

LIMESTONE COURT APARTMENTS EV CHARGING STATION INSTALLATION

900 108TH AVE NE,
BELLEVUE, WA 98004

SCOPE OF WORK

- A. INSTALL (4) EVERCHARGE LEVEL 2 CHARGERS & ALL ASSOCIATED ELECTRICAL EQUIPMENT INDOOR PARKING STALLS OUTSIDE OF ELECTRICAL ROOM.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED TO BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING ADOPTED BY THE LOCAL GOVERNING AUTHORITIES:

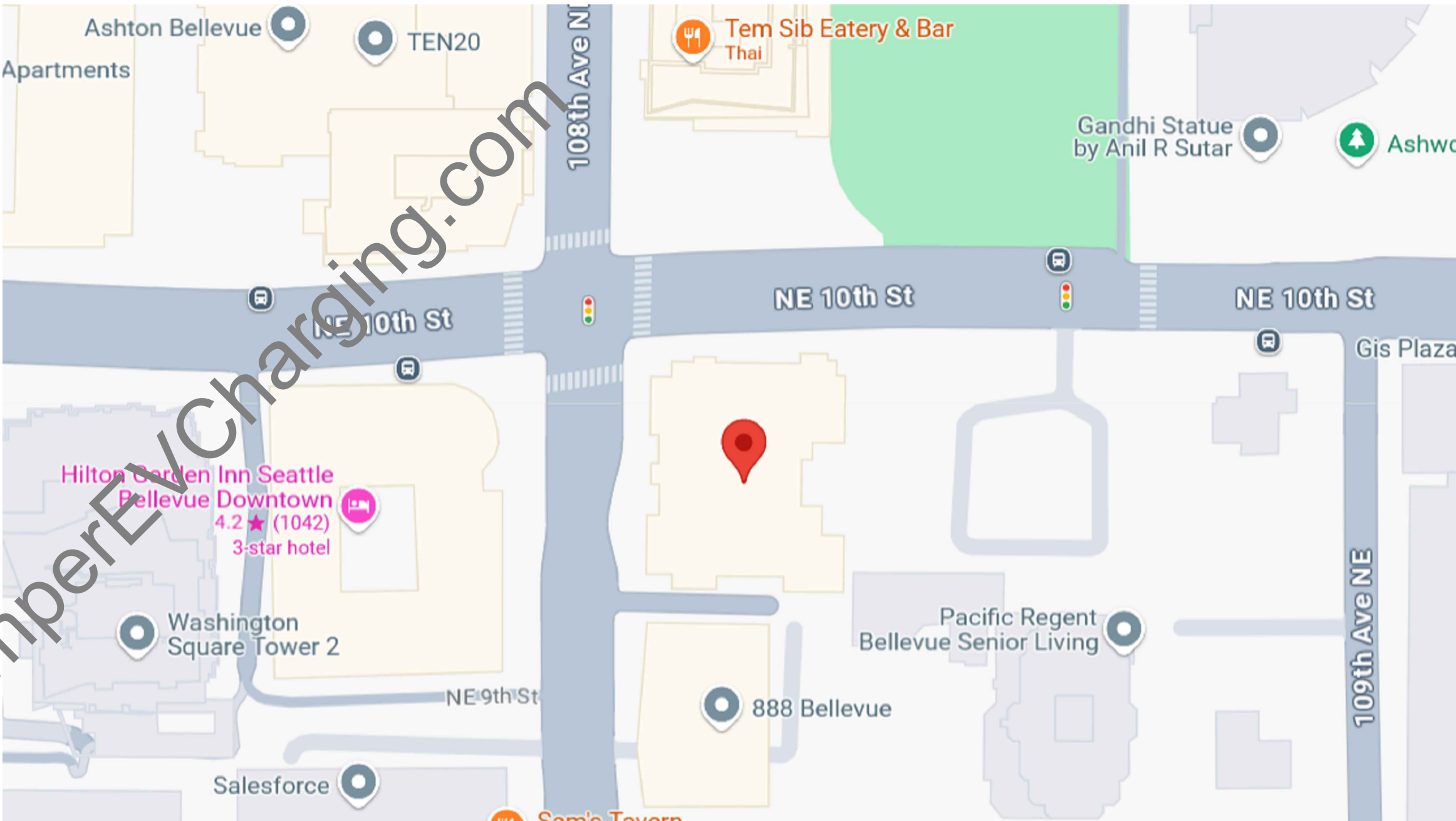
- WASHINGTON STATE EXISTING BUILDING CODE 2021
- WASHINGTON STATE COMMERCIAL ENERGY CODE 2021
- NEC 2023

