COMMUNITY DEVELOPMENT DEPARTMENT
6000 Main Street SW
Lakewood, WA 98499
253-512-2261
permits@cityoflakewood.us
www.cityoflakewood.us

Single Family Residential Checklist

Applications and all required documentation are required to be submitted through our online dashboard https://pals.cityoflakewood.us/palsonline/#/dashboard.

Use this checklist to help gather all the required information and documents in order to submit a complete building permit application for a project involving construction of a new single family residence or addition. **Please note: incomplete applications will not be accepted**.

Land Use Approval including variances, subdivisions, and tree removal permits are recommended prior to submitting the building permit application to avoid delay in project review.
All environmentally critical areas (wetlands, streams, geologically hazardous areas, and associated buffers) on the subject property should be reviewed, delineated, and/or rated prior to submitting a single-family building permit application to avoid delay in project review. This may require submittal of a shoreline permit, floodplain development permit, or tree removal permit. Contact the Planning Division at permits@cityoflakewood.us, to determine if your property contains critical areas.

Contact the City of Lakewood Planning Department if you are unsure if you are located in one of the following areas. Information may also available using Pierce County GIS.
All properties directly adjacent to a lake or creek are considered a shoreline jurisdiction.

Address:_____ Parcel # _____

Does the subject property have environmentally critical areas: ☐ Yes ☐ No
Is the subject property located within a shoreline jurisdiction: ☐ Yes ☐ No
Is the subject property located within a special flood hazard area: ☐ Yes ☐ No

GENERAL SUBMITTAL DOCUMENTS

Sub.	
☐	Completed Building Permit Application form
☐	Single Family Residential Checklist
☐	Check, cash, or Visa/MasterCard for applicable fees
☐	**One** Certificate of Water Availability (for new construction only)
☐	**One** Copy of sewer pre-treatment approval certificate *(Must apply separately with Pierce County Sewer. Certificate is required prior to building permit issuance. Not required for submittal)*
☐	**One** copy of the septic approval packet from the Pierce County Health Department when applicable.
☐	**One** Building packet (*see following pages for packet requirements*)
☐	**One** Planning packet (*see following pages for packet requirements*)
☐	**One** Public Works Engineering packet (*see following pages for packet requirements*)
☐	**One** Fire packet (*see following pages for packet requirements*)

MINIMUM DRAWING REQUIREMENTS

- Plans shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed, and shall demonstrate how the proposed work conforms to the provisions of adopted codes and ordinances. Each plan sheet should be titled and dated (subsequent revisions shall be dated as well) and each drawing therein should be labeled.
- Architectural plans must be drawn to scale (¼" or ⅛"), dimensioned, and labeled.
- Site and civil plans must be drawn to scale (1" = 20' minimum), dimensioned, and labeled.
- Plans will not be accepted if they have been reduced in scale by photocopying.
- **Minimum** plan sheet size is 11" x 17"; **maximum** plan sheet size is 24" x 36".
- Plans are required to be clearly legible, will not be accepted with watermarks in the center of the page.
- All submittal documents are in PDF format, document security allows for adding review comments & markups.
- Topographic and boundary surveys, when required, must be stamped by a surveyor licensed in the state of Washington. Survey datum must be KCAS or NAVD 88
- All civil plan sheets must be stamped by a civil engineer licensed in the state of Washington.
- Drawings and construction documents prepared by a Washington State design professional, whether required to be or not, must be stamped and signed by the preparer.
- For electronic submittals: each plan set must be book marked and saved as a separate plan set when uploaded.
- Plans will not accepted that are marked "Not for Construction", or "Preliminary".

