# MARINA COAST WATER DISTRICT

# DRAFT

# 2015 URBAN WATER MANAGEMENT PLAN

# APPENDICES

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## Appendix A: Resolution Adopting the 2010 Urban Water Management Plan

## Appendix B: References

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## Appendix C: Land Use Forecast and Water Demand Projections by Jurisdiction

The following tables present the water demand projects for the Marina Coast Water District, based upon the development and redevelopment projections provided by the various jurisdictions. Water demands are estimated as a function of the size (acreage/square footage) or number of units of a development, depending on the type of land use, and a water demand unit factor that corresponds to that use. For each type of land use, Demand = Size x Unit Factor.

- Existing demands are estimated from MCWD's 2012 water usage records for each jurisdictional area. 2012 was used as the basis because it was an average water usage year.
- For developments that have approved Specific Plans, the water demand factors and total water demand estimates have been taken from the respective Water Supply Assessments (WSAs) for these Specific Plan areas.
- For in-fill development under approved General Plans or Master Plans (e.g., the City of Marina, CSUMB), MCWD's standard water demand factors have been used with the in-fill land use projections provided by the jurisdiction.
- For the Ord Community, the initial development forecast was based upon the Fort Ord Reuse Authority's latest annual growth forecast, which is developed for CIP planning. The projected developments, generally by square footage or units, are then multiplied by the appropriate unit demand factors.
- For areas not reflected in the Fort Ord Reuse Authority growth forecast (Central Marina, the Army and State Parks), the initial projections reflected those in the 2010 UWMP.

Based upon the housing projections in the water demand tables, population projections were then developed. In-fill development was assumed to have the same number of persons per dwelling unit as the existing area. For new development, if the specific plan, the water supply assessment or the associated Environmental Impact Report projected a number of persons per housing unit, that factor was used. If a persons-per-dwelling-unit estimate did not exist, the new development was assumed to have the same occupancy as the city average.

Tables:

**Table C1: 2015 Draft Water Demand by Jurisdiction (AFY)**

| | Jurisdiction | 2012* | 2015 | 2020 | 2025 | 2030 | 2035 | Notes | Allocation |
|---|---|---|---|---|---|---|---|---|---|
| Ord | U.S. Army | 620 | 633 | 663 | 825 | 825 | 825 | | 1,577 |
| | CSUMB | 404 | 404 | 442 | 632 | 755 | 779 | | 1,035 |
| | Del Rey Oaks | 0 | 0 | 186 | 551 | 551 | 551 | | 243 |
| | City of Monterey | 0 | 0 | 0 | 130 | 130 | 130 | | 65 |
| | County of Monterey | 8 | 52 | 377 | 539 | 539 | 539 | | 720 |
| | UCMBEST | 3 | 3 | 94 | 299 | 515 | 515 | | 230 |
| | City of Seaside | 657 | 657 | 997 | 1,852 | 2,447 | 2,876 | 1 | 1,012 |
| | State Parks and Rec. | 0 | 0 | 12 | 18 | 20 | 25 | | 45 |
| | Marina Ord Comm. | 264 | 285 | 901 | 1,572 | 1,702 | 1,704 | 2 | 1,625 |
| | Assumed Line Loss | 395 | 348 | 348 | 348 | 348 | 348 | | 348 |
| Marina | Armstrong Ranch | 0 | 0 | 0 | 680 | 680 | 680 | | 920 |
| | Cemex | 0 | 0 | 0 | 0 | 0 | 500 | | 500 |
| | Marina Central | 1,823 | 1,823 | 2,184 | 2,491 | 2,606 | 2,725 | | 3,020 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subtotal - Ord | 2,351 | 2,382 | 4,021 | 6,766 | 7,833 | 8,293 | | 6,900 |
| Subtotal - Marina | 1,823 | 1,823 | 2,184 | 3,171 | 3,286 | 3,905 | | 4,440 |
| Total | 4,174 | 4,204 | 6,205 | 9,937 | 11,119 | 12,197 | | 11,340 |

*Actual demands from calendar year 2012 used to represent a non-drought year.

1 Seaside includes Seaside Resort Golf Course (250 AFY temp use).

2. Allocation includes 1325 AFY groundwater and 300 AFY existing pilot desalination plant

**Table C2: 2010 UWMP Water Demands by Jurisdiction (AFY)**

| | Jurisdiction | 2010 | 2015 | 2020 | 2025 | 2030 | | | Allocation |
|---|---|---|---|---|---|---|---|---|---|
| Ord | U.S. Army | 752 | 792 | 838 | 997 | 997 | | | 1,577 |
| | CSUMB | 403 | 441 | 631 | 754 | 778 | | | 1,035 |
| | Del Rey Oaks | 0 | 326 | 527 | 527 | 527 | | | 243 |
| | City of Monterey | 0 | 0 | 92 | 92 | 92 | | | 65 |
| | County of Monterey | 4 | 627 | 1,087 | 1,087 | 1,087 | | | 710 |
| | UCMBEST | 2 | 93 | 276 | 474 | 474 | | | 230 |
| | City of Seaside | 792 | 1,130 | 1,351 | 1,664 | 2,093 | | | 1,012 |
| | State Parks and Rec. | 0 | 12 | 18 | 20 | 25 | | | 45 |
| | Marina Ord Comm. | 281 | 812 | 1,537 | 1,738 | 1,739 | | | 1,625 |
| | Marina Sphere | 10 | 10 | 10 | 10 | 10 | | 3 | 10 |
| | FORA Strategic Res. | 0 | 0 | 0 | 0 | 0 | | 4 | -230 |
| | Assumed Line Loss | 348 | 348 | 348 | 348 | 348 | | | 578 |
| Marina | Armstrong Ranch | 0 | 0 | 550 | 680 | 680 | | | 920 |
| | Cemex | 0 | 0 | 0 | 0 | 500 | | | 500 |
| | Marina Central | 1,962 | 2,324 | 2,630 | 2,746 | 2,864 | | | 3,020 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subtotal - Ord | 2,592 | 4,591 | 6,715 | 7,712 | 8,172 | | | 6,900 |
| Subtotal - Marina | 1,962 | 2,324 | 3,181 | 3,426 | 4,044 | | | 4,440 |
| Total | 4,554 | 6,915 | 9,896 | 11,137 | 12,216 | | | 11,340 |

3. Marina Sphere merged in Monterey County totals.

4. FORA Strategic Reserve allocated out to juridictions in 2007.

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| Marina Ord | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Marina Heights** | | | | | | | | | | | | | | | | | | | | | | | |
| Townhome | MAR | Dwelling Units | | | - | - | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 12 | | | | | | | | | |
| Cluster Market/Bridge | MAR | Dwelling Units | | | 4 | 5 | 47 | 19 | 19 | 19 | 19 | 19 | 19 | 18 | | | | | | | | | |
| Market A | MAR | Dwelling Units | | | 10 | 15 | 105 | 29 | 29 | 29 | 29 | 29 | 29 | 33 | | | | | | | | | |
| Market B | MAR | Dwelling Units | | | 6 | 10 | 85 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | | | | | | | | | |
| Estates | MAR | Dwelling Units | | - | - | - | - | 13 | 12 | 12 | 12 | 12 | 12 | 12 | - | | | | | | | | |
| Landscaping (Turf) | MAR | Acres | | | 0.1 | 0.1 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | | | | | | | | | |
| Landscaping (Non-Turf) | MAR | Acres | | | | | 0.5 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Cypress Knolls** | | | | | | | | | | | | | | | | | | | | | | | |
| SF Home / Townhome | MAR | Dwelling Units | | | | | | | | 255 | 200 | | 141 | | | | | | | | | | |
| Apartments | MAR | Dwelling Units | | | | | | | | 85 | | | 31 | | | | | | | | | | |
| Assisted Living | MAR | Dwelling Units | | | | | | | | | | | 60 | | | | | | | | | | |
| Open Space | MAR | Acres | | | | | | | | 28.57 | | | | | | | | | | | | | |
| Parklands | MAR | Acres | | | | | | | | 2.17 | | | | | | | | | | | | | |
| Right of Way | MAR | Acres | | | | | | | | 27.79 | | | 5.51 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Dunes on Monterey Bay** | | | | | | | | | | | | | | | | | | | | | | | |
| Alley (small lot) | MAR | Dwelling Units | | 20 | 24 | 48 | 54 | 59 | 37 | | | | | | | | | | | | | | |
| Carriage | MAR | Dwelling Units | | 10 | 21 | 6 | 12 | 30 | 47 | | | | | | | | | | | | | | |
| Standard | MAR | Dwelling Units | 23 | 10 | 12 | 20 | 44 | 6 | | | | | | | | | | | | | | | |
| Standard (small lot) | MAR | Dwelling Units | | 20 | 15 | 25 | 48 | 23 | | | | | | | | | | | | | | | |
| Duets | MAR | Dwelling Units | | | 34 | 38 | 78 | 98 | 40 | 60 | 4 | | | | | | | | | | | | |
| Townhome (live-work) | MAR | Dwelling Units | | | 16 | 52 | 50 | 21 | | | | | | | | | | | | | | | |
| Townhome (mixed use) | MAR | Dwelling Units | | | 4 | 8 | 8 | 4 | | | | | | | | | | | | | | | |
| Apartments (completed) | MAR | Dwelling Units | 108 | | | | | | | | | | | | | | | | | | | | |
| Landscaping (MCP) | MAR | Acres | 1 | 1 | 3.00 | 5.00 | 5.00 | 4.20 | | | | | | | | | | | | | | | |
| Landscaping (other) | MAR | Acres | | 1 | 1.00 | 4.00 | 2.10 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Promontory** | MAR | Dwelling Units | | 176 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **TAMC TOD** | MAR | Dwelling Units | | | | | 100 | 100 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Existing/Replacement Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Patton Park (complete) | MAR | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Shelter Outreach Plus (complete) | MAR | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Interim Housing (complete) | MAR | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| SVMHS Development | MAR | Square Feet | | | 10,000 | 15,000 | 15,000 | 16,000 | | | | | | | | | | | | | | | |
| TAMC TOD (office/public facilities) | MAR | Square Feet | | | | | 20,000 | 20,000 | | | | | | | | | | | | | | | |
| Airport Economic Development Area | MAR | Square Feet | | | | | 30,357 | 30,357 | 30,357 | 60,714 | 60,714 | 66,786 | 66,786 | 66,786 | 66,786 | 66,786 | | | | | | | |
| Cypress Knolls Community Center | MAR | Square Feet | | | | | | | | 16,525 | | | | | | | | | | | | | |
| Cypress Knolls Support Services | MAR | Square Feet | | | | | | | | 6,300 | | | | | | | | | | | | | |
| TAMC TOD (retail) | MAR | Square Feet | | | | | 37,500 | 37,500 | | | | | | | | | | | | | | | |
| Marina Airport Hotel/Golf | MAR | Rooms | | | | | | | | | | | | | | | | | | | | | |
| Marina High School | MAR | Square Feet | | | | | | | 15,000 | 10,000 | | | | | | | | | | | | | |
| Imjin Office Park | MAR | Square Feet | | 9,000 | 12,000 | | | | | | | | | | | | | | | | | | |
| Monterey Peninsula College | MAR | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Institute of Canine Studies | MAR | Square Feet | | | | | 24,000 | | 4,100 | | 5,400 | | 4,800 | | 9,700 | | 11300 | | 12470 | | | | |
| UV - Planning Area A | MAR | Square Feet | | | 20,000 | 16,000 | | | | | | | | | | | | | | | | | |
| UV - Planning Area J | MAR | Square Feet | | | | | | 3,000 | 55,000 | 8,000 | 17,000 | | | | | | | | | | | | |
| UV - Planning Area B1 | MAR | Square Feet | | 25,000 | | | | | 114,000 | 15,000 | 10,000 | 35,000 | 10,000 | | | | | | | | | | |
| UV - Planning Area V | MAR | Square Feet | | | | | | | | 12,000 | 5,000 | 2,000 | 5,500 | | | | | | | | | | |
| UV - Planning Area OP (1-5) | MAR | Square Feet | | 150,000 | | | | | | | 300,000 | 253,000 | 82,000 | 170,000 | 95,000 | | | | | | | | |
| UV - Planning Area T | MAR | Rooms | | 108 | | | | | | | | | | | | | | | | | | | |
| UV - Planning Area Z | MAR | Square Feet | | | | | | | | | | | 8,500 | 5,000 | 5,000 | 1,500 | | | | | | | |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | Jurisdiction | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| **Marina Heights** | | | | | | | | | | | | | | | | |
| Townhome | Residential (8-15 units / acre) | 102 | Dwelling Units | 0.25 | | | 0.00 | 6.25 | 16.25 | 3.00 | 0.00 | 0.00 | 6.25 | 22.50 | 25.50 | 25.50 |
| Cluster Market/Bridge | Residential (8-15 units / acre) | 188 | Dwelling Units | 0.25 | | | 0.00 | 18.75 | 23.75 | 4.50 | 0.00 | 0.00 | 18.75 | 42.50 | 47.00 | 47.00 |
| Market A | SF Residential (5-8 units / acre) | 337 | Dwelling Units | 0.33 | | | 0.00 | 52.47 | 47.85 | 10.89 | 0.00 | 0.00 | 52.47 | 100.32 | 111.21 | 111.21 |
| Market B | SF Residential (5-8 units / acre) | 338 | Dwelling Units | 0.33 | | | 0.00 | 44.55 | 56.10 | 10.89 | 0.00 | 0.00 | 44.55 | 100.65 | 111.54 | 111.54 |
| Estates | SF Residential (< 5 units / acre) | 85 | Dwelling Units | 0.5 | | | 0.00 | 6.50 | 30.00 | 6.00 | 0.00 | 0.00 | 6.50 | 36.50 | 42.50 | 42.50 |
| Landscaping (Turf) | Landscape (turf) | 3.0 | Acres | 2.5 | | | 0.00 | 3.00 | 3.75 | 0.75 | 0.00 | 0.00 | 3.00 | 6.75 | 7.50 | 7.50 |
| Landscaping (Non-Turf) | Landscape (non-turf) | 1.5 | Acres | 1.5 | 1 | | 0.00 | 1.05 | 1.05 | 0.15 | 0.00 | 0.00 | 1.05 | 2.10 | 2.25 | 2.25 |
| | | | | | | Marina Ord Comm. | 0.00 | 132.57 | 178.75 | 36.18 | 0.00 | 0.00 | 132.57 | 311.32 | 347.50 | 347.50 |
| **Cypress Knolls** | | | | | | | | | | | | | | | | |
| SF Home / Townhome | SF Residential (5-8 units / acre) | 596 | Dwelling Units | 0.1319 | 1 | | 0.00 | 0.00 | 78.62 | 0.00 | 0.00 | 0.00 | 0.00 | 78.62 | 78.62 | 78.62 |
| Apartments | Multi family (> 15 units / acre) | 116 | Dwelling Units | 0.1507 | 1 | | 0.00 | 0.00 | 17.48 | 0.00 | 0.00 | 0.00 | 0.00 | 17.48 | 17.48 | 17.48 |
| Assisted Living | Multi family (> 15 units / acre) | 60 | Dwelling Units | 0.1672 | 1 | | 0.00 | 0.00 | 10.03 | 0.00 | 0.00 | 0.00 | 0.00 | 10.03 | 10.03 | 10.03 |
| Open Space | Landscape (non-turf) | 28.57 | Acres | 0.5849 | 1 | | 0.00 | 0.00 | 16.71 | 0.00 | 0.00 | 0.00 | 0.00 | 16.71 | 16.71 | 16.71 |
| Parklands | Landscape (turf) | 2.17 | Acres | 1.1244 | 1 | | 0.00 | 0.00 | 2.44 | 0.00 | 0.00 | 0.00 | 0.00 | 2.44 | 2.44 | 2.44 |
| Right of Way | Landscape (non-turf) | 33.3 | Acres | 0.4586 | 1 | | 0.00 | 0.00 | 15.27 | 0.00 | 0.00 | 0.00 | 0.00 | 15.27 | 15.27 | 15.27 |
| | | | | | | Marina Ord Comm. | 0.00 | 0.00 | 140.55 | 0.00 | 0.00 | 0.00 | 0.00 | 140.55 | 140.55 | 140.55 |
| **Dunes on Monterey Bay** | | | | | | | | | | | | | | | | |
| Alley (small lot) | Residential (8-15 units / acre) | 242 | Dwelling Units | 0.16491736 | 1 | | 0.00 | 33.81 | 6.10 | 0.00 | 0.00 | 0.00 | 33.81 | 39.91 | 39.91 | 39.91 |
| Carriage | Residential (8-15 units / acre) | 126 | Dwelling Units | 0.25706349 | 1 | | 0.00 | 20.31 | 12.08 | 0.00 | 0.00 | 0.00 | 20.31 | 32.39 | 32.39 | 32.39 |
| Standard | SF Residential (5-8 units / acre) | 115 | Dwelling Units | 0.29869565 | 1 | | 6.87 | 27.48 | 0.00 | 0.00 | 0.00 | 6.87 | 34.35 | 34.35 | 34.35 | 34.35 |
| Standard (small lot) | Residential (8-15 units / acre) | 131 | Dwelling Units | 0.23877863 | 1 | | 0.00 | 31.28 | 0.00 | 0.00 | 0.00 | 0.00 | 31.28 | 31.28 | 31.28 | 31.28 |
| Duets | SF Residential (5-8 units / acre) | 352 | Dwelling Units | 0.12392045 | 1 | | 0.00 | 30.73 | 12.89 | 0.00 | 0.00 | 0.00 | 30.73 | 43.62 | 43.62 | 43.62 |
| Townhome (live-work) | Residential (8-15 units / acre) | 139 | Dwelling Units | 0.12791367 | 1 | | 0.00 | 17.78 | 0.00 | 0.00 | 0.00 | 0.00 | 17.78 | 17.78 | 17.78 | 17.78 |
| Townhome (mixed use) | Residential (8-15 units / acre) | 24 | Dwelling Units | 0.16375 | 1 | | 0.00 | 3.93 | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 3.93 | 3.93 | 3.93 |
| Apartments (completed) | Multi family (> 15 units / acre) | 108 | Dwelling Units | 0.12185185 | 1 | | 13.16 | 0.00 | 0.00 | 0.00 | 0.00 | 13.16 | 13.16 | 13.16 | 13.16 | 13.16 |
| Landscaping (MCP) | Landscape (non-turf) | 19.2 | Acres | 1.22916667 | 1 | | 1.23 | 22.37 | 0.00 | 0.00 | 0.00 | 1.23 | 23.60 | 23.60 | 23.60 | 23.60 |
| Landscaping (other) | Landscape (non-turf) | 8.1 | Acres | 1.11111111 | 1 | | 0.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| | | | | | | Marina Ord Comm. | 21.26 | 196.69 | 31.07 | 0.00 | 0.00 | 21.26 | 217.95 | 249.02 | 249.02 | 249.02 |
| **Promontory** | Multi family (> 15 units / acre) | 176 | Dwelling Units | 0.07477273 | 1 | Marina Ord Comm. | 0.00 | 13.16 | 0.00 | 0.00 | 0.00 | 0.00 | 13.16 | 13.16 | 13.16 | 13.16 |
| | | | | | | | | | | | | | | | | |
| **TAMC TOD** | Multi family (> 15 units / acre) | 200 | Dwelling Units | 0.25 | | Marina Ord Comm. | 0.00 | 50.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.00 | 50.00 | 50.00 | 50.00 |
| | | | | | | | | | | | | | | | | |
| **Existing/Replacement Residential** | | | | | | | | | | | | | | | | |
| Patton Park (complete) | Residential (8-15 units / acre) | | Dwelling Units | 0.25 | | Marina Ord Comm. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shelter Outreach Plus (complete) | Residential (8-15 units / acre) | | Dwelling Units | 0.25 | | Marina Ord Comm. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interim Housing (complete) | Residential (8-15 units / acre) | | Dwelling Units | 0.25 | | Marina Ord Comm. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | |
| SVMHS Development | Office / R&D | 56000 | Square Feet | 0.000135 | | Marina Ord Comm. | 0.00 | 7.56 | 0.00 | 0.00 | 0.00 | 0.00 | 7.56 | 7.56 | 7.56 | 7.56 |
| TAMC TOD (office/public facilities) | Office / R&D | 40000 | Square Feet | 0.000135 | | Marina Ord Comm. | 0.00 | 5.40 | 0.00 | 0.00 | 0.00 | 0.00 | 5.40 | 5.40 | 5.40 | 5.40 |
| Airport Economic Development Area | Light Industrial | 546429 | Square Feet | 0.00015 | | Marina Ord Comm. | 0.00 | 9.11 | 42.80 | 30.05 | 0.00 | 0.00 | 9.11 | 51.91 | 81.96 | 81.96 |
| Cypress Knolls Community Center | Various | 16525 | Square Feet | 0.001 | 1 | Marina Ord Comm. | 0.00 | 0.00 | 9.22 | 0.00 | 0.00 | 0.00 | 0.00 | 9.22 | 9.22 | 9.22 |
| Cypress Knolls Support Services | Office / R&D | 6300 | Square Feet | 0.001 | 1 | Marina Ord Comm. | 0.00 | 0.00 | 6.31 | 0.00 | 0.00 | 0.00 | 0.00 | 6.31 | 6.31 | 6.31 |
| TAMC TOD | Retail | 75000 | Square Feet | 0.00021 | | Marina Ord Comm. | 0.00 | 15.75 | 0.00 | 0.00 | 0.00 | 0.00 | 15.75 | 15.75 | 15.75 | 15.75 |
| Marina Airport Hotel/Golf | Hotel, Motel and Timeshares | | Rooms | 0.17 | 1 | Marina Ord Comm. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marina High School | Schools (K-12) | 25000 | Square Feet | 0.0003 | | Marina Ord Comm. | 0.00 | 0.00 | 7.50 | 0.00 | 0.00 | 0.00 | 0.00 | 7.50 | 7.50 | 7.50 |
| Imjin Office Park | Office / R&D | 21000 | Square Feet | 0.000135 | | Marina Ord Comm. | 0.00 | 2.84 | 0.00 | 0.00 | 0.00 | 0.00 | 2.84 | 2.84 | 2.84 | 2.84 |
| Monterey Peninsula College | Higher Education | | Square Feet | 0.0003 | | Marina Ord Comm. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Institute of Canine Studies | Office / R&D | 71770 | Square Feet | 0.000135 | | Marina Ord Comm. | 0.00 | 3.24 | 1.93 | 2.84 | 1.68 | 0.00 | 3.24 | 5.17 | 8.01 | 9.69 |
| UV - Planning Area A | Various | 36000 | Square Feet | 0.00298361 | 1 | Marina Ord Comm. | 0.00 | 107.41 | 0.00 | 0.00 | 0.00 | 0.00 | 107.41 | 107.41 | 107.41 | 107.41 |
| UV - Planning Area J | Various | 83000 | Square Feet | 0.00040458 | 1 | Marina Ord Comm. | 0.00 | 1.21 | 32.37 | 0.00 | 0.00 | 0.00 | 1.21 | 33.58 | 33.58 | 33.58 |
| UV - Planning Area B1 | Various | 209000 | Square Feet | 0.00037813 | 1 | Marina Ord Comm. | 0.00 | 9.45 | 69.58 | 0.00 | 0.00 | 0.00 | 9.45 | 79.03 | 79.03 | 79.03 |
| UV - Planning Area V | Various | 24500 | Square Feet | 0.00067102 | 1 | Marina Ord Comm. | 0.00 | 0.00 | 16.44 | 0.00 | 0.00 | 0.00 | 0.00 | 16.44 | 16.44 | 16.44 |
| UV - Planning Area OP (1-5) | Various | 1050000 | Square Feet | 0.00020227 | 1 | Marina Ord Comm. | 0.00 | 30.34 | 128.44 | 53.60 | 0.00 | 0.00 | 30.34 | 158.78 | 212.38 | 212.38 |
| UV - Planning Area T | Various | 108 | Rooms | 0.28703704 | 1 | Marina Ord Comm. | 0.00 | 31.00 | 0.00 | 0.00 | 0.00 | 0.00 | 31.00 | 31.00 | 31.00 | 31.00 |
| UV - Planning Area Z | Various | 20000 | Square Feet | 0.000683 | 1 | Marina Ord Comm. | 0.00 | 0.00 | 5.81 | 7.85 | 0.00 | 0.00 | 0.00 | 5.81 | 13.66 | 13.66 |

