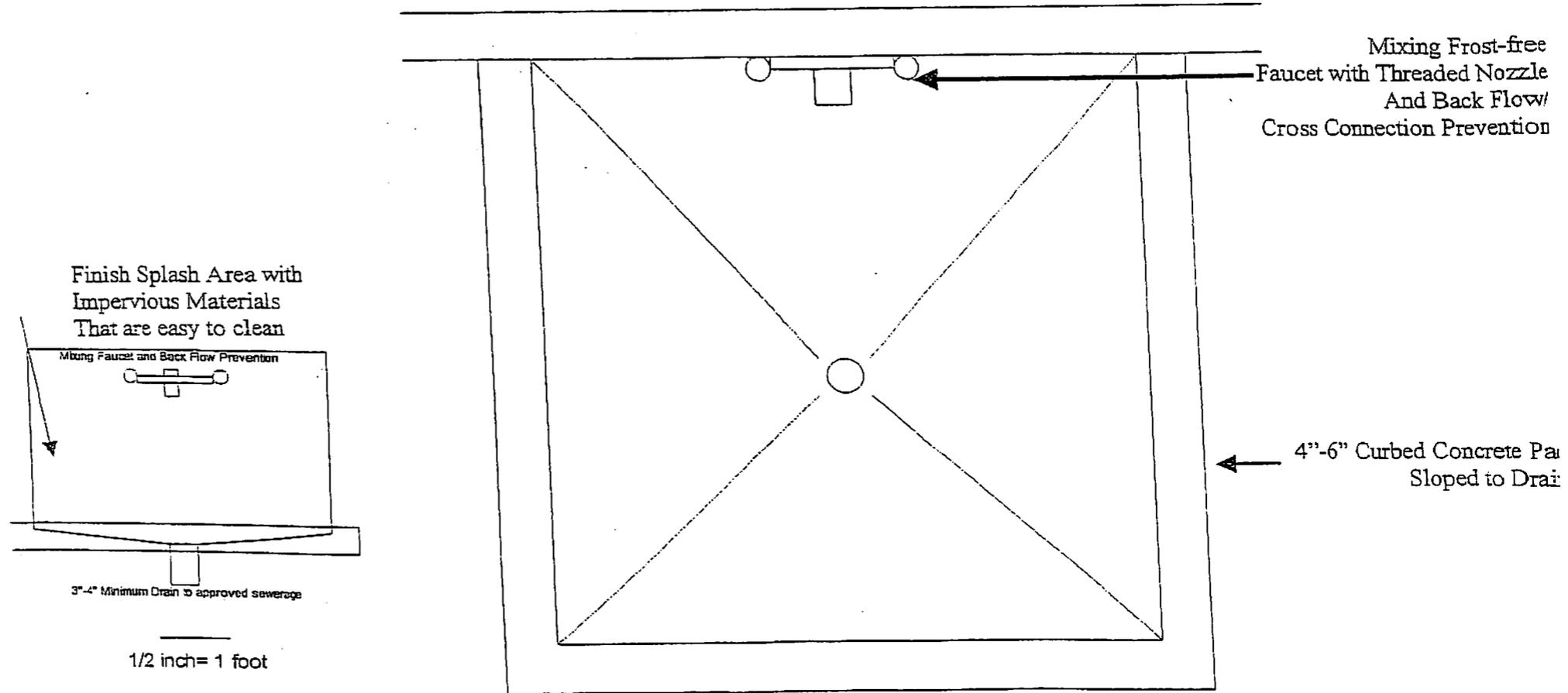


Recommended 4' x 4' Car Wash Construction Standards



Revised February 28, 2006

1 inch = 1 foot

Enter the make, model and Final Rinse Usage in gallons per hour (GPH) for dishmachines	Make	Model	Final Rinse Usage (GPH) Found in "Dishmachine Specs" sheet below or on manufacturer's spec sheet	Gallons Per Hour (GPH)
Dishmachine #1				0
Dishmachine #2				0
Enter the quantity of pre-rinse units	Quantity			Gallons Per Hour (GPH)
Pre-rinse				0
Dishmachines are calculated at 70% of the final rinse usage specified by the manufacturer. Pre-rinses are calculated at 45 GPH			Total	0
Recovery Rate Needed (GPH)				0
Water Heater Input (BTU or kW) Needed:				
Gas Water Heater		Electric Water Heater		
0,000 BTU at 80°F rise		0 kW at 80°F rise		
0,000 BTU at 90°F rise		0 kW at 90°F rise		
0,000 BTU at 100°F rise		0 kW at 100°F rise		

