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Trees are thick from above, with few branches below, and have ground cover of low reflectivity. Females and young tend to roost at higher sites in trees.	This species has low potential to occur in the BSA due to sparse roosting habitat within and near the corridor (ornamental trees, towers). Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND – L	ND – L	ND - L
Western yellow bat <i>Lasiurus xanthinus</i>	CSC, SA	Forages over water and among trees. Roosts in trees and have been captured roosting under palm trees.	This species has moderate potential to occur in the BSA. Potential roosting habitat is present and possible foraging habitat exists over the wetlands south of transmission corridor.	ND – M	ND – M	ND - M



Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
San Diego black-tailed jackrabbit <i>Lepus californicus bennetti</i>	CSC, NCCP, SA	Coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas that include at least some scrub cover.	This species was observed near the Existing Staging Yard at the northern terminus of the transmission corridor, at the southern terminus of the transmission corridor, and near the proposed Salt Creek Substation.	P	ND- H	P
California leaf-nosed bat <i>Macrotus californicus</i>	CSC, SA	These bats require caves, rock crevices, or undisturbed abandoned buildings for roost sites as well as suitable foraging habitat.	This species has no potential to occur in the BSA due to the lack of suitable roosting and foraging habitat.	ND – N	ND – N	ND - N
Western small-footed myotis <i>Myotis ciliolabrum</i>	SA	Uses a wide variety of habitats from rock outcrops on open grasslands to canyons in the foothills to lower mountains with yellow pine woodlands. Day roosts are variable, but include cracks and crevices in cliffs, beneath tree bark, in mines and caves, and occasionally in dwellings of humans. Night roosts are under a variety of natural and human-induced structures.	This species has low potential to occur in the BSA due to sparse roosting habitat (ornamental trees, towers). Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND – L	ND – L	ND - L
Long-eared myotis <i>Myotis evotis</i>	SA	Roosts in buildings, crevices, spaces under bark. Caves are used for night roosting. Forages among trees, over water, and over shrubs.	This species has low potential to occur in the BSA due to the presence sparse roosting habitat (ornamental trees, towers). Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND – L	ND – L	ND – L

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
Yuma myotis <i>Myotis yumanensis</i>	SA	Feeds on insects over water sources such as ponds, streams, and stock tanks. Roosts in buildings, mines, caves, or crevices.	This species has low potential to occur in the BSA due to the presence sparse roosting habitat (ornamental trees, towers). Potential occurrences include perching in trees in and surrounding the corridor and on electrical towers.	ND - L	ND - L	ND - L
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	CSC, SA	Common to abundant in Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats.	This species has moderate potential to occur in the BSA due to suitable foraging habitat. Plants suitable for foraging also present throughout site.	ND - M	ND - M	ND - M
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	CSC, SA	Creosote bush and chaparral habitats. Feeds over ponds, streams, or arid desert habitat. Prefers rock crevices in cliffs as roosting sites.	This species has no potential to occur in the BSA due to the lack of suitable roosting and foraging habitat.	ND - N	ND - N	ND - N
Big free-tailed bat <i>Nyctinomops macrotis</i>	CSC, SA	Pinyon-juniper and Douglas fir forests, chaparral and oak forests in mountains and foothills where rocky cliffs and crevices are present. Found in urban areas in San Diego. Rare in California.	This species has no potential to occur in the BSA due to the lack of suitable roosting and foraging habitat.	ND - N	ND - N	ND - N
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	FE, CSC, NCCP NE, SA	Habitat includes coastal strand, sand dunes, ruderal vegetation on river alluvium, and open coastal sage scrub on marine terraces.	This species has no potential to occur in the BSA due to lack of suitable habitat.	ND - N	ND - N	ND - N
Southern mule deer <i>Odocoileus hemionus fuliginata</i>	NCCP	Many habitats.	This species was observed near the Existing Staging Yard at the northern terminus of the transmission corridor.	ND - H	ND - H	P

Species	Status <sup>1</sup>	Primary Habitat Associations	Potential to Occur / Comments	Substation	Transmission Corridor	Buffer
				Findings <sup>2</sup>		
American badger <i>Taxidea taxus</i>	CSC, NCCP, SA	Dry, open habitat stages of most shrub, forest, and grassland habitats with friable soils.	This species has a moderate potential to occur within the BSA due to the presence of potentially suitable grassland and scrub habitat, and friable soils.	ND - M	ND - M	ND - M

<sup>1</sup> Status:

SDG&E Natural Community Conservation Plan (NCCP) = Covered Species

NE = SDG&E Narrow Endemic Species

Federal/State Listed:

FE = Federally listed endangered

FT = Federally listed threatened

FC = Candidate for federal endangered species list

SE = State listed endangered

ST = State listed threatened

OTHER:

CFP = California Department of Fish and Wildlife Fully Protected Species

CSC = California Department of Fish and Wildlife Species of Special Concern

WL = California Department of Fish and Wildlife Watch List

SA = California Department of Fish and Wildlife Special Animal;

<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>

<sup>2</sup> Findings:

P (present) – Species detected during Project surveys

ND (not detected) – Species not detected during Project surveys

N (no potential) – Suitable habitat not present

L (low potential) – Suitable habitat present, highly disturbed

M (moderate potential) – Suitable habitat present, moderately disturbed

H (high potential) – Suitable habitat present, and species known to occur within the vicinity

**Attachment DR.7-1**

Habitat Assessment of Alternate Staging Yards at the Olympic Training Center Facility



AECOM  
1420 Kettner Boulevard  
Suite 500  
San Diego, CA 92101  
www.aecom.com

619.233.1454 tel  
619.233.0952 fax

October 28, 2013

Ms. Debbie Collins  
San Diego Gas & Electric  
8315 Century Park Court – CP21E  
San Diego, CA 92123

**Subject: Habitat Assessment of Alternate Staging Yards at the Olympic Training Center Facility for the Proposed Salt Creek Substation and Power Line Project**

Dear Ms. Collins:

The purpose of this letter is to summarize for San Diego Gas & Electric (SDG&E) potential biological resources associated with the alternate staging yards at the Olympic Training Center (OTC) facility, south of Olympic Parkway, for the Proposed Salt Creek Substation and Power Line Project. A habitat assessment was completed by AECOM biologist, Lance Woolley, at six sites on Monday October 22, 2012 (Attachment 1).

The habitat assessment was conducted from 8:25 AM to 9:15 AM. Weather conditions during the survey were as follows: 62 degrees Fahrenheit; no wind; and 90% cloud cover. All sites consisted of bare (graded) ground and were considered disturbed habitat. The sites were not considered suitable for sensitive species and no historic California Natural Diversity Database sensitive species locations are known to occur on the sites. Due to the prevalence of Burrowing Owl (BUOW) in the area, and their tendency to reside in disturbed and even developed areas, it would be impossible to rule out the possibility of BUOW use of the OTC staging areas. While none were observed during the habitat assessment, no protocol level BUOW surveys have been conducted for the OTC staging areas. If these areas were to be used during construction, APM BIO-1 would also apply to these locations, ensuring any potential impacts to BUOW were mitigated.

Representative photos of each site are included in Attachment 2. The little vegetation present on the sites consisted of non-native plant species including, Bermuda grass (*Cynodon dactylon*), nit grass (*Gastridium ventricosum*), creeping spurge (*Chamaesyce serpens*), and Russian thistle (*Salsola tragus*). Wildlife observed during the habitat assessment included: house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), red-tail hawk (*Buteo jamaicensis*), and coyote (*Canis latrans*)(scat).

Due to the fact that these sites consist of disturbed habitat and bare ground, use of these sites would not require habitat based mitigation. A PSR would be completed, if use of these sites was determined to be necessary. The PSR and any associated avoidance and minimization measures would ensure compliance with the NCCP, including compliance with the Migratory Bird Treaty Act (MBTA), should nesting birds be present within or adjacent to the staging areas.



Ms. Debbie Collins  
San Diego Gas & Electric  
October 28, 2013  
Page 2

If you have any questions or comments regarding this letter report, please contact me at 619.233.1454.

