EV Charger Permit Packet

123 Sample St

JOB	CONTRACTOR	CHECKLIST
2,000 sq ft home Parcel 000-00-000-000 Charger at attached garage Customer: Sample Homeowner	Sample Electric, LLC License ROC 000000	Oro Valley, AZ From the city's published checklist

Checklist

Required	In this packet	Status
Completed building permit application, with Oro Valley business license and AZ registrar numbers	Page 2: fields ready for the city's form	**Ready**
Site plan showing the charger and main electrical panel	Page 3: to scale, 1 in = 40 ft	**Ready**
Charger design and UL listing information	Page 6: add manufacturer sheets	**Attach**
One-line diagram with conductors, conduit sizes and types, and overcurrent protection	Page 4	**Ready**
Load calculation for a new 240 V circuit	Page 5	**Ready**
Venting shown on the plans, if the charger requires it	Only if this charger requires venting	**Check**
HOA or subdivision rules	Homeowner to confirm before work starts	**Open**

Engineering checks

Check	Result	Status
Service capacity	132.5 A computed on a 200 A service	**Pass**
Panel spaces	4 open, 2 needed	**Pass**
Circuit	50 A breaker for a 40 A continuous load (40 A x 125%)	**Pass**
Conductors	#8 AWG Cu, rated 50 A at 75°C	**Pass**
Voltage drop	1.9 V, or 0.8%, over 30 ft	**Pass**

Flagged for your review

[ ] Check the existing loads against the home. They drive the service result.

[ ] Add the charger make and model, then attach its data sheet.

[ ] Hot climate: check the ambient temperature correction for conduit exposed to sun.

[ ] The town's checklist cites the 2017 NEC. Confirm the edition in force.

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Permit Application Data

Prepared for transfer to the city's permit application. This page is not the city's form.

Project address	123 Sample St
Parcel number	000-00-000-000
Jurisdiction	Oro Valley, AZ
Property owner	Sample Homeowner
Permit type	Electrical, residential EV charger
Charger	Add make and model
Contractor	Sample Electric, LLC
License number	ROC 000000

Scope of work

Install one 40 A, 240 V Level 2 EV charger, hardwired, at the attached garage. Add a 50 A, 2-pole breaker to the existing 200 A main panel. Run a new dedicated 30 ft branch circuit to the charger. No service upgrade.

Inspection plan

Stage	What's inspected
Final	Panel, breaker, charger, labeling, and manufacturer instructions on site

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Site Plan

123 Sample St. Parcel 000-00-000-000.



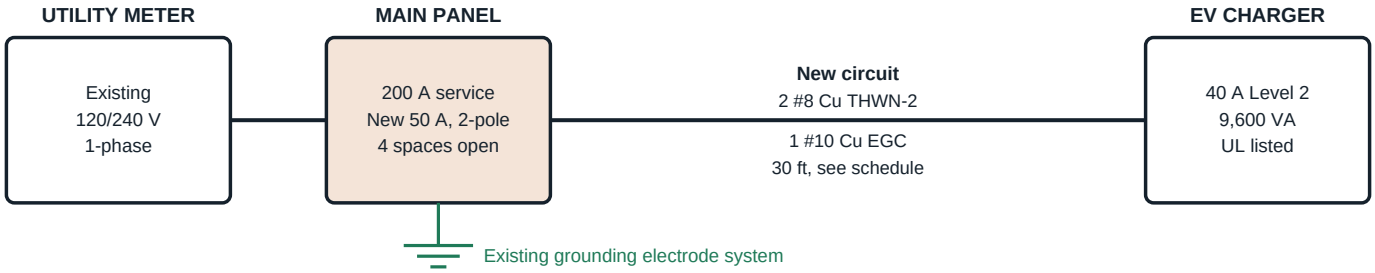
P Main panel, 200 A (existing)
EV 40 A charger (new)
New circuit route, 22 ft measured on plan
Dashed yellow: lot line

Wire run with rises: 30 ft
Charger to nearest lot line: 19 ft
Scale 1 in = 40 ft when printed at 100%
Not a survey. Field verify all dimensions.

Lot lines: Pima County GIS. Map services and data available from U.S. Geological Survey, National Geospatial Program.

One-Line Diagram

Conductors, conduit sizes and types, and overcurrent protection.



Conductor and conduit schedule

Segment	Conductors	Conduit	Protection
Above ground run	2 #8 Cu THWN-2, 1 #10 Cu EGC	3/4" EMT, 30 ft	50 A, 2-pole

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Load Calculation

Optional dwelling method, NEC 220.82, with the EV charger added at 100% of nameplate. Confirm the method the city accepts.

Load	Basis	VA
General lighting	2,000 sq ft x 3 VA	6,000
Small appliance circuits	2 x 1,500 VA	3,000
Laundry circuit	1 x 1,500 VA	1,500
Range	Nameplate	12,000
Subtotal		**22,500**
First 10,000 VA	100%	10,000
Remainder	12,500 VA x 40%	5,000
Air conditioning	Larger of heating or cooling, 100%	7,200
EV charger	40 A x 240 V, 100%	9,600
Total calculated load		**31,800**

Computed load	**31,800 VA / 240 V = 132.5 A**
Existing service	200 A
Spare capacity	67.5 A, so no upgrade is required

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Equipment Data

Attach the manufacturer's data sheets and UL listing information behind this page.

Item	Specification	Listing
EV charger	Level 2, 40 A, 240 V, 9,600 VA, hardwired	UL listed, NEC Article 625
Breaker	50 A, 2-pole, matched to existing panel	Listed for the panel
Above ground conduit	3/4" EMT	Listed

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Pre-Submittal Review

Complete before sending this packet to the city.

Item	Reviewed by	Done
Existing loads match the home	Electrician	[ ]
Panel has two open spaces	Electrician	[ ]
Breaker matches the panel listing	Electrician	[ ]
Charger data sheets attached	Electrician	[ ]
HOA approval received, if required	Electrician	[ ]
Code edition confirmed with the city	Electrician	[ ]

Approval

Reviewed by	
Signature	
Date	

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