BUILDING PACKET REQUIREMENTS

Sub.	
☐	**A. Structural Calculations, when required**
☐	**B. *2021 Washington State Energy Code* Compliance Forms**
☐	**C. Cover Page**
	1. Project Name 2. Project Contact (Name, Address, Phone Number, Email)
☐	**D. Site Plan**
	1. North arrow and vicinity map. 2. Basic data (type of structure, square footage, location). 3. Show adjacent right(s)-of-way and street name(s). 4. Include any easements, including required setbacks or restrictions. 5. Show the width of driveway, describe paving materials and show setbacks from property lines. 6. Show the size, location, setbacks, and use of existing buildings, including their setbacks from property lines and each other. 7. Show the size, location, setbacks, and use of new buildings and additions, including their setbacks from property lines and each other. 8. Show any existing structures to be demolished or removed. 9. Show existing and proposed site topography in two-foot contours. 10. Indicate finished floor elevations and provide elevation readings at each structure corner. 11. Show the location of utilities (water, septic, gas, etc.) and their connection to buildings or additions. 12. Show how the required number of tree units will be achieved through retention or replanting. 13. Provide a list of existing impervious areas in square feet, including structures, concrete, gravel, etc., and proposed impervious areas. Indicate total lot size in square feet and show calculations for total percentage of lot coverage by impervious area. 14. Show location of proposed and existing rockeries and/or retaining walls; indicate height of walls and proposed materials. **Retaining walls over four feet from the base of the footing, or holding back a surcharge, requires a separate permit. Geotech report from WA licensed geotech engineer required.** 15. Show the setback lengths to a well or septic system component, if applicable. 16. Show any environmentally critical areas with required buffers and/or setbacks. Critical areas include

wetlands, streams, regulated lakes, and geologically hazardous areas.

17. Show proximity of construction to the ordinary high water mark of any designated shoreline.

☐ **E. Foundation Plan (Required when work impacts the foundation. For example, an addition or foundation repair. Not required for interior remodels)** (design must be based on 2000 psf, unless otherwise specified)

1. North arrow.
2. Outline of perimeter foundation, concrete slabs, patios, etc., with dimensions.
3. Location and size of exterior and interior bearing footings/foundations. Specify pier sizes and show thickened footings where posts are supported on exterior footing.
4. Specify the size and spacing of required reinforcing steel.
5. Walls supporting more than four feet of unbalanced backfill that do not have permanent lateral support at the top and bottom shall be designed by a Washington State licensed professional.
6. Specify thickness of concrete cover over rebar. Specify at least a 3.5" (89 mm) thickness for concrete floor slabs on grade.
7. Show the location, size, embedment, and spacing of anchor bolts and hold-downs.
8. Show the location of the underfloor ventilation.
9. Fills over four feet in height (measured from the bottom of the footing to the top of the wall) require engineering. All drawing pages and calculations must be stamped and signed by a Washington State engineer.

☐ **F. Floor Plan**

1. North arrow.
2. Specify project square footage and room dimensions.
3. Specify proposed use of all rooms and spaces, i.e., bedroom, bathroom, closet, pantry, etc.
4. Show window and door locations and sizes.
5. Show location of plumbing, heating, and mechanical fixtures and equipment.
6. Show location of crawl space access.
7. Show location of attic access.

☐ **G. Framing Plan**

1. North arrow.
2. Specify the size, species, grade, spacing, and span of all framing members for each floor level.
3. Provide the header sizes over openings.
4. Show beam locations, materials, spacing, and sizes. Show posts under beams.
5. Show floor joist sizes, directions of run, spans, and spacing.
6. Show ceiling joists, floor joists, trusses, and roof rafter sizes, directions of run, spans, and spacing.
7. Clearly show bearing walls and provide nailing schedule(s). **All braced wall panels must be clearly indicated on the plans.**
8. Show posts under all beams and specify the size, grade, species, and height.
9. Show all connections that resist seismic forces. Specify the brand and model numbers of all hold-downs and connectors.
10. Indicate location of all braced wall panels on the plans. Designs that do not meet prescriptive requirements must be designed and stamped by a Washington State Registered Professional Engineer. Engineer's calculations are required on the specifications and drawing pages.

