Attachment 12

MCWD Comments Letter and Town response

Mammoth Community Water District
Post Office Box 597
1315 Meridian Blvd.
Mammoth Lakes, CA 93546
(760) 934-2596

December 9, 2009

VIA E-MAIL
Town of Mammoth Lakes
Community Development Department
Pam Kobylarz, Associate Planner
P.O. Box 1609
Mammoth Lakes, CA 93546

Subject: Comments on the Vesting Tentative Tract Map 09-003 (Old Mammoth Place)

Dear Ms Kobylarz,

Thank you for the opportunity to comment on the Old Mammoth Place Vesting Tentative Tract Map 09-003. We appreciate the opportunity to work with the Town to create a sustainable community and submit the following comments. Please call Irene Yamashita at extension 314 if you have questions regarding the substance of the comments.

Assessing water demand from new developments

The completion of a staff conformance analysis on the proposal to accompany the Request for Comments would be extremely helpful to better understand project components. The project has changed significantly from that presented in the Clearwater Specific Plan Final EIR as shown in the table below. Residential seasonal condominium units have been increased by 44%, and total commercial/conference space has increased by 32%. The District provided comments to the Specific Plan Draft EIR on July 20, 2006 and on September 27, 2006 to Eddie Torres of RBF Consulting regarding water supply. The comments noted that the increased water demand from this project (as described in 2006) was not anticipated in the 2005 General Plan Draft EIR and thus not included in the District's 2005 Urban Water Management Plan. The July 20, 2006 letter cautioned "The District has estimated a shortfall in water supply at buildout, as projected in the October General Plan Draft EIR in multiple dry years which would be exacerbated by this project."

The changes to the proposed project reasonably infer a substantial change in water and/or wastewater service demands; however we cannot confirm that with available information. In addition, the proposed project plans shows several water features. The memorandum provided with the Request for Comments letter, dated October 14, 2009, describes the construction of recirculating systems to conserve water. This project component is supported by the District; however, the design of the water features may cause high evaporation rates, and would require the use of potable water for makeup.

Project components	Project Dec. 2006[1]	Project July 2008[1]	Current Proposal
Residential Medium Density – Seasonal condominiums	339 units	308 units (480 rooms)	488 rooms
Residential Medium Density – Year Round (Employee Housing)	43 units	32 units	Not specified
Restaurant	8,000 s.f.	5,000 s.f.	40,000 s.f.
Retail	20,205 s.f.	13,000 s.f.	
Recreation	0	11,900 s.f.	Not specified
Conference	0	8,000 s.f.	10,000 conference and banquet facilities
Spa and Wellness Center			5,000 s.f.
Parking	740 spaces	675 spaces	subterranean

1. Source: Final project EIR, July 2008

The District believes the proposed project now meets the requirements for completion of an SB 610 Water Supply Assessment (WSA). Although the number of dwelling units proposed is below 500, the development would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project (State Water Code Section 10912 (7)). The Estimated Water Demand provided by the District for the project's Specific Plan EIR cannot currently be verified as equivalent to the proposed project's water demands.

Implementation of 2005 General Plan Update EIR Mitigation Measure 4.11-1

The Town of Mammoth Lakes 2005 General Plan Update EIR (General Plan EIR) includes the mitigation measure, 4.11-1, that requires,

> The Town shall not approve new development applications that would result in a water demand in excess of available supplies based on the multiple drought year scenario as presented above. The Town shall work with MCWD to ensure that land use approvals are phased in tandem with the development of necessary water supply sources. This shall be made a policy of the Updated General Plan

This EIR mitigation measure is applied in the context of buildout conditions and not an undetermined intermediate planning horizon between the specific project's completion and buildout as defined by the General Plan EIR. Therefore, the water supply conclusions for any given project are most meaningfully evaluated under the buildout conditions, as reflected in the AB-610 requirements.

The District requests clarification on how mitigation measure 4.11-1 is intended to be implemented to address any cumulative water supply impacts caused by the revised project. Is the "Request for Comments" process the "working together" description in the mitigation measure? If so, how does the District's conclusion that the project, as proposed in 2006, would exacerbate a shortfall in water supply in multiple dry years at buildout inform the Town's decision on land-use approvals?

The District has received a request for comments from the Town on two projects this year. Both proposed projects at least double the densities described in the General Plan EIR that the District used as the basis for future water supply planning. The method of requesting comments on individual projects does not provide a complete review of the future water supply uncertainty developing as a

result of multiple projects deviating from the General Plan EIR. The current process does not address cumulative impacts in a reasonable manner, because there is not a set land use condition under which to assess the cumulative impacts. Therefore the District's resource projections are based on a "moving target" of land use plans.