Sincerely,

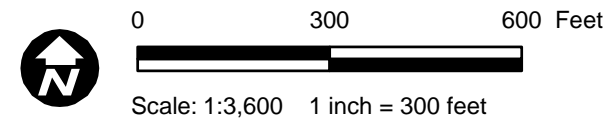
A handwritten signature in black ink, appearing to read 'Michelle Fehrensen'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Michelle Fehrensen  
Project Manager

Attachment 1: Alternate Staging Yards Figure  
Attachment 2: Representative Photographs



Source: AECOM, GeomorphIS LLC, SDG&E, 2013; Esri Basemaps, 2013



### Attachment 1 - Alternate Staging Yards

SDG&E is providing this map with the understanding that the map is not survey grade.

**Attachment 2**

**Representative Photos of the Alternate Staging Yard Sites within the Olympic Training Center Facility**



Northwest facing view of Site 1



West facing view of Site 2



**Attachment 2**

**Representative Photos of the Alternate Staging Yard Sites within the Olympic Training Center Facility**



Southwest facing view of Site 3



Northwest facing view of Site 4

**Attachment 2**

**Representative Photos of the Alternate Staging Yard Sites within the Olympic Training Center Facility**



South facing view of Site 5



East facing view of site 6

**Attachment DR.8-1**

Cultural Resources PEA Section Revisions

For purposes of clarification in the PEA cultural resources section, the following revisions are proposed:

**Page 4.5-2, second paragraph, fourth sentence. Revise sentence to:**

“Impacts to previously documented and undiscovered cultural resources resulting from the Proposed Project would be less than significant with implementation of SDG&E’s CMMP and APMs; refer to Section 4.5.4.2, for a complete discussion of the Cultural Resources Monitoring and Mitigation Plan; and 4.4.54.5.6, Applicant Proposed Measures, which outlines minimization measures.”

**Page 4.5-22, Section 4.5.4.2 Impact Analysis. Add paragraph:**

“A Cultural Resources Monitoring and Mitigation Plan (CMMP) will be prepared prior to the start of construction. The CMMP will be prepared in accordance with CEQA Guidelines Sections 15064.5 and 15126.4, and will provide procedures to be followed to ensure that impacts to cultural resources will not occur without mitigation that would reduce the impacts to less than significant. At a minimum, the CMMP will include the following:

- A summary of available information on known sites and sensitive locations in the project area
- A historical context for the evaluation of resources that may be encountered during construction
- A research design outlining important historical themes and research questions relevant to the known sites in the study area
- Data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation
- Specific project areas where cultural resource monitors would be required during construction, including along access roads and staging areas where surveys were limited due to heavy vegetation and low visibility
- Treatment plan of inadvertent discoveries
- Reporting and curating requirements for artifacts uncovered during construction

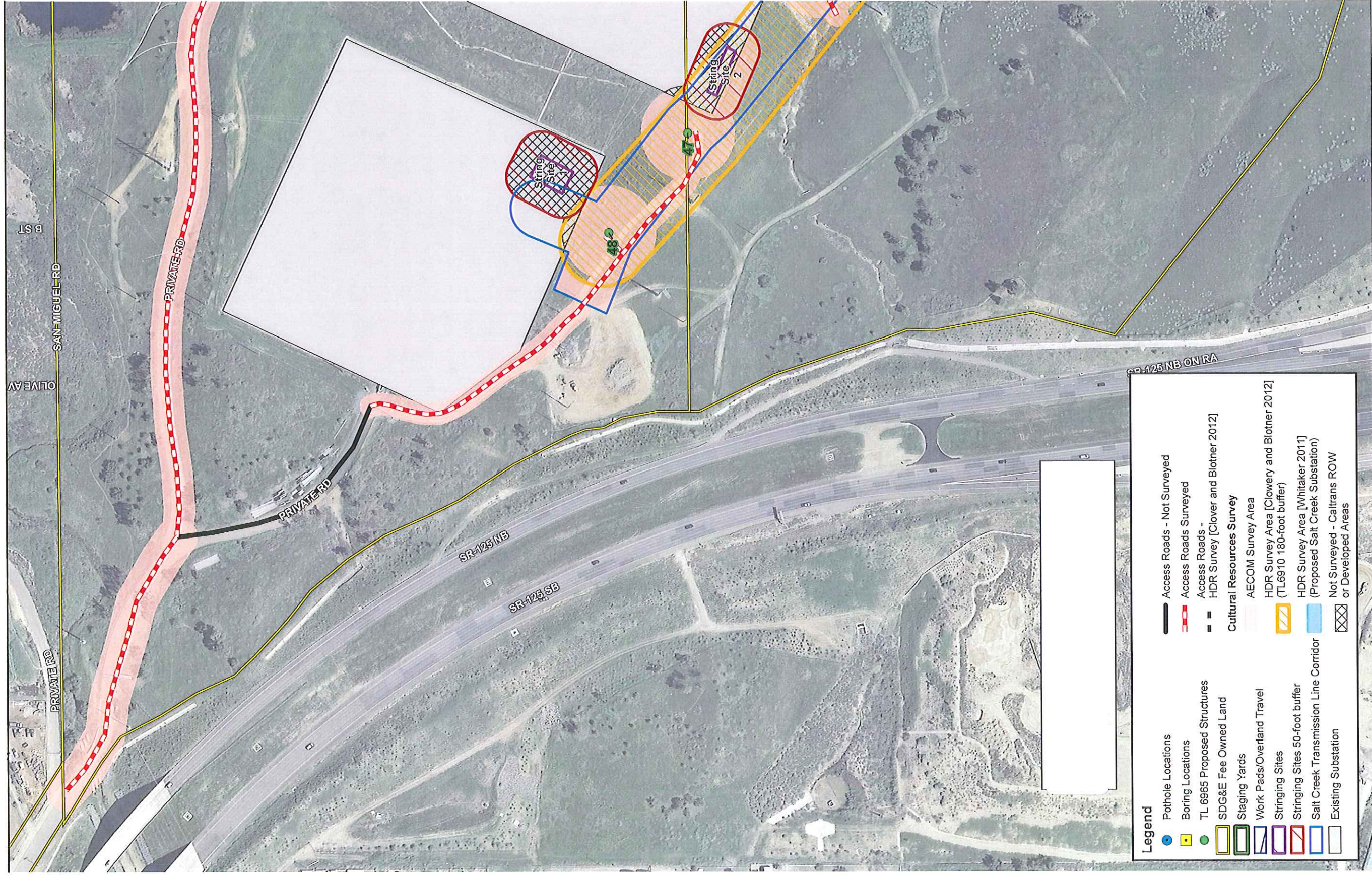
If any previously delineated work area must be expanded or modified during construction, previous cultural and paleontological survey results for new project areas would be reviewed to assess potential impacts, and identify and implement feasible avoidance or impact minimization measures per the CMMP.”

**Page 4.5-23, last paragraph. Revise sentence to:**

“~~As such, there~~ would be no adverse impacts to these sites during the construction of the proposed TL 6965, with implementation of mitigation procedures outlined in the CMMP.”

