

Project Component	Activity	Approximate Duration (months)	Approximate Start Date
Substation: Talega 138 kV	Site Development	n/a	n/a
	Below Grade Construction	3	Nov 2013
	Above Grade Construction	6	Feb 2014
	Relay Testing	1	Jun 2014
	138 kV Substation Cutover	1	July 2014
	Energization (138 kV)	1	July 2014
Transmission Segment 4: 69/138kV	Site Grading/Retaining Walls	6	Nov 2013
	Re-establish Existing Access Roads	0.5	Nov 2013
	New Access Roads	0.5	Nov 2013
	Foundation Installations	3	Dec 2012
	Underground Trench/ Conduit/Substructure	5	Jan 2014
	Steel Structure Installations	5	Feb 2014
	Cable/Conductor Pulling and Tensioning	3	April 2014
	Removal of Wood Pole Structures	5	Feb 2014
Substation: San Juan Capistrano 138/12 kV	Building Removal	2	Oct 2013
	Re-route 12 kV Circuit	1	Nov 2013
	Site Development	3	Dec 2013
	Below Grade Construction	8	June 2014
	Above Grade Construction	13	Jan 2015
	Relay Testing	6	Aug 2015
	Energization (138 kV)	1	Feb 2016
	138/12 kV Substation Cutovers	1	Feb 2016
	Energize Temporary TL13835	1	Mar 2016

Project Component	Activity	Approximate Duration (months)	Approximate Start Date
Transmission Segment 1: Capistrano 138/230kV	Site Development	0.5	Nov 2013
	Bore Pits	1	Dec 2013
	Foundation Installations	1	Jan 2014
	Underground Trench/ Conduit/ Substructure	4	Feb 2014
	Steel Structure Installations	6	Aug 2015
	Cable/Conductor Pulling and Tensioning	6	Sept 2015
	Removal of Structures	6	Aug 2015
Substation: San Juan Capistrano 230 kV	Remove RFS 138/12 kV Equipment	2	Mar 2016
	Site Development	3	May 2016
	Below Grade Construction	6	Aug 2016
	Above Grade Construction	10	Dec 2016
	Relay Testing	5	June 2017
	De-energize Temporary TL13835	1	Oct 2017
	Energization (230 kV)	1	Nov 2017
	230 kV Substation Cutovers	1	Nov 2017
Transmission Segment 3: Talega to Rancho San Juan 230 kV	Site Grading/Re-establish and Extend Existing Access Roads	2	June 2014
	Retaining Wall Construction	1	July 2014
	Foundation Installations	6	Sept 2015
	Steel Structure Installations	6	Oct 2015
	Conductor Pulling and Tensioning	3	Mar 2016
	Removal of Wood Structures	6	Oct 2015
Transmission Segment 2: Rancho San Juan 230kV (South Run)	Site Grading	1	Dec 2015
	Foundation Installations	2	Dec 2015
	Underground Trench/Conduit/Substructure	2	Feb 2016
	Steel Structure Installations	0.5	Mar 2016
	Cable/Conductor Pulling and Tensioning	2	Apr 2016
	Removal of Steel Riser Structures	0.5	May 2016

Project Component	Activity	Approximate Duration (months)	Approximate Start Date
Transmission Segment 1: Capistrano to Rancho San Juan (230 kV)	Site Grading/Re-establish and Extend Existing Access Roads	2	Jun 2014
	Retaining Wall Construction	1	July 2014
	Foundation Installations	3	Sept 2015
	Steel Structure Installations	6	Oct 2015
	Conductor Pulling and Tensioning	3	Mar 2016
	Removal of Wood & Steel Structures	6	Oct 2015
Transmission Segment 4: Talega Hub 230kV	Site Grading/ Re-establish Existing Access Roads	3	Jun 2014
	Retaining Walls	1	July 2014
	New Access Roads	0.5	July 2014
	Foundation Installations	6	Sept 2015
	Steel Structure Installations	5	Nov 2015
	Conductor Pulling and Tensioning	3	Mar 2016
	Removal of Wood Pole Structures	0.5	Feb 2016
Transmission Segment 2: Rancho San Juan 138/230kV (North Runs)	Site Grading	1	Nov 2016
	Underground Trench/Conduit/Substructure	3	Jan 2017
	Steel Structure Installations	0.5	Mar 2017
	Cable/Conductor Pulling and Tensioning	3	Mar 2017
	Removal of Steel Riser Structures	0.5	May 2017