| **Armstrong Ranch** | **Jurisd** | **Units** | **2012-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **2023-24** | **2024-25** | **2025-26** | **2026-27** | **2027-28** | **2028-29** | **2029-30** | **2031-31** | **2031-32** | **2032-33** | **2033-34** | **2034-35** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Marina Station** | | | | | | | | | | | | | | | | | | | | | | | |
| Single Family Homes (15,000) | MAR | Dwelling Units | | | | | | | | 23 | 87 | 37 | | | | | | | | | | | |
| Single Family Homes (6,500) | MAR | Dwelling Units | | | | | | | | 100 | 250 | 220 | 99 | | | | | | | | | | |
| Apartments | MAR | Dwelling Units | | | | | | | | 100 | 250 | 220 | 78 | | | | | | | | | | |
| Irrigated parkland | MAR | Acres | | | | | | | | 6.0 | 6.5 | | | | | | | | | | | | |
| Open Space (turf) | MAR | Acres | | | | | | | | 4.3 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Marina Station** | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed Use Retail | MAR | Square Feet | | | | | | | | | 15,000 | 30,000 | 15,000 | | | | | | | | | | |
| Office Uses | MAR | Square Feet | | | | | | | | | 40,000 | 60,000 | 43,808 | | | | | | | | | | |
| Light Industrial | MAR | Square Feet | | | | | | | | | | 300,000 | 351,624 | | | | | | | | | | |
| Landscape (15% of indoor consumption) | MAR | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| System Loss (5%) | MAR | Square Feet | | | | | | | | | | | | | | | | | | | | | |

| **CEMEX** | **Jurisd** | **Units** | **2012-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **2023-24** | **2024-25** | **2025-26** | **2026-27** | **2027-28** | **2028-29** | **2029-30** | **2031-31** | **2031-32** | **2032-33** | **2033-34** | **2034-35** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| CEMEX (formerly RMC Lonestar) | MAR | Square Feet | | | | | | | | | | | | | | | | | 666667 | 666667 | 666667 | 666667 | 666667 |

| **Marina Central** | **Jurisd** | **Units** | **2012-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **2023-24** | **2024-25** | **2025-26** | **2026-27** | **2027-28** | **2028-29** | **2029-30** | **2031-31** | **2031-32** | **2032-33** | **2033-34** | **2034-35** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| In-Fill Development MF | MAR | Dwelling Units | | | | | | 182 | | | | | 167 | | | | | | | | | | |
| In-Fill Development SF | MAR | Dwelling Units | | | | | | 9 | | | | | 24 | | | | | | | | | | |
| Downtown Specific Plan | MAR | Dwelling Units | | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Hotel / Motel | MAR | Rooms | | | | | | 400 | | | | | | | | | | | | | | | |
| Retail and Restaurants | MAR | Square Feet | | | | | | 46000 | | | | | 46000 | | | | | | | | | | |
| Other Commercial | MAR | Square Feet | | | | | | 60000 | | | | | | | | | | | | | | | |
| Institutional | MAR | Square Feet | | | | | | 5000 | | | | | 5000 | | | | | | | | | | |
| Schools | MAR | Square Feet | | | | | | 77760 | | | | | 110500 | | | | | | | | | | |
| Landscape (turf) | MAR | Acres | | | | | | 8 | | | | | 16 | | | | | | 1.2 | | | | |
| Downtown Specific Plan - Office | MAR | Square Feet | | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 |
| Downtown Specific Plan - Retail / Comemrcial | MAR | Square Feet | | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 | 8470 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| **Marina Station** | | | | | | | | | | | | | | | | |
| Single Family Homes (15,000) | SF Residential (< 5 units / acre) | 147 | Dwelling Units | 0.5 | | | 0.00 | 0.00 | 73.50 | 0.00 | 0.00 | 0.00 | 0.00 | 73.50 | 73.50 | 73.50 |
| Single Family Homes (6,500) | SF Residential (5-8 units / acre) | 669 | Dwelling Units | 0.33 | | | 0.00 | 0.00 | 220.77 | 0.00 | 0.00 | 0.00 | 0.00 | 220.77 | 220.77 | 220.77 |
| Apartments | Multi family (> 15 units / acre) | 648 | Dwelling Units | 0.25 | | | 0.00 | 0.00 | 162.00 | 0.00 | 0.00 | 0.00 | 0.00 | 162.00 | 162.00 | 162.00 |
| Irrigated parkland | Landscape (turf) | 12.5 | Acres | 2.5 | | | 0.00 | 0.00 | 31.25 | 0.00 | 0.00 | 0.00 | 0.00 | 31.25 | 31.25 | 31.25 |
| Open Space (turf) | Landscape (turf) | 4.3 | Acres | 2.5 | | | 0.00 | 0.00 | 10.75 | 0.00 | 0.00 | 0.00 | 0.00 | 10.75 | 10.75 | 10.75 |
| | | | | | | Armstrong Ranch | 0.00 | 0.00 | 498.27 | 0.00 | 0.00 | 0.00 | 0.00 | 498.27 | 498.27 | 498.27 |
| **Non Residential** | | | | | | | | | | | | | | | | |
| **Marina Station** | | | | | | | | | | | | | | | | |
| Mixed Use Retail | Retail | 60000 | Square Feet | 0.00021 | | Armstrong Ranch | 0.00 | 0.00 | 12.60 | 0.00 | 0.00 | 0.00 | 0.00 | 12.60 | 12.60 | 12.60 |
| Office Uses | Office / R&D | 143808 | Square Feet | 0.000135 | | Armstrong Ranch | 0.00 | 0.00 | 19.41 | 0.00 | 0.00 | 0.00 | 0.00 | 19.41 | 19.41 | 19.41 |
| Light Industrial | Light Industrial | 651624 | Square Feet | 0.00015 | | Armstrong Ranch | 0.00 | 0.00 | 97.74 | 0.00 | 0.00 | 0.00 | 0.00 | 97.74 | 97.74 | 97.74 |
| Landscape (15% of indoor consumption) | Landscape (non-turf) | | Square Feet | 2.1 | 1 | Armstrong Ranch | 0.00 | 0.00 | 19.46 | 0.00 | 0.00 | 0.00 | 0.00 | 19.46 | 19.46 | 19.46 |
| System Loss (5%) | | | Square Feet | | 1 | Armstrong Ranch | 0.00 | 0.00 | 32.37 | 0.00 | 0.00 | 0.00 | 0.00 | 32.37 | 32.37 | 32.37 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non Residential** | | | | | | | | | | | | | | | | |
| RMC Lonestar (added to FORA table) | Light Industrial | 3333333.3 | Square Feet | 0.00015 | | CEMEX | 0.00 | 0.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 500.00 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| In-Fill Development MF | Multi family (> 15 units / acre) | 349 | Dwelling Units | 0.25 | 6 | Marina Central | 0.00 | 45.50 | 41.75 | 0.00 | 0.00 | 0.00 | 45.50 | 87.25 | 87.25 | 87.25 |
| In-Fill Development SF | SF Residential (5-8 units / acre) | 33 | Dwelling Units | 0.33 | 6 | Marina Central | 0.00 | 2.97 | 7.92 | 0.00 | 0.00 | 0.00 | 2.97 | 10.89 | 10.89 | 10.89 |
| Downtown Specific Plan | Multi family (> 15 units / acre) | 1600 | Dwelling Units | 0.25 | 9 | Marina Central | 0.00 | 100.00 | 100.00 | 100.00 | 100.00 | 0.00 | 100.00 | 200.00 | 300.00 | 400.00 |
| | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | |
| Hotel / Motel | Hotel, Motel and Timeshares | 400 | Rooms | 0.17 | | Marina Central | 0.00 | 68.00 | 0.00 | 0.00 | 0.00 | 0.00 | 68.00 | 68.00 | 68.00 | 68.00 |
| Retail and Restaurants | Restaurant | 92000 | Square Feet | 0.00145 | | Marina Central | 0.00 | 66.70 | 66.70 | 0.00 | 0.00 | 0.00 | 66.70 | 133.40 | 133.40 | 133.40 |
| Other Commercial | Other Commercial | 60000 | Square Feet | 0.0003 | | Marina Central | 0.00 | 18.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.00 | 18.00 | 18.00 | 18.00 |
| Institutional | Institutional | 10000 | Square Feet | 0.0003 | | Marina Central | 0.00 | 1.50 | 1.50 | 0.00 | 0.00 | 0.00 | 1.50 | 3.00 | 3.00 | 3.00 |
| Schools | Schools (K-12) | 188260 | Square Feet | 0.0003 | | Marina Central | 0.00 | 23.33 | 33.15 | 0.00 | 0.00 | 0.00 | 23.33 | 56.48 | 56.48 | 56.48 |
| Landscape (turf) | Landscape (turf) | 25.2 | Acres | 2.5 | | Marina Central | 0.00 | 20.00 | 40.00 | 0.00 | 3.00 | 0.00 | 20.00 | 60.00 | 60.00 | 63.00 |
| Downtown Specific Plan - Office | Office / R&D | 84000 | Square Feet | 0.000135 | 9 | Marina Central | 0.00 | 2.84 | 2.84 | 2.84 | 2.84 | 0.00 | 2.84 | 5.67 | 8.51 | 11.34 |
| Downtown Specific Plan - Retail / Comemrcial | Other Commercial | 169400 | Square Feet | 0.0003 | 9 | Marina Central | 0.00 | 12.71 | 12.71 | 12.71 | 12.71 | 0.00 | 12.71 | 25.41 | 38.12 | 50.82 |