Water Supply Development

The District has been successful at constructing the necessary infrastructure to supply a limited amount (400 ac-ft) of recycled water and developed a new groundwater production well since the 2005 Urban Water Management Plan (UWMP) was completed. This new production well was necessary as a backup well to ensure the reliability of our current groundwater water supply and should not be considered as increasing net current groundwater supplies. These and any future supply and infrastructure improvements are based on meeting the demand projections of the 2005 UWMP, which in turn is based on the Town's 2005 General Plan land use, so they do not reflect net increases in demand that may add to forecasted supply shortages.

In summary, the District requests that a Water Supply Assessment be conducted that compares the current project with the parcel(s) density described in the General Plan EIR. The WSA should also include an estimate of the evaporation rates of the multiple water features of the proposed project and determine whether water efficient technologies can be implemented to reduce water demand to the densities proposed in the General Plan EIR. The District holds the provision of a secure water future for the Mammoth Lakes community as a top priority; therefore, the District would like to discuss the Town's perspective on how to implement the cumulative water supply impact mitigation measure (4-11.1) in the 2005 General Plan Update EIR. Thank you again for the opportunity to provide comments on this project.

Sincerely,

Irene Yamashita
Public Affairs and Environmental Specialist

RBF CONSULTING

MEMORANDUM

To: Pam Koblylarz, Town of Mammoth Lakes **JN** 10-107225

From: Eddie Torres and Charles Marr, RBF Consulting

Date: February 18, 2010

Subject: Old Mammoth Place – Water Demand Estimate

On December 9, 2009, the Mammoth Community Water District (MCWD) provided comment on the Vesting Tentative Tract Map 09-0036 (Old Mammoth Place Project). Pursuant to this letter and further consultation with Town staff and the MCWD, the Town has requested that RBF provide a Water Demand Estimate for the project.

Methodology

This estimate is based on the *SB610 Water Supply Assessment for the Mammoth Crossing Project*, dated March 14, 2008. The analysis is also supplemented with water supply data provided by the MCWD for total water usage on the project site in 2003, which included similar water meter readings for land uses similar the existing on-site uses (i.e., restaurant and motel uses). The following proposed land uses were considered for this estimate:

- Condominium Hotel Units: 332 units (488 rooms)
- Workforce Housing Units: 8 units
- Restaurant Uses: 17,361 sf
- Commercial Uses: 19,603 sf
- Conference Uses: 9,582 sf
- Spa: 4,504 sf
- Pool: 1,250 sf
- Water Features: 6,100 sf

Findings

Existing Water Demand Estimate at the Project Site

The current water demands within the Project site can be estimated as follows:

- 141 Condo Hotel Units x 80 gallons per day (gpd)/unit = 11,280 gpd
- 11,948 square feet of restaurant x 580 gpd/1000 sf = 6,930 gpd
- Total = 18,210 gpd

Baseline Old Mammoth Place Water Demand Estimate

Based on Table 1, *Old Mammoth Place – Water Demand Estimate*, the proposed Old Mammoth Place Project is estimated to have a daily water demand of 45,233 gallons, or an annual water usage of 16.51 million gallons (50.7 acre feet). Considering the existing 18,210 gpd, the net (increased) water demand for the proposed project is 27,023 gpd.

Water Efficiency Measures

The Letter prepared by Beaudin Ganze Consulting Engineers (BGCE), dated January 27, 2010 (refer to Attachment A), identifies the potential impacts to estimated project water demands based on expected water usage efficiency. The information and data provided in the BGCE letter appears credible and accurate based on a review by RBF Consulting. This analysis assumes the fixture flows presented in the letter are equivalent to the usage factors used in Table 1. The attached Table 2, *Old Mammoth Place Water Demand Estimate – Expected Water Use Efficiency*, is an estimate of the proposed project's water demands based on the LEED Silver-certification. Upon review of the BGCE letter, this analysis assumes that the Town will require the use of water fixtures that will use 20 percent less water for all non-irrigation uses, and 50 percent less water for landscape irrigation.

Old Mammoth Place Water Demand Estimate With Water Efficiency Measures

The estimated average project water demand with Silver-certification is 36,076 gpd. Considering the existing 18,210 gpd, the net (increased) water demand for the proposed project (with water efficiency measures incorporated) is **17,866 gpd**, or the equivalent of approximately 72 single family dwelling units, as calculated using MCWD standard usage factor for single-family dwellings of 250 gpd/DU.