SHEET INDEX

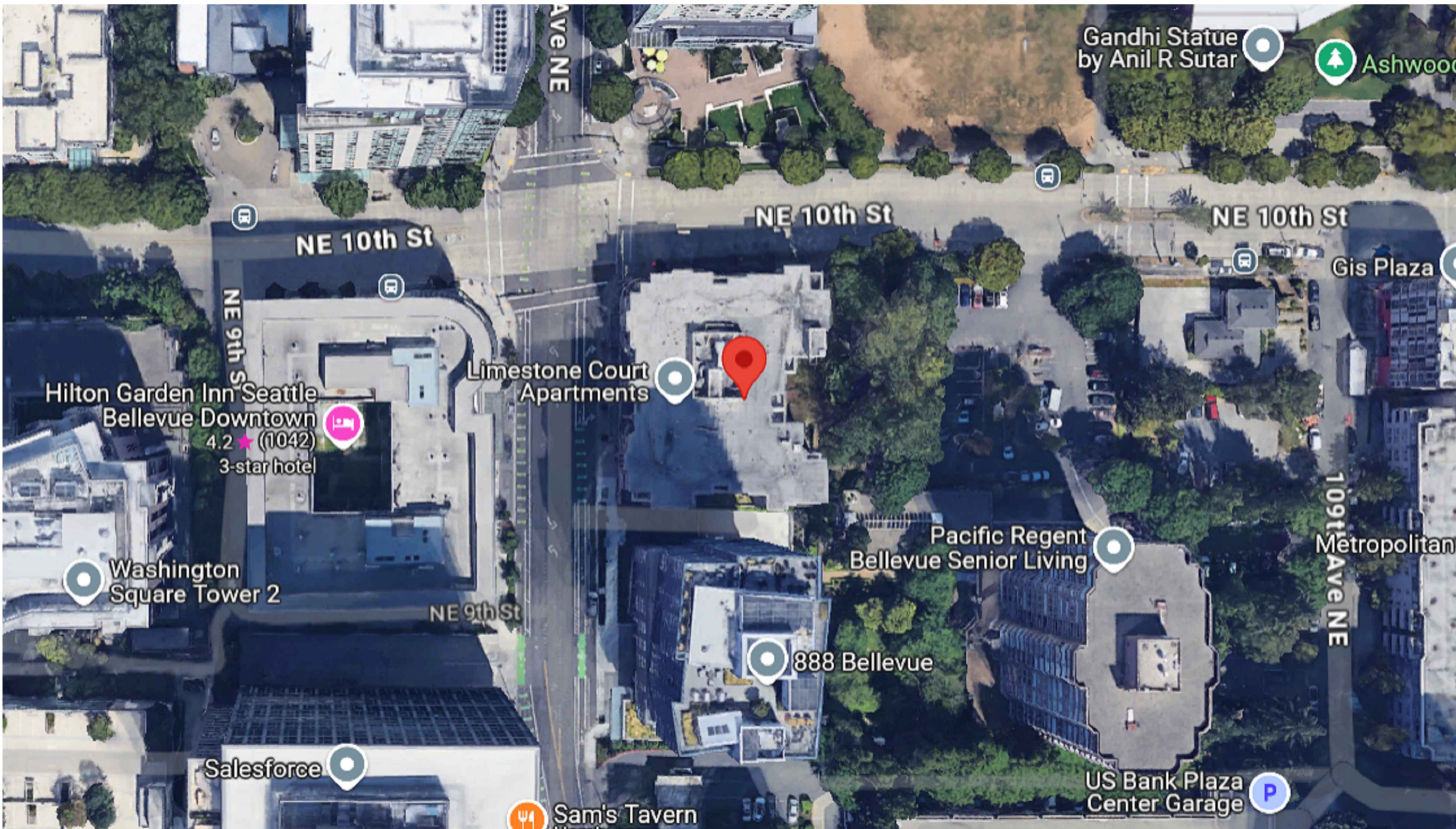
SHEET NO.	TITLE
EV01	COVER SHEET
EV02	NOTES, LEGEND & SYMBOLS
EV03	ELECTRICAL SITE PLAN
EV04	ONE-LINE DIAGRAM, PANEL SCHEDULE & PRODUCT SPECIFICATION
EV05	INSTALLATION DETAILS

