Appendix A
Retention Substation Project Description

SOCALGAS RETENTION SUBSTATION PROJECT: SCE PROJECT DESCRIPTION

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Date: May 6, 2024

Table of Contents

Project Overview

Southern California Gas Company (SoCalGas), executed an Added Facilities Agreement, with an effective date of March 15, 2023, with Southern California Edison (SCE) to support the electrification of SoCalGas's Honor Rancho Modernization Project (Project); which will install four (4) new natural gas compressors and two (2) new electric motor driven compressors that will require 19.5 MW of service by December 19, 2025. The Project is to connect a total 19.5 Mega Volt Amp (MVA) from a 66kV subtransmission service to a new substation (Retention) Facility located in Santa Clarita, CA. The Saugus-Haskell-Lockheed 66kV subtransmission line will be looped into the new customer-dedicated, SCE-owned Retention 66/12kV Substation facility.

The Project is currently under evaluation by South Coast Air Quality Management District (SCAQMD) as the CEQA lead agency. If SCE's scope is included in the Project CEQA document, it is assumed to qualify for a Permit to Construct (PTC) exemption under G.O. 131-D, but further evaluation may determine an expedited PTC may be necessary. This document has been developed to describe SCE's interconnection facilities needed to interconnect for review by SCAQMD.

Figure 1 Overview of Project Site and Existing System Facilities

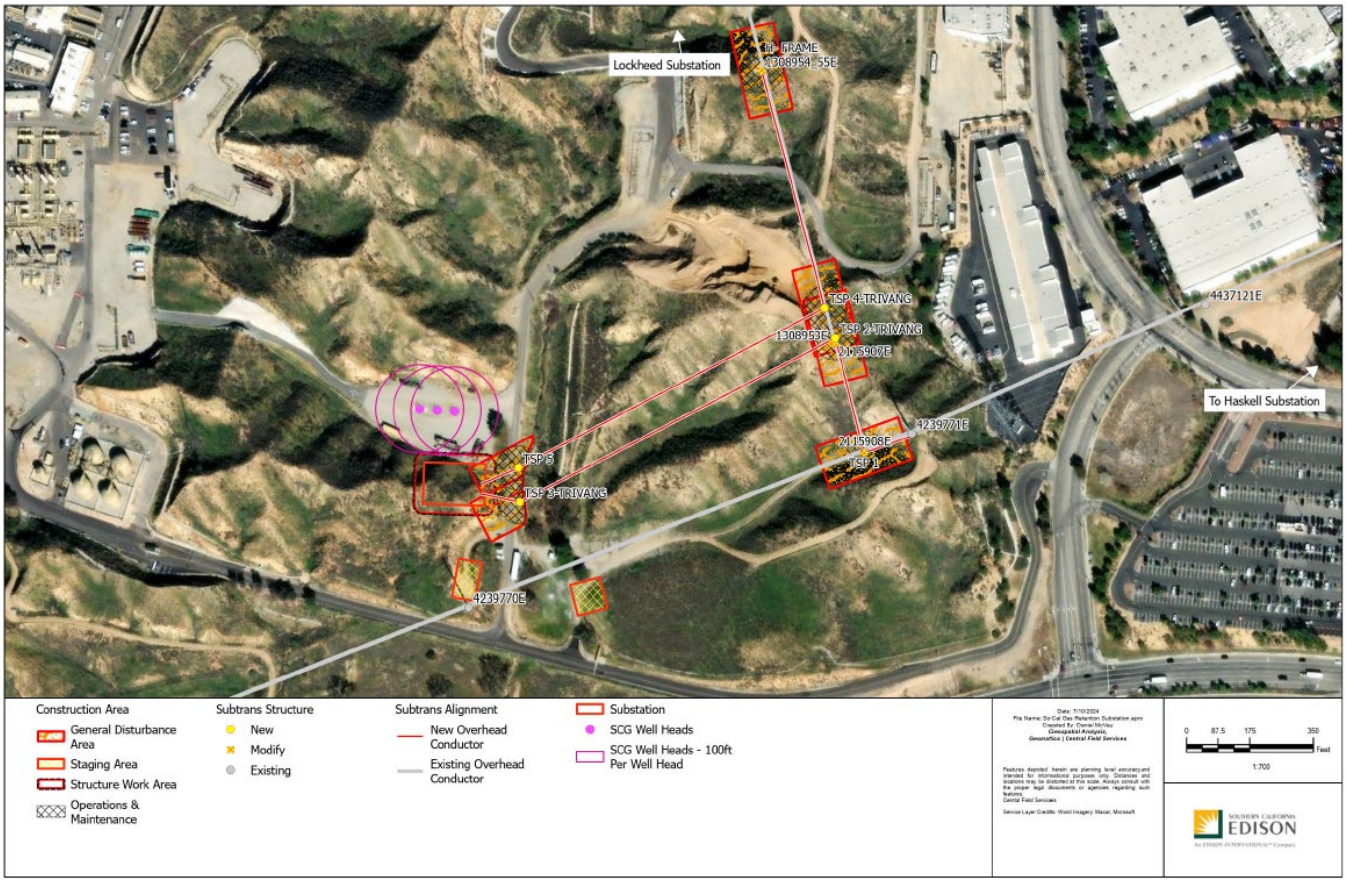
SCE Project Overview

- Install new 66/12kV customer-dedicated, SCE-owned Retention Substation facility
- The existing Lockheed leg of the Saugus-Haskell- Lockheed 66kV subtransmission line with overhead 954 SAC conductor, will be tapped (cut) to create the two new loop-in lines
- Install new Lockheed-Retention 66kV line
- Install new Saugus-Haskell-Retention 66kV line
- At Saugus Substation remove existing 66kV circuit breaker 111T and install upgraded 66kV circuit breaker