Water Supply Assessment Requirements

The Senate Bill 610 legislation has several methods to define a "project", including any development "that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project". Because the OMP Project is considered a mixed use development, other definitions may apply. Section 10912 of the law includes consideration of 'shopping center or business establishment', 'commercial office' and 'hotel or motel'. If standard MCWD factors are applied to each of the project's proposed land uses, then these definitions calculate threshold average water demands between 37,500 gpd and 85,000 gpd. Because the net OMP Project demand is significantly less than demands of these potentially applicable project definitions, the Old Mammoth Place Project should not require preparation of a Water Supply Assessment. In addition, the BGCE letter concludes that, with LEED Silver-certification, the OMP will use up to 18 percent less water than the proposed land uses of the Clearwater Specific Plan.

Comparison of Old Mammoth Place to the Clearwater Specific Plan

Based on *The Clearwater Specific Plan Environmental Impact Report (EIR)*, the Clearwater Specific Plan projected a net estimated average water demand of 28,409 gallons per day. The net (increased) water demand for the proposed project (with water efficiency measures incorporated) is 17,866 gpd (approximately 10,543 fewer gpd than that considered for The Clearwater Specific Plan, as analyzed in the EIR).

Tables
Table 1 – Old Mammoth Place Water Demand Estimate – Current Baseline
Table 2 – Old Mammoth Place Water Demand Estimate – Expected Water Use Efficiency

Attachments
A – Old Mammoth Place Domestic Water Consumption Impacts

Table 1

Old Mammoth Place

Water Demand Estimate - Current Baseline

land use	unit count	Usage Factor *	Average Daily Water Usage	Annual Water Usage	
Condo Hotel	332 units	80 gpd/unit [1]	26,560 gal	9.69 MG	29.7 AF
Workforce Housing	8 DUs	170 gpd/DU [2]	1,360 gal	0.50 MG	1.5 AF
Restaurant	17361 sf	580 gpd/1000sf [3]	10,069 gal	3.68 MG	11.3 AF
Commercial	19603 sf	150 gpd/1000sf [4]	2,940 gal	1.07 MG	3.3 AF
Conference	9582 sf	125 gpd/1000sf [5]	1,198 gal	0.44 MG	1.3 AF
Spa	4504 sf	435 gpd/1000sf [6]	1,959 gal	0.72 MG	2.2 AF
Pool	1250 sf	780 gpd [6]	780 gal	0.28 MG	0.9 AF
Water Features/Irrigation	6100 sf	60 gpd/1000sf [7]	366 gal	0.13 MG	0.4 AF
Total			**45,233 gal**	**16.51 MG**	**50.7 AF**

* Assumes this is equivalent to "Current Baseline" fixture flows for *Water Efficiency Prerequisite 1: Water Use Reduction* , Beaudin Ganze Consulting Engineers, 1/27/10.

[1] Usage factor for "Condo Hotel" as calculated from Mammoth Crossing WSA demand estimate, provided by MCWD, and assumed to account for occupancy rate.

[2] Usage factor for "Condo" as calculated the Mammoth Crossing WSA demand estimate.

[3] Usage factor for "Restaurant" as calculated from Mammoth Crossing WSA.

[4] Usage factor for "General Commercial" as calculated from the Mammoth Crossing WSA demand estimate.

[5] Average usage factor for "Conference Center" as calculated from the Mammoth Crossing WSA demand estimate.

[6] Average usage factor for "Pool/Spa" as calculated from the Mammoth Crossing WSA demand estimate.

[7] Assumes standard arid-region evaporation - 52 inches/year - for 6 months.

Table 2

Old Mammoth Place

Water Demand Estimate - Expected Water Use Efficiency

land use	unit count	Usage Factor *	Average Daily Water Usage	Annual Water Usage	
Condo Hotel	332 units	64 gpd/unit [1]	21,248 gal	7.76 MG	23.8 AF
Workforce Housing	8 DUs	136 gpd/DU [2]	1,088 gal	0.40 MG	1.2 AF
Restaurant	17361 sf	464 gpd/1000sf [3]	8,056 gal	2.94 MG	9.0 AF
Commercial	19603 sf	120 gpd/1000sf [4]	2,352 gal	0.86 MG	2.6 AF
Conference	9582 sf	100 gpd/1000sf [5]	958 gal	0.35 MG	1.1 AF
Spa	4504 sf	348 gpd/1000sf [6]	1,567 gal	0.57 MG	1.8 AF
Pool	1250 sf	624 gpd [7]	624 gal	0.23 MG	0.7 AF
Water Features/Irrigation	6100 sf	30 gpd/1000sf	183 gal	0.07 MG	0.2 AF
Total			**36,076 gal**	**13.17 MG**	**40.4 AF**

* Based on water efficiency percentage as stated in *Water Efficiency Prerequisite 1: Water Use Reduction (Beaudin Ganze Consulting Engineers)* - 20% for commercial and residences, 50% for landscape irrigation.