| Monterey County | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **East Garrison I** | | | | | | | | | | | | | | | | | | | | | | | |
| Market Rate | MCO | Dwelling Units | 104 | 149 | 160 | 140 | 120 | 100 | 100 | 100 | 77 | | | | | | | | | | | | |
| Affordable | MCO | Dwelling Units | 66 | - | - | 8 | 43 | 75 | 100 | 105 | 23 | | | | | | | | | | | | |
| Monterey Horse Park (see City of Seaside) | MCO | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Monterey County Office** | | | | | | | | | | | | | | | | | | | | | | | |
| Horse Park (see City of Seaside) | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| ~~Whispering Oaks Business Park~~ | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Intergarrison Rd Office Park | MCO | Square Feet | | | | 127,200 | 127,200 | 127,200 | 127,200 | 127,000 | | | | | | | | | | | | | |
| East Garrison I Office Development | MCO | Square Feet | | | 14,000 | - | 10,000 | - | 11,000 | | | | | | | | | | | | | | |
| ~~MST Bus Maint & Opns Facility~~ | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| **Monterey County Light Ind.** | | | | | | | | | | | | | | | | | | | | | | | |
| Horse Park (see City of Seaside) | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| ~~Whispering Oaks Business Park~~ | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| ~~MST Bus Maint & Opns Facility~~ | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| **Monterey County Retail** | MCO | | | | | | | | | | | | | | | | | | | | | | |
| ~~Whispering Oaks Business Park~~ | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| East Garrison I Retail | MCO | Square Feet | | | 20,000 | 20,000 | | | | | | | | | | | | | | | | | |
| East Garrison I Arts Complex | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| East Garrison I Public Facilities | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Ord Market (existing) | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Horse Park (see City of Seaside) | MCO | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Horse Park Hotel (see City of Seaside) | MCO | Rooms | | | | | | | | | | | | | | | | | | | | | |
| East Garrison Landscaping | MCO | Acres | | | | 10.44 | 4.94 | | | | | | | | | | | | | | | | |

| CSUMB | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| CSUMB Housing | CSU/MAR | Dwelling Units | | | | | | 95 | 95 | 95 | 95 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| CSUMB Academic and Administrative Buildings | CSUMB | Square Feet | | | | | | 101,852 | 101,852 | 101,852 | 101,852 | | | | 88,888 | 88,888 | 88,888 | 88,888 | 88,888 | | | | |
| CSUMB Landscaping | CSUMB | Acres | | | | | | | | 5.00 | 10.00 | 11 | | | 7 | | | | | | | | |

| UCMBEST | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| UC 8th Street | UC/MCO | Dwelling Units | | | | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | | | | | | | | |
| UC East Campus - SF | UC/MCO | Dwelling Units | | | | | | | 67 | | | | | 67 | 66 | | | | | | | | |
| UC East Campus - MF | UC/MCO | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| UC Eight Street | UC/MCO | Square Feet | | | | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | | | | | | | | |
| UC Central South Campus | UC/MAR | Square Feet | | | | | | | 16,196 | 16,196 | 16,196 | 16,196 | 16,196 | 16,196 | 16,196 | 16,196 | 16,196 | | | | | | |
| UC Central South Campus | UC/MAR | Square Feet | | | | | | | 7,799 | 7,799 | 7,799 | 7,799 | 7,799 | 7,799 | 7,799 | 7,799 | 7,799 | | | | | | |
| UC Central North & West Campuses | UC/MAR | Square Feet | - | - | 40,000 | 61,417 | 61,417 | 61,417 | 61,417 | 67,559 | 67,559 | 67,559 | 67,559 | 67,559 | 67,559 | | | | | | | | |
| UC Central North & West Campuses | UC/MAR | Square Feet | | | | 6,346 | 6,346 | 6,346 | 6,346 | 6,981 | 6,981 | 6,981 | 6,981 | 6,981 | 6,981 | | | | | | | | |
| UC Central North & West Campuses | UC/MAR | Square Feet | - | - | 20,000 | 20,408 | 20,408 | 20,408 | 20,408 | 22,448 | 22,448 | 22,448 | 22,448 | 22,448 | 22,448 | | | | | | | | |
| UC South Campus | UC/MAR | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| UC East Campus | UC/MCO | Square Feet | | | | | | | 26,000 | | | | | 26,000 | | | | | | | | | |
| UC Eight Street | UC/MCO | Square Feet | | | | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | 19,602 | | | | | | | | |
| UC East Campus | UC/MCO | Rooms | | | | | | | | | | | | 250 | | | | | | | | | |
| UC Central North & West Campuses | UC/MAR | Rooms | | - | - | - | - | - | - | - | - | - | - | 150 | - | | | | | | | | |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| **East Garrison** | | | | | 1 | | | | | | | | | | | |
| Market rate | SF Residential (< 5 units / acre) | 1050 | Dwelling Units | 0.3 | 1 | | 31.20 | 200.70 | 83.10 | 0.00 | 0.00 | 31.20 | 231.90 | 315.00 | 315.00 | 315.00 |
| Affordable | SF Residential (5-8 units / acre) | 420 | Dwelling Units | 0.186 | 1 | | 12.28 | 23.44 | 42.41 | 0.00 | 0.00 | 12.28 | 35.71 | 78.12 | 78.12 | 78.12 |
| Monterey Horse Park (see City of Seaside) | SF Residential (5-8 units / acre) | | Dwelling Units | 0.33 | 3 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | County of Monterey | 43.48 | 224.14 | 125.51 | 0.00 | 0.00 | 43.48 | 267.61 | 393.12 | 393.12 | 393.12 |
| **Non Residential** | | | | | | | | | | | | | | | | |
| **Monterey County Office** | | | | | | | | | | | | | | | | |
| Horse Park (see City of Seaside) | Office / R&D | | Square Feet | 0.000135 | 3 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ~~Whispering Oaks Business Park~~ | Office / R&D | | Square Feet | 0.000166 | 8 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Intergarrison Rd Office Park | Office / R&D | 635800 | Square Feet | 0.000135 | | County of Monterey | 0.00 | 51.52 | 34.32 | 0.00 | 0.00 | 0.00 | 51.52 | 85.83 | 85.83 | 85.83 |
| East Garrison I Office Development | Office / R&D | 35000 | Square Feet | 0.000135 | | County of Monterey | 0.00 | 3.24 | 1.49 | 0.00 | 0.00 | 0.00 | 3.24 | 4.73 | 4.73 | 4.73 |
| ~~MST Bus Maint & Opns Facility~~ | Office / R&D | | Square Feet | 0.000124 | 8 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Monterey County Light Ind.** | | | | | | | | | | | | | | | | |
| Horse Park (see City of Seaside) | Light Industrial | | Square Feet | 0.00015 | 3 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ~~Whispering Oaks Business Park~~ | Light Industrial | | Square Feet | 0.000166 | 8 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ~~MST Bus Maint & Opns Facility~~ | Light Industrial | | Square Feet | 0.000124 | 8 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Monterey County Retail** | | | | | | | | | | | | | | | | |
| ~~Whispering Oaks Business Park~~ | Retail | | Square Feet | 0.000166 | 8 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Garrison I Retail | Retail | 40000 | Square Feet | 0.00021 | | County of Monterey | 0.00 | 8.40 | 0.00 | 0.00 | 0.00 | 0.00 | 8.40 | 8.40 | 8.40 | 8.40 |
| East Garrison I Arts Complex | Retail | | Square Feet | 0.0001406 | 1 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Garrison I Public Facilities | Retail | | Square Feet | 0.0003 | 1 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ord Market (existing) | Retail | | Square Feet | 0.00021 | | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Horse Park (see City of Seaside) | Retail | | Square Feet | 0.00021 | 3 | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Horse Park Hotel (see City of Seaside) | Hotel, Motel and Timeshares | | Rooms | 0.17 | | County of Monterey | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Garrison Landscaping | Landscape (turf) | 15.38 | Acres | 2.5 | | County of Monterey | 0.00 | 38.45 | 0.00 | 0.00 | 0.00 | 0.00 | 38.45 | 38.45 | 38.45 | 38.45 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| CSUMB Housing | Multi family (> 15 units / acre) | 764 | Dwelling Units | 0.25 | 2 | CSUMB | 0.00 | 23.75 | 95.25 | 60.00 | 12.00 | 0.00 | 23.75 | 119.00 | 179.00 | 191.00 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| CSUMB Academic and Administrative Bldgs | Office / R&D | 851848 | Square Feet | 0.000135 | 2 | CSUMB | 0.00 | 13.75 | 41.25 | 48.00 | 12.00 | 0.00 | 13.75 | 55.00 | 103.00 | 115.00 |
| CSUMB Landscaping | Landscape (non-turf) | 32.85 | Acres | 2.1 | 2 | CSUMB | 0.00 | 0.00 | 53.97 | 15.02 | 0.00 | 0.00 | 0.00 | 53.97 | 68.99 | 68.99 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| UC 8th Street | Multi family (> 15 units / acre) | 330 | Dwelling Units | 0.25 | | UCMBEST | 0.00 | 24.75 | 41.25 | 16.50 | 0.00 | 0.00 | 24.75 | 66.00 | 82.50 | 82.50 |
| UC East Campus - SF | SF Residential (< 5 units / acre) | 200 | Dwelling Units | 0.5 | | UCMBEST | 0.00 | 0.00 | 33.50 | 66.50 | 0.00 | 0.00 | 0.00 | 33.50 | 100.00 | 100.00 |
| UC East Campus - MF | Multi family (> 15 units / acre) | | Dwelling Units | 0.25 | | UCMBEST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| UC Eight Street | Office / R&D | 196020 | Square Feet | 0.000135 | | UCMBEST | 0.00 | 7.94 | 13.23 | 5.29 | 0.00 | 0.00 | 7.94 | 21.17 | 26.46 | 26.46 |
| UC Central South Campus | Office / R&D | 145764 | Square Feet | 0.000135 | | UCMBEST | 0.00 | 0.00 | 10.93 | 8.75 | 0.00 | 0.00 | 0.00 | 10.93 | 19.68 | 19.68 |
| UC Central South Campus | Other Commercial | 70191 | Square Feet | 0.0003 | | UCMBEST | 0.00 | 0.00 | 11.70 | 9.36 | 0.00 | 0.00 | 0.00 | 11.70 | 21.06 | 21.06 |
| UC Central North & West Campuses | Office / R&D | 691022 | Square Feet | 0.000135 | | UCMBEST | 0.00 | 30.27 | 44.77 | 18.24 | 0.00 | 0.00 | 30.27 | 75.05 | 93.29 | 93.29 |
| UC Central North & West Campuses | Retail | 67270 | Square Feet | 0.00021 | | UCMBEST | 0.00 | 4.00 | 7.20 | 2.93 | 0.00 | 0.00 | 4.00 | 11.19 | 14.13 | 14.13 |
| UC Central North & West Campuses | Light Industrial | 236320 | Square Feet | 0.00015 | | UCMBEST | 0.00 | 12.18 | 16.53 | 6.73 | 0.00 | 0.00 | 12.18 | 28.71 | 35.45 | 35.45 |
| UC South Campus | Retail | | Square Feet | 0.00021 | | UCMBEST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| UC East Campus | Retail | 52000 | Square Feet | 0.00021 | | UCMBEST | 0.00 | 0.00 | 5.46 | 5.46 | 0.00 | 0.00 | 0.00 | 5.46 | 10.92 | 10.92 |
| UC Eight Street | Retail | 196020 | Square Feet | 0.00021 | | UCMBEST | 0.00 | 12.35 | 20.58 | 8.23 | 0.00 | 0.00 | 12.35 | 32.93 | 41.16 | 41.16 |
| UC East Campus | Hotel, Motel and Timeshares | 250 | Rooms | 0.17 | | UCMBEST | 0.00 | 0.00 | 0.00 | 42.50 | 0.00 | 0.00 | 0.00 | 0.00 | 42.50 | 42.50 |
| UC Central North & West Campuses | Hotel, Motel and Timeshares | 150 | Rooms | 0.17 | | UCMBEST | 0.00 | 0.00 | 0.00 | 25.50 | 0.00 | 0.00 | 0.00 | 0.00 | 25.50 | 25.50 |