- Transmission Telecom will install two new fiber optic cable routes
- Install a Remote Terminal Unit (RTU), communication equipment, and meter

Retention Substation

The proposed Retention 66/12 kV substation will be constructed at Location A of several sites investigated by SCE and SoCalGas. The substation will be located on SoCalGas' fee property within its Honor Rancho Facility, north of Brady Parkway in Santa Clarita, CA.

Figure 2 Retention Substation Plot Plan Drawing



66 kV Switchrack (Standard Facilities)
Install the following equipment:

- One (1) 66 kV, 48' x 48' x 28' tall box rack structure with associated foundations
- Three (3) 72 kV, 2000 A, 40 kA, circuit breakers with associated foundations and Leads
- Six (6) 66 kV, 7.2 kVA voltage transformers with associated steel support structures, foundations, and leads
- Seven (7) 66 kV, 2000 A, three-phase, group operated, vertical mounted disconnect switches
- Nine (9) 72 kV, polymer type, station class surge arresters
- Ten (10) LED switchrack light assemblies with associated conduit and pull boxes
- Protection relays:
    - Lockheed 66kV Line
        i. One (1) -SEL 411L
        ii. One (1) -GE L90

- Saugus - Haskell 66kV Line
    - i. One (1) -SEL 411L
    - ii. One (1) -GE L90

Transformer Banks (Added Facilities)
Install the following equipment:

- One (1) 16.8/22.4/28 MVA (ONAN/ONAF/ONAF), 66/12 kV, 1-3-phase Power
- Transformers with associated foundations and leads
- One (1) 29' high steel support transformer jack bus with foundations
- Three (3) LED switchrack light assemblies with associated conduit and pull boxes
- Protection relays:
    - Transformer Bank
        - i. One (1) – T60
        - ii. One (1) – F35
        - iii. 800/5 Current Transformer (CT) ratio on 66 kV Phase CT's, 1200/5 Bank Neutral CT, and 2000/5 for T60 low side CT's

12 kV Switchrack (Added Facilities)
Install two (2) positions 12 kV switchrack with the following equipment:

- Two (2) 17 kV, 1200 A, 25 kA Vacuum Circuit Breakers with associated foundations
- Eighteen (18) 12 kV, 1200 A, 1-phase, hook stick operated disconnect switches
- Three (3) S&C SM5 fuses
- Three (3) 12 kV, polymer type surge arresters
- Two (2) 25kVA 12000-120/240V PTs for station light and power
- Two (2) LED switchrack light assemblies with associated conduit and pull boxes
- Two (2) 12kV line feeders for the customer and potheads
    - 12 kV Line #1
        - i. One (1) – 1200/5 CT Ratio GE F60
    - 12 kV Line #2
        - i. One (1) – 1200/5 CT Ratio GE F60

Mechanical Electrical Equipment Room (50/50 Added/ Standard Facilities)
Install the following equipment:

- One (1) 15'-10" x 28' drop in MEER building with associated foundations
- One (1) DC Panel with DC Batteries, DC Battery rack, Battery Charger, and DC Parallel Box
- One (1) AC Panel
- One (1) local annunciator for local alarms
- One (1) MEER interface panel
- One (1) HVAC unit
- One (1) Programmable Logic Controller (PLC) for automatic re-closure of 66 kV circuit breakers
- Four (4) emergency DC lights
- Six (6) 2-lamp lighting fixtures
- Two (2) 95 module boards for alarms to local annunciator and RTU
- Four (4) new 19" relay racks to house new protective relays
- Two (2) new telecom 19" relay racks

Revenue Metering Standard Facilities (Standard Facilities)
Install the following equipment:

- One (1) new revenue metering cabinet with associated steel support structures and foundations
- One (1) 3-wire revenue meters with associated communication devices in the new revenue metering cabinets
- Three (3) 12 kV current transformers
- Three (3) 12 kV voltage transformers

Miscellaneous (One Time Costs)
Install the following equipment:

- Two (2) new 4' x 4' x 6' deep Manhole for pulling optical fiber cable to the MEER Building
- Approximately 412' of 8' high perimeter fence with barbed wire surrounding an area of 160' x 113' substation area
- 40' of 16' wide driveway
- One (1) 18' wide swing gate
- Rock Dust to cover the substation area of 160' x 113'
- Fifteen (15) light fixtures on various equipment structures
- 400 A neutral grounding resistor for 12kV Transformer

IT Telecom
Install the following equipment:

- Lightwave, Channel Banks, Data, and associated equipment

Power Systems Controls (PSC)

- One (1) full-size RTU
- Point additions at Saugus, Haskell, and Lockheed Substations

The Retention Substation will include various below ground facilities, including ground grid, underground conduits, vaults and foundations that are installed below ground and extend above ground. Said Substation will have above ground equipment including distribution transformers, switch gear, steel structures, and associated equipment. The equipment will be stationed in outdoor areas. All equipment will be within the footprint of said substation's fence. The highest point of the said substation will be the 66 kV switchrack at an approximate height of 28'.

Final engineering has not yet been completed for construction of said Retention Substation. However, it is expected that upon final engineering, any resulting environmental impacts will be minor and less than significant.

Retention Substation Site Grading:

Said Substation site grading will be performed by SoCalGas, or its contractors, in accordance with SCE specifications and permitting requirements. SoCalGas or its contractors will complete the rough grading and fine grading of the Retention Substation site and associated site for slope stabilization and drainage. Any additional grading changes considered precision grading, will be performed by SCE. Site grading will include site excavation, drainage and slope installation. Significant spoils are anticipated to be removed from the

substation site footprint and the spoils relocated elsewhere on SoCalGas's fee property within its Honor Rancho Facility. The addition of import soil as is necessary and re-compaction shall satisfy specific requirements of applicable federal, state, and/or local agencies. After completion of grading activities by SoCalGas or its contractors, the site will be turned over to SCE to conduct precise grading beginning substation construction activities. Should SCE require the import of soils to complete its precised grading, import soils shall be approved by SoCalGas, and those import soils shall satisfy specific applicable federal, state, and/or local agency requirements.