**Page 4.5-24, first paragraph. Revise sentence to:**

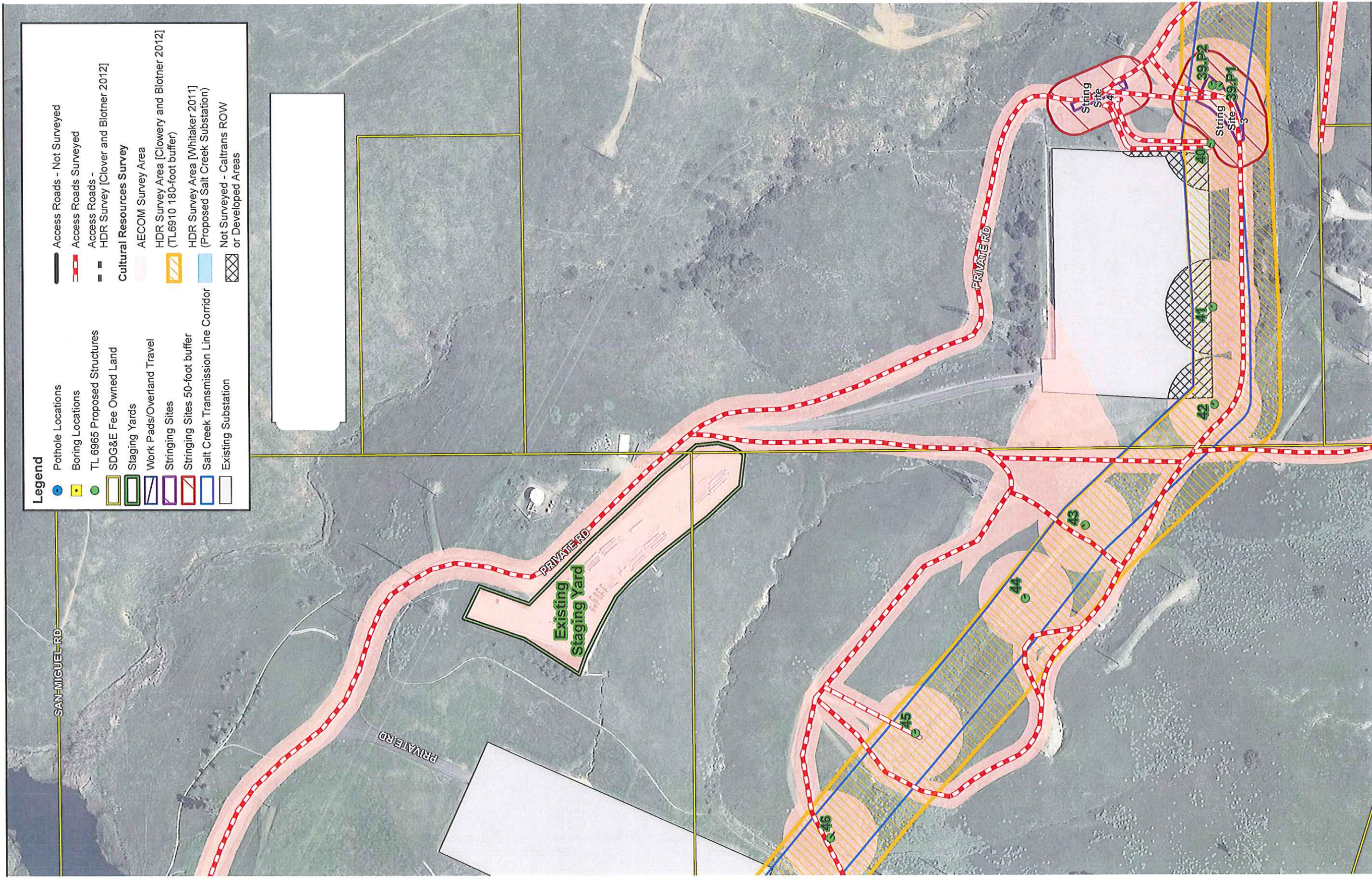
“~~As such, there~~ would be no adverse impacts to these sites during the construction of the proposed modifications at the Existing Substation, with implementation of mitigation procedures outlined in the CMMP.”



**Figure 2a**  
Salt Creek Cultural Survey Areas

Source: SDG&E 2012; HDR 2012; LandisCor 2010

Scale: 1:2,400; 1 inch = 200 feet



Legend	
<span style="color: blue;">●</span>	Pothole Locations
<span style="color: yellow;">■</span>	Boring Locations
<span style="color: green;">●</span>	TL 6965 Proposed Structures
<span style="border: 1px solid yellow; display: inline-block; width: 10px; height: 10px;"></span>	SDG&E Fee Owned Land
<span style="border: 1px solid green; display: inline-block; width: 10px; height: 10px;"></span>	Staging Yards
<span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span>	Work Pads/Overland Travel
<span style="border: 1px solid purple; display: inline-block; width: 10px; height: 10px;"></span>	Stringing Sites
<span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span>	Stringing Sites 50-foot buffer
<span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span>	Salt Creek Transmission Line Corridor
<span style="border: 1px solid grey; display: inline-block; width: 10px; height: 10px;"></span>	Existing Substation
<span style="border-bottom: 1px solid black; width: 10px; display: inline-block;"></span>	Access Roads - Not Surveyed
<span style="border-bottom: 1px dashed red; width: 10px; display: inline-block;"></span>	Access Roads Surveyed
<span style="border-bottom: 1px dashed black; width: 10px; display: inline-block;"></span>	Access Roads - HDR Survey [Clover and Blotner 2012]
<span style="border-bottom: 1px dashed purple; width: 10px; display: inline-block;"></span>	Cultural Resources Survey
<span style="background-color: pink; width: 10px; height: 10px; display: inline-block;"></span>	AECOM Survey Area
<span style="border: 1px solid yellow; width: 10px; height: 10px; display: inline-block;"></span>	HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
<span style="background-color: lightblue; width: 10px; height: 10px; display: inline-block;"></span>	HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
<span style="background-color: lightgrey; width: 10px; height: 10px; display: inline-block;"></span>	Not Surveyed - Caltrans ROW or Developed Areas

Source: SDG&E 2012; HDR 2012; LandisCor 2010

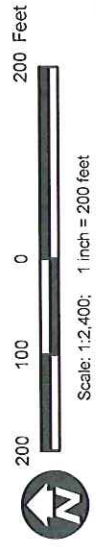
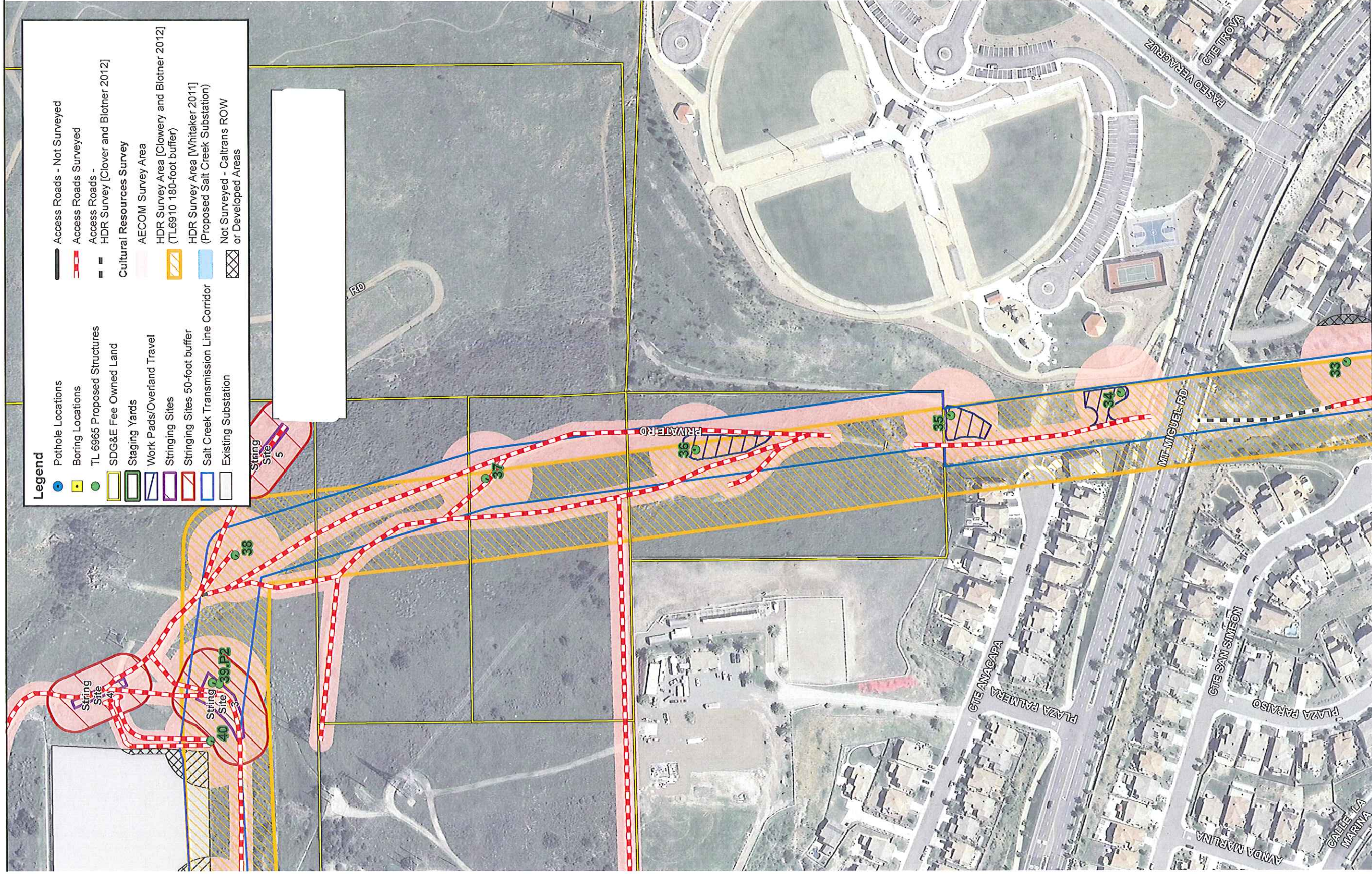
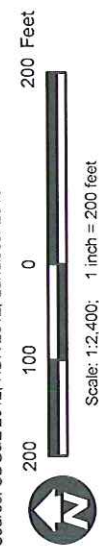


