

Learn about what kind of facilities require plan review and how to submit plans:

<https://lni.wa.gov/licensingpermits/electrical/electrical-permits-fees-and-inspections/electrical-plan-review>.

Unless WAC [296-46B-900](#) requires it, your project is not eligible for plan review.

Use the checklist below to ensure your plans are reviewable. Do not submit this checklist with your plans.

L&I Electrical Plan Review Screen-In Checklist		
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	Professional Engineers stamp and signature – Required on all plan sheets for educational facilities, hospitals, nursing homes, and medical facilities that require review by the Washington State Department of Health.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	Plan sheets identified as the “Construction Set” or not at all are reviewable; others specifically identified as something else are not.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	Use the sample forms and schedules included after this checklist or create your own providing exactly the same information.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	Where existing electrical systems are to supply additional loads, plans must include documentation that proves adequate capacity and ratings.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	Plans must clearly show the electrical installation or alteration in <u>floor plan view</u> , include all switchboard and/or panelboard schedules and when a service or feeder is to be installed or altered, must include a riser diagram, load calculation, fault current calculation and interrupting rating of equipment.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	<p>Plan Sheet requirements – Shall include all the following:</p> <ul style="list-style-type: none"> • Minimum scale 1/8” (except site plan) • Symbol legends • Circuit connecting lines with home runs shown for all equipment, lighting, receptacle symbols; or other methods by permission. • Schedules with electrical specifications for Luminaires, Mechanical/Equipment, Kitchen, Shop, Medical Equipment, and all other equipment items listed on the switchboard and panel schedules. • Show the location of all items on the One-Line/Riser diagrams. • Plan sheets need to reflect current as-built conditions.

<p>yes <input type="checkbox"/></p>	<p>n/a <input type="checkbox"/></p>	<p>One-line/Riser Diagrams – Shall be complete and include the following:</p> <ul style="list-style-type: none"> • Service point (NEC 100 Definitions) • Conductor size, type, and number of • Equipment grounding conductor size, type, and number of, or identify if metallic raceway • Conduit sizes, type, and number of • Identifier’s for distribution equipment such as switchboards, panelboards, transformers, etc. • Overcurrent protection devices • System (Voltage, phase, wire.) • Bus ratings (the true value) • AIC ratings • Transformer primary/secondary voltages, KVA size, and source marking. • Clearly indicate if system is fully rated or series rated for the available fault current.
		<ul style="list-style-type: none"> • Locations with fault calculation values greater than 10,000 AIC need to be identified • Additional items that maybe required shall be indicated. Such as; Ground Fault Protection, 2nd Level Ground Fault Protection, etc. <p>Riser diagrams and load calculations must include all of the equipment carrying the additional loads and be complete to the point of connection between the facilities of the serving utility and the premises wiring. NEC 215.5 requires that the details of such diagrams and calculations shall include “...the total calculated load before applying demand factors, the demand factors used, the calculated load after applying demand factors, and the size and type of conductors to be used</p>
<p>yes <input type="checkbox"/></p>	<p>n/a <input type="checkbox"/></p>	<p>Fault Current Calculations – The one line/riser diagram shall show the AIC value at all locations that are equal to or greater than 10,000 ampere. Fault calculations are required for new installations or existing installations when requested by Plan Review.</p>
<p>yes <input type="checkbox"/></p>	<p>n/a <input type="checkbox"/></p>	<p>Panel Schedules – Panel schedules for switchboards, distributions, and panels must be provided on the plan sheets and one set of panel schedules on 8½” × 11” sheets for use during the review process. The following information is required to be shown on the panel schedule.</p> <ul style="list-style-type: none"> • System voltage, phase, wire, bus rating, bus available interrupting current rating. • Overcurrent protection device size with available interrupting current rating, circuit number, phase identification, total phase load. • Load values in VA or KVA. If using KVA the value needs to be expressed out to two decimal places. (Example: 1237 VA = 1.24 KVA) • Each circuit shall indicate the type of load category. • Load summary by type of category provided at the bottom of the panel schedule with the connected and calculated load values and NEC demand factor(s) shown. • Single panels and Multi-section panels shall indicate Main breaker size or lug configuration; Main lug only, Double lugs, Feed thru lugs. • A separate panel schedule and calculation which includes downstream loads is required for each section of a Multi-section panel design. • A “before and after” panel schedule presentation must be located side by side on the same plan sheet.

