CITY of PALO ALTO

www.cityofpaloalto.org/depts/utl

UTILITY SERVICE APPLICATION

PERMANENT COMMERCIAL/MULTI-FAMILY

ELECTRIC, WATER, GAS, AND WASTEWATER FACILITIES INSTALLATION

THIS FORM MUST BE FILLED OUT COMPLETELY BEFORE THIS APPLICATION CAN BE PROCESSED.
Upon Completion of review and approval a copy of this form will be sent back to applicants requesting Electric Service.

Building Department **Permit Application Number:**	**Utilities Department** **Permit Application Number:**	
Project Address:		**Date:**
Name of Applicant / Company		**Phone #:**
Address	**City / State** **Zip**	**E-mail**
CONNECTION FEE BILLING INFORMATION		
Name		**Phone:**
Address	**City / State** **Zip**	**E-mail:**

Service Type Requested:	☐ Electric	☐ Water	☐ Gas	☐ Wastewater
Desired Service Date:				
Project Status	☐ Planning	☐ Bidding	☐ Construction	
(Depending on Utility Service Requested, Complete Appropriate Portions of this Application)				

Project Type (check all boxes that apply)	☐ New Construction/New Service **	☐ Addition **		☐ Remodel
	What will be the total building area upon completion?			SQ FT
	☐ Service Upgrade	☐ Service Relocation **	☐ Spa or Pool **	☐ Other (explain in Description of Work)
Brief Description of Work				

** **Please attach a site plan showing the property lines including elevations, a window schedule, site improvements with existing & proposed service locations, AND a front view photograph of the gas and electric meter locations existing & proposed. Photograph MUST contain a ground to roof line view with meters at the center of the picture. Email photograph to utilities.engineering@cityofpaloalto.org NO FULL SET SUBMITTALS..**

Gas/Electric Load Information (INDICATE PEAK OR MAXIMUM RATES OF USE OR FLOW)

Separate load information is required for each gas meter requested.
Attach adequate Electric Load information verifying National Electric Code Article 220 (Branch Circuit and Feeder Calculations) requirements are met.

Description	Gas	Electric	Existing	New (Additional)	Total (Existing + New)	Units (circle one)
SPACE HEATING	☐	☐				BTUH kW kVA
HVAC (1 Phase electric)	☐	☐				BTUH
HVAC (3 Phase electric)	☐	☐				kW kVA
WATER HEATING	☐	☐				BTUH kW kVA
COOKING EQUIPMENT	☐	☐				BTUH kW kVA
CLOTHES DRYER	☐	☐				BTUH kW kVA
FIRE LOG LIGHTER	☐					BTUH
POOL/SPA HEATER	☐	☐				BTUH kW kVA
POOL/SPA PUMP		☐				hp
LIGHTING		☐				kW kVA
RECEPTACLE, OTHER		☐				kW kVA
PROCESS POWER		☐				kW kVA
ELEVATORS		☐				kW kVA
LARGEST MOTOR		☐				kW kVA
OTHER MOTORS (1 PH)		☐				kW kVA
OTHER MOTORS (3 PH)		☐				kW kVA

BTUH: BTU (British Thermal Unit) PER HOUR **kW**: kilowatts (=1000 Watts) **kVA**: kilovoltamps (=1000 Voltamps) **hp**: Horsepower

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Description	Gas	Electric	Existing	New (Additional)	Total (Existing + New)	Units (circle one)
PHOTOVOLTAIC SYSTEM		☐				kW kVA
ELECTRIC VEHICLE CHARGING SYSTEM (Load per Charging Station)	Number of Charging stations:	_____	Number of electric vehicles:	_____	per charger	kW kVA
OTHER	☐	☐				BTUH kW kVA hp
OTHER	☐	☐				BTUH kW kVA hp

BTUH: BTU (British Thermal Unit) PER HOUR **kW**: kilowatts (=1000 Watts) **kVA**: kilovoltamps (=1000 Voltamps) **hp**: Horsepower

Water

WATER LOADS: SEE WATER CUSTOMER DEMAND DATA TABLE FOR CALCULATING FIXTURE UNITS AND GALLONS PER MINUTE.

Complete a separate LOAD CALCULATION SHEET for each domestic water meter, fill in all applicable areas below, and submit completed Calculation Sheets with Service Application.

	EXISTING	NEW (ADDITIONAL)	TOTAL (EXISTING + NEW)	CPAU USE ONLY
DOMESTIC USE	F.U.	F.U.	G.P.M.	
FIRE SPRINKLER	G.P.M.	G.P.M.	G.P.M.	
IRRIGATION USE MAX VALVE	G.P.M.	G.P.M.	G.P.M.	