☐ **H. Elevations (not required for interior remodels)**

1. Provide a directional label for each elevation (north/south/east/west).
2. Specify the height above finish grade to:
   a) Finished floor; b) Top plate/ceiling; and c) Highest point of the structure.
3. Show existing and finished grade lines.
4. Show height of structure from Average Building Elevation (ABE) to midpoint of highest pitched roof; indicate how the ABE was calculated.
5. Specify all finish materials to be utilized.
6. Show all doors and windows; distinguish between openable and fixed.

☐ **I. Building Cross Sections (not required for interior remodels)**

	1. Provide complete foundation sections and details that show the minimum foundation sizes. Show backfill to top of interior footings. 2. Specify mudsill material (cedar or pressure treated). 3. Detail positive connection between posts and beams to ensure against uplift and lateral displacement. 4. Wood joists closer than 18" (457 mm), or wood girders closer than 12" (305 mm) to grade shall be shown as an approved wood of natural resistance to decay or treated wood. 5. Show components of wall construction, including exterior and interior wall finishes, and specify insulation R-value. 6. Show ceiling construction (size and spacing of joists) and R-value of insulation. 7. Show the roof structure, including size and spacing of joists, rafters or pre-manufactured truss spacing, R-value of insulation, and insulation baffles. 8. Detail roof construction, including sheathing, underlayment, and roofing material. 9. Provide a full height section through stairways. Show riser and tread framing materials; riser height; tread width; handrail and guard height above tread nosing; and clearance to ceiling above the stairs measured from a line drawn at and parallel to tread nosing.
☐	**J. General Notes**
	1. Hard-wired smoke detectors shall be shown on each floor (including basements), in each sleeping room, and at a point centrally located in the corridor or any area giving access to each separate sleeping area. 2. Carbon monoxide detectors shall be located in the immediate vicinity of each sleeping room and on each floor of the home. 3. Show compliance with the ventilation requirements for the attic space. 4. Show compliance with the ventilation requirements of the *International Mechanical Code* (IMC) Section 1507, as amended by the state.
Additional items may be required by the Building Division after initial review.	

I acknowledge that the above required documents/plans contain all the listed information. _____
Initials/date

PLANNING PACKET REQUIREMENTS (not required for interior remodels)

Sub.	
☐	**A. Site Plan** (See Building Packet for requirements)
☐	**B. Elevation** (See Building Packet for requirements)
☐	**C. Tree Retention Plan** (may be included on site plan)
	A detailed site plan that identifies the location of all significant trees on the site is required to accompany a tree removal permit, unless waived by Community Development Department staff. The tree survey plan shall be drawn to scale and illustrate the location of each tree in relation to all existing and proposed development on the site including, but not limited to, the following information: 1. Property lines (include lot dimensions). 2. Footprint of all existing and proposed structures such as buildings, fences, driveways, utilities etc. 3. Location of all existing and proposed public and private roads. 4. All paved areas. 5. Location of all proposed landscape areas. 6. Location of all riparian areas and riparian buffers, shorelines, and critical areas including wetlands, wetland buffers, habitat areas, etc 7. The precise location of each significant tree. Each tree on the survey shall be numbered for identification purposes. A significant tree is: (a) A Garry Oak tree, also known as Oregon White Oak that is 6 inches in diameter or greater, at 4 ½ feet above ground (forestry standard). (b) Any tree other than a Garry oak that is 9 inches in diameter or greater at 4 ½ feet above ground. (c) Any tree, regardless of its diameter, that is determined by the Community Development Director to be significant due to the uniqueness of the species or provision of important wildlife habitat.