<p>yes <input type="checkbox"/></p>	<p>n/a <input type="checkbox"/></p>	<p>Generator or Alternate Power System</p> <ul style="list-style-type: none"> • Where generator unit(s) or alternate power system(s) are existing, or going to be installed, the locations are required to be provided on the plan sheets and clearly identified. • Identification of generator or alternate power system type is required, such as... • NEC-517 *Essential Electrical System, • NEC-700 *Emergency System, • NEC-701 Legally Required Standby System, • NEC-702 Optional Standby System, • NEC-705 Interconnected Electrical Power Production Sources, • NEC-708 Critical Operations Power Systems (COPS). • NEC-517, NEC-700, NEC-701 System Generator's. All the generator accessory loads shall be connected to the same system the generator supply's to maintain the integrity of the system. (Examples; battery chargers, block heaters, fuel pumps, dampers, equipment lighting) <p>*Only NEC-517 Essential Electrical System(s) and NEC-700 Emergency System(s) can supply Emergency load(s).</p>
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<p><input type="checkbox"/> yes</p>	<p><input type="checkbox"/> n/a</p>	<p>Documentation on System Coordination</p> <p>Documentation must clearly indicate that the Professional Engineer takes full responsibility that the installation, when installed as designed, complies with:</p> <ol style="list-style-type: none"> 1. NEC-700.32 Selective Coordination for Emergency System, <u>and</u> NEC-701.32 Selective Coordination for Legally Required Standby System. 2. NEC-517.31 (G) Coordination shall apply to the Life Safety, Critical, and Equipment Branch of the Essential Electrical System. <p>Provide documentation on plan sheet(s) or the professional engineer's company letterhead. Professional Engineer's stamp and signature must accompany documentation wherever present on plan sheets or company letterhead.</p>
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<input type="checkbox"/> yes	<input type="checkbox"/> n/a	<p>Metered Demand Data – When projects include removing or altering existing loads, metered load data shall include such loads. Do not subtract them from the demand data or demand calculation.</p> <p>Metered demand data shall include the following:</p> <ul style="list-style-type: none"> • Copy of the current last 12 months of utility demand. • Complete calculations for all metered data shall be in KVA. • Use of utility KW demand shall be converted to KVA using an appropriate power factor adjustment. • Metered load studies shall include a minimum of 30 days continuously recorded. • Provide the ampere value of each phase at the beginning of the study. • The current transformer (CT) shall be connected to the highest ampere phase at the beginning of the study when all phase conductors are not being recorded. • When conducting multiple load studies at different locations on the distribution system, record of all phases. • The one-line diagram shall indicate the metered point location for each load study. The following information is also required. • Graph of the study with time periods, ampere values, and ampere maximum peak clearly identified. • Make/model of recording equipment, make/model of current transformer's. • Where equipment is not or cannot be set to record a 15 minute demand mode (average value over a 15-minute period continuously recorded), contact plan review concerning acceptability of your alternate recording method before starting load study. • Base calculations on the ampere maximum peak value shown on the graph.
<input type="checkbox"/> yes	<input type="checkbox"/> n/a	<p>Medium or High voltage Systems (over 1000v) – Shall be complete and include the following:</p> <ul style="list-style-type: none"> • Service point • Conductor size, type, and number of • Equipment conductor size, type and number of • Conduit sizes • Overcurrent protection devices • System (Voltage, phase, wire.) • Bus ratings • AIC ratings • Transformer primary/secondary voltages and KVA size • Locations with fault calculation values greater than 10,000 AIC need to be identified.
yes <input type="checkbox"/>	n/a <input type="checkbox"/>	<p>Hazardous Locations (classified) The boundary lines for any area classified as Class I, Division 1; Class I, Division 2; Class I, Zone 0; Class I, Zone 1; Class I, Zone 2; Class II, Division 1; Class II, Division 2; Class III, Division 1;</p>
		<p>Class III, Division 2; or any combination thereof shall be clearly indicated on the floor plan sheets and indicate the Classification of this area.</p>

Approved Plans Must be Available on the Jobsite - WAC 296-46B-900 (3)(d)(v)
 Final inspection approval is not possible without approved plans and worksheet available on the job site for the electrical inspector. After approval, plans must be available on the jobsite

To indicate approval, we place the stamp below on the left on the cover sheet of the complete plan package, on the first sheet of the electrical plans, or on both.

We apply the stamp on the right to all other sheets.



APPROVED – Means approved as submitted without corrections.

APPROVED AS NOTED – Means that the plans have been approved and the plans examiner has included notes, intended for the electrical inspector that describe corrections or changes in the original design submittal.

Notes are typed or highlighted in RED and initialed by the plans examiner named on the stamp. Compliance with these notes is mandatory and a condition of the plan approval.