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 4 (Talega Hub to Talega Substation): 69kV and 138kV work	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	6	NA	2
		Maintenance Truck	Maintain/Refuel Equip	1	NA	1
		Air Compressor	Operate Air Tools	3	NA	4
		Water Truck	Suppress Dust	2	NA	5
	Site Grading/Re-establish and Extend Existing Access Roads/Retaining Walls	Bulldozer	Grade pads and access roads	2	1.5	6
		Road Grader/Blade	Construct, maintain, and upgrade roads	1	1	8
		Scraper	Grade pads and access roads	1	2	3
		Compactor	Compact soil	1	3	4
		Backhoe/Front Loader	Load dump trucks, stockpile, excavation	2	2	4
		Dump/Haul Truck	Transport import/export material	3	2	8
		Excavator	Excavate and load material	2	2	6
		Drill Rig with Augers	Wall Foundation	2	1	8
		Crane (25 Ton)	Setting piers/lagging for wall	2	1	8
Concrete Truck	Wall foundation	2	1	8		

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
	Foundation Installations	Concrete Truck	Pour Concrete	1	3	2
		Drill Rig with Augers	Foundation Construction	2	3	6
		Backhoe	Foundation Construction	2	3	4
		Dump/Haul Truck	Haul excavated materials	2	3	4
	Underground Trench/ Conduit/ Substructure	Dump/Haul Truck	Transport excavated materials and import backfill	2	5	3
		Backhoe	Excavate trenches	1	5	4
		Large Crane (100 Ton)	Lift and set substructures	1	1	6
		Concrete Truck	Pour Concrete	1	1	4
		Compactor	Compact backfill within the trench	1	2	4
	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	1	5	2
		Large Crane	Pole Erection	2	5	3
		Aerial Bucket Truck	Pole Erection and Conductor Installation	4	5	6
	Cable/Conductor Pulling and Tensioning	Aerial Bucket Truck	Conductor Installation	2	3	6
Puller and Tensioner		Pull the conductor into position and secure it at the correct tension	2	3	6	
Reel Trailer		Feed new conductor to the pulling and tensioner	2	3	6	

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			or collect old conductor			
		Splice Trailer	Store splicing supplies	1	3	6
	Removal of Wood Pole Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	4	2
		Aerial Bucket Truck	Pole deconstruction	2	4	3
		Chainsaw	Cut existing poles	2	4	1
		Backhoe/Frontloader	Excavate pole bases	1	4	2
		100 Ton Crane/Boom Truck	Lower pole sections and load onto trucks	1	4	2
Transmission Segment 1: Capistrano Substation Getaways 138 kV	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	6	NA	2
		Maintenance Truck	Maintain/Refuel Equip	1	NA	1
		Air Compressor	Operate Air Tools	2	NA	4
		Water Truck	Suppress Dust	1	NA	4
	Site Development	Bulldozer	Grade pads and access roads	1	0.5	6
		Compactor	Compact soil	1	2	4
		Loader	Load dump trucks and stockpile	1	4	4
		Backhoe	Trench Excavation	1	4	4
		Dump/Haul Truck	Transport import/export	1	4	3