[1] 0.80 x Usage factor for "Condo Hotel" as calculated from Mammoth Crossing WSA demand estimate, provided by MCWD, and assumed to account for occupancy rate.

[2] 0.80 x Usage factor for "Condo" as calculated the Mammoth Crossing WSA demand estimate.

[3] 0.80 x Usage factor for "Restaurant" as calculated from Mammoth Crossing WSA.

[4] 0.80 x Usage factor for "General Commercial" as calculated from the Mammoth Crossing WSA demand estimate.

[5] 0.80 x Average usage factor for "Conference Center" as calculated from the Mammoth Crossing WSA demand estimate.

[6] 0.80 x Average usage factor for "Pool/Spa" as calculated from the Mammoth Crossing WSA demand estimate.

[7] 0.50 x standard arid-region evaporation - 52 inches/year - for 6 months.

BEAUDIN GANZE
consulting engineers, inc.

January 27, 2010

Ms. Pam Kobylarz
Associate Planner
Town of Mammoth Lakes
Community Development
PO Box 1609, Mammoth Lakes, CA 93546

RE: Old Mammoth Place – Domestic Water Consumption Impacts

Dear Ms. Kobylarz:

Beaudin Ganze Consulting Engineers (BGCE) has been providing sustainable design, consulting, and commissioning services throughout the United States for over 15 years. We have been heavily involved with the USGBC and the LEED programs, since their inception, and have been involved in over 100 LEED registered projects, of which more than 20 have received certification at all levels. With offices based in both the Rocky and Sierra Mountain ranges, we have had the unique opportunity to work on many snow-county LEED projects. Our first LEED certified project, the Sundeck restaurant on the top of Aspen Mountain, was part of the original pilot program. At 11,200' it is the highest elevation LEED certified building in the world. More recently we have complete the LEED certified Northstar Ski Resort Village, in Northstar, California.

At the request of John Ashworth of BSA Architects, and based on our experience, we have reviewed the information you provided regarding the proposed Old Mammoth Place development in Mammoth Lakes, California. Specifically, we have looked into your question of:

"If the proposed Old Mammoth Place project is designed to the requirements of the LEED v3 for new construction, with a target of Silver certification, what are the impacts to domestic water consumption compared to the previously approved Clearwater plan?"

Since detailed plans with actual plumbing fixture counts have not been generated yet, we have based our review and analysis on our experience with similar LEED projects we have worked on in the area. The LEED v3 Water Efficiency section has a prerequisite for a 20% reduction in water use (not including irrigation or commercial kitchen process loads). This reduction is measured against a baseline of water use established by EPAct 1992 and the current plumbing codes.

In our experience, a conservative assumption is approximately 50% of the domestic water use will be by the residential units, approximately 35% by the commercial kitchen process loads, and approximately 15% by the retail/recreation/conference functions. When comparing the two projects relative to potential plumbing fixture count (not square footage) we see an overall 10% reduction in residential unit fixtures, a doubling of commercial kitchen fixtures, and a negligible increase in fixtures for the remaining functions. **When we weight these program changes against the expected water use for each area and the required 20% reduction requirement by LEED, we estimate the proposed Old Mammoth Place project will use between 2% and 18% less water than the previously approved Clearwater project. Assuming further water efficiency credits are pursued in the LEED process, we can expect to see as much as a 30% total water use reduction compared to the Clearwater project.**

11130 Deerfield Drive, State 85, Truckee, CA 96161 • p. 530.550.7324 • f. 530.550.7326 LAKE TAHOE
ALBUQUERQUE DENVER FORT COLLINS LAKE TAHOE SACRAMENTO VAIL
www.bgce.com

When we compare the proposed Old Mammoth Place project to the existing 70-80's vintage development, the significant improvements in plumbing fixture water efficiency, compared to the originally installed fixtures, we estimate a slight reduction or neutral change in water usage for the residential units and commercial kitchen functions, but we estimate there will be an overall increase in water usage for the project of approximately 10% to 15% because of the fixtures added as part of the new retail, recreation, and conference functions.