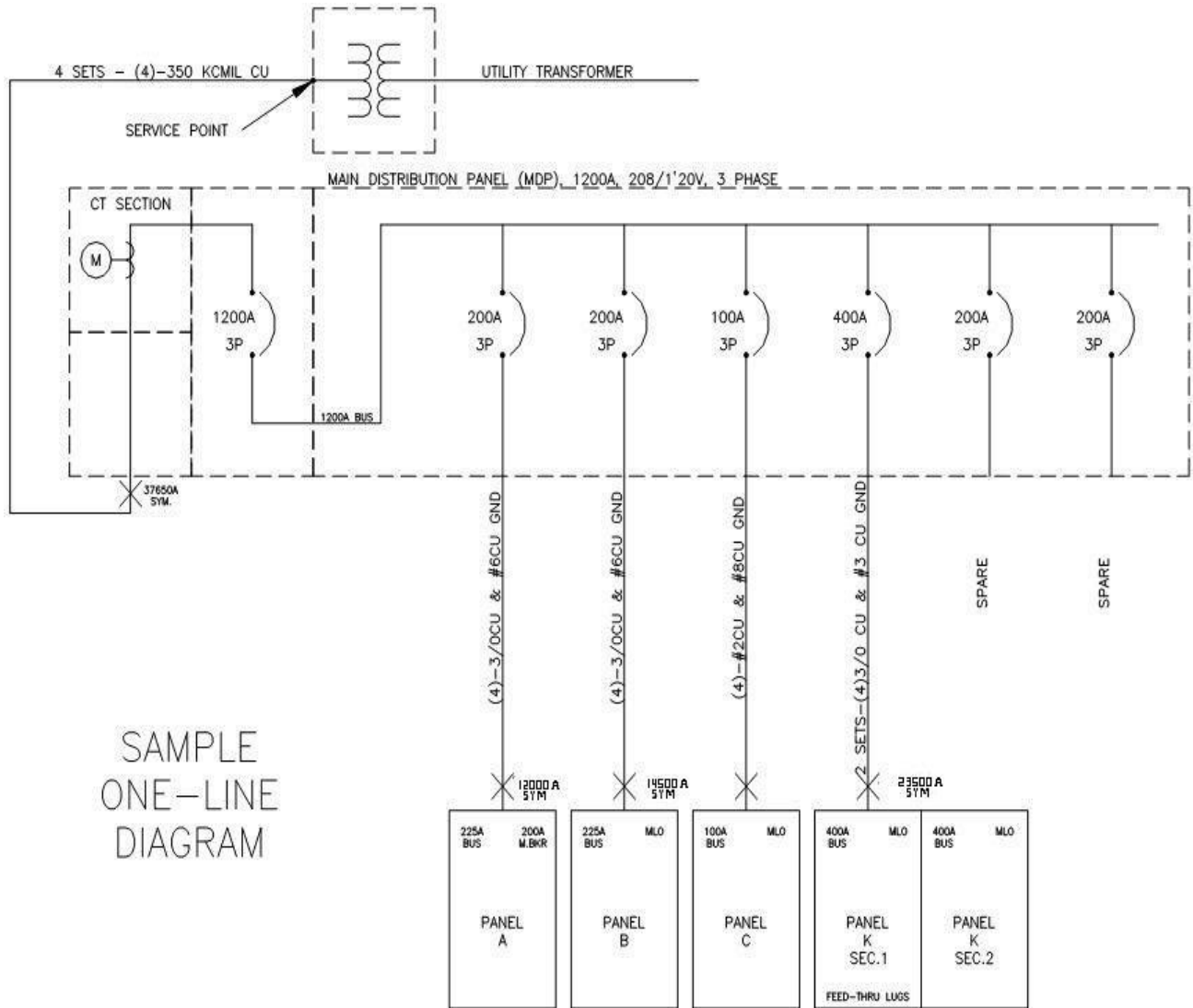
yes n/a

Questions?

Email us: ElectricalPlanReviewMailQuestions@Lni.wa.gov –

Or give us a call: 360.902.6778.

Sample Forms and Schedules



PANEL LOAD CALCULATION WORKSHEET

Project: _____ Date ____/____/____

Panel ID: _____

LOAD TYPE	CONNECTED LOAD	NEC ADJUSTMENT FACTOR	CALCULATED NEC LOAD
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Lighting				
General-use Receptacles (First 10KVA)	_____	X 125%	=	_____
General-use Receptacles (Over 10KVA)	_____	X 100%	=	_____
Motors and Compressors	_____		=	_____
(Largest Motor Load)	_____	X 50%		_____
Dedicated or Specific-use Receptacles	_____	X 100%	=	_____
HVAC and Mechanical Equipment Loads	(_____)	X 25%	=	_____
	_____	X 100%	=	_____
	_____		=	_____
Kitchen Equipment (# _____)	_____	X _____%	=	_____
Miscellaneous Loads	_____	X 100%	=	_____
	_____	X _____%	=	_____
		X _____%	=	_____
		X _____%	=	_____
		X _____%	=	_____
<input type="checkbox"/> 240/120 <input type="checkbox"/> 3Ø <input type="checkbox"/> 208/120 <input type="checkbox"/> 1Ø <input type="checkbox"/> 480/277 <input type="checkbox"/> _____				
System Voltage				
	TOTAL CONNECTED LOAD		TOTAL CALCULATED LOAD	
				TOTAL CALCULATED AMPS

Connected Load-

1. The nameplate rating of all appliances that are fastened in place, permanently connected, or located to be on a specific circuit. (Water heaters, space heaters, ranges, refrigerators, etc.)
2. 180 VA for each general-use receptacle.
3. Maximum VA of lighting fixtures.
4. VA of all motors based on full load amps from table 430-247, 248, 249 and 250 of the National Electrical Code.