	8. Any small trees that do not meet the definition of a significant tree shall be shown if they are to be used for credit towards replacement tree requirements. 9. A dashed line 20-feet from the property boundaries shall be drawn to clearly identify perimeter trees from interior trees. 10. A table similar to the example shown below shall be provided that includes information for each of the trees illustrated on the plan. The table, which may be provided in a separate document from the tree survey plan, shall include the following information: (a) The common name of each tree (i.e. fir, spruce, maple, alder, etc.) (b) The caliper size (diameter) of each tree at 4 ½ feet above ground (forestry standard) (c) The tree condition (good, fair, poor, etc). An arborist report may be required for trees noted to be in poor or dangerous condition. (d) Whether the tree is to be removed or retained.
Additional items may be required by the Planning Division after initial review	

I acknowledge that the above required documents/plans contain all the listed information. _____
Initials/date

PUBLIC WORKS ENGINEERING PACKET REQUIREMENTS (not required for interior remodels)

Sub.	
☐	**A. Site Plan** (See Building Packet for requirements)
☐	**B. Drainage and Erosion Control Plan**
	1. North arrow. 2. Show the size, location, setbacks, and use of existing and new buildings and additions. 3. Show existing and proposed site topography in two-foot contours. 4. Show the location of utilities (water, septic, gas, etc.) and their connection to buildings or additions. 5. Show adjacent right(s)-of-way, width, and street name(s). 6. Provide a list of existing impervious area(s) in square feet, including structures, concrete, gravel, etc. 7. Indicate total lot size in square feet. 8. Provide the new impervious area in square feet. 9. Show existing street improvements (sidewalk, curb, gutter, edge of roadway, curb-cuts for driveways, etc.) along the property frontage(s). 10. Show proposed Temporary Erosion and Sedimentation Control (TESC) measures. (Best Management Practices shall apply.) 11. Use directional arrows to show surface drainage. 12. Show grading and clearing limits; indicate approximate cut and fill quantities of site earthwork. 13. Show proposed flow control method for roof, driveway, and any other proposed impervious surface. 14. Show location of all existing and proposed drainage easements and drainage facilities (catchbasins, ditches, swales, culvert, detention ponds, etc.) on the property. 15. Provide details for flow control facilities or Best Management Practices (BMPs). 16. Provide sizing calculations for flow control facilities or BMPs.
Additional items may be required by Public Works Engineering after initial review	

I acknowledge that the above required documents/plans contain all the listed information. _____
Initials/date

FIRE DEPARTMENT PACKET REQUIREMENTS

Sub.	
☐	**A. Site Plan** (See Building Packet for requirements)
☐	**B. Floor Plan** (See Building Packet for requirements)
☐	**C. Certificate of Water Availability**
☐	**D. Water System Hydraulic Model** *(fire flow)* **report**
Additional items may be required by West Pierce Fire & Rescue after initial review	

I acknowledge that the above required documents/plans contain all the listed information. _____

Initials/date

STAFF USE ONLY

File # _____– _____-_____

Intake by: _____

Date: _____

Residential Building Permit Application

Community Development
6000 Main St. SW Lakewood, WA 98499
Phone (253) 512-2261 permits@cityoflakewood.us

Office use only:

Permit #: _____

Date rec'd: _____

Please refer to the residential permit checklist for additional submittal requirements.

FILL OUT ALL AREAS – IF NOT APPLICABLE, PLEASE ENTER N/A

PROJECT ADDRESS:	Parcel #:
APPLICANT:	Phone:
Address (City, State, Zip):	E-Mail Address:
OWNER:	Phone:
Address (City, State, Zip):	E-Mail Address:
LENDING AGENCY:	Phone:
Address (City, State, Zip):	E-Mail Address:
CONTRACTOR*:	Phone:
Address (City, State, Zip):	License #: Exp. Date:
Contractor must have a valid City of Lakewood business license prior to doing work in the City	

PROJECT DESCRIPTION: _____

_____

_____

During the plan review process, the building valuation will be evaluated. When necessary, the value of construction will be updated.