(INTENTIONALLY LEFT BLANK)

VICINITY MAP



SATELLITE VIEW



COORDINATING PROFESSIONAL:
DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 | info@AmperEngineering.com



AMPER JOB NUMBER: 2013A-WA

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

REV	DATE	DESCRIPTION
0	03/14/2025	ISSUED FOR PLAN REVIEW

CLIENT:

Resound Energy Services

PROJECT:
LIMESTONE COURT APARTMENTS EVCS INSTALLATION
ADDRESS:
**900 180TH AVE NE
BELLEVUE, WA
98004**

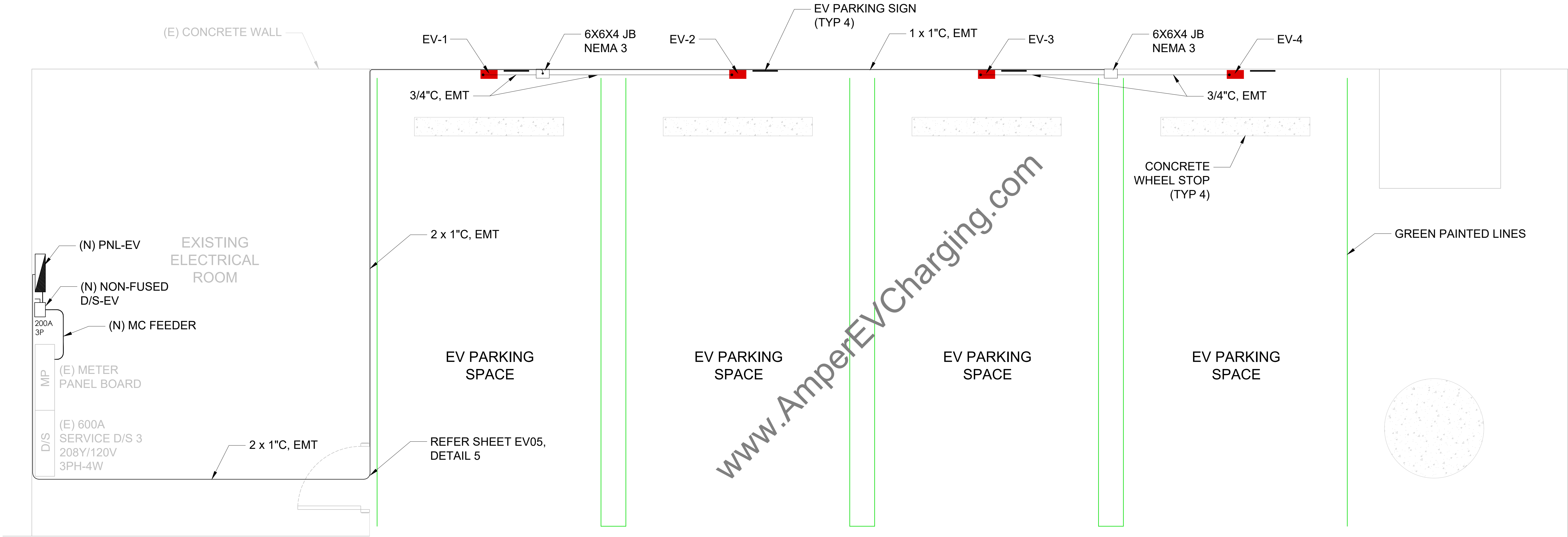
SHEET SIZE: 24X36	DRAWN BY: IB
DESIGNED BY: AC	CHECKED BY: DEE

SHEET TITLE:
COVER SHEET

SHEET NO:
EV01

NOTES:

1. THIS DRAWING WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
2. REFER SHEET EV05 FOR THE INSTALLATION DETAILS.



COORDINATING PROFESSIONAL:
DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 | info@AmperEngineering.com

ENGINEER OF RECORD SEAL & STAMP:

Durak Evrim Ercan
P.E.
EXP: 07/16/2025

AMPER JOB NUMBER: 2013A-WA

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

REV	DATE	DESCRIPTION
0	03/14/2025	ISSUED FOR PLAN REVIEW

CLIENT:
Resound Energy Services

PROJECT:
LIMESTONE COURT APARTMENTS EVCS INSTALLATION
ADDRESS:
900 180TH AVE NE
BELLEVUE, WA
98004

SHEET SIZE: 24X36	DRAWN BY: IB
DESIGNED BY: AC	CHECKED BY: DEE

SHEET TITLE:
ELECTRICAL SITE PLAN

SHEET NO:
EV03

PANEL SCHEDULE

PNL-EV																										
VOLTAGE: 120/ 208 3 PHASE, 4 WIRE										LOCATION: ELECTRICAL ROOM BUS (A): 200 MAIN (A): MLO																
No.	CIRCUIT DESCRIPTION	LOAD (KVA)						BREAKER		PHASE			BREAKER		LOAD (KVA)						CIRCUIT DESCRIPTION	No.				
		CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	A	B	C	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT						
1	EV-1	4.99						2	60	9.98			2	60						4.99	EV-3	2				
3	X	4.99						X	X		9.98		X	X						4.99	X	4				
5	EV-2	4.99						2	60			4.99									BLANK	6				
7	X	4.99						X	X	4.99											BLANK	8				
9	BLANK										4.99		2	60						4.99	EV-4	10				
11	BLANK												X	X						4.99	X	12				
13	BLANK									0.00											BLANK	14				
15	BLANK										0.00										BLANK	16				
17	BLANK											0.00									BLANK	18				
v15 - 01/25/2024		LOADS W/ NEC 220 DEMAND FACTORS (KVA)						TOTAL		14.97	14.97	9.98							0.00	0.00	0.00	0.00	0.00	39.93	CONNECTED KVA 39.93	
		CONT	RCPT	MTR	A/C	KITCH	MISC														PANEL NOTES					
DEMAND LOAD PHASE-A (KVA)		18.72	0.00	0.00	0.00	0.00	0.00	18.72		CONTINUOUS:125% LOAD			1)IF PANEL EXISTING AND ACTUAL CONNECTED KVA ARE NOT KNOWN, ASSUMPTIONS ARE MADE AS: CONTINUOUS & NON-CONTINUOUS CONNECTED LOADS ASSUMED TO BE 80% OF THE OCPD RATING. 2)DESIGN IS BASED ON NEC TABLE 310.15(B)(16) COPPER THHN CONDUCTORS, EXISTING CONDUCTORS, AND WIRING MAY NEED TO BE INSPECTED AND VERIFIED BY ELECTRICAL CONTRACTOR. 3)EVCS ARE CONSIDERED CONTINUOUS LOADS AND ACTUAL NAME PLATE VALUES ARE USED. 4) ALL CONDUCTORS ON THE PANEL SCHEDULE ARE COPPER UNLESS OTHERWISE NOTED.													
DEMAND LOAD PHASE-B (KVA)		18.72	0.00	0.00	0.00	0.00	0.00	18.72		RECEPTACLES:100% 1ST 10 KW + 50% REMAINING																
DEMAND LOAD PHASE-C (KVA)		12.48	0.00	0.00	0.00	0.00	0.00	12.48		MOTORS:125% LARGEST MOTOR + 100% REMAINING																
TOTAL DEMAND LOAD (KVA)		49.91	0.00	0.00	0.00	0.00	0.00	49.91		A/C or HEAT:100% LOAD																
LARGEST DEMAND LOAD OF ANY PHASE (KVA)		18.72							KITCHEN:65% LOAD																	
LARGEST DEMAND LOAD OF ANY PHASE (AMP)		156							MISC:100% LOAD																	
TOTAL DEMAND LOAD OF ALL PHASES (KVA)		49.91																								
TOTAL DEMAND LOAD OF ALL PHASES (AMP)		156																								
MINIMUM FEEDER AMPACITY SELECTION (AMP)		156																								

NOTES:

- INSTALL EV CHARGING STATIONS AND EQUIPMENT AS PER NEC ART. 625. THESE CHARGERS ARE USING A LOAD MANAGEMENT SYSTEM (LMS) PURSUANT TO 2023 NEC 625.42(A).
- DEMAND CURRENT AT THE PNL-EV NOT TO EXCEED 200A. WHEN USING SPARE BREAKERS MAKE SURE UPDATED DEMAND CURRENT IS BELOW OR EQUAL TO THE FEEDER AND PANEL BUS RATING.
- KAIC RATING OF THE PNL-EV TO BE HIGHER OR SAME AS EXISTING SERVICE DISCONNECT. FIELD TO VERIFY AND APPROVE PNL-EV KAIC BEFORE PROCUREMENT.