Storage Tank Water Heater Sizing Calculator

Developed by the Plan Review Unit of the Environmental Health Services Section
NC Division of Environmental Health

Facility Name:	
Address:	

EQUIPMENT	Description	Number of compartments	(inches)			GPH CALCULATED
Enter the description, and number, and size of compartments for each sink below.			Length	Width	Depth	Gallons Per Hour (GPH)
			Largest Sink #1			
Sink #2						0
Sink #3						0
Bar sink						0
Sinks are calculated at 75% capacity					Total	0

Enter type of prep sink and number of sink compartments for each sink below	Type of prep sink (vegetable, meat, seafood)	Number of compartments	Gallons Per Hour (GPH)
Prep sink #1			0
Prep sink #2			0
Prep sink #3			0
Prep sinks are calculated at 5 gallons per compartment			Total

Enter the quantity of equipment below	Quantity	Gallons Per Hour (GPH)
Hand sinks		0
Can wash		0
Mop sink		0
Hose reel		0
Clothes washer		0

Enter a description and estimated gallon per hour (GPH) usage for other equipment below	Description	Estimated gallons per hour (GPH) usage	Gallons Per Hour (GPH)
Other Equipment			0
Hand sinks and mop sinks are calculated at 5 GPH each, can washes at 10 GPH each. Hose reels are calculated at 5 GPH, clothes washers at 15 GPH, other equipment at the usage entered			Total

WATER HEATER SIZING

Water Heater Calculation Worksheet					
Equipment	Quantity	Times	Size		GPH
One-Comp. Sink (See Note)		X	x x	=	
Two-Comp. Sink (See Note)		X	x x	=	
Three-Comp. Sink (See Note)		X	x x	=	
Four-Comp. Sink (See Note)		X	x x	=	
One-Comp. Prep Sink		X	5 GPH	=	
Two-Comp. Prep Sink		X	10 GPH	=	
Three-Comp. Prep Sink		X	15 GPH	=	
Three Comp. Bar Sink (See Note)		X	x x	=	
Four Comp. Bar Sink (See Note)		X	x x	=	
Hand Sink		X	5 GPH	=	
Pre-Rinse		X	45 GPH	=	
Can Wash		X	10 GPH	=	
Mop Sink		X	5 GPH	=	
Dishmachine		X	GPH = 70% of "Final Rinse Usage"	=	
Cloth Washer		X	15 GPH	=	
Hose Reel		X	5 GPH	=	
Other Equipment		X		=	
Other Equipment		X		=	
Gallons per hour (GPH) Recovery Rate needed (based on 100 ⁰ F temperature rise)				Total	

Note:	GPH = (Sink size in cu. in.) x (7.5 gal./cu. ft.) x (# compartments x .75 capacity)
GPH Calculation for Sinks	1,728 cu. in./cu. ft.
Short version for above	GPH = (Sink size in cu. in.) x (# compartments) x (.003255/cu. in.) Example: (24" x 24" x 14") x (3 compartments) x (.003255) = 79 GPH

GARBAGE AND REFUSE

1. Will refuse be stored inside? Yes No
If so, where: _____
2. Provision for garbage disposal: Dumpster Compactor
3. Provision for cleaning dumpster/compactor: On-site Off-site
If off-site cleaning, provide name of cleaning contractor: _____
4. Describe location for storage of recyclables: (cooking grease, cardboard, glass, etc.)