Figure 2b  
Salt Creek Cultural Survey Areas

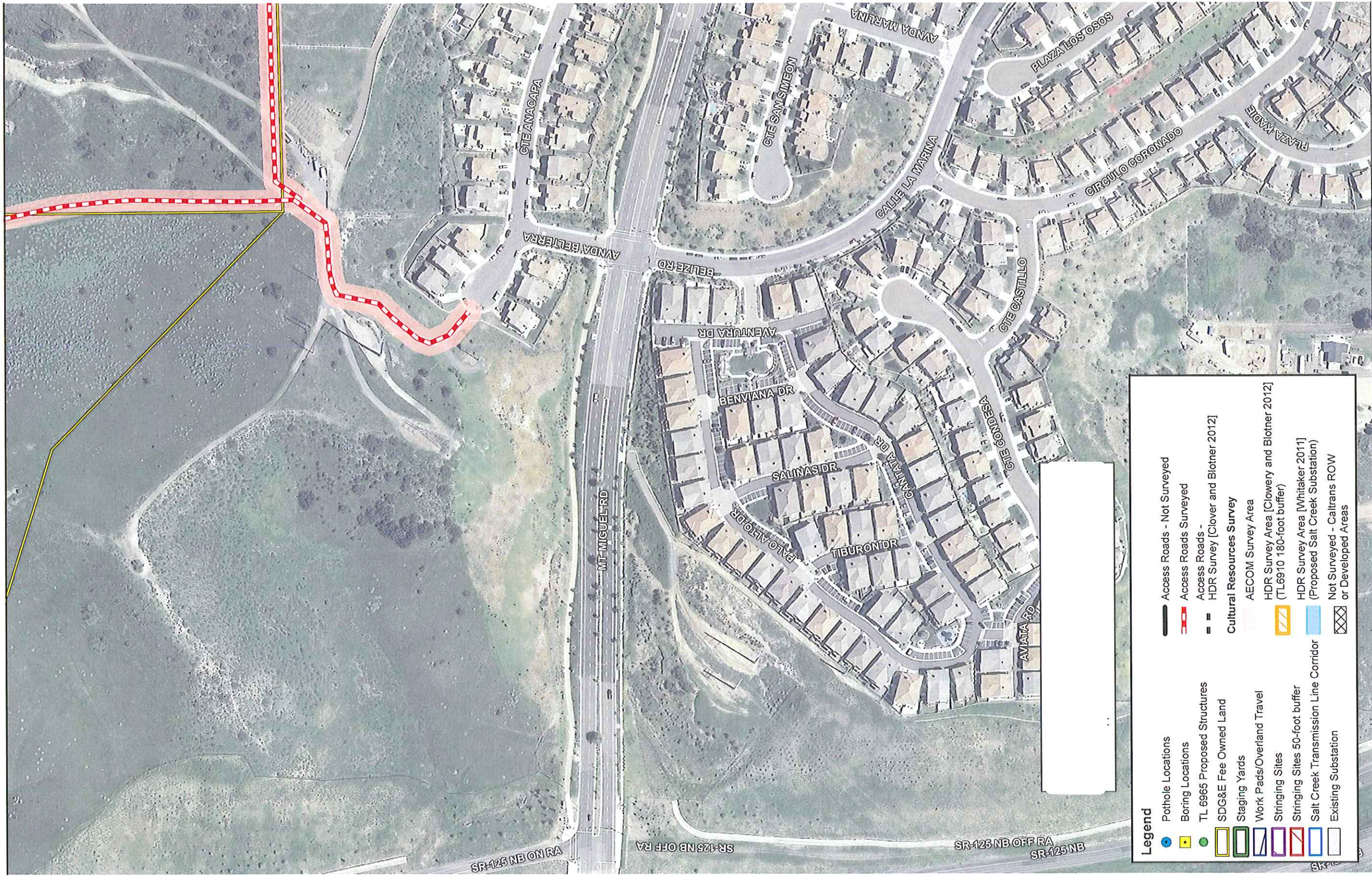


- Legend**
- Pothole Locations
  - Boring Locations
  - TL 6966 Proposed Structures
  - SDG&E Fee Owned Land
  - Staging Yards
  - Work Pads/Overland Travel
  - Stringing Sites
  - Stringing Sites 50-foot buffer
  - Salt Creek Transmission Line Corridor
  - Existing Substation
  - Access Roads - Not Surveyed
  - Access Roads Surveyed
  - Access Roads - HDR Survey [Clover and Blotner 2012]
  - Cultural Resources Survey
  - AECOM Survey Area
  - HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
  - HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
  - Not Surveyed - Caltrans ROW or Developed Areas

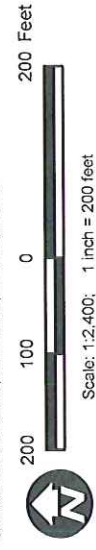
Source: SDG&E 2012; HDR 2012; LandisCor 2010