1st Floor (sq. ft.) _____	Garage: _____	**Customers Valuation**: _____
2nd Floor: _____	Carport: _____ Deck: _____	Property is served by: ◯ Sewer ◯ Septic
3rd Floor: _____	Retaining Wall (linear ft.) _____	
Basement: _____	Total Building Height _____	Power Company: _____

ZONING DISTRICT: **IS THIS A FUTURE ADULT FAMILY HOME?:** ◯ Yes ◯ No

Please outline # of fixtures below.

PLUMBING

____	sinks (kitchen/	____	clothes washer
____	utility) water	____	laundry drains
____	closet (toilet) tub/	____	hose bibs
____	shower lavatories	____	hot water tank (elec.)
____	(bath sink)	____	other _____
	dishwasher		

MECHANICAL

____	furnace < 100,000 btu	____	heat pump
____	furnace > 100,000 btu	____	air-conditioner
____	gas hot water tank	____	gas heater/stove
____	range/stove	____	gas fireplace/insert
____	oven (separate)	____	exhaust fans
____	thermostat(s)	____	gas piping outlets
____	other _____		

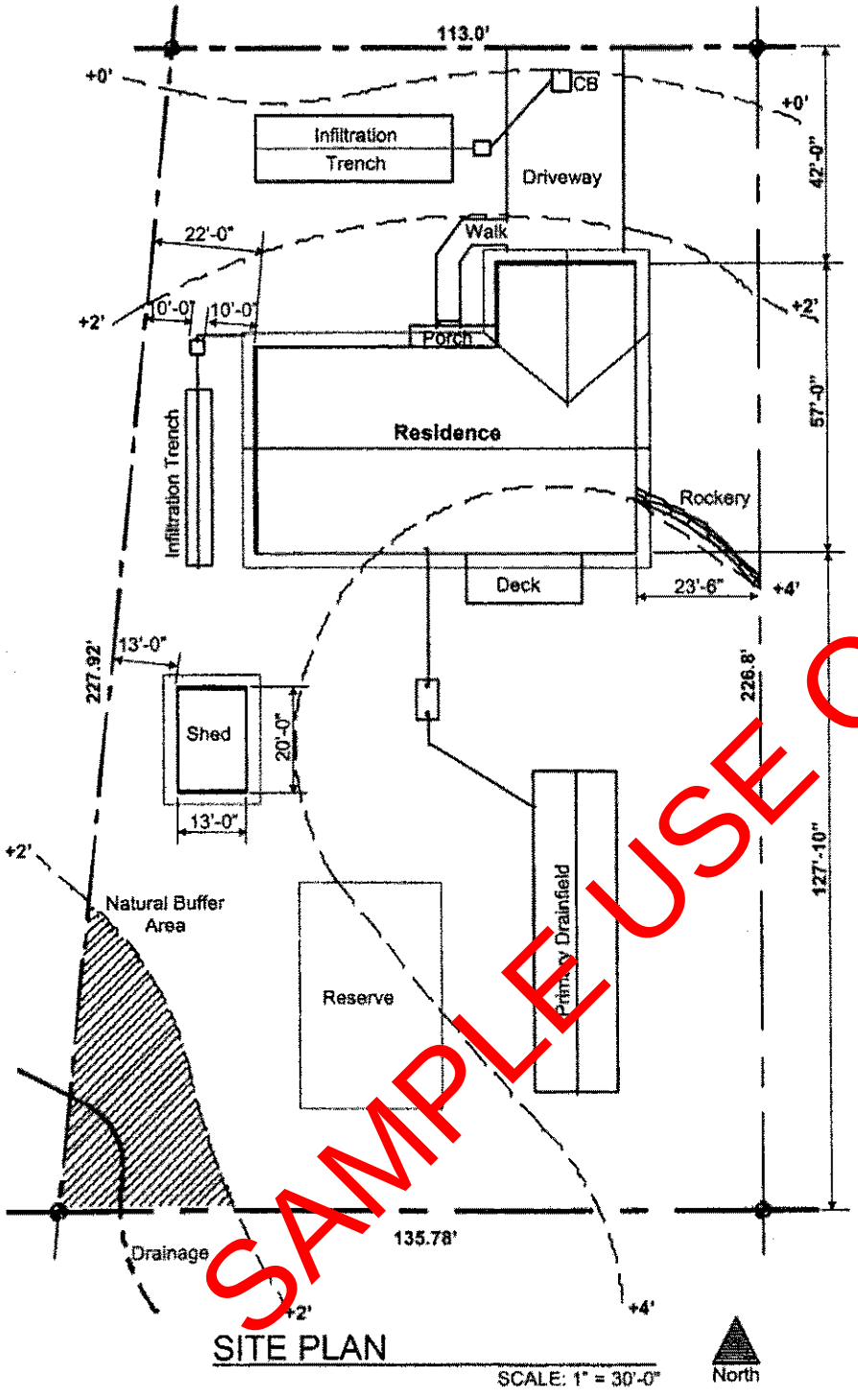
I hereby certify that the information provided is correct and that the construction on the above described property, the occupancy, and use will be in accordance with the laws, rules, and regulations of the State of Washington and the Lakewood Municipal Code. I agree to hold harmless the City of Lakewood as to any claim incurred as a result of this work.