Calculated NEC Load-

The connected load after any adjustment factors allowed by code, have been applied. Load calculations shall be submitted/expressed in VA and converted to amps when sizing feeders and equipment, and is the minimum size allowed based upon these calculations.

Panel ID: Location: Fed From: Panel A.I.C. Rating:	PANEL SCHEDULE Single Phase	Bus Rating: _____A <input type="checkbox"/> Main Breaker _____A <input type="checkbox"/> Main Lugs Only <input type="checkbox"/> Fed-Thru Lugs <input type="checkbox"/> Double Lugs Single Phase Voltage <input type="checkbox"/> 240/120 <input type="checkbox"/> 3-wire <input type="checkbox"/> 208/120 <input type="checkbox"/> 4-wire <input type="checkbox"/> _____ <input type="checkbox"/> Iso. GND <input type="checkbox"/> 10 K <input type="checkbox"/> 14 K <input type="checkbox"/> 18 K <input type="checkbox"/> 22 K <input type="checkbox"/> 25 K <input type="checkbox"/> 42 K <input type="checkbox"/> 65 K <input type="checkbox"/> 100 K <input type="checkbox"/> 150 K <input type="checkbox"/> 200 K
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Circuit Description		LOAD(VA)	Code	Breaker	BUS	Breaker	Code	LOAD(VA)	Circuit Description	
1					A					2
3					B					4
5					A					6
7					B					8
9					A					10
11					B					12
13					A					14
15					B					16
17					A					18
19					B					20
21					A					22
23					B					24
25					A					26
27					B					28
29					A					30
31					B					32
33					A					34
35					B					36
37					A					38
39					B					40
41					A					42

Code Description:

L = LIGHTING LOADS

M = TOTAL MOTOR LOAD

H = HVAC

LM = LARGEST SINGLE MOTOR

R = GENERAL USE RECEPTACLES

S = DEDICATED RECEPTACLES

K = KITCHEN EQUIPMENT

Z = MISC OR APPLIANCES

Panel ID: Location: Fed From: Panel A.I.C. Rating:	PANEL SCHEDULE Three Phase	Bus Rating: _____A <input type="checkbox"/> Main Breaker _____A <input type="checkbox"/> Main Lugs Only <input type="checkbox"/> Fed-Thru Lugs <input type="checkbox"/> Double Lugs Three Phase <input type="checkbox"/> 3-wire <input type="checkbox"/> 4-wire <input type="checkbox"/> Iso. GND Voltage <input type="checkbox"/> 480/277Y <input type="checkbox"/> 208/120Y <input type="checkbox"/> 240/120 Δ <input type="checkbox"/> _____
<input type="checkbox"/> 10 K <input type="checkbox"/> 14 K <input type="checkbox"/> 18 K <input type="checkbox"/> 22 K <input type="checkbox"/> 25 K		<input type="checkbox"/> 42 K <input type="checkbox"/> 65 K <input type="checkbox"/> 100 K <input type="checkbox"/> 150 K <input type="checkbox"/> 200 K

Circuit Description		LOAD(VA)	Code	Breaker	Ø	Breaker	Code	LOAD(VA)	Circuit Description
1					A				2
3					B				4
5					C				6
7					A				8
9					B				10
11					C				12
13					A				14
15					B				16
17					C				18
19					A				20
21					B				22
23					C				24
25					A				26
27					B				28
29					C				30
31					A				32
33					B				34
35					C				36
37					A				38

39					B							40
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DISTRIBUTION CALCULATION WORKSHEET

Date: _____

Name: _____ Address: _____ Inspection Office: _____ Project Description: _____

LOAD TYPE												CONN. TOTAL	%	CALC. TOTAL
Lighting Loads													x125%	
General use Receptacles ≤ 10 KVA													x100%	
General use Receptacles > 10 KVA													x50%	
Motors and Compressors													x100%	
(Largest Motor)	()	()	()	()	()	()	()	()	()	()	()	()	x25%	
Specific-use Receptacles													x100%	
HVAC Equipment and Mechanical													x100%	
Kitchen Equipment													x_____%	
Miscellaneous or Appliances													x100%	
													x_____%	
													x_____%	

Seasonal _____

Occupancy _____

Other _____