| Seaside | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Seaside Resort Housing | SEA | Dwelling Units | | 2 | 2 | 2 | 4 | 6 | 53 | 53 | | | | | | | | | | | | | |
| Seaside Housing (Eastside) | SEA | Dwelling Units | | | | | | | | | | | | | | | | | 110 | 110 | 110 | 110 | 110 |
| Seaside Affordable Housing Obligations | SEA | Dwelling Units | | | 36 | 36 | | | | | | | | | | | | | | | | | |
| Workforce Housing (Army to Build) | SEA | Dwelling Units | | | | | | | 26 | | | | | | | | | | | | | | |
| Market Rate Housing (Army to Build) | SEA | Dwelling Units | | | | | | | 150 | | | | | | | | | | | | | | |
| State Parks Housing (Workforce housing) | SEA | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Workforce Housing (Seaside) | SEA | Dwelling Units | | | | 29 | | - | - | | | | | | | | | | | | | | |
| Seaside-Fort Ord Project Area | SEA | Dwelling Units | | | | | | | | | | | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Seaside Housing (Eucalyptus) | SEA | Dwelling Units | | | | | | | | | | | | | | 190 | 190 | 190 | 190 | 182 | | | |
| **Monterey Downs** | | | | | | | | | | | | | | | | | | | | | | | |
| Affordable Rentals (34 du/ac) | SEA | Dwelling Units | | | | | | | | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | | | | | | |
| Apartments (20 du/ac) | SEA | Dwelling Units | | | | | | | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | | | |
| Court Yard Homes (9 du/ac) | SEA | Dwelling Units | | | | | | | | 12 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | | | |
| Single Family Homes (9 du/ac) | SEA | Dwelling Units | | | | | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | | | | | | |
| Horse Park staff | SEA | Dwelling Units | | | | | | | | | | 12 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Main Gate** | | | | | | | | | | | | | | | | | | | | | | | |
| Conference | SEA | Square Feet | | | | | 27,000 | | | | | | | | | | | | | | | | |
| Spa | SEA | Square Feet | | | | | | 24,000 | | | | | | | | | | | | | | | |
| Large Format Retail | SEA | Square Feet | | | | | 87,000 | | | | | | | | | | | | | | | | |
| In-Line Shops | SEA | Square Feet | | | | | 281,000 | | | | | | | | | | | | | | | | |
| Movie Theater | SEA | Square Feet | | | | | 51,500 | | | | | | | | | | | | | | | | |
| In-Line Food Service | SEA | Square Feet | | | | | 10,000 | | | | | | | | | | | | | | | | |
| Restaurants | SEA | Square Feet | | | | | 61,000 | | | | | | | | | | | | | | | | |
| Landscaping | SEA | Acres | | | | | | 10.41 | | | | | | | | | | | | | | | |
| Hotel | SEA | Rooms | | | | | | 250 | | | | | | | | | | | | | | | |
| **Seaside Resort** | | | | | | | | | | | | | | | | | | | | | | | |
| Seaside Resort Golf Buildings | SEA | Square Feet | | 10,000 | | | | | | | | | | | | | | | | | | | |
| Seaside Resort Golf Clubhouse | SEA | Square Feet | | | | | | 16,300 | | | | | | | | | | | | | | | |
| Seaside Golf Course Hotel | SEA | Rooms | | | | | | 330 | | | | | | | | | | | | | | | |
| Seaside Golf Course Timeshares | SEA | Rooms | | | | | | | 120 | 50 | | | | | | | | | | | | | |
| **Monterey Downs** | | | | | | | | | | | | | | | | | | | | | | | |
| Training Track and Arena | SEA | Acres | | | | | | | | | | 139 | | | | | | | | | | | |
| Horse Park | SEA | Acres | | | | | | | | | | 111 | | | | | | | | | | | |
| Commercial | SEA | Square Feet | | | | | | | | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | | | | | | | | |
| Restaurants | SEA | Square Feet | | | | | | | | 5,000 | 5,000 | 5,000 | 5,000 | | | | | | | | | | |
| Retail | SEA | Square Feet | | | | | | | | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 15,000 | | | | | | |
| Office | SEA | Square Feet | | | | | | | | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | | | | | | |
| Theater | SEA | Square Feet | | | | | | | | | | 35,000 | | | | | | | | | | | |
| Hotel | SEA | Rooms | | | | | | | | | | 400 | | | | | | | | | | | |
| Tennis and Swim Club | SEA | Square Feet | | | | | | | | | | 10,848 | 10,000 | | | | | | | | | | |
| Fire Station | SEA | Square Feet | | | | | | | | | | 11,000 | | | | | | | | | | | |
| Landscape | SEA | Acres | | | | | | | | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | | | | | | |
| Seaside Office (Monterey Blues) | SEA | Square Feet | | | | 60,000 | | | | | | | | | | | | | | | | | |
| Chartwell School (existing) | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Monterey College of Law (existing) | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Fitch Middle School (existing) | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Marshall Elementary School (existing) | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| International School (former Hayes Elem)(existing) | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Veterans' Cemeterey | SEA | Square Feet | | | 9,000 | 7,500 | | 11,200 | | | | | | | | | | | | | | | |
| Monterey Peninsula Trade & Conf Cntr | SEA | Square Feet | | | | | | | 250,000 | | | | | | | | | | | | | | |
| Seaside Corp Yard | SEA | Square Feet | | | | | | 25,000 | 27,200 | | | | | | | | | | | | | | |
| Conference Facility | SEA | Square Feet | | | | | | 27,000 | | | | | | | | | | | | | | | |
| Luxury Auto Mall | SEA | Square Feet | | | | | | | | | | | | | | | | | | | | | |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes | | Incremental Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 | Cumulative Demand (AFY) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | |
| Seaside Resort Housing | SF Residential (< 5 units / acre) | 122 | Dwelling Units | 0.5 | | City of Seaside | 0.00 | 8.00 | 53.00 | 0.00 | 0.00 | 0.00 | 8.00 | 61.00 | 61.00 | 61.00 |
| Seaside Housing (Eastside) | SF Residential (5-8 units / acre) | 550 | Dwelling Units | 0.33 | 7 | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 181.50 | 0.00 | 0.00 | 0.00 | 0.00 | 181.50 |
| Seaside Affordable Housing Obligations | Residential (8-15 units / acre) | 72 | Dwelling Units | 0.25 | | City of Seaside | 0.00 | 18.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.00 | 18.00 | 18.00 | 18.00 |
| Workforce Housing (Army to Build) | Residential (8-15 units / acre) | 26 | Dwelling Units | 0.25 | | City of Seaside | 0.00 | 0.00 | 6.50 | 0.00 | 0.00 | 0.00 | 0.00 | 6.50 | 6.50 | 6.50 |
| Market Rate Housing (Army to Build) | SF Residential (< 5 units / acre) | 150 | Dwelling Units | 0.5 | | City of Seaside | 0.00 | 0.00 | 75.00 | 0.00 | 0.00 | 0.00 | 0.00 | 75.00 | 75.00 | 75.00 |
| State Parks Housing (Workforce housing) | SF Residential (5-8 units / acre) | | Dwelling Units | 0.33 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Workforce Housing (Seaside) | SF Residential (5-8 units / acre) | 29 | Dwelling Units | 0.33 | | City of Seaside | 0.00 | 9.57 | 0.00 | 0.00 | 0.00 | 0.00 | 9.57 | 9.57 | 9.57 | 9.57 |
| Seaside-Fort Ord Project Area | Multi family (> 15 units / acre) | 1097 | Dwelling Units | 0.25 | 7 | City of Seaside | 0 | 0.00 | 24.25 | 125.00 | 125.00 | 0.00 | 0.00 | 24.25 | 149.25 | 274.25 |
| Seaside Housing (Eucalyptus) | SF Residential (5-8 units / acre) | 942 | Dwelling Units | 0.33 | 7 | City of Seaside | 0.00 | 0.00 | 0.00 | 188.10 | 122.76 | 0.00 | 0.00 | 0.00 | 188.10 | 310.86 |
| **Monterey Downs** | | | | | | | | | | | | | | | | |
| Affordable Rentals (34 du/ac) | Multi family (> 15 units / acre) | 256 | Dwelling Units | 0.25 | 5 | City of Seaside | 0.00 | 0.00 | 32.00 | 32.00 | 0.00 | 0.00 | 0.00 | 32.00 | 64.00 | 64.00 |
| Apartments (20 du/ac) | Multi family (> 15 units / acre) | 400 | Dwelling Units | 0.25 | 5 | City of Seaside | 0.00 | 0.00 | 50.00 | 50.00 | 0.00 | 0.00 | 0.00 | 50.00 | 100.00 | 100.00 |
| Court Yard Homes (9 du/ac) | Residential (8-15 units / acre) | 82 | Dwelling Units | 0.25 | 5 | City of Seaside | 0.00 | 0.00 | 10.50 | 10.00 | 0.00 | 0.00 | 0.00 | 10.50 | 20.50 | 20.50 |
| Single Family Homes (9 du/ac) | Residential (8-15 units / acre) | 798 | Dwelling Units | 0.25 | 5 | City of Seaside | 0.00 | 0.00 | 100.00 | 99.50 | 0.00 | 0.00 | 0.00 | 100.00 | 199.50 | 199.50 |
| Horse Park staff | Residential (8-15 units / acre) | 12 | Dwelling Units | 0.25 | 5 | City of Seaside | 0.00 | 0.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Main Gate Conference | Office / R&D | 27000 | Square Feet | 0.000135 | | City of Seaside | 0.00 | 3.65 | 0.00 | 0.00 | 0.00 | 0.00 | 3.65 | 3.65 | 3.65 | 3.65 |
| Main Gate Spa | Other Commercial | 24000 | Square Feet | 0.0003 | 1 | City of Seaside | 0.00 | 7.20 | 0.00 | 0.00 | 0.00 | 0.00 | 7.20 | 7.20 | 7.20 | 7.20 |
| Main Gate Large Format Retail | Retail | 87000 | Square Feet | 0.00005 | 1 | City of Seaside | 0.00 | 4.35 | 0.00 | 0.00 | 0.00 | 0.00 | 4.35 | 4.35 | 4.35 | 4.35 |
| Main Gate In-Line Shops | Retail | 281000 | Square Feet | 0.00005 | 1 | City of Seaside | 0.00 | 14.05 | 0.00 | 0.00 | 0.00 | 0.00 | 14.05 | 14.05 | 14.05 | 14.05 |
| Main Gate Movie Theater | Other Commercial | 51500 | Square Feet | 0.0002 | 1 | City of Seaside | 0.00 | 11.20 | 0.00 | 0.00 | 0.00 | 0.00 | 11.20 | 11.20 | 11.20 | 11.20 |
| Main Gate In-Line Food Service | Restaurant | 10000 | Square Feet | 0.00247 | 1 | City of Seaside | 0.00 | 24.70 | 0.00 | 0.00 | 0.00 | 0.00 | 24.70 | 24.70 | 24.70 | 24.70 |
| Main Gate Restaurants | Restaurant | 61000 | Square Feet | 0.0011 | 1 | City of Seaside | 0.00 | 68.60 | 0.00 | 0.00 | 0.00 | 0.00 | 68.60 | 68.60 | 68.60 | 68.60 |
| Main Gate Landscaping | Landscape (turf) | 10.41 | Acres | 2.5 | | City of Seaside | 0.00 | 26.03 | 0.00 | 0.00 | 0.00 | 0.00 | 26.03 | 26.03 | 26.03 | 26.03 |
| Main Gate Hotel | Hotel, Motel and Timeshares | 250 | Rooms | 0.17 | | City of Seaside | 0.00 | 42.50 | 0.00 | 0.00 | 0.00 | 0.00 | 42.50 | 42.50 | 42.50 | 42.50 |
| | | | | | | | | | | | | | | | | |
| Seaside Resort Golf Buildings | Office / R&D | 10000 | Square Feet | 0.000135 | | City of Seaside | 0.00 | 1.35 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.35 | 1.35 | 1.35 |
| Seaside Resort Golf Clubhouse | Restaurant | 16300 | Square Feet | 0.00145 | | City of Seaside | 0.00 | 23.64 | 0.00 | 0.00 | 0.00 | 0.00 | 23.64 | 23.64 | 23.64 | 23.64 |
| Seaside Golf Course Hotel | Hotel, Motel and Timeshares | 330 | Rooms | 0.17 | | City of Seaside | 0.00 | 56.10 | 0.00 | 0.00 | 0.00 | 0.00 | 56.10 | 56.10 | 56.10 | 56.10 |
| Seaside Golf Course Timeshares | Hotel, Motel and Timeshares | 170 | Rooms | 0.17 | | City of Seaside | 0.00 | 0.00 | 28.90 | 0.00 | 0.00 | 0.00 | 0.00 | 28.90 | 28.90 | 28.90 |
| **Monterey Downs** | | | | | 5 | | | | | | | | | | | |
| Training Track and Arena | Various | 138.7 | Acres | 0.7859 | 1, 5 | City of Seaside | 0.00 | 0.00 | 109.00 | 0.00 | 0.00 | 0.00 | 0.00 | 109.00 | 109.00 | 109.00 |
| Horse Park | Various | 110.7 | Acres | 1.1462 | 1, 5 | City of Seaside | 0.00 | 0.00 | 126.88 | 0.00 | 0.00 | 0.00 | 0.00 | 126.88 | 126.88 | 126.88 |
| Commercial | Other Commercial | 30000 | Square Feet | 0.0003 | 5 | City of Seaside | 0.00 | 0.00 | 6.00 | 3.00 | 0.00 | 0.00 | 0.00 | 6.00 | 9.00 | 9.00 |
| Restaurants | Restaurant | 20000 | Square Feet | 0.00145 | 5 | City of Seaside | 0.00 | 0.00 | 29.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.00 | 29.00 | 29.00 |
| Retail | Retail | 85000 | Square Feet | 0.00021 | 5 | City of Seaside | 0.00 | 0.00 | 8.40 | 9.45 | 0.00 | 0.00 | 0.00 | 8.40 | 17.85 | 17.85 |
| Office | Office / R&D | 160000 | Square Feet | 0.000135 | 5 | City of Seaside | 0.00 | 0.00 | 10.80 | 10.80 | 0.00 | 0.00 | 0.00 | 10.80 | 21.60 | 21.60 |
| Theater | Other | 35000 | Square Feet | 0.00004 | 1, 5 | City of Seaside | 0.00 | 0.00 | 1.40 | 0.00 | 0.00 | 0.00 | 0.00 | 1.40 | 1.40 | 1.40 |
| Hotel | Hotel, Motel and Timeshares | 400 | Rooms | 0.17 | 5 | City of Seaside | 0.00 | 0.00 | 68.00 | 0.00 | 0.00 | 0.00 | 0.00 | 68.00 | 68.00 | 68.00 |
| Tennis and Swim Club | Various | 20848 | Square Feet | 0.000190 | 1, 5 | City of Seaside | 0.00 | 0.00 | 3.95 | 0.00 | 0.00 | 0.00 | 0.00 | 3.95 | 3.95 | 3.95 |
| Fire Station | Governmental | 11000 | Square Feet | 0.0003 | 5 | City of Seaside | 0.00 | 0.00 | 3.30 | 0.00 | 0.00 | 0.00 | 0.00 | 3.30 | 3.30 | 3.30 |
| Landscape | Landscape (non-turf) | 64 | Acres | 2.1 | 5 | City of Seaside | 0.00 | 0.00 | 67.20 | 67.20 | 0.00 | 0.00 | 0.00 | 67.20 | 134.40 | 134.40 |
| Seaside Office (Monterey Blues) | Office / R&D | 60000 | Square Feet | 0.000135 | | City of Seaside | 0.00 | 8.10 | 0.00 | 0.00 | 0.00 | 0.00 | 8.10 | 8.10 | 8.10 | 8.10 |
| Chartwell School | Schools (K-12) | | Square Feet | 0.0003 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Monterey College of Law | Institutional | | Square Feet | 0.0003 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fitch Middle School | Schools (K-12) | | Square Feet | 0.0003 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall Elementary School | Schools (K-12) | | Square Feet | 0.0003 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| International School (former Hayes Elem) | Schools (K-12) | | Square Feet | 0.0003 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Veterans' Cemeterey | Various | 27700 | Square Feet | 0.000141 | 1 | City of Seaside | 0.00 | 3.90 | 0.00 | 0.00 | 0.00 | 0.00 | 3.90 | 3.90 | 3.90 | 3.90 |
| Monterey Peninsula Trade & Conf Cntr | Office / R&D | 250000 | Square Feet | 0.000135 | | City of Seaside | 0.00 | 0.00 | 33.75 | 0.00 | 0.00 | 0.00 | 0.00 | 33.75 | 33.75 | 33.75 |
| Seaside Corp Yard | Various | 52200 | Square Feet | 0.00015709 | 1 | City of Seaside | 0.00 | 3.93 | 4.27 | 0.00 | 0.00 | 0.00 | 3.93 | 8.20 | 8.20 | 8.20 |
| Conference Facility | Office / R&D | 27000 | Square Feet | 0.0002 | 1 | City of Seaside | 0.00 | 5.40 | 0.00 | 0.00 | 0.00 | 0.00 | 5.40 | 5.40 | 5.40 | 5.40 |
| Luxury Auto Mall | Retail | | Square Feet | 0.00021 | | City of Seaside | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Del Rey Oaks | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| **Del Rey Oaks** | | | | | | | | | | | | | | | | | | | | | | | |
| Golf Villas | DRO | Dwelling Units | | | | | | 37 | 13 | | | | | | | | | | | | | | |
| Patio Homes | DRO | Dwelling Units | | | | | | 32 | 4 | | | | | | | | | | | | | | |
| Condos | DRO | Dwelling Units | | | | | | 40 | 160 | 176 | | | | | | | | | | | | | |
| Workforce | DRO | Dwelling Units | | | | | | | 70 | 68 | | | | | | | | | | | | | |
| Townhomes/Senior Casitas | DRO | Dwelling Units | | | | | | 21 | 40 | 30 | | | | | | | | | | | | | |
| RV Resort (Manager) | DRO | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Del Rey Oaks Office | DRO | Square Feet | | | | 100,000 | 100,000 | 100,000 | 100,000 | | | | | | | | | | | | | | |
| Del Rey Oaks Retail | DRO | Square Feet | | | | 5,000 | | | | | | | | | | | | | | | | | |
| Del Rey Oaks Hotel | DRO | Rooms | | | | 104 | 250 | 100 | | | | | | | | | | | | | | | |
| Del Rey Oaks Timeshare | DRO | Rooms | | | | 48 | 48 | | | | | | | | | | | | | | | | |
| Resort Golf Course | DRO | Acres | | | | | | | | | 92 | | | | | | | | | | | | |
| RV Resort | DRO | Square Feet | | | | | | | | | | | | | | | | | | | | | |