Print Name: _____ ◉ Owner ◯ Agent ◯ Specify _____

Signature: _____ Date: _____

(Date must be within past 14 days)

SAMPLE SITE PLAN



CHECKLIST

- ❑ **Scale**
- ❑ **North Arrow**
- ❑ **Address and Parcel Number**
- ❑ **Other Structures**
- ❑ **Lot Dimensions**
  Including Street Names, Alleys and Driveways.
- ❑ **Building Footprint**
  Including Porches, Walks, Decks, Roof lines, Overhangs, Chimneys and Floor cantilevers.
- ❑ **Setback Measurements**
  Distances between property lines and structures including the driveway. Also, structure height.
- ❑ **Septic/Sewer**
  Location of septic system or sewer lines.
- ❑ **Easements**
  Including natural buffer areas, utilities and open spaces.
- ❑ **Surface Water**
  Including shorelines, wetlands, ponds, ditches and streams.
- ❑ **Site Contours**
  2-foot intervals relative to any fixed point on the site.
- ❑ **Retaining Walls and Fences**
  Including rockeries, bulkheads and proposed heights.
- ❑ **Trees**
  Show all trees greater than 6 caliper inches measured at 2 feet above grade. Mark all trees to be removed.

Updated: 12/2010

BACKFLOW PERMITS

PERMIT INFORMATION

A **LAKEWOOD WATER DISTRICT/CROSS CONNECTION CONTROL PROGRAM/WATER USE QUESTIONAIRE** MUST BE FILLED OUT AT THE TIME OF THE BUILDING PERMIT APPLICATION IN ORDER TO DETERMINE EXTENT OF BACKFLOW PREVENTION THAT MY BE REQUIRED, COMMERCIAL OR RESIDENTIAL.

ALL NEW COMMERCIAL CONSTRUCTION WILL REQUIRE PREMISE ISOLATION AT THE WATER METER OR PRIOR TO THE FIRST CONNECTION AT A MINIMUM.

A PERMIT WILL BE REQUIRED FOR EVERY BACKFLOW INSTALLATION, RELOCATION OR REPLACEMENT. WATER SERVICE MAY BE DISCONTINUED OR DENIED UNTIL ALL BACKFLOW PREVENTION REQUIREMENTS ARE MET.

PERMITS WILL ONLY BE AVAILABLE AT THE LAKEWOOD WATER DISTRICT OFFICE AT 11900 GRAVELLY LAKE DR SW, LAKEWOOD WA 98499. PHONE 253-588-4423.