CLEANING FACILITIES

1. Specify location and size of area for washing of garbage cans and storage of mops:

2. Is a separate mop basin provided? Yes No
If so, describe type and location: _____
3. Indicate location of cleaning chemical system and chemical storage:

INSECT AND RODENT

1. Are all outside doors self-closing with rodent-proof flashing? Yes No
2. How is fly protection provided on all outside doors?
Self-closing door Fly Fan Screen Door
3. How is fly protection provided on windows?
Self-closing Fly Fan Screening
4. Indicate location of insecticide/rodenticide storage:

5. Location of clean linen storage:

6. Location of dirty linen storage:

DISHWASHING FACILITIES

a. Hand dishwashing

- 1. Number of sink compartments: _____
 Size of sink compartments (inches): Length: _____ Width: _____ Depth: _____
 Length of drainboards (inches): Right: _____ Left: _____
- 2. What type of sanitizer will be used?
 Chlorine Iodine Quaternary Ammonium Hot Water Other (specify): _____

b. Mechanical dishwashing

- 1. Will a Dishmachine be used? Yes No
 Dishmachine manufacturer and model: _____
- 2. Type of sanitization: Hot water (180°F) Chemical

c. General

- 1. Describe the procedure of how cooking equipment, cutting boards, counter tops and other food contact surfaces that cannot be submerged in sinks or put through a dishwasher will be cleaned and sanitized?

- 2. Describe location and type (drainboards, wall-mounted or overhead shelves, stationary or portable racks) of air drying space

 Provide total square feet of air drying space: _____

HANDWASHING/TOILET FACILITIES

Is there a hand washing sink (with soap and hand-drying device) in each food preparation and warewashing area? Yes No

EMPLOYEE AREA

Is space provided for employee's personal items? Yes No
If so, describe location:

WATER SUPPLY- SEWAGE

1. Is water supply: Municipal Well Is sewer: Municipal Septic
2. Will ice: be made on premises or purchased
3. Water heater make and model: _____
4. Water heater storage capacity: _____ gallons.
5. Water heater recovery rate (gallons per hour at 100°F temperature rise): ___ gallons per hour.
(See Water Heater Calculation Worksheet – Page 9 to calculate recovery rate needed)
6. Check the appropriate box for indicating equipment drains:

Plumbing Fixtures	Indirect Waste			Direct Waste
	Floor sink	Hub Drain	Floor Drain	
Dishwasher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Garbage Grinder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice Machine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice Storage Bins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food Prep Sinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utensil/Pot Wash Sinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steam Tables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dipper Wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refrigeration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potato Peeler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. PORK and/or RED MEAT PREPARATION PROCEDURE

- a. Will meat be washed, rinsed or otherwise handled prior to use? Yes No
- b. Is there a location used for washing, rinsing or handling pork and/or red meat? Yes No
- c. Will it be used for other operations? Yes No

Indicate location of pork/red meat washing or handling (cutting, marinating, aging, etc.) equipment and describe the procedure. Include time of day and frequency of pork and/or red meat preparation, and menu items that contain pork/red meat.

DRY STORAGE

Provide information on the frequency of deliveries and the expected gross volume that is to be delivered each time: _____

Provide total square feet of shelf space dedicated to dry storage: _____

Where will dry goods be stored? _____

FINISH SCHEDULE

Indicate floor, wall and ceiling finishes (i.e., quarry tile, stainless steel, vinyl coated acoustic tile)

Area	Floor	Base	Walls	Ceiling
Kitchen				
Bar				
Food Storage				
Dry Storage				
Toilet Rooms				
Dressing Rooms				
Garbage & Refuse Storage				
Mop Service Basin Area				
Other				
Other				

FOOD PREPARATION PROCEDURES

The food preparation procedures should include:

- Types of food prepared or handled
- Time of day food is prepared or handled
- Equipment used for preparation or handling

If your company has developed food preparation procedures, they should be submitted.

1. PRODUCE PREPARATION PROCEDURE

- a. Will produce be washed, rinsed or otherwise handled prior to use? Yes No
- b. Is there a location used for washing, rinsing or handling produce? Yes No
- c. Will it be used for other operations? Yes No

Indicate location of produce washing or handling equipment and describe the procedure. Include time of day and frequency of produce preparation, and menu items that contain produce.