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			material			
Transmission Segment 1: Capistrano Substation Getaways 138 kV	Bore Pits	Excavator	Excavate and load material	1	1	6
		Crane	Install/Remove shoring/boring equipment	1	1	3
		Jack-n-Bore Machine	Installs casing under RxR	1	1	8
	Foundation Installations	Concrete Truck	Pour Concrete	1	1	3
		Drill Rig with Augers	Foundation Construction	1	1	8
		Backhoe	Foundation Construction	1	1	3
		Dump/Haul Truck	Haul excavated materials and import backfill	1	1	2
	Underground Trench/ Conduit/ Substructure	Dump/Haul Truck	Transport excavated materials and import backfill	1	3	3
		100 Ton Crane	Lift and place materials	1	1	4
		Excavator	Excavate trenches	2	3	8
		Backhoe/Frontloader	Move dirt/excavate dirt	2	4	8
		Concrete Truck	Pour Concrete	1	3	2
		Compactor	Compact backfill within the trench	1	1	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 1: Capistrano Substation Getaways 138 kV	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	1	1	4
		100 Ton Large Crane	Pole Erection	1	1	4
		Bucket Truck/Manlift	Pole Erection and Conductor Installation	2	2	8
	Cable/Conductor Pulling and Tensioning	Aerial Bucket Truck	Pole Erection and Conductor Installation	2	3	6
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	1	3	4
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	1	3	4
		Splice Trailer	Store splicing supplies	1	2	4
	Removal of Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	1	3
		Aerial Bucket Truck	Detach conductor and equipment	2	1	6
		Backhoe/Front Loader	Break foundations and load material	1	1	4
		Jackhammer	Break foundations	1	1	4
		Dump/Haul Truck	Haul excavated materials and import backfill	1	1	3
		Large Crane (100 Ton)	Lower pole sections and	1	0.25	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			load onto trucks			
Transmission Segment 3: Talega to Rancho San Juan 230 kV	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	3	NA	2
		Maintenance Truck	Maintain/Refuel Equip	1	NA	1
		Air Compressor	Operate Air Tools	2	NA	4
		Water Truck	Suppress Dust	1	NA	4
	Site Grading/Re-establish and Extend Existing Access Roads/Retaining Walls	Bulldozer	Grade pads and access roads	1	2	6
		Road Grader/Blade	Construct, maintain, and upgrade roads	1	1	8
		Scraper	Grade pads and access roads	1	1	8
		Compactor	Compact soil	1	2	6
		Backhoe/Front Loader	Load dump trucks and stockpile	2	3	6
		Drill rig with augers	Drill piers for retaining wall	1	1	8
		Excavator	Excavate and load material	2	2	6
		Dump/Haul Truck	Transport import/export material	2	2	4
		Crane (25 Ton)	Set piers/lagging for	1	2	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			retaining wall			
		Concrete Truck	Retaining wall piers	1	1	4
Transmission Segment 3: Talega to Rancho San Juan 230 kV	Foundation Installations	Concrete Truck	Pour Concrete	2	6	2
		Drill Rig with Augers	Foundation Construction	2	6	4
		Backhoe/Front Loader	Foundation Construction	2	6	6
		Dump/Haul Truck	Haul excavated materials and import backfill	2	6	3
	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	2	6	2
		Large Crane (100 Ton)	Tower Erection	2	6	3
		Aerial Bucket Truck	Tower Erection and Conductor Installation	4	6	4
	Conductor Pulling and Tensioning	Aerial Bucket Truck	Conductor Installation	4	3	4
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	2	3	6
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	2	3	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 3: Talega to Rancho San Juan 230 kV	Removal of Wood Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	2	6	2
		Aerial Bucket Truck	Detach conductor and equipment	4	6	4
		Backhoe/Front Loader	Break foundations and load material	2	6	3
		Jackhammer	Break foundations	1	6	3
		Dump/Haul Truck	Haul excavated materials and import backfill	1	6	2
		Crane (12 Ton)	Lower pole sections and load onto trucks	1	6	3
Transmission Segment 2: Rancho San Juan 230kV (South Run)	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	3	NA	2
		Maintenance Truck	Maintain/Refuel Equip	1	NA	1
		Air Compressor	Operate Air Tools	2	NA	4
		Water Truck	Suppress Dust	1	NA	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 2: Rancho San Juan 230kV (South Run)	Site Grading/Re-establish and Extend Existing Access Roads	Bulldozer	Grade pads and access roads	1	1	4
		Excavator	Excavate and load material	1	1	8
		Backhoe/Front Loader	Load dump trucks and stockpile	1	1	8
		Dump/Haul Truck	Transport import/export material	1	1	4
		Compactor	Compact soil	1	1	4
	Foundation Installations	Drill Rig with Augers	Foundation Construction	1	2	3
		Backhoe/Front Loader	Foundation Construction	1	2	3
		Dump/Haul Truck	Haul excavated materials and import backfill	1	2	2
		Concrete Truck	Pour Concrete	1	2	2
	Underground Trench/Conduit/ Substructure	Excavator	Excavate trench and material	2	2	8
		Backhoe/Front Loader	Excavate trenches	2	2	8
		Dump/Haul Truck	Transport excavated materials and import backfill	2	2	5
		Crane (12-ton)	Lift and place materials	1	2	2
		Concrete Truck	Pour Concrete	2	2	2