IF A JOB IS IN PROGRESS **WITHOUT** A PERMIT, **WE WILL GIVE A MAXIMUM FORTY-EIGHT (48) HOURS TO OBTAIN THE PERMIT** OR A STOP WORK ORDER WILL BE ISSUED.

PERMITS ARE $65.00 FOR THE FIRST AND SECOND BACKFLOW PREVENTION ASSEMBLY, AND $32.50 FOR EACH ADDITIONAL ASSEMBLY. NO LIMIT ON THE QUANTITY.

COMPLETION OF THE PERMIT PROCESS REQUIRES THE FOLLOWING STEPS.

1. IT IS THE CUSTOMER'S RESPONSIBILITY TO HAVE ALL BACKFLOW PREVENTION ASSEMBLIES TESTED UPON INSTALLATION, RELOCATION OR REPLACEMENT. ONLY A WASHINGTON STATE DEPT. OF HEALTH CERTIFIED BACKFLOW ASSEMBLY TESTER (B.A.T.) IS QUALIFIED TO PERFORM THIS TEST. LAKEWOOD WATER DISTRICT CAN ASSIST IN FINDING QUALIFIED TESTERS.

2. AFTER TESTING IS COMPLETED AND A COPY OF A PASSING TEST REPORT IS AVAILABLE, CALL 253-588-4423 AND REQUEST AN INSPECTION FOR YOUR PERMIT. TO REQUEST AN INSPECTION, YOU WILL NEED THE PERMIT NUMBER AND ADDRESS TO SCHEDULE A MUTUALLY CONVENIENT TIME FOR THE INSPECTION. YOU MUST HAVE THE COMPLETED TEST REPORT AVAILABLE AT THE TIME OF INSPECTION.

3. ALL ASSEMBLIES ARE TO BE INSPECTED BY LAKEWOOD WATER DISTRICT TO ENSURE THAT THE PROPER ASSEMBLIES ARE CORRECTLY INSTALLED.

4. AFTER THE INSPECTION IS COMPLETED AND THE TEST HAS PASSED, THE PERMIT WILL BE SIGNED BY THE INSPECTOR AND A COPY WILL BE FORWARDED TO THE CUSTOMER DIRECTLY OR WILL BE MAILED TO YOU IF UNAVAILABLE.

   IF YOU HAVE ANY QUESTIONS PLEASE CONTACT LAKEWOOD WATER DISTRICT AT 253-588-4423.

LAKEWOOD WATER DISTRICT
CROSS CONNECTION CONTROL PROGRAM
WATER USE QUESTIONAIRE

To be completed by the applicant and returned with building permit application for each structure and/or irrigation/fire system where water service is requested from the District, commercial or residential.

Applicant/Project Name:	Phone:	Email:
Property Address:	City:	State: Zip:
Mailing Address:	City:	State: Zip:
Building Height (feet):	# of Floors Aboveground:	Rooftop Elevation:

Will the premise have or use any of the following items? Please mark ("X") the appropriate column for each numbered item. If not sure an item will be used, the backflow prevention requirement will be enforced as if it were, in fact, used. List other items not in the list below that may require backflow prevention on the back of this form.

	YES	NO	NOT SURE		YES	NO	NOT SURE
1 Air compressors				25 Fire sprinkler systems			
2 Air conditioning systems				26 Heat exchangers			
3 Aspirators, medical/lab				27 Heap pumps			
4 Autoclaves				28 Hot tubs			
5 Autopsy tables				29 Hydrotherapy baths			
6 Auxiliary water supply on the premises				30 Ice machines			
7 Boiler feed lines				31 Irrigation systems			
8 Booster or any other type of water pump				32 Industrial fluid systems			
9 Bottle washing equipment				33 Janitor sinks			
10 Car washing equipment				34 Laboratory equipment			
11 Chemical feeds for industrial process or equipment				35 Make up tanks			
12 Chlorinators				36 Photo developing sinks/tanks			
13 Commercial dishwashers				37 Pump prime lines			
14 Commercial laundry machines				38 Radiator flushing equipment			
15 Computer cooling lines				39 Sewer-connected equipment			
16 Cooling towers				40 Spas			
17 CO2 dispensing equipment				41 Steam-generating equipment			
18 Degreasing equipment				42 Sterilizers			
19 Dental equipment				43 Stills			
20 Dialysis equipment				44 Swimming pools			
21 Dye vats				45 Trap primers			
22 Etching tanks				46 Used or gray water systems			
23 Fermenting tanks				47 X-ray equipment			
24 Film processors							