F.U.: Fixture Units **G.P.M.**: Gallons per Minute

Wastewater

WASTEWATER LOADS: REFER TO SECTION 2730 IN THE CURRENT "UTILITY STANDARDS" FOR WASTEWATER DESIGN STANDARDS.

Complete LOAD CALCULATION SHEET, fill in all applicable areas below, and submit completed Calculation Sheet with Service Application.

	EXISTING FIXTURE UNITS	NEW FIXTURE UNITS	EXISTING # Dwelling Units/S.F.	NEW # Dwelling Units/S.F.	TOTAL (EXISTING + NEW)
MULTI-FAMILY	F.U.	F.U.	D.U.	D.U.	D.U.
COMMERCIAL	F.U.	F.U.	S.F.	S.F.	S.F.
RESEARCH/OFFICE	F.U.	F.U.	S.F.	S.F.	S.F.

F.U.: Fixture Units **D.U.**: Dwelling Units **S.F.**: Square-Feet

BACKFLOW PREVENTER REQUIREMENTS

To comply with requirements of the California Administrative Code, Title 17, Sections 7583 through 7605 inclusive and City of Palo Alto Utility Rule and Regulation 21; the City of Palo Alto requires that all commercial or multifamily water connections have an RP backflow preventer installed on the owner's property directly behind the water meter within 5 feet of the property line. **Show the location of all RP backflow preventers on the plans.** An approved reduced pressure principle assembly (RPPA backflow preventer device) is required for all existing and new irrigation or domestic water connections from Palo Alto Utilities. An approved reduced pressure detector assembly is required for the existing or new fire water connections.

ELECTRIC (INCLUDE ELECTRIC SINGLE LINE DIAGRAM OF PROPOSED INSTALLATION)

SERVICE INFORMATION	Existing	Requested
Service Voltage		
Main Switch Size (Amps)		
Type & Number of Meters		

Electric Service Information *(CPAU Use ONLY)*		Service Order Number	
Estimated Demand	kVA	Transformer kVA and Type	
Map Number		Transformer Number(s)	
Fees	$	**Minimum AIC rating of Electric Panel for requested service:**	**,000 A Sym at V**

Remarks	
	• **ALL work per NEC and CPA Standards.** • **Additional fees may apply after permit approval**
	• **Electric service panel must meet the AIC rating indicated above for the requested service voltage.** • **Service Panels 400 A or greater – submit factory drawings for approval. Otherwise catalog cutsheets are acceptable.**
	• **Only socket type meters are allowed.** • **Call Electric Operations (650-496-6914) for service Disconnect and Reconnect, if required.**
	• **All work must be inspected and approved by the CPAU Inspector (650-496-5934) and CPA Building Department (650-329-2663) prior to final connection by Utilities.**
	Additional Sheets are Attached: Yes No

Approved by:	Phone #:	Date:

CITY of PALO ALTO

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COMMERCIAL/MULTI-FAMILY LOAD CALCULATION SHEET
WATER AND WASTEWATER SERVICE

Project Address:	**Date:**
Submitted by:	**Phone:**

The following information is based on the 2010 California Plumbing Code. Refer to section 2730 in the current "utility standards" for wastewater design standards.

Fill in all applicable areas below, and submit completed Calculation Sheet with Service Application.

Table 1: Calculation of Fixture Units by Individual Fixture Types

Fixture Type	Number of Fixtures (a)	Water		Wastewater	
		Water Fixture Unit Multiplier (b)	Total Water Fixture Units (a x b)	Wastewater Fixture Unit Multiplier (c)	Total Wastewater Fixture Units (a x c)
Bathtub or Combo Bath/Shower, Domestic		4		2	
Bathtub Commercial (¾" fill valves)		10		2	
Clothes Washer, Commercial (¾" fill valves)		10		3	
Clothes Washer, Domestic (½" fill valves)		4		3	
Dental Unit, Cuspidor		1		1	
Dishwasher, Commercial (¾" fill valve)		10		2	
Dishwasher, Domestic (≤½" fill valve)		1.5		2	
Drinking Fountain or Watercooler		0.5		0.5	
Floor Drain		N/A		2	
Hose Bibb		2.5		N/A	
Hose Bibb, each additional		1		N/A	
Mobile Home Trap		N/A		12	
Shower, continuous use		5		5	
Shower, First Head		2		2	
Shower, Multi Head – Each additional Head		2		1	
Sink, Bar		2		2	
Sink, Bathroom		1		1	
Sink, Bathroom in sets of two or three		2		2	
Sink, Clinic		8		6	
Sink, Commercial		3		3	
Sink, Kitchen – Domestic		1.5		2	
Sink, Laundry		2		2	
Sink, Service or Mop Bin		3		3	
Sink, Wash-up, each set of faucets		2		3	
Toilet, 1.6 GPF Flushometer Tank		2.5		4	
Toilet, 1.6 GPF Flushometer Valve		SEE TABLE 2		4	
Toilet, 1.6 GPF Gravity Tank		2.5		4	
Toilet, 3.5 GPF Flushometer Valve		SEE TABLE 2		6	
Toilet, 3.5 GPF Gravity Tank		5.5		6	
Urinal, 1 ½" Trap, 4 units		SEE TABLE 2		5	
Urinal, 1.0 GPF		SEE TABLE 2		2	
Urinal, Flush Tank		3		2	
Urinal, greater than 1.0 GPF		SEE TABLE 2		2	
Washfountain, circular spray		4		2	