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
		Compactor	Compact backfill	1	2	2
Transmission Segment 2: Rancho San Juan 230kV (South Run)	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	1	0.5	4
		Large Crane (100 Ton)	Tower Erection	1	0.5	8
		Aerial Bucket Truck	Tower Erection and Conductor Installation	2	0.5	8
	Cable/Conductor Pulling and Tensioning	Aerial Bucket Truck	Tower Erection and Conductor Installation	4	2	6
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	2	2	4
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	2	2	4
		Splice Trailer	Store splicing supplies	2	2	4
	Removal of Steel Riser Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	0.5	4
		Aerial Bucket Truck	Tower Erection and Conductor Installation	2	0.5	8
		Backhoe/Front Loader	Break foundations and load material	1	0.5	4
		Jackhammer	Break foundations	2	0.5	6
		Dump/Haul Truck	Haul excavated materials and import backfill	1	0.5	2

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
		Large Crane (100 Ton)	Lower pole sections and load onto trucks	1	0.5	2
Transmission Segment 1: Rancho San Juan to San Juan Capistrano 230 kV	Site Grading/Re-establish and Extend Existing Access Roads/Retaining Walls	Water Truck	Suppress dust	1	3	6
		Bulldozer	Grade pads and access roads	1	2	6
		Road Grader/Blade	Construct, maintain, and upgrade roads	1	1	8
		Scraper	Grade pads and access roads	1	1	8
		Compactor	Compact soil	1	2	6
		Backhoe/Front Loader	Load dump trucks and stockpile	2	3	6
		Drill rig with augers	Drill piers for retaining wall	1	1	8
		Excavator	Excavate and load material	2	2	6
		Dump/Haul Truck	Transport import/export material	2	2	4
		Crane (25 Ton)	Set piers/lagging for retaining wall	1	2	4
		Concrete Truck	Retaining wall piers	1	1	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 1: Rancho San Juan to San Juan Capistrano 230 kV	Foundation Installations	Concrete Truck	Pour Concrete	1	3	2
		Drill Rig with Augers	Foundation Construction	1	3	4
		Backhoe/Front Loader	Foundation Construction	1	3	6
		Dump/Haul Truck	Haul excavated materials and import backfill	1	3	3
	Foundation Installations	Concrete Truck	Pour Concrete	1	3	2
		Drill Rig with Augers	Foundation Construction	1	3	4
		Backhoe/Front Loader	Foundation Construction	1	3	6
		Dump/Haul Truck	Haul excavated materials and import backfill	1	3	3
	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	2	6	2
		Large Crane	Tower Erection	2	6	3
		Aerial Bucket Truck	Tower Erection and Conductor Installation	4	6	4
	Conductor Pulling and Tensioning	Aerial Bucket Truck	Conductor Installation	4	3	4
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	2	3	6
Reel Trailer		Feed new conductor to the pulling and tensioner or collect old conductor	2	3	6	

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 1: Rancho San Juan to San Juan Capistrano 230 kV	Removal of Wood Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	6	2
		Aerial Bucket Truck	Tower Erection and Conductor Installation	2	6	4
		Backhoe/Front Loader	Break foundations and load material	1	6	3
		Jackhammer	Break foundations	1	6	3
		Dump/Haul Truck	Haul excavated materials and import backfill	1	6	2
		Crane (12 Ton)	Lower pole sections and load onto trucks	1	6	3
Transmission Segment 4: Talega Hub to Talega Substation TL230kV	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	3	NA	2
		Maintenance Truck	Maintain/Refuel Equip	1	NA	1
		Air Compressor	Operate Air Tools	3	NA	4
		Water Truck	Suppress Dust	2	NA	5