If you have any questions please call.

Sincerely,

David A. Lyle, P.E., LEED AP

cc: John Ashworth – BSA
David Whitfield - BSA
Denis Beaudin – BGCE

Attachments: LEEDv3 Water Efficiency Section

WE Prerequisite 1: Water Use Reduction

Required

Intent

To increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirements

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation).

Calculate the baseline according to the commercial and/or residential baselines outlined below.[1] Calculations are based on estimated occupant usage and must include only the following fixtures and fixture fittings (as applicable to the project scope): water closets, urinals, lavatory faucets, showers, kitchen sink faucets and prerinse spray valves.

Commercial Fixtures, Fittings, and Appliances	Current Baseline
Commercial toilets	1.6 gallons per flush (gpf)* Except blow-out fixtures: 3.5 (gpf)
Commercial urinals	1.0 (gpf)
Commercial lavatory (restroom) faucets	2.2 gallons per minute (gpm) at 60 pounds per square inch (psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 0.5 (gpm) at 60 (psi)** all others except private applications 0.25 gallons per cycle for metering faucets
Commercial prerinse spray valves (for food service applications)	Flow rate ≤ 1.6 (gpm) (no pressure specified; no performance requirement)

Residential Fixtures, Fittings, and Appliances	Current Baseline
Residential toilets	1.6 (gpf)***
Residential lavatory (bathroom) faucets	2.2 (gpm) at 60 psi
Residential kitchen faucet	
Residential showerheads	2.5 (gpm) at 80 (psi) per shower stall****

* EPAct 1992 standard for toilets applies to both commercial and residential models.
** In addition to EPAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (ASME A112.18.1-2005). This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code.
*** EPAct 1992 standard for toilets applies to both commercial and residential models.
**** Residential shower compartment (stall) in dwelling units: The total allowable flow rate from all flowing showerheads at any given time, including rain systems, waterfalls, bodysprays, bodyspas and jets, must be limited to the allowable showerhead flow rate as specified above (2.5 gpm) per shower compartment, where the floor area of the shower compartment is less than 2,500 square inches. For each increment of 2,500 square inches of floor area thereafter or part thereof, an additional showerhead with total allowable flow rate from all flowing devices equal to or less than the allowable flow rate as specified above must be allowed. Exception: Showers that emit recirculated nonpotable water originating from within the shower compartment while operating are allowed to exceed the maximum as long as the total potable water flow does not exceed the flow rate as specified above.

1 Tables adapted from information developed and summarized by the U.S. Environmental Protection Agency (EPA) Office of Water based on requirements of the Energy Policy Act (EPAct) of 1992 and subsequent rulings by the Department of Energy, requirements of the EPAct of 2005, and the plumbing code requirements as stated in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code pertaining to fixture performance.

The following fixtures, fittings and appliances are outside the scope of the water use reduction calculation:

- Commercial Steam Cookers
- Commercial Dishwashers
- Automatic Commercial Ice Makers
- Commercial (family sized) Clothes Washers
- Residential Clothes Washers
- Standard and Compact Residential Dishwashers

Potential Technologies & Strategies

WaterSense-certified fixtures and fixture fittings should be used where available. Use high-efficiency fixtures (e.g., water closets and urinals) and dry fixtures, such as toilets attached to composting systems, to reduce potable water demand. Consider using alternative on-site sources of water (e.g., rainwater, stormwater, and air conditioner condensate) and graywater for nonpotable applications such as custodial uses and toilet and urinal flushing. The quality of any alternative source of water used must be taken into consideration based on its application or use.

WE Credit 1: Water Efficient Landscaping

2–4 Points

Intent

To limit or eliminate the use of potable water or other natural surface or subsurface water resources available on or near the project site for landscape irrigation.

Requirements

OPTION 1. Reduce by 50% (2 points)

Reduce potable water consumption for irrigation by 50% from a calculated midsummer baseline case.

Reductions must be attributed to any combination of the following items:

- Plant species, density and microclimate factor
- Irrigation efficiency
- Use of captured rainwater
- Use of recycled wastewater
- Use of water treated and conveyed by a public agency specifically for nonpotable uses

Groundwater seepage that is pumped away from the immediate vicinity of building slabs and foundations may be used for landscape irrigation to meet the intent of this credit. However, the project team must demonstrate that doing so does not affect site stormwater management systems.