| Monterey City | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Monterey City Office | MRY | Square Feet | | | | | | | | 721,524 | | | | | | | | | | | | | |
| Industrial -- City Corp. Yard | MRY | Square Feet | | | | | | | | 100,000 | | | | | | | | | | | | | |
| Industrial -- Public/Private | MRY | Square Feet | | | | | | | | 116,275 | | | | | | | | | | | | | |

| US Army | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Doe Park (Stilwell) Single Family | ARMY | Dwelling Units | 20 | | 28 | | | | | | -20 | | | | | | | | | | | | |
| Doe Park (Stilwell) Duplex | ARMY | Dwelling Units | 20 | | 27 | | | | | | -20 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Recreation Center | ARMY | Square Feet | | | | | | | 8,340 | | | | | | | | | | | | | | |
| VA Medical Clinic (part of Marina - UV Area OP) | ARMY | Square Feet | | | | | | | | | | | | | | | | | | | | | |
| Child Development Center | ARMY | Square Feet | | | | | | | | 24,000 | | | | | | | | | | | | | |
| Emergency Services Center | ARMY | Square Feet | | | | 40,000 | | | | | | | | | | | | | | | | | |

| CA State Parks | Jurisd | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non Residential** | | | | | | | | | | | | | | | | | | | | | | | |
| Fort Ord Dunes State Park | SP | | | | | | | | | | | | | | | | | | | | | | |
| Fort Ord Dunes State Park | SP | Square feet | | | | | | 75,000 | | | | | 33,333 | | | | | 16667 | | | | | 41667 |
| American Youth Hostel (Seaside) | SP | Units | | | 18 | | | | | 12 | 2 | | | | | | | | | | | | |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes |
|---|---|---|---|---|---|
| **New Residential** | | | | | |
| Del Rey Oaks | | | | | |
| Golf Villas | SF Residential (< 5 units / acre) | 50 | Dwelling Units | 0.5 | |
| Patio Homes | SF Residential (< 5 units / acre) | 36 | Dwelling Units | 0.5 | |
| Condos | Multi family (> 15 units / acre) | 376 | Dwelling Units | 0.25 | |
| Workforce | Multi family (> 15 units / acre) | 138 | Dwelling Units | 0.25 | |
| Townhomes/Senior Casitas | SF Residential (5-8 units / acre) | 91 | Dwelling Units | 0.33 | |
| RV Resort (Manager) | Residential (8-15 units / acre) | | Dwelling Units | 0.25 | |
| | | | | | |
| | | | | | |
| Del Rey Oaks Office | Office / R&D | 400000 | Square Feet | 0.000135 | |
| Del Rey Oaks Retail | Retail | 5000 | Square Feet | 0.00021 | |
| Del Rey Oaks Hotel | Hotel, Motel and Timeshares | 454 | Rooms | 0.17 | |
| Del Rey Oaks Timeshare | Hotel, Motel and Timeshares | 96 | Rooms | 0.17 | |
| Resort Golf Course | Landscape (turf) | 92.4 | Acres | 2.16991342 | 1 |
| RV Resort | Other Commercial | | Square Feet | 0.0003 | 1 |

**Incremental Demand (AFY)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| | 0.00 | 18.50 | 6.50 | 0.00 | 0.00 |
| | 0.00 | 16.00 | 2.00 | 0.00 | 0.00 |
| | 0.00 | 10.00 | 84.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 34.50 | 0.00 | 0.00 |
| | 0.00 | 6.93 | 23.10 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Del Rey Oaks | 0.00 | 51.43 | 150.10 | 0.00 | 0.00 |
| | | | | | |
| Del Rey Oaks | 0.00 | 40.50 | 13.50 | 0.00 | 0.00 |
| Del Rey Oaks | - | 1.05 | 0.00 | 0.00 | 0.00 |
| Del Rey Oaks | - | 77.18 | 0.00 | 0.00 | 0.00 |
| Del Rey Oaks | 0.00 | 16.32 | 0.00 | 0.00 | 0.00 |
| Del Rey Oaks | 0.00 | 0.00 | 200.50 | 0.00 | 0.00 |
| Del Rey Oaks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**Cumulative Demand (AFY)**

| 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|
| 0.00 | 18.50 | 25.00 | 25.00 | 25.00 |
| 0.00 | 16.00 | 18.00 | 18.00 | 18.00 |
| 0.00 | 10.00 | 94.00 | 94.00 | 94.00 |
| 0.00 | 0.00 | 34.50 | 34.50 | 34.50 |
| 0.00 | 6.93 | 30.03 | 30.03 | 30.03 |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.00 | 51.43 | 201.53 | 201.53 | 201.53 |
| | | | | |
| 0.00 | 40.50 | 54.00 | 54.00 | 54.00 |
| 0.00 | 1.05 | 1.05 | 1.05 | 1.05 |
| 0.00 | 77.18 | 77.18 | 77.18 | 77.18 |
| 0.00 | 16.32 | 16.32 | 16.32 | 16.32 |
| 0.00 | 0.00 | 200.50 | 200.50 | 200.50 |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes |
|---|---|---|---|---|---|
| **New Residential** | | | | | |
| Monterey City Office | Office / R&D | 721524 | Square Feet | 0.000135 | |
| Industrial -- City Corp. Yard | Light Industrial | 100000 | Square Feet | 0.00015 | |
| Industrial -- Public/Private | Light Industrial | 116275 | Square Feet | 0.00015 | |

**Incremental Demand (AFY)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| City of Monterey | 0.00 | 0.00 | 97.41 | 0.00 | 0.00 |
| City of Monterey | 0.00 | 0.00 | 15.00 | 0.00 | 0.00 |
| City of Monterey | 0.00 | 0.00 | 17.44 | 0.00 | 0.00 |

**Cumulative Demand (AFY)**

| 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|
| 0.00 | 0.00 | 97.41 | 97.41 | 97.41 |
| 0.00 | 0.00 | 15.00 | 15.00 | 15.00 |
| 0.00 | 0.00 | 17.44 | 17.44 | 17.44 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes |
|---|---|---|---|---|---|
| **New Residential** | | | | | |
| Doe Park (Stilwell) Single Family | SF Residential (5-8 units / acre) | 28 | Dwelling Units | 0.33 | 4 |
| Doe Park (Stilwell) Duplex | Residential (8-15 units / acre) | 27 | Dwelling Units | 0.33 | 4 |
| | | | | | |
| **Non Residential** | | | | | |
| Recreation Center | Institutional | 8340 | Square Feet | 0.0003 | |
| VA Medical Clinic | Institutional | | Square Feet | 0.00018 | 1 |
| Child Development Center | Institutional | 24000 | Square Feet | 0.0072 | 1 |
| Emergency Services Center | Governmental | 40000 | Square Feet | 0.0003 | |

**Incremental Demand (AFY)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| U.S. Army | 6.60 | 9.24 | -6.60 | 0.00 | 0.00 |
| U.S. Army | 6.60 | 8.91 | -6.60 | 0.00 | 0.00 |
| | | | | | |
| | | | | | |
| U.S. Army | 0.00 | 0.00 | 2.50 | 0.00 | 0.00 |
| U.S. Army | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U.S. Army | 0.00 | 0.00 | 172.80 | 0.00 | 0.00 |
| U.S. Army | 0.00 | 12.00 | 0.00 | 0.00 | 0.00 |

**Cumulative Demand (AFY)**

| 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|
| 6.60 | 15.84 | 9.24 | 9.24 | 9.24 |
| 6.60 | 15.51 | 8.91 | 8.91 | 8.91 |
| | | | | |
| | | | | |
| 0.00 | 0.00 | 2.50 | 2.50 | 2.50 |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 172.80 | 172.80 | 172.80 |
| 0.00 | 12.00 | 12.00 | 12.00 | 12.00 |

| Land Use Type | Land Use | Total | Units | Multiplier | Notes |
|---|---|---|---|---|---|
| **New Residential** | | | | | |
| Fort Ord Dunes State Park | Governmental | | | 0.0676 | |
| Fort Ord Dunes State Park | Governmental | 166667 | Square Feet | 0.00012 | |
| American Youth Hostel (Seaside) | Hotel, Motel and Timeshares | 32 | Units | 0.17 | |

**Incremental Demand (AFY)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| State Parks and Rec. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| State Parks and Rec. | 0.00 | 9.00 | 4.00 | 2.00 | 5.00 |
| State Parks and Rec. | 0.00 | 3.06 | 2.38 | 0.00 | 0.00 |

**Cumulative Demand (AFY)**

| 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.00 | 9.00 | 13.00 | 15.00 | 20.00 |
| 0.00 | 3.06 | 5.44 | 5.44 | 5.44 |

**NOTES:**

1 Unique water demand multiplier based on the quantity of units (square feet, acres, dwelling units) and total expected water demand, from Water Supply Supply Assessment.
2 Derived from Table 4-1 of the CSUMB Master Plan (December 2007)
3 Horse Park projections moved to Monterey Downs Specific Plan (Seaside)
4 OMC housing is being rennovated and replaced. The entry in 2022 reflects the net removal of 40 DU over the project life.
5 Monterey Downs WSA adopted in 2012. Specific Plan is still pending approval.
6 Per Marina 2009 Certified Housing Element, Table 3-1
7 Projections taken from Seaside-Fort Ord Redevelopment Project Area Implementation Plan 2007-2012
8 Whispering Oaks Specific Plan revoked by County, 2012.
9 Draft Marina DVSP projects build-out by 2040. Annual values reflect 1/30th of total. 2040 totals will be 2,400 DU; 126,000 SF Office; 254,000 SF Commercial; 1.2 AC Landscape.

**Table C4: 2015 Population Growth by Jurisdiction**

| | Jurisdiction | Existing* | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|
| Ord | U.S. Army | | 0 | 285 | 165 | 165 | 165 |
| | CSUMB | | 0 | 285 | 1,428 | 2,148 | 2,292 |
| | Del Rey Oaks | | 0 | 340 | 1,487 | 1,487 | 1,487 |
| | City of Monterey | | 0 | 0 | 0 | 0 | 0 |
| | County of Monterey | | 741 | 1,979 | 3,015 | 3,015 | 3,015 |
| | UCMBEST | | 0 | 257 | 861 | 1,378 | 1,378 |
| | City of Seaside | | 0 | 351 | 3,642 | 8,958 | 13,224 |
| | State Parks and Rec. | | 0 | 0 | 0 | 0 | 0 |
| | Marina Ord Comm. | | 285 | 4,551 | 7,901 | 8,219 | 8,219 |
| | Assumed Line Loss | | | | | | |
| Marina | Armstrong Ranch | | 0 | 0 | 4,085 | 4,085 | 4,085 |
| | RMC Lonestar | | 0 | 0 | 0 | 0 | 0 |
| | Marina Central | | 582 | 1,649 | 3,298 | 4,414 | 5,530 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Subtotal - Ord | 13,646 | 14,672 | 21,694 | 32,144 | 39,015 | 43,425 |
| Subtotal - Marina | 17,121 | 17,703 | 18,770 | 24,504 | 25,620 | 26,736 |
| Total | 30,767 | 32,375 | 40,464 | 56,648 | 64,635 | 70,161 |

*2012 DOF hybrid population

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## Marina Ord

### New Residential

| | Multiplier | Incremental Increase (Persons) | | | | | Cumulative Increase (Persons) | | | | | Incremental Increase (EDU) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marina Heights** | | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** |
| Townhome | 1.5 | 0 | 37.5 | 97.5 | 18 | 0 | 0 | 37.5 | 135 | 153 | 153 | | 25 | 65 | 12 | 0 |
| Cluster Market/Bridge | 3.0 | 0 | 225 | 285 | 54 | 0 | 0 | 225 | 510 | 564 | 564 | | 75 | 95 | 18 | 0 |
| Market A | 3.0 | 0 | 477 | 435 | 99 | 0 | 0 | 477 | 912 | 1011 | 1011 | | 159 | 145 | 33 | 0 |
| Market B | 3.0 | 0 | 405 | 510 | 99 | 0 | 0 | 405 | 915 | 1014 | 1014 | | 135 | 170 | 33 | 0 |
| Estates | 4.0 | 0 | 52 | 240 | 48 | 0 | 0 | 52 | 292 | 340 | 340 | | 13 | 60 | 12 | 0 |
| | | **0** | **1196.5** | **1567.5** | **318** | **0** | **0** | **1196.5** | **2764** | **3082** | **3082** | **0** | **407** | **535** | **108** | **0** |
| **Cypress Knolls** | | | | | | | | | | | | | | | | |
| SF Home / Townhome | 1.8 | 0 | 0 | 1072.8 | 0 | 0 | 0 | 0 | 1072.8 | 1072.8 | 1072.8 | | 0 | 596 | 0 | 0 |
| Apartments | 2.4 | 0 | 0 | 278.4 | 0 | 0 | 0 | 0 | 278.4 | 278.4 | 278.4 | | 0 | 116 | 0 | 0 |
| Assisted Living | 1.0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 60 | 60 | 60 | | 0 | 60 | 0 | 0 |
| | | **0** | **0** | **1411.2** | **0** | **0** | **0** | **0** | **1411.2** | **1411.2** | **1411.2** | **0** | **0** | **772** | **0** | **0** |
| **Dunes on Monterey Bay** | **Dunes (UV)** | | | | | | | | | | | | | | | |
| Alley (small lot) | 2.0 | 0 | 410 | 74 | 0 | 0 | 0 | 410 | 484 | 484 | 484 | | 205 | 37 | 0 | 0 |
| Carriage | 3.0 | 0 | 237 | 141 | 0 | 0 | 0 | 237 | 378 | 378 | 378 | | 79 | 47 | 0 | 0 |
| Standard | 3.0 | 69 | 276 | 0 | 0 | 0 | 69 | 345 | 345 | 345 | 345 | 23 | 92 | 0 | 0 | 0 |
| Standard (small lot) | 3.0 | 0 | 393 | 0 | 0 | 0 | 0 | 393 | 393 | 393 | 393 | | 131 | 0 | 0 | 0 |
| Duets | 1.5 | 0 | 372 | 156 | 0 | 0 | 0 | 372 | 528 | 528 | 528 | | 248 | 104 | 0 | 0 |
| Townhome (live-work) | 1.5 | 0 | 208.5 | 0 | 0 | 0 | 0 | 208.5 | 208.5 | 208.5 | 208.5 | | 139 | 0 | 0 | 0 |
| Townhome (mixed use) | 1.5 | 0 | 36 | 0 | 0 | 0 | 0 | 36 | 36 | 36 | 36 | | 24 | 0 | 0 | 0 |
| Apartments (completed) | 2.0 | 216 | 0 | 0 | 0 | 0 | 216 | 216 | 216 | 216 | 216 | 108 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | |
| **Promontory** | 3.3 | 0 | 579 | 0 | 0 | 0 | 0 | 579 | 579 | 579 | 579 | | 176 | 0 | 0 | 0 |
| **TAMC TOD** | 2.8 | 0 | 558 | 0 | 0 | 0 | 0 | 558 | 558 | 558 | 558 | | 200 | 0 | 0 | 0 |
| | | 285 | 3069.5 | 371 | 0 | 0 | 285 | 3354.5 | 3725.5 | 3725.5 | 3725.5 | 131 | 1294 | 188 | 0 | 0 |
| **Existing/Replacement Residential** | **Existing** | | | | | | | | | | | | | | | |
| Patton Park (complete) | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Shelter Outreach Plus (complete) | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Interim Housing (complete) | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Armstrong Ranch