CHARGE GROUP CONFIGURATION:

- THE EVERCHARGE SYSTEM WILL BE CONFIGURED TO NOT EXCEED 80% OF THE AVAILABLE CAPACITY ON PNL-EV REGARDLESS OF THE NUMBER OF EVERCHARGE 60A CIRCUIT BREAKERS IN THE PNL-EV.


EVERCHARGE CHARGE GROUP CIRCUIT SHARING

AC CHARGERS PER SINGLE CIRCUIT	MINIMUM BREAKER RATING	RECOMMENDED BREAKER RATING	VOLTAGE
1	40A	60A	208V
2	40A	60A	208V
3	50A	60A	208V
4	50A	80A	208V
5	60A	80A	208V
6	60A	80A	208V
7	70A	100A	208V
8	80A	100A	208V
9	90A	100A	208V
10	100A	125A	208V

PRODUCT SPECIFICATION



EverCharge Level 2 EVSE



EV002
208 - 240 Vac / 80 A Max

Key Features

- RFID card reader for user authentication
- Wireless mesh network
- Optional 4g cellular
- SAE J1772 standard compliance
- ISO 15118 capable
- Integrated management system
- Top and bottom entry wiring
- Aluminum construction
- Designed to maximize uptime
- Pedestal mount available
- Robust NEMA 3R ingress protection for indoor or outdoor installation

Application

- Fleet
- Commercial
- Multi-Family Residential

EV002 AC EVSE 208 - 240 Vac			
		EV002-48	EV002-80
Power Input	Input Rating	208V or 240V AC single-phase: L1, L2, and earth	
	Connections and wiring	L1, L2, and ground, hardwired with terminal block	
	Standby Power	< 5 W	
	Metering	Embedded revenue-grade meter with 1% accuracy	
Power Output	Output Rating	Maximum output: 48A	Maximum output: 80A
	Internal Residual Current Detection	20 mA CCID per UL 2231	
	Integrated Over Current Safety Disconnect	60A overcurrent protection 10KA interrupting rating	100A overcurrent protection 10KA interrupting rating
	Plug-Out Protection	Power output is terminated upon detection of charging connector plug-out	
Electrical Protection	Over-current, short circuit, over-voltage, under-voltage, ground fault, surge protection, over temperature		
	Status Indicators	Standby (green), charging (flashing green), fault (red), warning (orange)	
	RFID User Authentication	ISO14443 Type A (Mifare), ISO 14443 Type B, ISO 18092	
	Operating Temperature	-22°F to 122°F (-30°C to 50°C)	
Mechanical	Charging Cable Length	18' (5.5M) or 24' (7.3M)	
	Ingress Protection	Type 3R	
	Mounting Type	Wall-mount, pole-mount, ceiling-mount, and pedestal	
	Dimensions	Height: 13" Width: 8" Depth: 4"	
Regulation	Net Weight	26 lb (12 kg)	
	Certificate	Energy Star, OpenADR, UL, cUL	
	Charging Interface	SAE J1772 compliant charging plug	
	Connectivity	Wireless	EverCharge mesh, optional cellular

VOLTAGE DROP CALCULATIONS

(CONSIDERING FURTHEST CHARGER ONLY)