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 4: Talega Hub to Talega Substation TL230kV	Site Grading/Re-establish and Extend Existing Access Roads/Retaining Walls	Bulldozer	Grade pads and access roads	1	0.5	6
		Road Grader/Blade	Construct, maintain, and upgrade roads	1	0.5	8
		Scraper	Grade pads and access roads	1	0.5	3
		Compactor	Compact soil	1	2	2
		Backhoe/Front Loader	Load dump trucks, stockpile, excavation	2	2	4
		Dump/Haul Truck	Transport import/export material	2	2	3
		Excavator	Excavate and load material	1	2	6
		Drill Rig with Augers	Wall Foundation	1	1	6
		Crane (25 Ton)	Setting piers/lagging for wall	1	1	6
		Concrete Truck	Wall foundation	1	2	3
	Foundation Installations	Concrete Truck	Pour Concrete	1	2	3
		Drill Rig with Augers	Foundation Construction	2	2	6
		Backhoe	Foundation Construction	1	2	4
		Dump/Haul Truck	Haul excavated materials	2	2	3

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Transmission Segment 4: Talega Hub to Talega Substation TL230kV	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	1	5	2
		Large Crane (100 Ton)	Pole Erection	1	5	3
		Aerial Bucket Truck	Pole Erection and Conductor Installation	2	5	6
	Conductor Pulling and Tensioning	Aerial Bucket Truck	Conductor Installation	2	3	6
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	2	3	6
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	2	3	6
	Removal of Wood Pole Structures	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	4	2
		Aerial Bucket Truck	Pole deconstruction	2	4	3
		Chainsaw	Cut existing poles	2	4	1
		Backhoe/Frontloader	Excavate pole bases	1	4	2
		Large Crane (100 Ton)	Lower pole sections and load onto trucks	1	4	2
	Transmission Segment 2: Rancho San Juan	General Construction	3/4-ton or 1-ton Pick-up Truck	Transport construction personnel	3	NA
Maintenance Truck			Maintain/Refuel Equip	1	NA	1
Air Compressor			Operate Air Tools	2	NA	4

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
138/230kV (North Runs)		Water Truck	Suppress Dust	1	NA	4
Transmission Segment 2: Rancho San Juan 138/230kV (North Runs)	Site Grading/Re-establish and Extend Existing Access Roads	Excavator	Trench Excavate and load material	1	1	4
		Backhoe/Front Loader	Trench Excavation and load material	1	1	8
		Dump/Haul Truck	Transport import/export material	1	1	8
		Compactor	Compact soil	1	1	4
	Underground Trench/Conduit/ Substructure	Excavator	Trench Excavate and load material	2	3	8
		Backhoe/Front Loader	Trench Excavation and load material	2	3	8
		Dump/Haul Truck	Transport excavated materials and import backfill	2	3	4
		Crane (12-ton)	Lift and place materials	1	3	2
		Concrete Truck	Pour Concrete	2	3	2
		Compactor	Compact backfill within the trench	1	3	2
	Steel Structure Installations	2-ton Flatbed Truck	Deliver pole to site	1	0.5	4
		Large Crane (100 Ton)	Tower Erection	2	0.5	8

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
		Aerial Bucket Truck	Tower Erection and Conductor Installation	2	0.5	8
Transmission Segment 2: Rancho San Juan 138/230kV (North Runs)	Cable/Conductor Pulling and Tensioning	Aerial Bucket Truck	Tower Erection and Conductor Installation	4	3	6
		Puller and Tensioner	Pull the conductor into position and secure it at the correct tension	2	3	4
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	2	3	4
		Splice Trailer	Store splicing supplies	2	3	4
	Removal of Steel Riser Structure	2-ton Flatbed Truck	Remove pole sections and hardware from site	1	0.5	4
		Aerial Bucket Truck	Tower Erection and Conductor Installation	2	0.5	8
		Excavator	Break foundations and load material	1	0.5	4
		Jackhammer	Break foundations	2	0.5	6
		Dump/Haul Truck	Haul excavated materials and import backfill	1	0.5	2
		Large Crane (100 Ton)	Lower pole sections and load onto trucks	1	0.5	2

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Substation: Talega 138 kV	General Construction ¹	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	3	10	1
		Air Compressor	Operate air tools	1	8	1
		Mechanic Truck	Maintain and refuel equipment	1	4	1
	Site Development	Bulldozer	Grade pads and access roads	NA		
		Road Grader/Blade	Construct, maintain, and upgrade roads	NA		
		Scraper	Grade pads and access roads	NA		
		Compactor	Compact soil	NA		
		Loader	Load dump trucks and stockpile	NA		
		Backhoe	Trench Excavation	NA		
		Water Truck	Suppress dust	NA		
		Dump/Haul Truck	Transport import/export material	NA		
Excavator	Excavate and load material	NA				

¹ Equipment associated with General Construction would be used throughout construction of the entire Proposed Project component.