### New Residential

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marina Station** | **Marina Station** | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** |
| Single Family Homes (15,000) | 2.8 | 0 | 0 | 410 | 0 | 0 | 0 | 0 | 410 | 410 | 410 | | 0 | 147 | 0 | 0 |
| Single Family Homes (6,500) | 2.8 | 0 | 0 | 1867 | 0 | 0 | 0 | 0 | 1867 | 1867 | 1867 | | 0 | 669 | 0 | 0 |
| Apartments | 2.8 | 0 | 0 | 1808 | 0 | 0 | 0 | 0 | 1808 | 1808 | 1808 | | 0 | 648 | 0 | 0 |
| | | 0 | 0 | 4085 | 0 | 0 | 0 | 0 | 4085 | 4085 | 4085 | 0 | 0 | 1464 | 0 | 0 |

## Marina Central

### New Residential

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marina Central** | **Marina Central** | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** | **2015** | **2020** | **2025** | **2030** | **2035** |
| In-Fill Development MF | 2.8 | 0 | 508 | 466 | 0 | 0 | 0 | 508 | 974 | 974 | 974 | | 182 | 167 | 0 | 0 |
| In-Fill Development SF | 2.8 | 0 | 25 | 67 | 0 | 0 | 0 | 25 | 92 | 92 | 92 | | 9 | 24 | 0 | 0 |
| Downtown Specific Plan | 2.8 | 0 | 1116 | 1116 | 1116 | 1116 | 0 | 1116 | 2232 | 3348 | 4464 | | 400 | 400 | 400 | 400 |
| | | 0 | 1649 | 1649 | 1116 | 1116 | 0 | 1649 | 3298 | 4414 | 5530 | 0 | 591 | 591 | 400 | 400 |

| Marina Ord | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Marina Heights** | | | | | | | | | | | | | | | | | | | | | | | | |
| Townhome | MAR | Residential (8-15 units / acre) | Dwelling Units | | | 0 | 0 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 12 | | | | | | | | | |
| Cluster Market/Bridge | MAR | Residential (8-15 units / acre) | Dwelling Units | | | 4 | 5 | 47 | 19 | 19 | 19 | 19 | 19 | 19 | 18 | | | | | | | | | |
| Market A | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | 10 | 15 | 105 | 29 | 29 | 29 | 29 | 29 | 29 | 33 | | | | | | | | | |
| Market B | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | 6 | 10 | 85 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | | | | | | | | | |
| Estates | MAR | SF Residential (< 5 units / acre) | Dwelling Units | | 0 | 0 | 0 | 0 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 0 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| **Cypress Knolls** | | | | | | | | | | | | | | | | | | | | | | | | |
| SF Home / Townhome | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | 255 | 200 | | 141 | | | | | | | | | | |
| Apartments | MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | 85 | | | 31 | | | | | | | | | | |
| Assisted Living | MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | | | | 60 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| **Dunes on Monterey Bay** | | | | | | | | | | | | | | | | | | | | | | | | |
| Alley (small lot) | MAR | Residential (8-15 units / acre) | Dwelling Units | | 20 | 24 | 48 | 54 | 59 | 37 | | | | | | | | | | | | | | |
| Carriage | MAR | Residential (8-15 units / acre) | Dwelling Units | | 10 | 21 | 6 | 12 | 30 | 47 | | | | | | | | | | | | | | |
| Standard | MAR | SF Residential (5-8 units / acre) | Dwelling Units | 23 | 10 | 12 | 20 | 44 | 6 | | | | | | | | | | | | | | | |
| Standard (small lot) | MAR | Residential (8-15 units / acre) | Dwelling Units | | 20 | 15 | 25 | 48 | 23 | | | | | | | | | | | | | | | |
| Duets | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | 34 | 38 | 78 | 98 | 40 | 60 | 4 | | | | | | | | | | | | |
| Townhome (live-work) | MAR | Residential (8-15 units / acre) | Dwelling Units | | | 16 | 52 | 50 | 21 | | | | | | | | | | | | | | | |
| Townhome (mixed use) | MAR | Residential (8-15 units / acre) | Dwelling Units | | | 4 | 8 | 8 | 4 | | | | | | | | | | | | | | | |
| Apartments (completed) | MAR | Multi family (> 15 units / acre) | Dwelling Units | 108 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| **Promontory** | MAR | Multi family (> 15 units / acre) | Dwelling Units | | 176 | | | | | | | | | | | | | | | | | | | |
| **TAMC TOD** | MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | 100 | 100 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| **Existing/Replacement Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| Patton Park (complete) | MAR | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Shelter Outreach Plus (complete) | MAR | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Interim Housing (complete) | MAR | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

| Armstrong Ranch | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Marina Station** | | | | | | | | | | | | | | | | | | | | | | | | |
| Single Family Homes (15,000) | MAR | SF Residential (< 5 units / acre) | Dwelling Units | | | | | | | | 23 | 87 | 37 | | | | | | | | | | | |
| Single Family Homes (6,500) | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | 100 | 250 | 220 | 99 | | | | | | | | | | |
| Apartments | MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | 100 | 250 | 220 | 78 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

| Marina Central | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| In-Fill Development MF | MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | | 182 | | | | | 167 | | | | | | | | | | |
| In-Fill Development SF | MAR | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | 9 | | | | | 24 | | | | | | | | | | |
| Downtown Specific Plan | MAR | Multi family (> 15 units / acre) | Dwelling Units | | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

**Marina Coast Water District 2015 Urban Water Management Plan**
**Table C5: Population Growth Projection Details**

| Monterey County | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| **East Garrison I** | | | | | | | | | | | | | | | | | | | | | | | | |
| Market Rate | MCO | SF Residential (< 5 units / acre) | Dwelling Units | 104 | 149 | 160 | 140 | 120 | 100 | 100 | 100 | 77 | | | | | | | | | | | | |
| Affordable | MCO | SF Residential (5-8 units / acre) | Dwelling Units | 66 | 0 | 0 | 8 | 43 | 75 | 100 | 105 | 23 | | | | | | | | | | | | |
| Monterey Horse Park (see City of Seaside) | MCO | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |

| CSUMB | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| CSUMB Housing | CSU/MAR | Multi family (> 15 units / acre) | Dwelling Units | | | | | | 95 | 95 | 95 | 95 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | | | | |

| UCMBEST | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| UC 8th Street | UC/MCO | Multi family (> 15 units / acre) | Dwelling Units | | | | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | | | | | | | | |
| UC East Campus - SF | UC/MCO | SF Residential (< 5 units / acre) | Dwelling Units | | | | | | | 67 | | | | | 67 | 66 | | | | | | | | |
| UC East Campus - MF | UC/MCO | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |

| Seaside | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| Seaside Resort Housing | SEA | SF Residential (< 5 units / acre) | Dwelling Units | | 2 | 2 | 2 | 4 | 6 | 53 | 53 | | | | | | | | | | | | | |
| Seaside Housing (Eastside) | SEA | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | 110 | 110 | 110 | 110 | 110 |
| Seaside Affordable Housing Obligations | SEA | Residential (8-15 units / acre) | Dwelling Units | | | 36 | 36 | | | | | | | | | | | | | | | | | |
| Workforce Housing (Army to Build) | SEA | Residential (8-15 units / acre) | Dwelling Units | | | | | | | 26 | | | | | | | | | | | | | | |
| Market Rate Housing (Army to Build) | SEA | SF Residential (< 5 units / acre) | Dwelling Units | | | | | | | 150 | | | | | | | | | | | | | | |
| State Parks Housing (Workforce housing) | SEA | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |
| Workforce Housing (Seaside) | SEA | SF Residential (5-8 units / acre) | Dwelling Units | | | | 29 | | 0 | 0 | | | | | | | | | | | | | | |
| Seaside-Fort Ord Project Area | SEA | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | | | | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Seaside Housing (Eucalyptus) | SEA | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | | | | | | | | | 190 | 190 | 190 | 190 | 182 | | | |
| **Monterey Downs** | | | | | | | | | | | | | | | | | | | | | | | | |
| Affordable Rentals (34 du/ac) | SEA | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | | | | | | |
| Apartments (20 du/ac) | SEA | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | | | |
| Court Yard Homes (9 du/ac) | SEA | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | 12 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | | | |
| Single Family Homes (9 du/ac) | SEA | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | | | | | | |
| Horse Park staff | SEA | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | | | 12 | | | | | | | | | | | |

| Del Rey Oaks | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| **Del Rey Oaks** | | | | | | | | | | | | | | | | | | | | | | | | |
| Golf Villas | DRO | SF Residential (< 5 units / acre) | Dwelling Units | | | | | | 37 | 13 | | | | | | | | | | | | | | |
| Patio Homes | DRO | SF Residential (< 5 units / acre) | Dwelling Units | | | | | | 32 | 4 | | | | | | | | | | | | | | |
| Condos | DRO | Multi family (> 15 units / acre) | Dwelling Units | | | | | | 40 | 160 | 176 | | | | | | | | | | | | | |
| Workforce | DRO | Multi family (> 15 units / acre) | Dwelling Units | | | | | | | 70 | 68 | | | | | | | | | | | | | |
| Townhomes/Senior Casitas | DRO | SF Residential (5-8 units / acre) | Dwelling Units | | | | | | 21 | 40 | 30 | | | | | | | | | | | | | |
| RV Resort (Manager) | DRO | Residential (8-15 units / acre) | Dwelling Units | | | | | | | | | | | | | | | | | | | | | |

| US Army | Jurisd | Land Use | Units | 2012-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2031-31 | 2031-32 | 2032-33 | 2033-34 | 2034-35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | | | | | | | | | | | | | | | | | |
| Doe Park (Stilwell) Single Family | ARMY | SF Residential (5-8 units / acre) | Dwelling Units | 20 | | 28 | | | | | | -20 | | | | | | | | | | | | |
| Doe Park (Stilwell) Duplex | ARMY | Residential (8-15 units / acre) | Dwelling Units | 20 | | 27 | | | | | | -20 | | | | | | | | | | | | |

## Monterey County

**New Residential**

**East Garrison I**

| | Multiplier | Incremental Increase (Persons) | | | | | Cumulative Increase (Persons) | | | | | Incremental Increase (EDU) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East Garrison | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| Market Rate | 2.1 | 213 | 1372 | 568 | 0 | 0 | 213 | 1585 | 2154 | 2154 | 2154 | 104 | 669 | 277 | 0 | 0 |
| Affordable | 2.1 | 135 | 258 | 468 | 0 | 0 | 135 | 394 | 861 | 861 | 861 | 66 | 126 | 228 | 0 | 0 |
| Monterey Horse Park (see City of Seaside) | 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| | | 349 | 1631 | 1036 | 0 | 0 | 349 | 1979 | 3015 | 3015 | 3015 | 170 | 795 | 505 | 0 | 0 |

## CSUMB

**New Residential**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CSUMB | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| CSUMB Housing | 3.0 | 0 | 285 | 1143 | 720 | 144 | 0 | 285 | 1428 | 2148 | 2292 | | 95 | 381 | 240 | 48 |
| | | 0 | 285 | 1143 | 720 | 144 | 0 | 285 | 1428 | 2148 | 2292 | 0 | 95 | 381 | 240 | 48 |

## UCMBEST

**New Residential**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UC MBEST | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| UC 8th Street | 2.6 | 0 | 257 | 429 | 172 | 0 | 0 | 257 | 686 | 858 | 858 | | 99 | 165 | 66 | 0 |
| UC East Campus - SF | 2.6 | 0 | 0 | 174 | 346 | 0 | 0 | 0 | 174 | 520 | 520 | | 0 | 67 | 133 | 0 |
| UC East Campus - MF | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| | | 0 | 257 | 603 | 517 | 0 | 0 | 257 | 861 | 1378 | 1378 | 0 | 99 | 232 | 199 | 0 |

## Seaside

**Residential**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seaside | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| Seaside Resort Housing | 3.0 | 0 | 48 | 318 | 0 | 0 | 0 | 48 | 366 | 366 | 366 | | 16 | 106 | 0 | 0 |
| Seaside Housing (Eastside) | 3.0 | 0 | 0 | 0 | 0 | 1650 | 0 | 0 | 0 | 0 | 1650 | | 0 | 0 | 0 | 550 |
| Seaside Affordable Housing Obligations | 3.0 | 0 | 216 | 0 | 0 | 0 | 0 | 216 | 216 | 216 | 216 | | 72 | 0 | 0 | 0 |
| Workforce Housing (Army to Build) | 3.0 | 0 | 0 | 78 | 0 | 0 | 0 | 0 | 78 | 78 | 78 | | 0 | 26 | 0 | 0 |
| Market Rate Housing (Army to Build) | 3.0 | 0 | 0 | 450 | 0 | 0 | 0 | 0 | 450 | 450 | 450 | | 0 | 150 | 0 | 0 |
| State Parks Housing (Workforce housing) | 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Workforce Housing (Seaside) | 3.0 | 0 | 87 | 0 | 0 | 0 | 0 | 87 | 87 | 87 | 87 | | 29 | 0 | 0 | 0 |
| Seaside-Fort Ord Project Area | 3.0 | 0 | 0 | 291 | 1500 | 1500 | 0 | 0 | 291 | 1791 | 3291 | | 0 | 97 | 500 | 500 |
| Seaside Housing (Eucalyptus) | 3.0 | 0 | 0 | 0 | 1710 | 1116 | 0 | 0 | 0 | 1710 | 2826 | | 0 | 0 | 570 | 372 |
| **Monterey Downs** | | | | | | | | | | | | | | | | |
| Affordable Rentals (34 du/ac) | 1.5 | 0 | 0 | 192 | 192 | 0 | 0 | 0 | 192 | 384 | 384 | | 0 | 128 | 128 | 0 |
| Apartments (20 du/ac) | 3.0 | 0 | 0 | 600 | 600 | 0 | 0 | 0 | 600 | 1200 | 1200 | | 0 | 200 | 200 | 0 |
| Court Yard Homes (9 du/ac) | 3.0 | 0 | 0 | 126 | 120 | 0 | 0 | 0 | 126 | 246 | 246 | | 0 | 42 | 40 | 0 |
| Single Family Homes (9 du/ac) | 3.0 | 0 | 0 | 1200 | 1194 | 0 | 0 | 0 | 1200 | 2394 | 2394 | | 0 | 400 | 398 | 0 |
| Horse Park staff | 3.0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 36 | 36 | 36 | | 0 | 12 | 0 | 0 |
| | | 0 | 351 | 3291 | 5316 | 4266 | 0 | 351 | 3642 | 8958 | 13224 | 0 | 117 | 1161 | 1836 | 1422 |