Once all grading activities are completed, the site will be inspected and certified by a SoCalGas Professional Engineer. After the site has been certified, a SCE construction and geotechnical engineering representative will inspect and receive the site for SCE contractors to perform all civil and electrical construction activities.

Retention Substation Construction

The Retention Substation will be constructed by SCE and its contractors beginning approximately on or about May 27, 2025 and completed on or about December 19, 2025. All civil construction activities will take place within the Retention easement footprint. A SoCalGas security guard shack to be located at the entrace to the construction area off of Getaway Road, will control all ingress and egress of project construction vehicles. Additionally, Retention Substation is designed with a gate on the southeast side of said Substation as shown in the substation Plot Plan to control access. SCE will coordinate with SoCalGas to secure a temporary laydown area(s) located within its Honor Rancho Facility, specifically within the Retention area of activity as is practicable and is also planning to utilize an existing SCE laydown yard within its Pardee Substation. The laydown and staging areas will house all construction materials and equipment during the construction period.

The estimated earthwork for the Retention Substation at SoCalGas' Honor Rancho Facility was established using cut and fill slopes of 2:1. The 2:1 slope is based on the recommendations from the preliminary geotechnical report prepared by Geosyntec Consultants on July 17, 2023. It is estimated that the raw cut volume for said Substation and surrounding area would be approximately 18,696 CY at a 2:1 slope. The raw fill volume is estimated to be 785 CY at a 2:1 slope. Therefore, a net of 17,911 CY of total raw cut is the estimated earthwork for this project.

Construction activities will be conducted in a manner consistent with the design specifications and permit requirements. SCE and all its contractors will follow all environmental mitigation requirements, including dust and noise control and all pre-construction monitoring activities, as outlined in the appropriate environmental documents by SCAQMD.

SCE and its contractor will perform all civil construction and all electrical construction as outlined below:

Retention Civil Construction:

Civil construction has an estimated duration of three months and is projected to start in May 2025 with forecast completion in July 2025. The labor force for the civil work will have a minimum six-person crew, and will work 10–11-hour days, five days a week to complete this project on schedule. Working hours will follow each jurisdiction's requirements but are normally planned from 6:30am to 5:00pm. Work start time may adjust for summer and winter daylight hours as deemed necessary.

Civil construction will consist of the following activities:

- Install temporary fence around the substation and laydown area
- Excavation and forming
- Install foundations
- Install underground structures
- Install ground grid
- Install conduits
- Install driveway
- Remove temporary fence and install new perimeter fence and gate (per permit and design standards) around said Substation area
- Final grade and compaction
- Install rock dust

Equipment: The following equipment will be used for civil construction:

Activity and Number of Personnel	**Equipment Type**	**Estimated Horsepower**	**Fuel Type**	**Qty.**	**Est. No. Work Days**	**Duration of Use (Hours/Day)**
Civil Construction (6 people)	Tool Truck	180	Gas	2	90	6
	Forklift	75	Diesel	1	90	4
	Reach Lift	75	Diesel	1	60	4
	Snorkel Lift	180	Diesel	1	60	4
	Tool Trailer	N/A	N/A	1	30	8
	Compaction Machine	20	Gas	1	30	2
	Dump Truck	180	Diesel	1	20	2
	Portable Generator	<50	Gas	1	90	6
	Excavator w/attachments	180	Diesel	1	60	8
	Water Buffalo	<50	Diesel	1	90	4
	Skid Steer	180	Diesel	1	60	8
	Portable Toilets	N/A	N/A	2	90	8
	Backhoe	69	Diesel	1	30	8
	Truck Crane	350	Diesel	1	30	8
	Concrete Truck	400	Diesel	1	60	8

<u>Retention Electrical Construction:</u>

Electrical construction will begin after civil construction has been completed in July 2025, with a target date to complete all work and energize said Substation by December 19, 2025. This phase of the project will use a minimum of a six-person crew for electrical construction and a two-person crew for testing and in-servicing said Substation.