2. SEAFOOD PREPARATION PROCEDURE

- a. Will seafood be washed, rinsed or otherwise handled prior to use? Yes No
- b. Is there a location used for washing, rinsing or handling seafood? Yes No
- c. Will it be used for other operations? Yes No

Indicate location of seafood washing or handling (cutting, marinating, shelling, shucking, etc.) equipment and describe the procedure. Include time of day and frequency of seafood preparation, and menu items that contain seafood.

3. POULTRY PREPARATION PROCEDURE

- a. Will poultry be washed, rinsed or otherwise handled prior to use? Yes No
- b. Is there a location used for washing, rinsing or handling poultry? Yes No
- c. Will it be used for other operations? Yes No

Indicate location of poultry washing or handling (cutting, marinating, etc.) equipment and describe the procedure. Include time of day and frequency of poultry preparation, and menu items that contain poultry.

THAWING

Indicate by checking the appropriate box how potentially hazardous food (PHF) in each category will be thawed. If "Other" is checked indicate type of food: _____

Thawing Process	Meat	Seafood	Poultry	Other
Refrigeration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Running Water less than 70 ⁰ F (21 ⁰ C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooked Frozen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microwave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HOLDING

How will hot potentially hazardous food (PHF) be maintained at 140⁰ F (60⁰ C) or above during holding for service? Indicate type and number of hot holding units.

How will cold potentially hazardous food (PHF) be maintained at 45⁰ F (7⁰ C) or below during holding for service? Indicate type and number of cold holding units.

List any food that will be held between 45⁰F (7⁰C) and 140⁰F (60⁰C) for any of the following that apply, and indicate how long the food will be held in each category.

STORAGE:

DISPLAY:

SERVICE:

COOLING

Indicate by checking the appropriate box how potentially hazardous food (PHF) will be cooled to 45⁰ F (7⁰ C) within 6 hours. If "Other" is checked indicate type of food: _____

Cooling Process	Meat	Seafood	Poultry	Other
Shallow Pans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice Baths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rapid Chill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How will ingredients for cold ready-to-eat foods such as tuna, mayonnaise and eggs for salads and sandwiches be pre-chilled before being mixed and/or assembled? _____

Hours of Operation:

Sun ____ Mon ____ Tue ____ Wed ____ Thu ____ Fri ____ Sat ____

Projected number of meals to be served between product deliveries:

Breakfast: ____ Lunch: ____ Dinner: ____

Number of seats: ____ Facility total square feet: ____

Projected start date of construction: ____ Projected completion date: ____

TYPE OF FOOD SERVICE:

CHECK ALL THAT APPLY

- Restaurant
- Food Stand
- Drink Stand
- Commissary
- Meat Market
- Other (explain): ____
- Sit-down meals
- Take-out meals
- Catering
- Single-service (disposable): Plates Glassware Silverware
- Multi-use (reusable): Plates Glassware Silverware

Check categories of Potentially Hazardous Food (PHF) to be prepared and served:

1. Meat
2. Seafood
3. Poultry
4. Other (explain): ____

COLD STORAGE

Provide the method used to determine cold storage requirements: ____

Provide total cubic-feet of space dedicated to walk-in cold storage:

- a) Walk-in Refrigeration storage ____
- b) Walk-in freezer storage ____

Provide total cubic-feet of space dedicated to reach-in cold storage:

- a) Reach-in refrigeration storage ____
- b) Reach-in freezer storage ____

Number of refrigeration units: ____

Number of freezer units: ____

**N.C. Department of Environment and Natural Resources
Division of Environmental Health
Plan Review Unit**

Food Establishment Plan Review Application

Type of Construction: NEW REMODEL
Name of Establishment: _____
Address: _____
City: _____ Zip Code: _____ County: _____
Phone (if available): ___-___-___ Fax: ___-___-___

.....
Owner or Owner's Representative: _____
Address: _____
City & State: _____ Zip Code: _____
Telephone: ___-___-___ Fax: ___-___-___
E-mail Address: _____

.....
Applicant: _____
Address: _____
City & State: _____ Zip Code: _____
Telephone: ___-___-___ Fax: ___-___-___
E-mail Address: _____
Title (owner, manager, architect, etc.): _____

I hereby certify that the information in this application is correct, and I understand that any deviation without prior approval from this Health Regulatory Office may nullify plan approval.