## Del Rey Oaks

**New Residential**

**Del Rey Oaks**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Del Rey Oaks | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| Golf Villas | 3.5 | 0 | 130 | 46 | 0 | 0 | 0 | 130 | 175 | 175 | 175 | | 37 | 13 | 0 | 0 |
| Patio Homes | 3.0 | 0 | 96 | 12 | 0 | 0 | 0 | 96 | 108 | 108 | 108 | | 32 | 4 | 0 | 0 |
| Condos | 1.8 | 0 | 72 | 605 | 0 | 0 | 0 | 72 | 677 | 677 | 677 | | 40 | 336 | 0 | 0 |
| Workforce | 2.5 | 0 | 0 | 345 | 0 | 0 | 0 | 0 | 345 | 345 | 345 | | 0 | 138 | 0 | 0 |
| Townhomes/Senior Casitas | 2.0 | 0 | 42 | 140 | 0 | 0 | 0 | 42 | 182 | 182 | 182 | | 21 | 70 | 0 | 0 |
| RV Resort (Manager) | 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| | | 0 | 340 | 1147 | 0 | 0 | 0 | 340 | 1487 | 1487 | 1487 | 0 | 130 | 561 | 0 | 0 |

## US Army

**Residential**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Army | | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 | 2015 | 2020 | 2025 | 2030 | 2035 |
| Doe Park (Stilwell) Single Family | 3.0 | 60 | 84 | -60 | 0 | 0 | 60 | 144 | 84 | 84 | 84 | 20 | 28 | -20 | 0 | 0 |
| Doe Park (Stilwell) Duplex | 3.0 | 60 | 81 | -60 | 0 | 0 | 60 | 141 | 81 | 81 | 81 | 20 | 27 | -20 | 0 | 0 |
| | | 120 | 165 | -120 | 0 | 0 | 120 | 285 | 165 | 165 | 165 | 40 | 55 | -40 | 0 | 0 |

**Table C6: Projected Demands by Source, with Planned Recycled Use (AFY)**

| | Total Demands by Jurisdiction | 2015 | 2020 | 2025 | 2030 | 2035 | SVGB Allocation | RW Allocation |
|---|---|---|---|---|---|---|---|---|
| Ord | U.S. Army | 633 | 663 | 825 | 825 | 825 | 1,577 | |
| Ord | CSUMB | 404 | 442 | 632 | 755 | 779 | 1,035 | 87 |
| Ord | Del Rey Oaks | 0 | 186 | 551 | 551 | 551 | 243 | 280 |
| Ord | City of Monterey | 0 | 0 | 130 | 130 | 130 | 65 | |
| Ord | County of Monterey | 52 | 377 | 539 | 539 | 539 | 710 | 134 |
| Ord | UCMBEST | 3 | 94 | 299 | 515 | 515 | 230 | 60 |
| Ord | City of Seaside | 657 | 997 | 1,852 | 2,447 | 2,876 | 1,012 | 453 |
| Ord | State Parks and Rec. | 0 | 12 | 18 | 20 | 25 | 45 | |
| Ord | Marina Ord Comm. | 285 | 901 | 1,572 | 1,702 | 1,704 | 1,325 | 345 |
| Ord | Assumed Line Loss | 348 | 348 | 348 | 348 | 348 | 348 | 68 |
| Marina | Armstrong Ranch | 0 | 0 | 680 | 680 | 680 | 920 | |
| Marina | RMC Lonestar | 0 | 0 | 0 | 0 | 500 | 500 | |
| Marina | Marina Central | 1,823 | 2,184 | 2,491 | 2,606 | 2,725 | 3,020 | |
| | Subtotal - Ord | 2,382 | 4,021 | 6,766 | 7,833 | 8,293 | 6,600 | 1,427 |
| | Subtotal - Marina | 1,823 | 2,184 | 3,171 | 3,286 | 3,905 | 4,440 | 0 |
| | Total | 4,204 | 6,205 | 9,937 | 11,119 | 12,197 | 11,040 | 1,427 |

| Recycled Water Demand (1,2) | | | | | | RW BODR Demands Phase 1 | Phase 2 |
|---|---|---|---|---|---|---|---|
| U.S. Army | 0 | 0 | 0 | 0 | 0 | | 38 |
| CSUMB | 0 | 0 | 87 | 87 | 87 | 202 | 109 |
| Del Rey Oaks | 0 | 0 | 280 | 280 | 280 | 338 | |
| City of Monterey | 0 | 0 | 0 | 0 | 0 | | |
| County of Monterey | 0 | 0 | 134 | 134 | 134 | 47 | 614 |
| UCMBEST | 0 | 0 | 60 | 60 | 60 | 55 | |
| City of Seaside | 0 | 400 | 453 | 453 | 453 | 806 | 140 |
| State Parks and Rec. | 0 | 0 | 0 | 0 | 0 | | 5 |
| Marina Ord Comm. | 0 | 200 | 345 | 345 | 345 | 435 | 391 |
| Assumed Line Loss | | | | | | | |
| Armstrong Ranch | 0 | 0 | 0 | 0 | 0 | | |
| RMC Lonestar | 0 | 0 | 0 | 0 | 0 | | |
| Marina Central | 0 | 0 | 0 | 0 | 0 | 52 | 87 |

| Groundwater Demand (3) | | | | | | Remaining GW |
|---|---|---|---|---|---|---|
| U.S. Army | 633 | 663 | 825 | 825 | 825 | 752 |
| CSUMB | 404 | 442 | 545 | 668 | 692 | 343 |
| Del Rey Oaks | 0 | 186 | 243 | 243 | 243 | 0 |
| City of Monterey | 0 | 0 | 65 | 65 | 65 | 0 |
| County of Monterey | 52 | 377 | 405 | 405 | 405 | 305 |
| UCMBEST | 3 | 94 | 230 | 230 | 230 | 0 |
| City of Seaside | 657 | 597 | 1,012 | 1,012 | 1,012 | 0 |
| State Parks and Rec. | 0 | 12 | 18 | 20 | 25 | 20 |
| Marina Ord Comm. | 285 | 701 | 1,227 | 1,325 | 1,325 | 0 |
| Assumed Line Loss | 348 | 348 | 348 | 348 | 348 | 0 |
| Armstrong Ranch | 0 | 0 | 680 | 680 | 680 | 240 |
| RMC Lonestar | 0 | 0 | 0 | 0 | 500 | 0 |
| Marina Central | 1,823 | 2,184 | 2,491 | 2,606 | 2,725 | 295 |

1,955 total unused

| Demand by Source | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| Groundwater | 4,204 | 5,605 | 8,089 | 8,428 | 9,075 |
| Recycled Water | 0 | 600 | 1,359 | 1,359 | 1,359 |
| Desalinated Water (4) | 0 | 0 | 489 | 1,332 | 1,763 |

Notes:

1 2020 value = maximum of Phase 1 allocation or BODR Phase 1 existing demand
2 Assumes only Recycled Phase 1 occurs
3 Maximum of projected potable demand or SVGB allocation
4 Desalinated demand is total minus groundwater and recycled

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## Appendix D: Notices and Letters to Public Agencies

The following notices and mailings were prepared during the development of this Urban Water Management Plan, and are included in this appendix.

1. Demand Projection Review to Cities, dated October 30, 2015 (sample letter and mailing list)
2. 60-day Notice to Cities and Agencies, dated February 10, 2016 (sample letter and mailing list)
3. Newspaper Notices for Public Hearing, dated May 22 and May 29, 2016
4. Transmittal of Draft to Cities and Agencies, dated May 20, 2016 (sample letter and mailing list)
5. Notice of plan availability for review, MCWD Website, www.mcwd.org
6. MCWD Board Agenda and Staff Report, June 6, 2016 meeting (Public Hearing)
7. Transmittal of Adopted Plan to Cities, Agencies, DWR and State Library

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M. Eliza McNulty, PE
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David A. Foote, PE

October 30, 2015

Ms. Theresa Symansis
City of Marina, Director of Community Development
209 Cypress Avenue
Marina, CA 93933

**Subject: Marina Coast Water District Urban Water Management Plan 2015 Update**

Dear Ms. Symansis

Schaaf & Wheeler is preparing the Marina Coast Water District's 2015 Urban Water Management Plan (UWMP). These plans are prepared by water suppliers every five years. Existing and projected water demands are compared to existing and planned water supplies to ensure there is sufficient supply available. A preliminary task in this effort is to coordinate with the District's customer jurisdictions to determine projected population and water demands. The 2015 UWMP will need to account for existing and forecasted water demands by five-year increments through the year 2035.

Water demands are generally a function of the size (acreage/square footage) or number of units of a development, depending on the type of land use, and a water demand unit factor that corresponds to that use. For each type of land use, Demand = Size x Unit Factor. Using this concept, Schaaf & Wheeler has prepared a preliminary estimate of water demands by land use type and by jurisdiction through 2035 as follows:

- Existing demands are estimated from the District's 2014 water usage records for each jurisdictional area. (Potential future water savings through conservation will be accounted for in the UWMP.)
- For developments that have approved Specific Plans, the water demand factors and total water demand estimates have been taken from the respective Water Supply Assessments (WSAs) for these Specific Plan areas.
- For in-fill development under approved General Plans or Master Plans (e.g., the City of Marina, CSUMB), the District's standard water demand factors have been used with the in-fill land use projections provided by the jurisdiction.
- For most future development within the District's planning area, including all planned Fort Ord development though 2022, we have acquired the Fort Ord Reuse Authority's (FORA) latest annual growth forecast, which they use for CIP planning. The projected developments, generally by square footage or units, are then multiplied by the appropriate unit demand factors.

- For areas not reflected in the Fort Ord Reuse Authority growth forecast (Central Marina, the Army and State Parks), the projected developments reflect the projection in the 2010 UWMP.

You will find attached to this letter several tables detailing the estimates of existing and projected water usage. The summary table categorizes demand estimates by jurisdiction. The 2010 demand summary is provided for reference. The more detailed tables for each jurisdiction show the projected development over the next 20-years, categorized by three types of land use: New Residential, Replacement of Existing Residential, and Non-Residential.

Please have the appropriate staff member(s) review the projected development for your jurisdiction, and report any discrepancies to us.

Note that the FORA growth forecast only looks at planned development though the year 2022, while the UWMP must project demands through 2035. If a specific plan area was not fully reflected in the FORA forecast, you will need to add the remainder of that development in the 2023-2035 columns. Please pay careful attention to the projected development in years 2025 and later since those in particular may be underestimated. For the City of Marina, please confirm the development schedule for Cypress Knolls and SVMH in the Ord Community. Also, the Central Marina projection includes the Downtown Vitalization Specific Plan, which was not formally adopted. Those infill projections may need to be reduced.

The 2015 UWMP is projected to be completed in June 2016, pending the California Department of Water Resources release of updated guidance on UWMP preparation. We would appreciate your prompt review of and feedback on the projected water use figures. Even if no discrepancies are noted, please respond within sixty (60) days so that the UWMP preparation can proceed as scheduled.

Feel free to contact either myself or Andrew Racz of our office at 831-883-4848, email asterbenz@swsv.com, for any questions regarding this matter. Thank you for your cooperation.

Sincerely,

**Schaaf & Wheeler**

Andrew Sterbenz, PE

Project Engineer

Attachments

**Urban Water Management Plan – Jurisdictional POC's**

| | |
|---|---|
| City of Marina | Theresa Symansis<br>City of Marina, Director of Community Development<br>209 Cypress Avenue<br>Marina, CA 93933<br>Phone: (831) 884-1289<br>Fax: (831) 384-0425<br><br>Alternate POC: Layne Long, City Manager |
| City of Seaside | Diana Ingersoll, PE<br>City of Seaside, Deputy City Manager<br>440 Harcourt Ave.<br>Seaside, CA 93955<br>(831) 899-6736<br><br>Alternate POC: Tim O'Halloran, PE |
| City of Del Rey Oaks | Daniel Dawson<br>City of Del Rey Oaks, City Manager<br>650 Canyon Del Rey Road<br>Del Rey Oaks, CA 93940<br>Phone: 831-394-8511<br>Fax: 831-394-6421<br><br>Alternate POC: |
| City of Monterey | Kim Cole, Principal Planner<br>City of Monterey, Planning Office<br>570 Pacific Street<br>Monterey, CA 93940<br>831.646.3885<br>Fax: 831.646.3408<br>Cole@ci.monterey.ca.us<br>Alternate POC: Elizabeth Caraker, Principal Planner |
| County of Monterey | Michael Novo<br>County of Monterey,<br>Resource Management Agency, Planning Services<br>168 West Alisal St., 3rd Floor<br>Salinas, CA 93901<br>Phone (831) 755-5390<br>Fax (831) 755-5398<br>novom@co.monterey.ca.us<br>Alternate POC: Melanie Beretti |
| CSUMB | Kathleen Ventimiglia<br>CSUMB, Director for Campus Planning and Development<br>100 Campus Center, CSU Monterey Bay<br>Seaside CA 93955-8001 |

| | |
|---|---|
| | (831) 582-4304<br>(831) 582-3729<br>kventimiglia@csumb.edu<br>Alternate POC: John Marker, Director of Facilities |
| UCMBEST | Graham Bice<br>Managing Director, UC MBEST Center<br>3180 Imjin Road, Suite 104<br>Marina. CA 93933<br>Phone: 831.582.1020<br>FAX: 831.582.1021<br>bice@ucmbest.org |
| US Army | James Willison<br>Presidio of Monterey, Directorate of Public Works<br>IMWE-POM-PWO<br>Attn: James Willison<br>PO Box 5004<br>Monterey, CA 93944-5004<br>Phone 831.242.7916<br>Fax 831.242.7019 |
| State Parks | Joan Carpenter<br>California State Parks, Monterey District<br>2211Garden Road<br>Monterey, CA 93940<br>phone (831) 649-2836<br>fax (831) 647-6239<br>joan.carpenter@parks.ca.gov |

# MARINA COAST WATER DISTRICT

**11 RESERVATION ROAD, MARINA, CA 93933-2099**
**Home Page: www.mcwd.org**
**TEL: (831) 384-6131 FAX: (831) 883-5995**




February 10, 2016

Mr. Layne Long, City Manager
City of Marina
209 Cypress Avenue
Marina, CA 93933

Dear Mr. Long:

The Marina Coast Water District (MCWD) is preparing an updated Urban Water Management Plan (UWMP) for submittal to the California Department of Water Resources, pursuant to the Urban Water Management Planning Act, as codified in the California Water Code Sections 10610-10656. The last UWMP was adopted in 2011.