The labor force for the electrical work will have a minimum of a six-person crew, which will work 8-hour days, five days per week to complete the project on schedule. Working hours will follow each jurisdiction's requirements but is normally planned from 6:00 a.m. to 5:00 p.m. However, during the testing and in-

servicing phase of the project, some overtime after normal working hours may become necessary to accommodate power outage requirements, and schedule recovery efforts. Work start time may also adjust for summer and winter daylight hours as deemed necessary.

Electrical construction will consist of the following activities:

- Delivery and staging of equipment
- Install one Mechanical Electrical Equipment Room (MEER) building
- Erect all steel structures and high voltage conductors and busses
- Install and test Power Transformers, PT's and CT's
- Install all high voltage circuit breakers, add SF6 Gas as necessary, and perform required test
- Install all auxiliary equipment per design drawings
- Connect all equipment to station ground grid as specified by standards
- Install and test, Remote Terminal Unit (RTU) and all telecommunications equipment inside the MEER
- Testing of all equipment, connections and relays
- Connect Retention Substation to the two incoming 66kV lines and two telecommunication fiber lines
- Test and in-service Retention Substation

Equipment for electrical construction and test activities:

Activity and Number of Personnel	**Equipment Type**	**Estimated Horsepower**	**Fuel Type**	**Qty.**	**Est. No. Work Days**	**Duration of Use (Hours/Day)**
Electrical Construction (6 people)	Tool Truck	180	Gas	2	180	6
	Forklift	75	Diesel	1	120	4
	Reach Lift	75	Diesel	1	90	4
	Snorkel Lift	180	Diesel	1	90	4
	Tool Trailer	N/A	N/A	1	180	8
	Truck Crane	180	Diesel	1	60	4
	Portable Generator	<50	Gas	1	150	8
	Cargo container	N/A	N/A	1	90	4
	Portable Toilets	N/A	N/A	2	150	8
	Heavy Haul Truck	700	Diesel	1	30	4
Testing (2 people)	Tool Truck	180	Gas	1	90	8

Saugus Substation

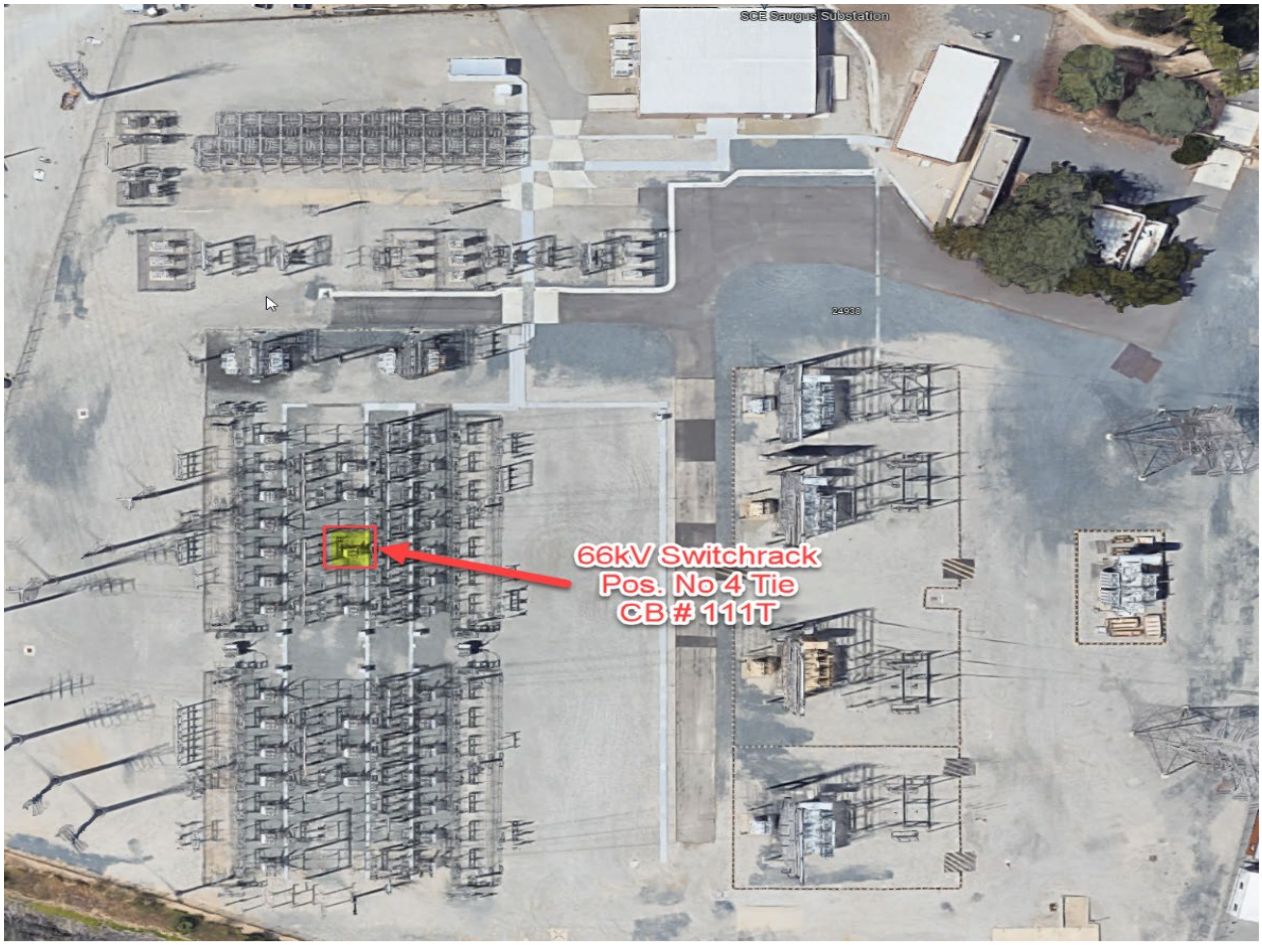
Saugus Substation Construction Upgrades:

Upgrade 66 kV Switchrack Circuit Breaker 111T.

Saugus A 66 kV Switchrack

- Remove one (1) 66kV 1200 A, 40 kA Vacuum Circuit Breakers.
- Install one (1) new 66kV 2000 A, 53 kA Circuit Breakers, reuse existing foundation, no ground disturbance required. Work space within existing Saugus Substation will be approximately 50' by 50'. See location below.

Figure 3 Location of Circuit Breaker 111T at SCE Saugus Substation



Labor Force and Construction Equipment:

Construction will be performed by the Contractor's construction crews and/or by sub-contractors. Anticipated construction personnel and equipment are summarized as follows:

Activity and Number of Personnel	Equipment Type	Estimated Horsepower	Fuel Type	Qty.	Est. No. Work Days	Duration of Use (Hours/Day)
Civil Construction (6 people)	Tool Truck	180	Gas	2	10	1
	Forklift	75	Diesel	1	5	4
	Reach Lift	75	Diesel	1	5	8
	Snorkel Lift	180	Diesel	1	5	8
	Tool Trailer	N/A	N/A	1	10	1
	Heavy Haul Truck	400	Diesel	1	1	8

Haskell & Lockheed Substation Upgrades

Haskell Substation Construction Upgrades:

Upgrade protection settings, all work within existing equipment room at said Haskell Substation, no ground disturbing work proposed. The protection settings are upgraded through the installation of computer software on existing equipment conducted by a single technician, no large equipment required.

Lockheed Substation Construction Upgrades:

Upgrade protection settings, all work within existing equipment room at said Lockheed Substation, no ground disturbing work proposed. The protection settings are upgraded through the installation of computer software on existing equipment conducted by a single technician, no large equipment required.

66 kV Subtransmission Work

SCE will loop in said Retention Substation by installing two (2) new subtransmission lines, the Saugus-Haskell-Retention 66kV line and Lockheed- Retention 66kV line. Additionally, an existing H-Frame consisting of Structures 1308953E and 2115907E will be removed at the end of construction. The existing H-Frame is no longer required with the installation of the new Tubular Steel Poles (TSPs). This structure is marked with the "modify" symbol on the pdf and KMZ. Existing H-Frame 1308954E and 1308955E will also be modified.