DISTRICT USE ONLY

TO CCC DEPT. **CCCS REVIEW**

DEVICE REQUIRED: **RPBA** **RPDA** **DCVA** **DCDA** **NONE**
(Circle all that apply)

BFPA PERMIT #:

What is a Cross Connection?

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source. Briefly, a cross connection exists whenever the drinking water system is or could be connected to any nonpotable source (plumbing fixture, equipment used in any plumbing system). Pollutants or contaminants can enter the safe drinking water system through uncontrolled cross connections when backflow occurs. Backflow is the unwanted flow of non-potable substances back into the consumer's plumbing system and/or public water system (i.e., drinking water).

There are two types of backflow: backsiphonage and backpressure. Backsiphonage is caused by a negative pressure in the supply line to a facility or plumbing fixture. Backsiphonage may occur during waterline breaks, when repairs are made to the waterlines, when shutting off the water supply, etc. Backpressure can occur when the potable water supply is connected to another system operated at a higher pressure or has the ability to create pressure, etc. Principal causes are booster pumps, pressure vessels, elevated plumbing, etc. Backflow preventers are mechanical devices designed to prevent backflow through cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements. Backflow Prevention, or Cross Connection Control is for protection of water quality and is regulated by WAC 246-240-290 and administrated and enforced by the Lakewood Water District Resolution # B-1287.

Why Be Concerned?

Most water systems in the United States have good sources of water and/or sophisticated treatment plants to convert impure water to meet drinking water standards. Millions of dollars are spent to make the water potable before it enters the distribution system so most water purveyors think that their supplies are not in jeopardy from this point on. Studies have proven this to be wrong. Drinking water systems may become polluted or contaminated in the distribution system through uncontrolled cross connections. Cross connections are installed each day in the United States because people are unaware of the problems they can create. Death, illness, contaminated food products, industrial and chemical products rendered useless are some of the consequences of such connections. As a result, many hours and dollars are lost due to cross connections.

Where are Cross Connections Found?

Cross connections are found in all plumbing systems. It is important that each cross connection be identified and evaluated as to the type of backflow protection required to protect the drinking water supply. Some plumbing fixtures have built-in backflow protection in the form of a physical air gap. However, most cross connections will need to be controlled through the installation of an approved mechanical backflow prevention device or assembly.

Every water system has cross connections. Plumbing codes and State drinking water regulations require cross connections to be controlled by approved methods (physical air gap) or approved mechanical backflow prevention devices or assemblies. The various types of mechanical backflow preventers include: reduced pressure backflow assembly (RPBA), reduced pressure detector assembly (RPDA), double check valve assembly (DCDA), double check detector assembly (DCDA), pressure vacuum breaker assembly (PVBA), spill resistant vacuum breaker assembly (SVBA). Other products such as atmospheric vacuum breaker (AVB) or hose connection vacuum breaker are backflow devices but are not approved, testable, assemblies, and are not accepted by Lakewood Water District.

For a backflow preventer to provide proper protection, it must be approved for backflow protection, designed for the degree of hazard and backflow it is controlling, installed correctly, tested annually by a State certified tester, and repaired as necessary. Some States require mandatory backflow protection on certain facilities where high health hazard-type cross connections are normally found.