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Table 2: CALCULATION OF TOTAL WATER & WASTEWATER FIXTURE UNITS – WITH FLUSHOMETER VALVES

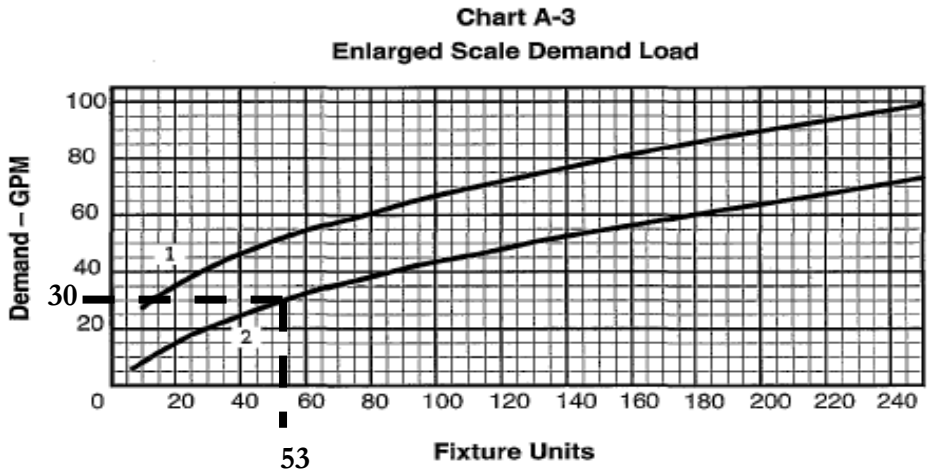
NUMBER OF TOILETS WITH FLUSHOMETER VALVES	INDIVIDUAL FIXTURE UNITS IN DECREASING VALUE	CUMULATIVE FIXTURE UNITS	
1	40	40	
2	30	70	
3	20	90	
4	15	105	
5 OR MORE	10 EACH	115 + 10 FOR EACH ADDITIONAL OVER 5	
NUMBER OF URINALS WITH FLUSHOMETER VALVES	INDIVIDUAL FIXTURE UNITS IN DECREASING VALUE	CUMULATIVE FIXTURE UNITS	
1	20	20	
2	15	35	
3	10	45	
4	8	53	
5 OR MORE	5 EACH	58 + 5 FOR EACH ADDITIONAL OVER 5	

Total WATER Fixture Units = _____ (sum of fixture units in Tables 1 & 2)

Total WASTEWATER Fixture Units = _____ (sum of fixture units in Tables 1 & 2)

CONVERSION OF FIXTURE UNITS TO GALLONS PER MINUTE (GPM)

California Plumbing Code, Chart A-3, ENLARGED SCALE DEMAND LOAD



Curve 1 (top): System predominantly for Flushometer Valves
Curve 2 (bottom): System predominantly for Flush Tanks – Typical Residences

Estimate the supply demand by totaling the fixture units from the Water Load Calculation Tables 1 & 2, and then by reading the corresponding ordinate from chart A-3.

Read chart A-3 vertically until you intersect the correct curve, then read the chart horizontally until you read your water flow demand in G.P.M. This number must be entered on the Service Design Load Information box of the Utilities Service Application form.

The following is an example of estimating the water flow demand in Gallons Per Minute (GPM) using the chart for a customer with Flush Tanks:

TOTAL FIXTURE UNITS = 53 (possible result after completing calculation tables)

TOTAL WATER DEMAND = 30 GPM (conversion by using chart A-3)

For larger commercial loads, see chart A-2 of the latest edition of the California Plumbing Code.