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
	Below Grade Construction	Concrete Truck	Pour concrete	71	1	1
		Drill Rig with Augers	Drill pier foundations	1	.5	6
		Backhoe	Excavate pad foundations	1	.5	6
		Fork Lift/Skid Steer Loader	Move rebar, equipment, masonry, and other materials	NA		
		Small Mobile Crane (12-ton)	Place material and set steel	NA		
		Trencher/Ditch Witch	Excavate trenches	1	3	6
		Loader	Move bulk material	1	2	6
		Water Truck	Suppress dust	1	3	1
		Handheld Compactor	Compact soil	2	2	4
		Dump/Haul Truck	Transport import/export material	62	1	1
Substation: Talega 138 kV	Above Grade Construction	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	3	6	1
		Bucket Truck/Manlift	Set steel and install equipment	1	6	6
		Large Crane	Place material and set steel	NA		
		Boom Truck	Place material and set	1	3	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			steel			
Substation: Talega 138 kV	Above Grade Construction	Fork Lift/Skid Steer Loader	Unload and move material	1	.3	2
		Line Truck	Assist with overhead conductor installation	2	6	1
		Cable Dolly (trailer)	Transport reels of conductor	1		1
		Stringing Rig (trailer)	Assist with conductor installation	1		1
		100-hp Oil Processing Truck	Process transformer Oil	NA		
	Relay Testing	Relay/Telecommunication Van	Transport and support construction personnel	1	1	1
	138 kV Substation Cutover & Energization (138kV)	Line Truck	Assist with overhead conductor installation	4	1	8
Relay/Telecommunication Van		Test relay and telecommunications devices	1	1	1	
Substation: San Juan Capistrano 230kV	Remove RFS 138/12 kV Equipment	Dump/Haul Truck	Haul excavated materials and import backfill	62	1	1
		Large Crane	Remove steel	1	.5	8
		Flatbed	Haul steel & RFS sub equipment	40	1	3

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
		Boom Truck	Lift equipment	2	2	6
		Crew trucks	Transport crew & tools	2	2	1
Substation: San Juan Capistrano 230kV	Site Development	Bulldozer	Grade pads and access roads	2	3	8
		Road Grader/Blade	Construct, maintain, and upgrade roads	1	3	8
		Scraper	Grade pads and access roads	2	3	8
		Compactor	Compact soil	1	3	8
		Loader	Load dump trucks and stockpile	1	3	8
		Backhoe	Trench Excavation	1	3	8
		Water Truck	Suppress dust	1	3	2
		Dump/Haul Truck	Transport import/export material	761	3	1
		Excavator	Excavate and load material	1	3	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Substation: San Juan Capistrano 230kV	Below Grade Construction	Concrete Truck	Pour concrete	962	6	1
		Drill Rig with Augers	Drill pier foundations	1	.5	8
		Backhoe	Excavate pad foundations	1	6	8
		Fork Lift/Skid Steer Loader	Move rebar, equipment, masonry, and other materials	1	6	4
		Small Mobile Crane (12-ton)	Place material and set steel	1	6	2
		Trencher/Ditch Witch	Excavate trenches	1	6	8
		Loader	Move bulk material	1	4	6
		Water Truck	Suppress dust	1	6	2
		Handheld Compactor	Compact soil	1	4	8
		Dump/Haul Truck	Transport import/export material	600	4	1
	Above Grade Construction	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	4	10	1
		Bucket Truck/Manlift	Set steel and install equipment	2	10	8
		Large Crane	Place material and set steel	1	3	6
		Boom Truck	Place material and set	2	9	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			steel			
Substation: San Juan Capistrano 230kV	Above Grade Construction	Fork Lift/Skid Steer Loader	Unload and move material	2	10	6
		Line Truck	Assist with overhead /underground conductor installation	2	2	8
		Cable Dolly (trailer)	Transport reels of conductor	1	2	2
		Stringing Rig (trailer)	Assist with conductor installation	1	1	8
		SF6 gas cart (electric)	Fill equipment with SF6	1	.75	24
		100-hp Oil Processing Truck	Process transformer Oil	1	.5	24
	Relay Testing	Relay/Telecommunication Van	Transport and support construction personnel	2	5	1
	De-energize Temporary TL13835	Relay/Telecommunication Van	Transport and support construction personnel	1	.3	1
		Line Truck	Assist with overhead /underground conductor installation	2	.3	8
		Cable Dolly (trailer)	Transport reels of conductor	1	.5	2
		Boom Truck	Place material and set	1	.5	8