**Figure 2c**  
Salt Creek Cultural Survey Areas

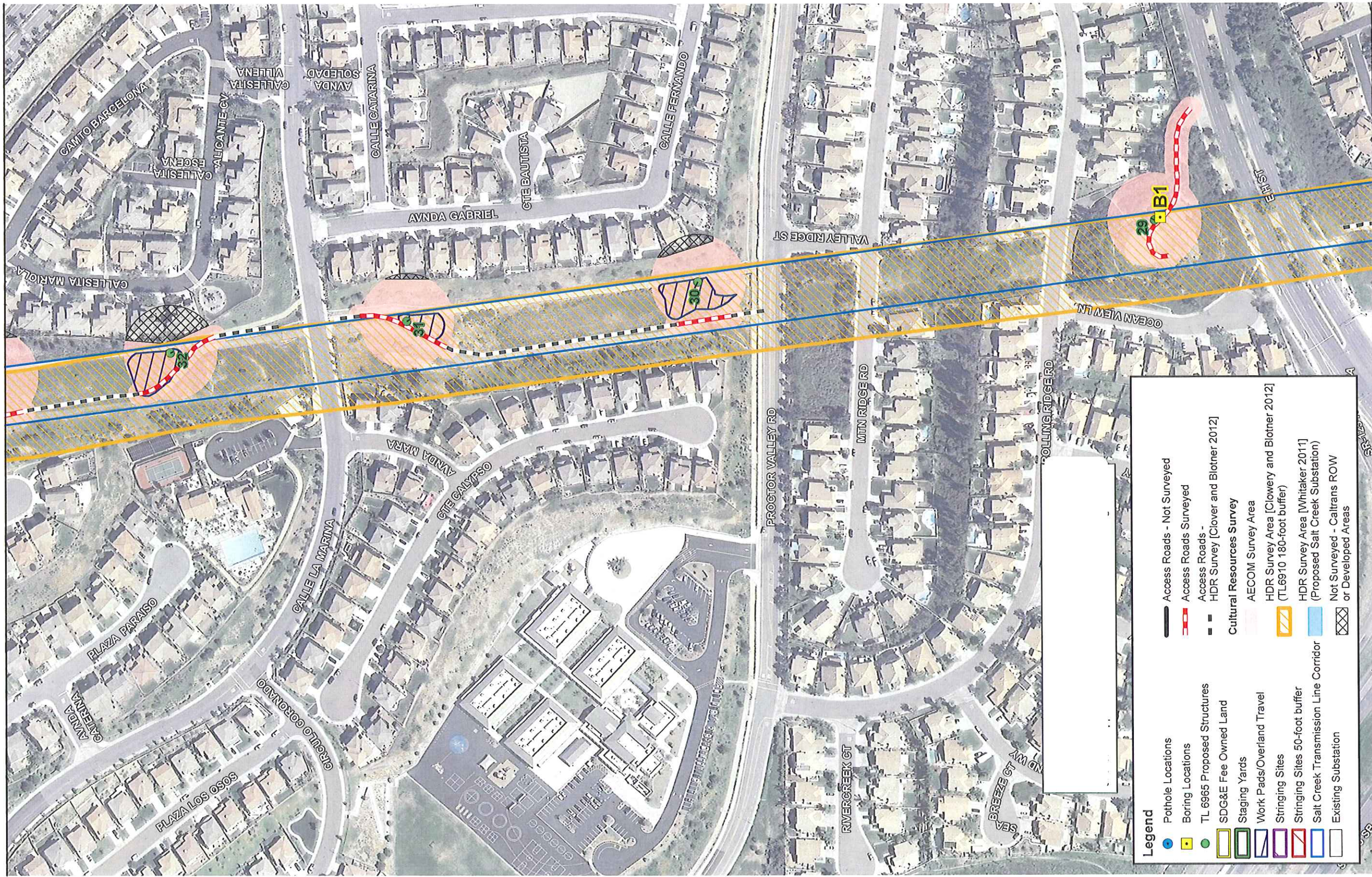


Source: SDG&E 2012; HDR 2012; LandisCor 2010



**Figure 2d**  
Salt Creek Cultural Survey Areas





**Legend**

- Pothole Locations
- Boring Locations
- TL 6965 Proposed Structures
- SDG&E Fee Owned Land
- Staging Yards
- Work Pads/Overland Travel
- Stringing Sites
- Stringing Sites 50-foot buffer
- Salt Creek Transmission Line Corridor
- Existing Substation
- Access Roads - Not Surveyed
- Access Roads Surveyed
- HDR Survey [Clover and Blotner 2012]
- Cultural Resources Survey
- AECOM Survey Area
- HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
- HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
- Not Surveyed - Calltrans ROW or Developed Areas

Source: SDG&E 2012; HDR 2012; LandisCor 2010



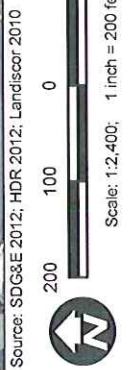
Scale: 1:2,400; 1 inch = 200 feet

**Figure 2e**  
Salt Creek Cultural Survey Areas

Path: Z:\2012\602-884-8\_Salt\_Creek\66GIS\6.3\_Layout\Cultural\SaltCrk\_cultural\_survey\_map\Servcs\0131119.mxd, 11/22/2013, sorsmerry

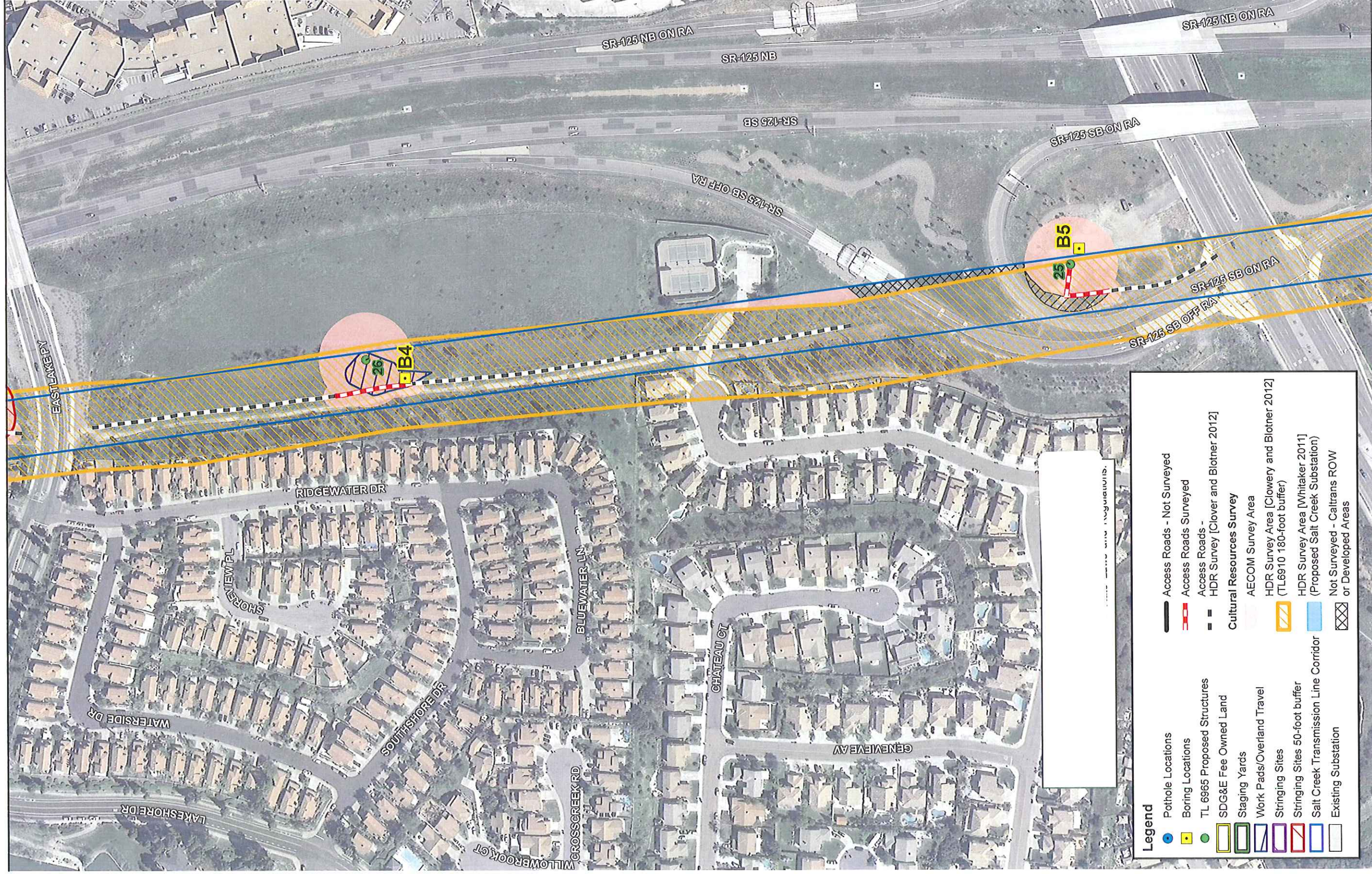


- Legend**
- Pothole Locations
  - Boring Locations
  - TL 6965 Proposed Structures
  - SDG&E Fee Owned Land
  - Staging Yards
  - Work Pads/Overland Travel
  - Stringing Sites
  - Stringing Sites 50-foot buffer
  - Salt Creek Transmission Line Corridor
  - Existing Substation
  - Access Roads - Not Surveyed
  - Access Roads Surveyed
  - Access Roads - HDR Survey [Clover and Blotner 2012]
  - Cultural Resources Survey
  - AECOM Survey Area
  - HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
  - HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
  - Not Surveyed - Caltrans ROW or Developed Areas



Source: SDG&E 2012; HDR 2012; LandisCor 2010

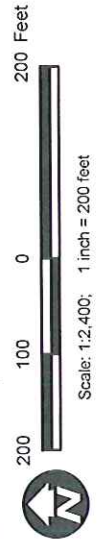
**Figure 2f**  
Salt Creek Cultural Survey Areas