Saugus-Haskell-Retention 66kV line Transmission Activities

- Replace existing Structure 2115908E with a new 60' tall TSP, which will become Structure 4964223E, formerly known as TSP-1
- Install one (1) 80' tall TSP Structure 4964224E, formerly known as TSP-2
- Install one (1) 90' tall TSP Structure 4964225E, formerly known as TSP-3
- Install new 954 SAC for approximately 4,060' of the Saugus-Haskell-Retention 66kV line

Lockheed-Retention 66kV line Transmission Activities

- Install one (1) 90' tall TSP Structure 4964226E, formerly known as TSP-4
- Install one (1) 90' tall TSP Structure 4964227E, formerly known as TSP-5
- Install new 954 SAC for approximately 3,300' of the Lockheed-Retention 66kV line

Figure 4 Retention Substation and Subtransmission Overview

Figure 5: Example TSP Structure

Labor Force and Construction Equipment

Construction will be performed by SCE or an SCE Approved Construction Contractor. The construction crews will work up to 10 - 11 hour days for 6 days per week to complete this project on schedule, to be determined in cooperation with SoCalGas. The 6th day (Saturday) will be on an as-needed basis, and if inside SoCalGas property, will require submittal of a plan outlining the reason and the work that will be performed to SoCalGas' Honor Rancho Facility Operations Team.

- Transmission Civil construction will begin with a civil crew comprised of a minimum six man crew. The work will require approximately 3 crew days which includes excavation and installation of one (1)-TSP foundation. This equals roughly 18 civil crew days (3 x crew days x 6 TSPs) for the transmission civil work.
- Next, there is a 3-week minimum curing time for each TSP concrete foundation. Crews will install the foundations and return to install the TSP after the concrete is cured.
- After the foundations are cured, the Transmission Electrical crews will mobilize and perform the overhead line work consisting of two (2) 6-man crews to Frame and set all the TSP structures. The crew will work five (5) days per TSP, therefore the construction of six (6) TSPs would require approximately 30 days, plus another 8 days to install the new conductor, and 2 days to test it. Therefore, the total electrical construction work for this activity is estimated at 40 crew days.
- Construction crews will comply with all rules, regulations and standards with inter-departments and other agencies while in their performance of the construction phase.

Activity and Number of Personnel	**Equipment Type**	**Estimated Horsepower**	**Fuel Type**	**Qty.**	**Est. No. Work Days**	**Duration of Use (Hours/Day)**
Civil Construction TSP Footing (6 people)	Tool/Material Truck	180	Gas	2	18	8
	Augur Drill Rig	200	Diesel	1	18	8
	Dump Truck	270	Diesel	1	10	6
	Backhoe	200	Diesel	1	18	3
	25KWH Generator	45	Gas	1	8	8
	Excavator	160	Diesel	1	8	8
	Water Trailer	5	Gas	1	8	8
	Bobcat	46	Diesel	1	8	8
	Compaction Roller	60	Diesel	1	5	8
	Re-bar cage delivery	180	Diesel	1	2	2
	Crane	300	Diesel	1	5	5
	Concrete delivery truck	200	Diesel	24	2	3
	Concrete pumping Truck	200	Diesel	1	2	8
	Pickup Truck	180	Gas	2	18	4
	Portable Toilets	N/A	N/A	1	N/A	

Activity and Number of Personnel	Equipment Type	Estimated Horsepower	Fuel Type	Qty.	Est. No. Work Days	Duration of Use (Hours/Day)
Transmission Crew (12 people)	Pole delivery Truck	180	Diesel	2	6	4
	Tool/Material Truck	180	Gas	2	40	8
	Crane	300	Diesel	1	18	8
	Transmission Bucket Truck	180	Diesel	3	40	8
	Transmission Heavy Truck	200	Diesel	2	40	8
	Pickup Truck	180	Gas	4	40	4
	Wire Dollies	75	Diesel	1	8	8
	Single Drum Puller	75	Diesel	1	8	8
	Portable Toilets	N/A	N/A	1	N/A	
	Tensioner	180	Diesel	1	3	8
	D 9 Bulldozer	300	Diesel	1	3	8

Transmission Telecommunication Scope of Work

Transmission telecommunication will install two (2) diverse fiber optic cable routes from said Retention Substation into SCE's existing Haskell, and Lockheed Substation. The transmission telecommunication scope will utilize 17,800 ft. of existing underground cable and 2,176 ft. of new underground cable, and 8,386 ft. of existing overhead and 6,443 ft. of new overhead telecom cable.