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
			steel			
Substation: San Juan Capistrano 230kV	Energization 230 kV Substation & Cutovers	Relay/Telecommunication Van	Transport and support construction personnel	2	1	1
		Line Truck	Assist with sub const	2	1	1
Substation: San Juan Capistrano 138/12 kV	Building Removal	2-ton Flatbed Truck	Remove building material	1	2	8
		Bucket Truck/Manlift	Building removal	1	2	6
		Excavator	Break foundations and load material	1	2	6
		Jackhammer	Break foundations	2	2	6
		Forklift	Load building spoil	2	2	6
		Dump/Haul Truck	Haul excavated materials and import backfill	32.5	2	1
		Large Crane	Knock building down	1	1	6
		Reel Trailer	Feed new conductor to the pulling and tensioner or collect old conductor	1	.5	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Substation: San Juan Capistrano 138/12 kV	Site Development	Bulldozer	Grade pads and access roads	2	4	8
		Road Grader/Blade	Construct, maintain, and upgrade roads	2	4	8
		Scraper	Grade pads and access roads	2	4	8
		834 Rubber Tire Compactor	Compact soil	1	6	8
		Loader	Load dump trucks and stockpile	1	6	6
		Backhoe	Trench Excavation	1	6	6
		Water Truck	Suppress dust	1	6	4
		Dump/Haul Truck	Transport import/export material	641	6	1
		Excavator	Excavate and load material	1	2	6
	Below Grade Construction	Concrete Truck	Pour concrete	1290	5	1
		Drill Rig with Augers	Drill pier foundations	1	1	8
		Backhoe	Excavate pad foundations	1	8	8
		Fork Lift/Skid Steer Loader	Move rebar, equipment, masonry, and other materials	1	8	5

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Substation: San Juan Capistrano 138/12 kV	Below Grade Construction	Small Mobile Crane (12-ton)	Place material and set steel	1	8	2
		Trencher/Ditch Witch	Excavate trenches	1	8	8
		Loader	Move bulk material	1	5	6
		Water Truck	Suppress dust	1	8	2
		Handheld Compactor	Compact soil	1	5	6
		Dump/Haul Truck	Transport import/export material	806	6	1
	Above Grade Construction	¾-ton or 1-ton Pickup Truck	Transport and support construction personnel	4	13	1
		Bucket Truck/Manlift	Set steel and install equipment	2	13	8
		Large Crane	Place material and set steel	1	3	8
		Boom Truck	Place material and set steel	2	10	5
		Fork Lift/Skid Steer Loader	Unload and move material	2	12	8
		Line Truck	Assist with underground conductor installation	2	1	6

Project Component	Activity	Equipment	Use	Approximate Quantity	Approximate Duration On Site (months)	Average Duration of Use (hours per day)
Substation: San Juan Capistrano 138/12 kV	Above Grade Construction	Cable Dolly (trailer)	Transport reels of conductor	1	3	2
		Stringing Rig (trailer)	Assist with conductor installation	NA		
		SF6 gas cart (electric)	Fill equipment with SF6	1	1	24
		100-hp Oil Processing Truck	Process transformer Oil	1	.2	24
	Relay Testing	Relay/Telecommunication Van	Transport and support construction personnel	2	6	1
	Energization (138 kV) 138/12 kV Substation Cutovers	Relay/Telecommunication Van	Transport and support construction personnel	2	1	1
		Line Truck	Assist with sub const	2	1	1
	Energize Temporary TL13835	Relay/Telecommunication Van	Transport and support construction personnel	2	1	1
		Line/Crew Truck	Assist with sub const	2	1	1
		Bucket Truck/Manlift	Set steel and install equipment	2	1	8
		Stringing Rig (trailer)	Assist with conductor installation	1	.5	4