**Legend**

Pothole Locations	Access Roads - Not Surveyed
Boring Locations	Access Roads Surveyed
TL 6965 Proposed Structures	Access Roads - HDR Survey [Clover and Blotner 2012]
SDG&E Fee Owned Land	Cultural Resources Survey
Staging Yards	AECOM Survey Area
Work Pads/Overland Travel	HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
Stringing Sites	HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
Stringing Sites 50-foot buffer	Salt Creek Transmission Line Corridor
Salt Creek Transmission Line Corridor	Not Surveyed - Caltrans ROW or Developed Areas
Existing Substation	Not Surveyed - Caltrans ROW or Developed Areas

Source: SDG&E 2012; HDR 2012; LandisCor 2010

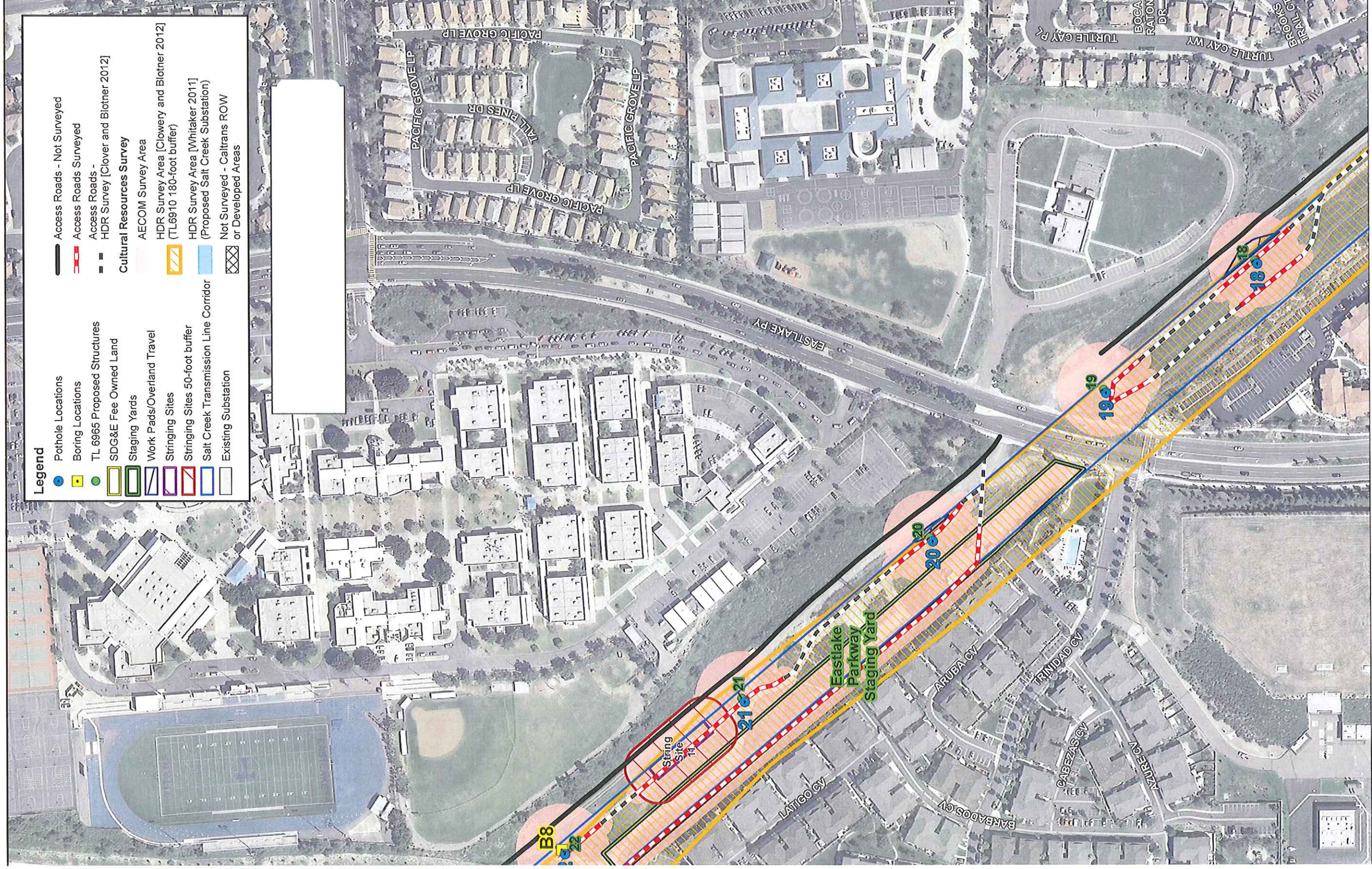


**Figure 2g**  
**Salt Creek Cultural Survey Areas**



Figure 2h  
Salt Creek Cultural Survey Areas

Source: SDG&E 2012; HDR 2012; Landiscar 2010



**Legend**

- |   |   |
|---|---|
| • Pothole Locations                     | — Access Roads - Not Surveyed   |
| • Boring Locations                      | — Access Roads Surveyed   |
| • TL 6965 Proposed Structures           | — Access Roads - HDR Survey [Clover and Blotner 2012]                 |
| ■ SDG&E Fee Owned Land                  | ■ Cultural Resources Survey   |
| ■ Staging Yards                         | ■ AECOM Survey Area   |
| ■ Work Pads/Overland Travel             | ■ HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer) |
| ■ Stringing Sites                       | ■ HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)    |
| ■ Stringing Sites 50-foot buffer        | ■ Not Surveyed - Caltrans ROW or Developed Areas                      |
| ■ Salt Creek Transmission Line Corridor |   |
| ■ Existing Substation                   |   |

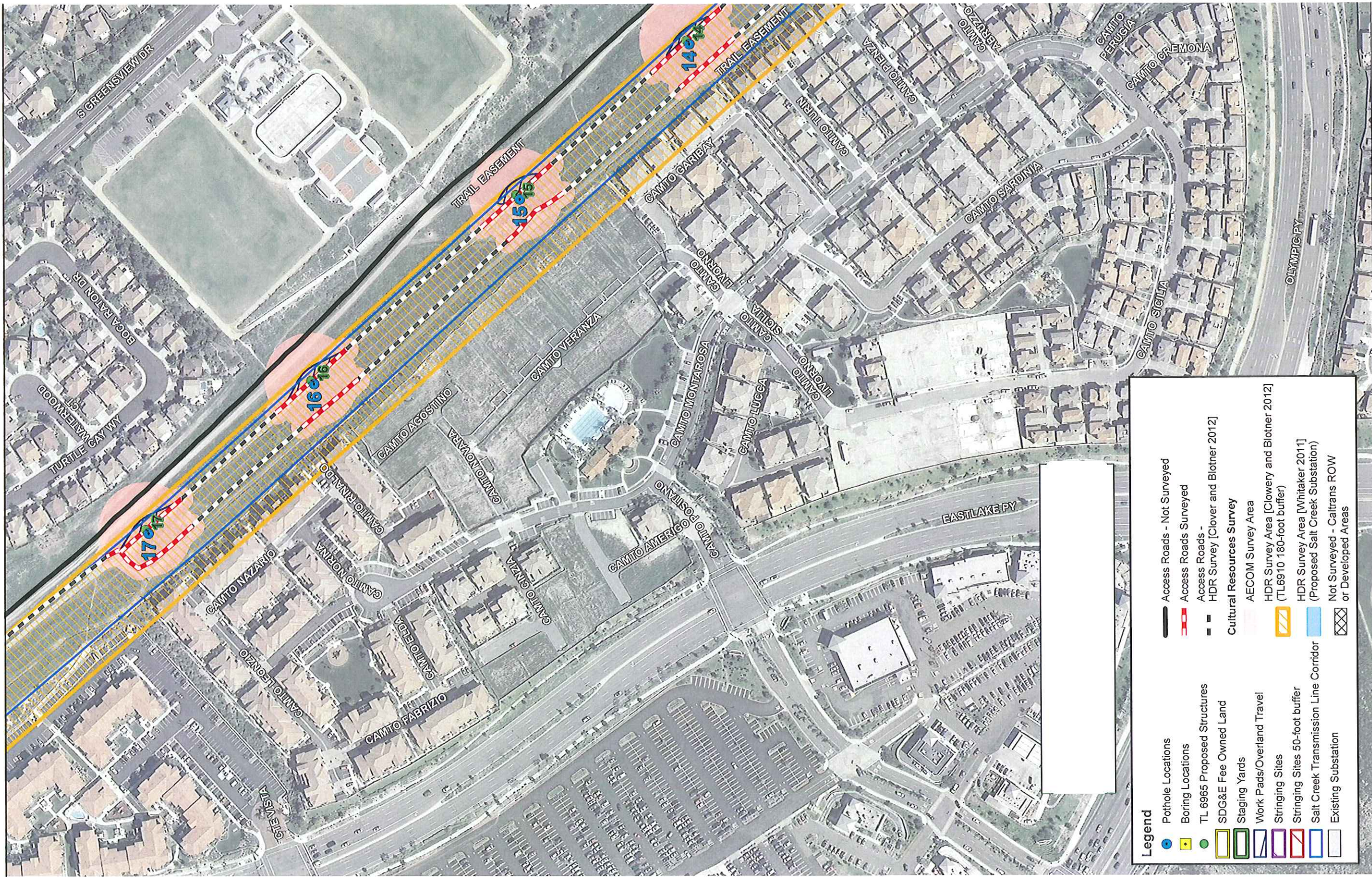
Source: SDG&E 2012; HDR 2012; Landscor 2010