Signature: _____
(Owner or Responsible Representative)

**RICHMOND COUNTY
HEALTH DEPARTMENT**
127 Caroline Street Rockingham, NC 28379



Dr. Tommy Jarrell, Health Director
Phone: (910) 997-8300
Fax: (910) 997-8336
E-Mail: tommy.jarrell@richmondnc.com
Website: publichealth.southernregionalahec.org/Richmond

5. Wastewater information indicating the placement and direction of piping to include floor drains, floor sinks, grease interceptor location, and complete toilet specifications.
6. Lighting Requirements:
 - (a) food contact surfaces = 50 foot-candles (540 lux)
 - (b) food preparation and utensil washing areas = 50 foot-candles (540 lux)
(lighting in utensil washing area and on food contact surfaces measured at 30 inches above the floor and/or at the work levels)
 - (c) all other areas = 10 foot-candles (110 lux)
7. All food service/kitchen equipment should be NSF International (NSF) listed, Underwriters Laboratories Inc. (UL) classified for sanitation, or if not NSF or UL listed/classified, be constructed to meet NSF/ANSI standards.
8. Facilities shall be provided for the washing and storage of all garbage cans and mops. The cleaning facility shall include a combination faucet, hot and cold water with backflow protection, a threaded nozzle and a curbed impervious pad. The minimum recommended size is 48 x 48 inches, with walls that are easily cleanable and non-absorbent.
9. All items in rooms where food or single-service items are stored shall be at least 12 inches above the floor when placed on stationary storage units or at least 6 inches above the floor when placed on portable storage units, or otherwise arranged to permit through cleaning.



Plan Review Checklist

Before beginning construction, renovation, or operation of any facility that sells potentially hazardous foods, you must obtain approval from the Health Department. Potentially hazardous foods include, but are not limited to, milk and milk products, meat, fish, poultry, cheese, raw seed sprouts, melons, and a number of vegetable products.

If you are building a restaurant or opening one in a building, you must submit plans for review and approval. In addition, plans must be submitted prior to construction of changes in the dimensions of food preparation areas, seating capacity, or the addition of rooms to existing food service facilities.

The following items must be submitted for review:

1. A completed plan review application, a menu indicating the items to be prepared/served, and manufacturer specification sheets for each piece of equipment.
2. A site plan, which identifies facility property lines, parking areas, and the location of outside solid waste and grease storage containers. Provide a copy of solid waste and grease rendering contacts.
3. Details indicating equipment design, layout, and placement. The drawing must be accurately drawn to scale and the scale used identified on the plan. The plans and specifications should include:
 - a. Location of all food service equipment with each piece of equipment clearly labeled with its common name must be specified on the plans.
 - b. Plans should include separate food preparation sinks, when menu dictates, labeled and located to prevent cross-contamination of raw and ready to eat foods.
 - c. Refrigeration and hot holding equipment for potentially hazardous food (PHF) clearly designated.
 - d. Hand washing facilities designated for food preparation areas, dishwashing area, and toilet facilities.
 - e. Air-drying shelving.
 - f. Cabinets/Shelves for storing toxic chemicals.
 - g. Complete finish schedule for floors, walls, and ceilings identifying the materials, color, and composition of these surfaces.
 - h. Finish schedule for each room, including floors, walls, and ceilings and covered juncture bases.
 - i. Auxiliary areas such as storage rooms, garbage rooms, toilets, basements and/or cellars used for storage of food preparation.
4. Complete plumbing details, which includes type of water supply and wastewater disposal, water supply piping, backflow prevention devices, and water heater (hot water generating equipment) specifications.