There is one (1) location offsite of the Honor Rancho Facility property in which ground disturbance will be required to install conduit for telecom. This location is at Pole #4437121E. The dimensions at Pole # 4437121E are (90' long, 24" wide, and 36" deep).

Additionally, within the Honor Rancho Facility property, ground disturbance is needed to install new conduit for TTC UG Dip #1 to Retention Substation and TTC UG Dip #2 to Retention Substation. The dimensions for UG Dip #1 are (130' long, 24" wide, and 36 "deep), and will travel from a new 4'x 6'-6" x 5'6" manhole and then rise up onto TSP-5 on the Lockheed-Retention 66kV line. The dimensions for UG Dip #2 are (100' long, 24" wide and 36" deep), and then will travel from a new 4'x 6'-6" x 5'6" manhole and then rise up onto TSP-3 on the Saugus- Haskell-Retention 66kV line.

Transmission Telecom Labor Force and Construction Equipment

Civil construction will be performed by contractors and/or sub-contractors. Fiber construction will be performed by SCE crews. Anticipated construction personnel and equipment are summarized as follows:

Activity and Number of Personnel	Equipment Type	Estimated Horsepower	Fuel Type	Qty.	Est. No. Work Days	Duration of Use (Hours/Day)
FO Cable Civil Construction (5 people)	Pickup	235	Diesel	1	5	10
	Backhoe	73	Diesel	1	5	10
	Dump Truck	240	Diesel	1	5	10
	Bucket Truck Posi Plus	250	Diesel	1	5	10
FO Cable Construction (5 people)	Bucket Truck AT200A	300	Diesel	2	5	8
	Single Drum Puller	48	Diesel	1	5	8
	Pickup	235	Diesel	2	5	8
	Cable Dolly	N/A	N/A	2	5	8
	Tensioner	180	Diesel	1	3	8

Transmission Telecom Construction Schedule

Construction will be performed by SCE construction crews or its approved contractors. Two (2) crews of five (5) technicians each, will work 8-10 hour days, for a period of five days total to complete the telecom construction needed for this project.

Project-related Access Roads and Spur Roads

The construction of the fiber optic cable will utilize the franchise area, existing and new transmission line access roads. Lane closure permits within the franchise area may be required. No new roads will be required for the transmission telecom scope associated with said Retention Substation Project. Environmental surveys will be conducted prior to this work being performed.

IT/ Telecommunication Scope of Work

The IT/Telecommunication scope is to install telecommunication equipment consisting of a channel bank which converts analog and digital signals to be carried over high-speed lines, DC-DC converters, fuse box, and remote terminal unit (RTU) on the telecom rack provided within the SCE Retention Substation.

IT Telecom Labor Force and Construction Equipment

Construction will be performed by SCE construction crews or its approved contractors. A crew of two (2) technicians will work 8 hour days, for a period of three-five days total to complete the IT telecom portion of work needed for this project.

Activity and Number of Personnel	Equipment Type	Estimated Horsepower	Fuel Type	Qty.	Est. No. Work Days	Duration of Use (Hours/Day)
IT Telecom Installation- 2 people	Pickup Truck	180	Gas	1	3-5	2

Permits

The Contractor(s) will secure all non-discretionary permits as required from the City of Santa Clarita and/or the County of Los Angeles. Any discretionary permitting required for the project construction as described in this document will be completed by the Contractor(s) pursuant to California Public Utilities Commission General Order 131-D.