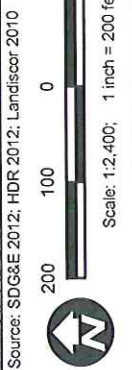
Scale: 1:2,400; 1 inch = 200 feet

**Figure 2i**  
**Salt Creek Cultural Survey Areas**

Path: Z:\2012\02-89-AS\_Salt\_Creek\06GIS\6.3\_Layout\CulturalSaltCrk\_cultural\_survey\_mapSeries\031119.mxd, 11/22/2013, sweeney



Legend	
	Pothole Locations
	Boring Locations
	TL 6965 Proposed Structures
	SDG&E Fee Owned Land
	Staging Yards
	Work Pads/Overland Travel
	Stringing Sites
	Stringing Sites 50-foot buffer
	Salt Creek Transmission Line Corridor
	Existing Substation
	Access Roads - Not Surveyed
	Access Roads Surveyed
	HDR Survey [Clover and Blotner 2012]
	Cultural Resources Survey
	AECOM Survey Area
	HDR Survey Area [Clowery and Blotner 2012] (TL6910 180-foot buffer)
	HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
	Not Surveyed - Caltrans ROW or Developed Areas



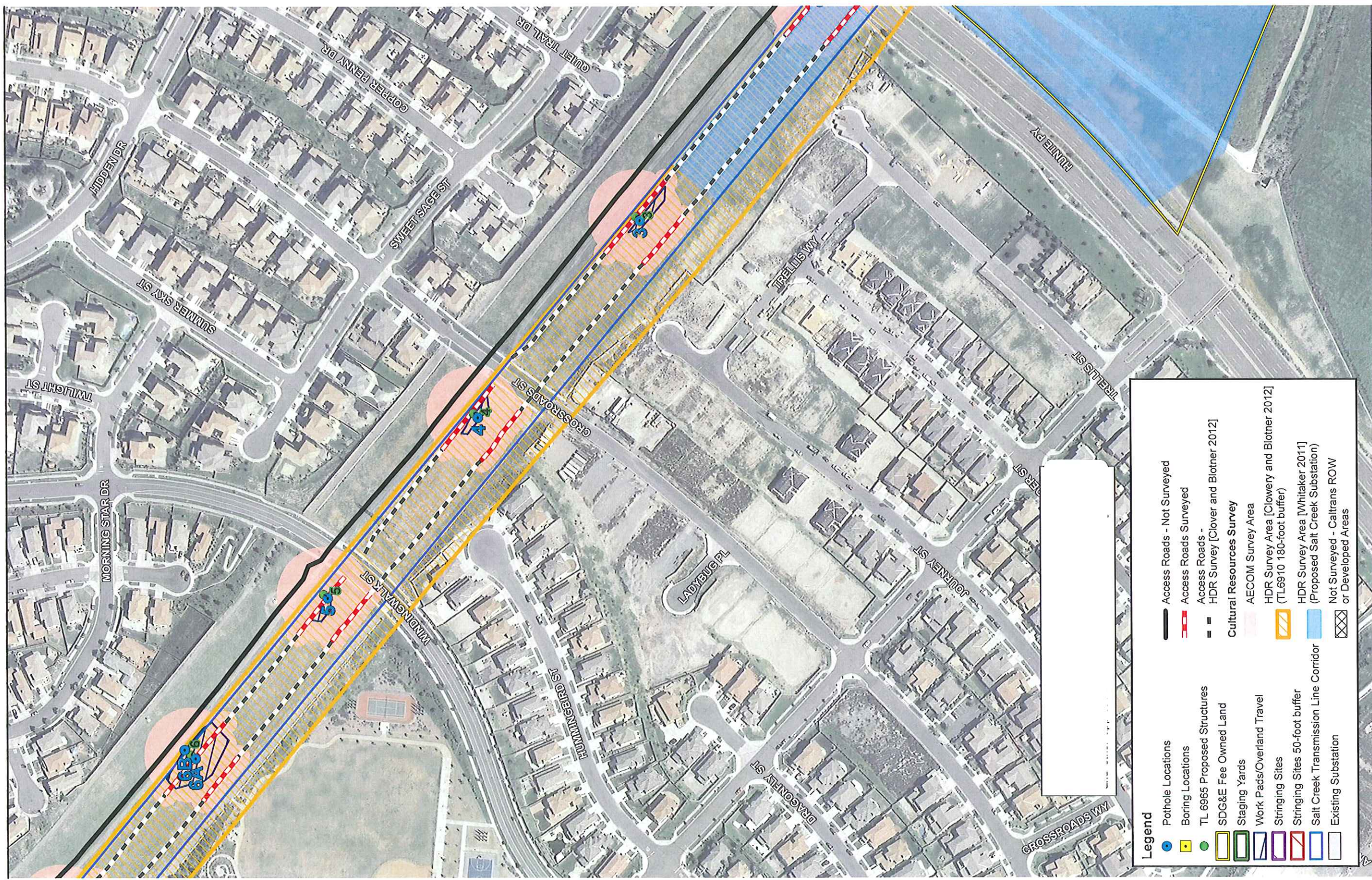
Source: SDG&E 2012; HDR 2012; LandisCor 2010

**Figure 2j**  
**Salt Creek Cultural Survey Areas**

Path: Z:\2012\60248948\_Salt\_Creek\60GIS\6.3\_Layout\Cultural\SaltCrk\_cultural\_survey\_map\src\20131119.mxd, 11/22/2013, 9:59:57 AM



Figure 2k  
Salt Creek Cultural Survey Areas



Source: SDG&E 2012; HDR 2012; LandisCor 2010



Figure 21  
Salt Creek Cultural Survey Areas





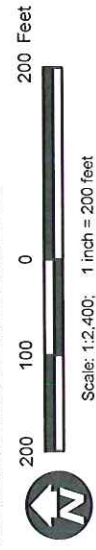
Figure 2m  
Salt Creek Cultural Survey Areas