OR

OPTION 2. No Potable Water Use or Irrigation[1] (4 points)

Meet the requirements for Option 1.

AND

PATH 1

Use only captured rainwater, recycled wastewater, recycled graywater or water treated and conveyed by a public agency specifically for nonpotable uses for irrigation.

OR

PATH 2

Install landscaping that does not require permanent irrigation systems. Temporary irrigation systems used for plant establishment are allowed only if removed within 1 year of installation.

1 If the percent reduction of potable water is 100% AND the percent reduction of total water is equal to or greater than 50%, both Option 1 and Option 2 are earned.

Potential Technologies & Strategies

Perform a soil/climate analysis to determine appropriate plant material and design the landscape with native or adapted plants to reduce or eliminate irrigation requirements. Where irrigation is required, use high-efficiency equipment and/or climate-based controllers.

WE Credit 2: Innovative Wastewater Technologies

2 Points

Intent

To reduce wastewater generation and potable water demand while increasing the local aquifer recharge.

Requirements

OPTION 1

Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (e.g., water closets, urinals) or nonpotable water (e.g., captured rainwater, recycled graywater, on-site or municipally treated wastewater).

OR

OPTION 2

Treat 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.

Potential Technologies & Strategies

Specify high-efficiency fixtures and dry fixtures (e.g., composting toilet systems, nonwater-using urinals) to reduce wastewater volumes. Consider reusing stormwater or graywater for sewage conveyance or on-site mechanical and/or natural wastewater treatment systems. Options for on-site wastewater treatment include packaged biological nutrient removal systems, constructed wetlands and high-efficiency filtration systems.

WE Credit 3: Water Use Reduction

2–4 Points

Intent

To further increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirements

Employ strategies that in aggregate use less water than the water use baseline calculated for the building (not including irrigation). The minimum water savings percentage for each point threshold is as follows:

Percentage Reduction	Points
30%	2
35%	3
40%	4

Calculate the baseline according to the commercial and/or residential baselines outlined below.[1] Calculations are based on estimated occupant usage and must include only the following fixtures and fixture fittings (as applicable to the project scope): water closets, urinals, lavatory faucets, showers, kitchen sink faucets and pre-rinse spray valves.

Commercial Fixtures, Fittings, and Appliances	Current Baseline
Commercial toilets	1.6 gallons per flush (gpf)* Except blow-out fixtures: 3.5 (gpf)
Commercial urinals	1.0 (gpf)
Commercial lavatory (restroom) faucets	2.2 gallons per minute (gpm) at 60 pounds per square inch (psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 0.5 (gpm) at 60 (psi)** all others except private applications 0.25 gallons per cycle for metering faucets
Commercial prerinse spray valves (for food service applications)	Flow rate ≤ 1.6 (gpm) (no pressure specified; no performance requirement)

Residential Fixtures, Fittings, and Appliances	Current Baseline
Residential toilets	1.6 (gpf)***
Residential lavatory (bathroom) faucets	2.2 (gpm) at 60 psi
Residential kitchen faucet	
Residential showerheads	2.5 (gpm) at 80 (psi) per shower stall****

1 Tables adapted from information developed and summarized by the U.S. Environmental Protection Agency (EPA) Office of Water based on requirements of the Energy Policy Act (EPAct) of 1992 and subsequent rulings by the Department of Energy, requirements of the EPAct of 2005, and the plumbing code requirements as stated in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code pertaining to fixture performance.

Residential Fixtures, Fittings, and Appliances	Current Baseline

* EPAct 1992 standard for toilets applies to both commercial and residential models.

** In addition to EPAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (ASME A112.18.1-2005). This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code.

*** EPAct 1992 standard for toilets applies to both commercial and residential models.

**** Residential shower compartment (stall) in dwelling units: The total allowable flow rate from all flowing showerheads at any given time, including rain systems, waterfalls, bodysprays, bodyspas and jets, must be limited to the allowable showerhead flow rate as specified above (2.5 gpm) per shower compartment, where the floor area of the shower compartment is less than 2,500 square inches. For each increment of 2,500 square inches of floor area thereafter or part thereof, an additional showerhead with total allowable flow rate from all flowing devices equal to or less than the allowable flow rate as specified above must be allowed. Exception: Showers that emit recirculated nonpotable water originating from within the shower compartment while operating are allowed to exceed the maximum as long as the total potable water flow does not exceed the flow rate as specified above.