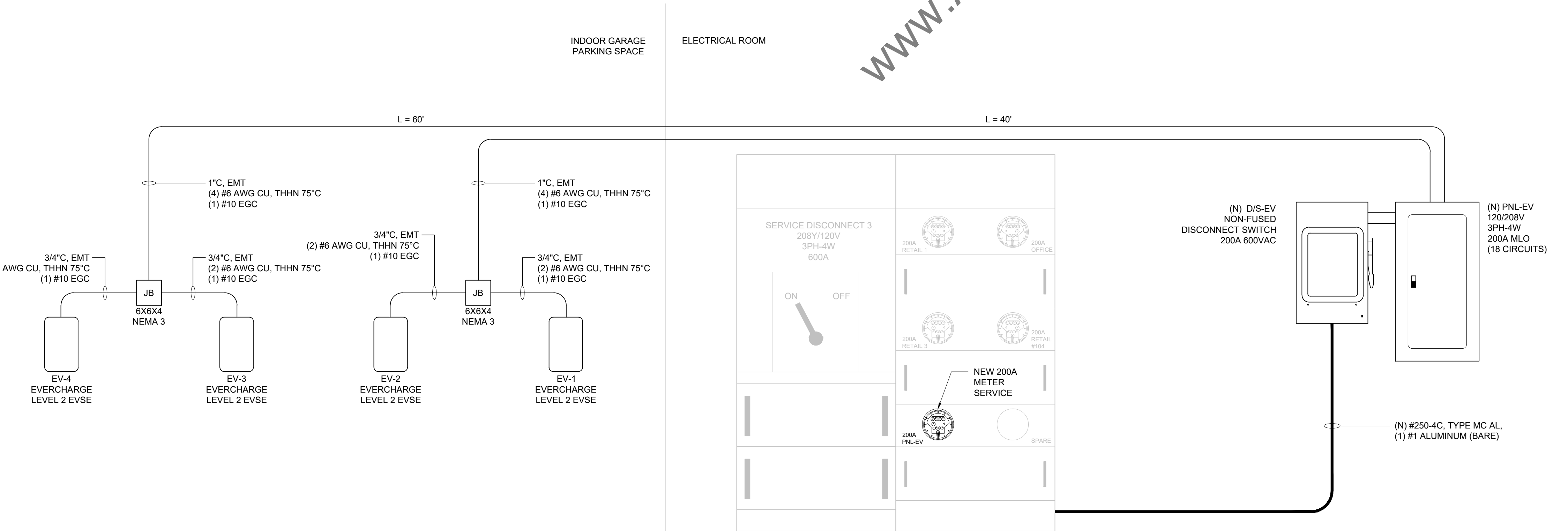
CABLE ROUTE		LOAD VOLTAGE	WIRE SIZE	DISTANCE (FT)	LOAD (AMP)	VOLTAGE DROP (%)	PARALLELS (SETS)
FROM	TO						
NEW METER	PNL-EV	208V	#250MCM, AL	15	200	0.24	1
PNL EV	EV-4	208V	#6 AWG, CU	100	48	2.17	1

CONDUCTOR FILL

Southwire Conduit Fill Calculator

Results Computed for NEC		Results Computed for NEC	
Conduit Fill:	24.89%	Conduit Fill:	22.08%
Conduit Size:	1"	Conduit Size:	3/4"
Jam Probability:	4.212851	Jam Probability:	3.309237
CONDUIT		CONDUIT	
Conduit Type:	EMT	Conduit Type:	EMT
Conduit Size:	1	Conduit Size:	3/4
CONDUCTORS		CONDUCTORS	
1 Wire Type:	Copper THHN	1 Wire Type:	Copper THHN
Wire Size:	6 STR	Wire Size:	6 STR
Diameter:	0.249	Diameter:	0.249
Number of Wires:	4	Number of Wires:	2
2 Wire Type:	Copper THHN	2 Wire Type:	Copper THHN
Wire Size:	10 STR	Wire Size:	10 STR
Diameter:	0.161	Diameter:	0.161
Number of Wires:	1	Number of Wires:	1

ONE-LINE DIAGRAM



COORDINATING PROFESSIONAL:



DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

ENGINEER OF RECORD SEAL & STAMP:



DURAK EVRIM ERCAN
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
No. 57496
EXPIRATION DATE: 03/25/2026
EXP: 07/16/2026

AMPER JOB NUMBER: 2013A-WA

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

0	03/14/2025	ISSUED FOR PLAN REVIEW
REV	DATE	DESCRIPTION

CLIENT:



PROJECT:
LIMESTONE COURT APARTMENTS EVCS INSTALLATION
ADDRESS:
900 180TH AVE NE BELLEVUE, WA 98004

SHEET SIZE:	DRAWN BY:
24X36	IB
DESIGNED BY:	CHECKED BY:
AC	DEE

SHEET TITLE:
ONE-LINE DIAGRAM, PANEL SCHEDULE & PRODUCT SPECIFICATION

SHEET NO:
EV04