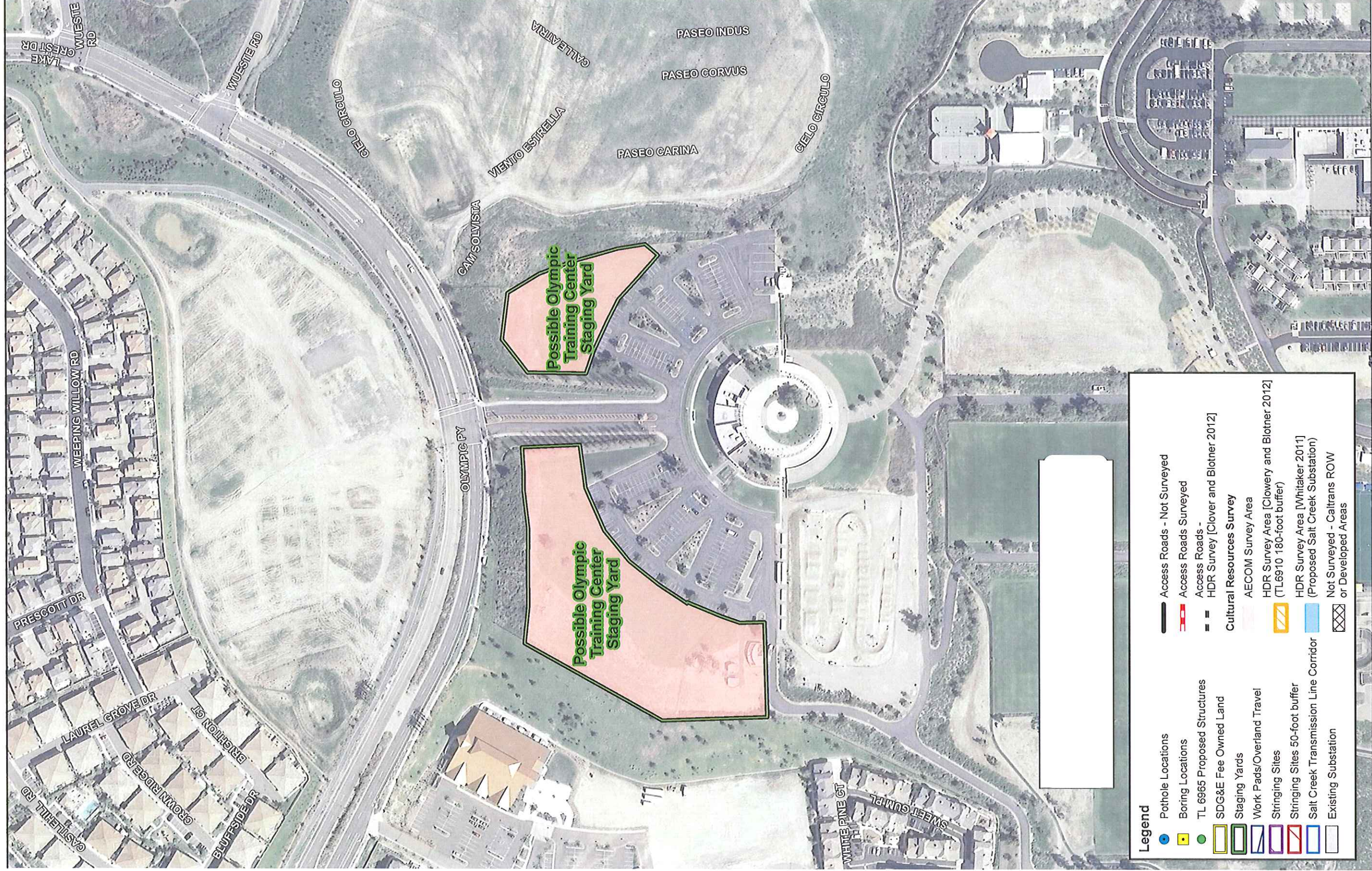
**Legend**

- Pothole Locations
- Boring Locations
- TL 6965 Proposed Structures
- SDG&E Fee Owned Land
- Staging Yards
- Work Pads/Overland Travel
- Stringing Sites
- Stringing Sites 50-foot buffer
- Salt Creek Transmission Line Corridor
- Existing Substation
- Access Roads - Not Surveyed
- Access Roads Surveyed
- Access Roads - HDR Survey [Clover and Blotner 2012]
- Cultural Resources Survey
  - AECOM Survey Area
  - HDR Survey Area [Clovery and Blotner 2012] (TL6910 180-foot buffer)
  - HDR Survey Area [Whitaker 2011] (Proposed Salt Creek Substation)
  - Not Surveyed - Caltrans ROW or Developed Areas

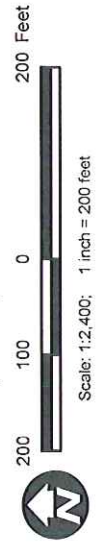
Source: SDG&E 2012; HDR 2012; Landiscor 2010



**Figure 2n**  
Salt Creek Cultural Survey Areas



Source: SDG&E 2012; HDR 2012; Lendiscor 2010



**Figure 2o**  
Salt Creek Cultural Survey Areas

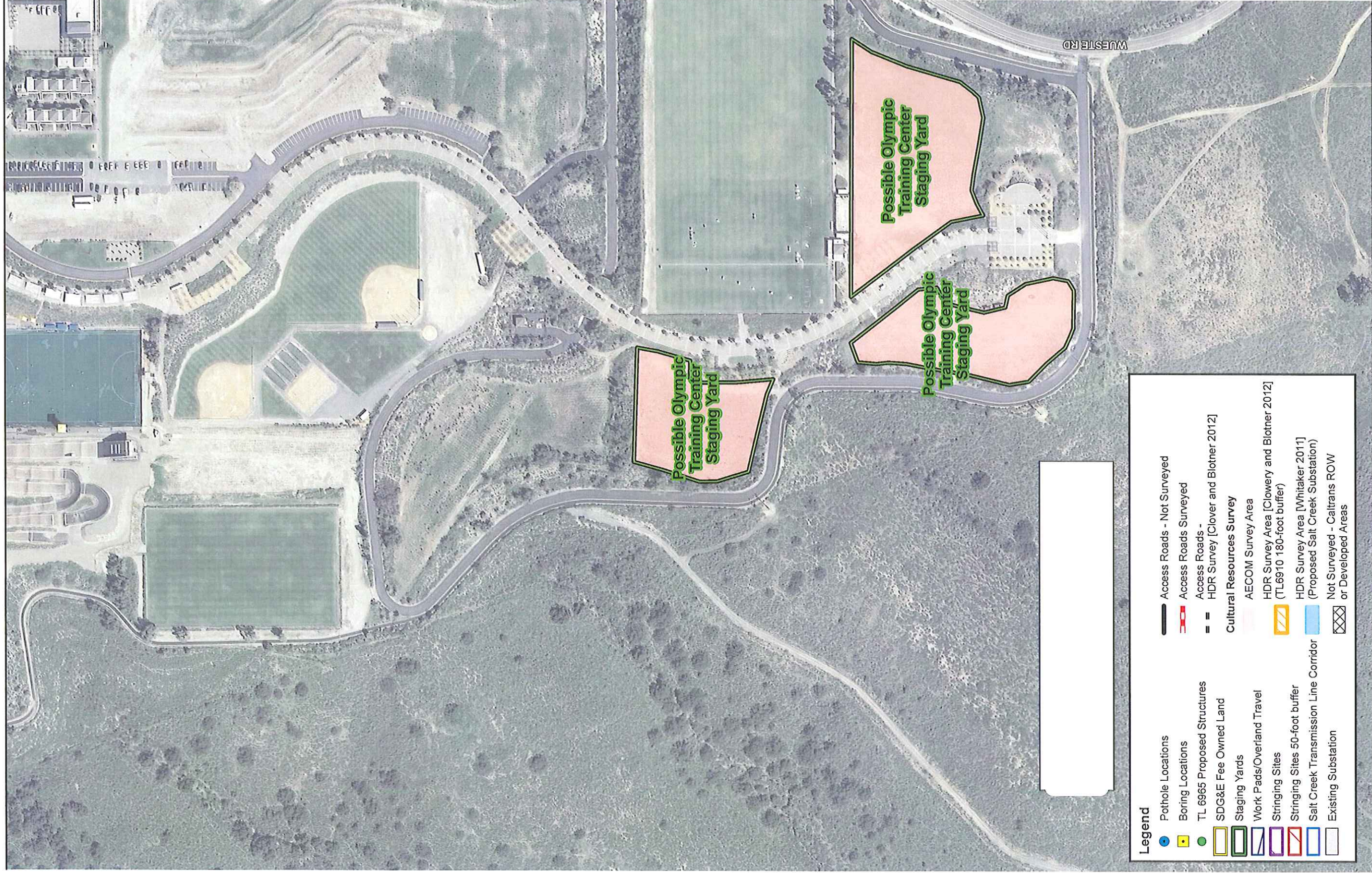


Figure 2p  
Salt Creek Cultural Survey Areas