The updated plan is currently being drafted. Your planning staff was previously contacted for review and input on the development and water demand projections for the planning period, which runs to the year 2035. Our anticipated schedule for public review and plan adoption is:

| | |
|---|---|
| March 21,2016 | Publish public review draft of the UWMP |
| April 18, 2016 | Conduct public hearing at the regularly scheduled MCWD Board meeting |
| April 21, 2016 | Comment period closes |
| May 16, 2018 | Adopt final UWMP at the regularly scheduled MCWD Board meeting |

We will provide you a copy of the public review draft plan in March. We invite your input and comments on the UWMP. Please provide input to our consultant, Schaaf & Wheeler Consulting Civil Engineers, Attn: Andy Sterbenz, 3 Quail Run Circle, Suite 101, Salinas, CA, 93907. Andy may be contacted by phone at (831) 883-4848, or by e-mail at asterbenz@swsv.com. You may contact me by direct phone at (831) 883-5925, or e-mail mwegley@mcwd.org.

Sincerely,

Michael Wegley, PE
District Engineer

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**Urban Water Management Plan – POCs for Notices**

| | |
|---|---|
| City of Marina | Mr. Layne Long, City Manager<br>City of Marina<br>209 Cypress Avenue<br>Marina, CA 93933 |
| City of Seaside | Mr. Craig Malin, City Manager<br>City of Seaside<br>440 Harcourt Ave.<br>Seaside, CA 93955 |
| City of Del Rey Oaks | Mr. Daniel Dawson, City Manager<br>City of Del Rey Oaks<br>650 Canyon Del Rey Road<br>Del Rey Oaks, CA 93940<br>Phone: 831-394-8511<br>Fax: 831-394-6421 |
| City of Monterey | Mr. Michael McCarthy, City Manager<br>City of Monterey<br>580 Pacific Street<br>Monterey, CA 93940 |
| County of Monterey | Mr. Carl P. Holm, AICP<br>County of Monterey,<br>Director, Resource Management Agency<br>168 West Alisal St., 3rd Floor<br>Salinas, CA 93901 |
| MCWRA | Mr. David E. Chardavoyne, General Manager<br>Monterey County Water Resources Agency<br>893 Blanco Circle<br>Salinas, CA 93901 |
| MRWPCA | Mr. Paul Sciuto, General Manager<br>Monterey Regional Water Pollution Control Agency<br>5 Harris Court, Bldg D<br>Monterey, CA 93940 |

| | |
|---|---|
| CSUMB | Ms. Kathleen Ventimiglia<br>CSUMB, Director for Campus Planning and Development<br>100 Campus Center, CSU Monterey Bay<br>Seaside CA 93955-8001<br>(831) 582-4304<br>(831) 582-3729<br>kventimiglia@csumb.edu<br>Alternate POC: John Marker, Director of Facilities |
| UCMBEST | Mr. Graham Bice<br>Managing Director, UC MBEST Center<br>3180 Imjin Road, Suite 104<br>Marina. CA 93933<br>Phone: 831.582.1020<br>FAX: 831.582.1021<br>bice@ucmbest.org |
| US Army | Mr. James Willison<br>Presidio of Monterey, Directorate of Public Works<br>IMWE-POM-PWO<br>Attn: James Willison<br>PO Box 5004<br>Monterey, CA 93944-5004 |
| State Parks | Ms. Joan Carpenter, District Services Manager<br>California State Parks, Monterey District<br>2211Garden Road<br>Monterey, CA 93940 |
| CalAm | Mr. Eric Sabolsice<br>General Manager, Monterey District<br>California American Water<br>511 Forest Lodge Road, Suite 100<br>Pacific Grove, CA 93950 |
| MPWMD | Mr. David J Stoldt<br>Monterey Peninsula Water Management District<br>5 Harris Court, Bldg G<br>Monterey, CA 93940 |
| FORA | Mr. Michael A. Houlemard, Jr.<br>Executive Officer, Fort Ord Reuse Authority<br>920 Second Ave, Suite A<br>Marina, CA 93933 |

## Appendix E: Technical Memoranda

The following technical memoranda were prepared as interim reports during the development of this Urban Water Management Plan, and are included in this appendix.

1. District Population Estimate, dated 5/25/2015
2. FORA Water Augmentation Target, dated 12/23/2015
3. Water Allocations by Jurisdiction, dated 5/17/2016
4. Groundwater Quality in the North Marina Area, Hopkins Groundwater Consultants, Inc., May 2016

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swmb@swsv.com

**Schaaf & Wheeler**
CONSULTING CIVIL ENGINEERS

# TECHNICAL MEMORANDUM

| | | | |
|---|---|---|---|
| TO: | Paul Lord, MCWD | DATE: | May 25, 2015 |
| FROM: | Andrew Sterbenz, PE | JOB #: | MCWD.43.12.001 |
| SUBJECT: | District Population Estimate | | |

## Purpose

The purpose of this memorandum is to summarize the methodology and source data used to develop annual population estimates for the Marina Coast Water District (MCWD). These estimates are to be used for reporting monthly urban water supplier reports to the California State Water Resources Control Board (SWRCB) under the current drought rules.

## Methodology and Results

The SWRCB published guidance recommending two methods of estimating urban population for the required drought water usage reporting. The first method is to use the annual population estimate prepared by the California Department of Finance (DOF) for incorporated municipalities. This method is recommended for provider's whose service area has a 95% match with the urban boundary. The second method is to estimate the number of persons per residential connection based upon the 2010 values in the last Urban Water Management Plan (UWMP), and then estimate the population increase based upon the number of new residential connections each year.

MCWD currently serves all of the City of Marina, plus portions of the City of Seaside and unincorporated Monterey County. Therefore, a hybrid methodology may be used. The District has two service areas, Central Marina and the Ord Community. The Central Marina Service area includes all of the developed portions of the City outside of the former Fort Ord. The Ord Community includes the developed portions of the former base, including portions of the City of Marina, the City of Seaside and unincorporated Monterey County. Between the two service areas, all of the developed portions of the City of Marina are served by MCWD, so the DOF estimated population may be used, as shown in the Table 1, below.

**Table 1: Extract from California Department of Finance**
**Report E-4 Population Estimates for Cities, Counties, and State, 2011-2015 with 2010 Benchmark**

| COUNTY/CITY | 4/1/2010 | 1/1/2011 | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|---|---|---|
| | | | | | | |
| **California** | | | | | | |
| Incorporated Total | 30,764,188 | 30,973,925 | 31,297,312 | 31,636,815 | 31,921,717 | 32,237,899 |
| Balance Of State Total | 6,489,768 | 6,454,021 | 6,383,281 | 6,393,794 | 6,435,404 | 6,476,826 |
| State Total | 37,253,956 | 37,427,946 | 37,680,593 | 38,030,609 | 38,357,121 | 38,714,725 |
| | | | | | | |
| **Monterey County** | | | | | | |
| Carmel-By-The-Sea | 3,722 | 3,722 | 3,733 | 3,768 | 3,747 | 3,747 |
| Del Rey Oaks | 1,624 | 1,631 | 1,643 | 1,658 | 1,661 | 1,660 |
| Gonzales | 8,187 | 8,220 | 8,272 | 8,349 | 8,363 | 8,357 |
| Greenfield | 16,330 | 16,396 | 16,516 | 16,839 | 16,879 | 16,870 |
| King City | 12,874 | 12,942 | 13,033 | 13,158 | 13,179 | 13,417 |
| **Marina** | **19,718** | **19,759** | **20,005** | **20,199** | **20,222** | **20,872** |
| Monterey | 27,810 | 28,019 | 28,472 | 28,419 | 28,319 | 28,163 |
| Pacific Grove | 15,041 | 15,108 | 15,226 | 15,367 | 15,394 | 15,388 |
| Salinas | 150,441 | 150,996 | 152,461 | 154,189 | 154,815 | 154,720 |
| Sand City | 334 | 335 | 337 | 340 | 342 | 362 |
| Seaside | 33,025 | 32,808 | 33,174 | 33,523 | 33,456 | 33,672 |
| Soledad | 25,738 | 26,286 | 26,247 | 25,536 | 24,959 | 24,540 |
| Balance Of County | 100,213 | 100,746 | 101,680 | 102,719 | 103,438 | 103,645 |
| Incorporated | 314,844 | 316,222 | 319,119 | 321,345 | 321,336 | 321,768 |
| County Total | 415,057 | 416,968 | 420,799 | 424,064 | 424,774 | 425,413 |

The annual population change estimated by DOF for Marina is shown in Table 2:

**Table 2: Estimated Cumulative Population Increases by Year**

| CITY | 4/1/2010 | 1/1/2011 | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|---|---|---|
| Marina | NA | 41 | 287 | 481 | 504 | 1,154 |

The total MCWD population was determined for the last UWMP based on the 2010 census by summing all of the Census Tracts within the District. The population total in 2010 was 30,480 persons. Subtracting the 19,718 from within the City of Marina, the 2010 population for the remainder of the Ord Community was 10,762 persons. In the 2010 UWMP, the District reported having 7,153 residential connections (sum of single and multi-family accounts). The number of persons per account is calculated by dividing

$$\frac{30{,}480\ persons}{7{,}153\ accounts} = 4.26\ persons\ per\ account$$

Note that there are numerous multi-family units within the District which have more than one dwelling unit per meter, so the average number of persons per account is larger than the estimated persons per household.

Since 2010, five housing projects have been completed or partially completed:

- University Village Apartments (Marina), 108 units occupied in 2014
- Stilwell Kidney and Lower Stilwell (Seaside), 148 units occupied in 2010-2013
- Manzanita Place Apartments (Monterey County) , 66 units occupied in 2013
- East Garrison (Monterey County), 14 houses in 2013, 108 houses in 2014

The University Village Apartments are included within the City of Marina population projection. The Stilwell developments in Seaside are part of the Army housing upgrades in the Presidio of Monterey Annex. The Army is renovating and/or replacing existing housing units, and then emptying older units for the next phase, thus maintaining a constant number of occupied units. Therefore, the only additional residential units outside of Marina were in Monterey County. The annual increase in accounts is shown in Table 3, and the resulting population increase is shown in Table 4. The District total population is calculated in Table 5.

**Table 3: New Residential Accounts Outside the City of Marina (cumulative)**

| Development | 4/1/2010 | 1/1/2011 | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|---|---|---|
| Manzanita Place | NA | 0 | 0 | 0 | 66 | 66 |
| East Garrison | NA | 0 | 0 | 0 | 14 | 108 |
| **Total** | **NA** | **0** | **0** | **0** | **80** | **174** |

**Table 4: Population Increases Outside the City of Marina (cumulative)**

| Development | 4/1/2010 | 1/1/2011 | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|---|---|---|
| Manzanita Place | NA | 0 | 0 | 0 | 281 | 281 |
| East Garrison | NA | 0 | 0 | 0 | 60 | 460 |
| **Total** | **NA** | **0** | **0** | **0** | **341** | **741** |

Population estimated as 4.26 persons per residential account

**Table 5: MCWD Estimated Population by Year**

| Area | 4/1/2010 | 1/1/2011 | 1/1/2012 | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|---|---|---|
| City of Marina | 19,718 | 19,759 | 20,005 | 20,199 | 20,222 | 20,872 |
| Existing outside of Marina in 2010 | 10,762 | 10,762 | 10,762 | 10,762 | 10,762 | 10,762 |
| New outside of Marina since 2010 | NA | 0 | 0 | 0 | 341 | 741 |
| **Total** | **30,480** | **30,521** | **30,767** | **30,961** | **31,325** | **32,375** |

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CONSULTING CIVIL ENGINEERS

# MEMORANDUM

| | | | |
|---|---|---|---|
| TO: | File | DATE: | 23 DEC 2015 |
| FROM: | Andrew Sterbenz | JOB#: | MCWD.43.12.020 |
| SUBJECT: | FORA Water Augmentation Target | | |

The purpose of this memorandum is to document the required size of the water augmentation mitigation under the Fort Ord Reuse Authority Base Reuse Plan.

The Fort Ord Base Reuse Plan was adopted in 1997. The Fort Ord Reuse Study projected a build-out water demand of 18,262 AFY. The Base Reuse Plan EIR revised that down to 13,500 AFY at buildout, with a Phase 1 (Year 2015) projection of 8,999 AFY. The 2015 projection included 8,712 new residential dwelling units, 4,925,800 SF of new commercial and office space, and 270 acres of new primary and secondary education campuses. The demand estimate assumed a 10% overage to account for system losses. The United States had acquired 6,600 AFY of groundwater pumping rights in the Salinas Valley Groundwater Basin to serve the former Fort Ord. In the Base Reuse Plan EIR, the water augmentation mitigation was estimated to be 2,400 AFY, which is the projected 9,000 AFY demand minus the existing 6,600 AFY supply[1].

In the Base Reuse Plan, the Fort Ord Reuse Authority allocated the existing 6,600 AFY of groundwater rights among the land use jurisdictions so they could proceed with entitling redevelopment projects. The initial and current allocations are shown in the table below. The United States retained 1,577 AFY for use in the Presidio of Monterey Annex, which includes the military housing area and various offices and facilities.

The existing Bayonet/Black Horse Golf Courses on the former Fort Ord use approximately 400 AFY for landscape irrigation. This water was supplied from existing wells in the Seaside Groundwater Basin. The Base Reuse Plan assumed that supply from these wells would continue indefinitely, so this demand was not included in the 2015 demand projection, although the plan identified the need to convert these sites to recycled water once available. In 2005 the Seaside Groundwater Basin was adjudicated, which increased the urgency to convert the system to recycled water.

The Marina Coast Water District's Regional Urban Water Augmentation Project (RUWAP) was approved in 2004. That project was sized to provide 2,400 AFY of new supply to the Ord Community, as a mix of potable and recycled water. The supply target came from the Base Reuse Plan. In the demand analysis, MCWD included Bayonet and Black Horse Golf Courses as potential recycled water use locations. While this inclusion was appropriate given the status of the Seaside Groundwater Basin, the RUWAP target should have been increased by 400 AFY to be consistent with the Base Reuse Plan assumptions.

[1] Base Reuse Plan, Volume 3, Appendix B, page PIFP 2-7

The MCWD 2005 Urban Water Management Plan (UWMP) projected all jurisdictions fully using or exceeding their water allocations by the year 2020, with an overall shortfall of 5,300 AFY in the Ord Community (see attached tables). That projection did not include replacement water supply for Bayonet/Black Horse Golf Courses. The 2010 UWMP update reflected the reduced redevelopment rate following the economic downturn and the projected replacement supply for Bayonet/Black Horse, and shows two jurisdictions (the Army and CSUMB) which are projected to not fully use their allocations by 2030. The projected shortfall in the Ord Community was 1,600 AFY, but accounting for "stranded" allocations, the total becomes 2,400 AFY. The 2030 projection does not include all of the development included in the Base Reuse Plan 2015 projection, most notably the proposed golf courses in Marina and Del Rey Oaks.

FORA has a Water Augmentation item in its CIP as a mitigation for the projected redevelopment. As part of the 2015 UWMP update, a reassessment of the water augmentation target should be conducted to determine if 2,400 AFY is still valid. The FORA mitigation is funded through land sales and development fees, which are considered the developer's mitigation for project water demands. New development which is in excess of the "mitigated level of redevelopment" will need to develop additional water supplies, or fund MCWD's development of additional water supplies. MCWD needs to know what the "mitigated level of redevelopment" is so they can plan accordingly.

**FORA Water Allocations**

| Jurisdiction | Original Allocation (1996) Acre-feet/year | Current Allocation (2007) Acre-feet/year |
|---|---|---|
| City of Seaside | 710 | 1,012 |
| City of Del Rey Oaks | 75 | 243 |
| City of Monterey | 65 | 65 |
| City of Marina | 1,185 | 1,325 |
| Monterey County | 545 | 710 |
| Army | 1,410 | 1,577 |
| CSUMB | 1,055 | 1,035 |
| UCMBEST | 165 | 230 |
| State Parks | 45 | 45 |
| Marina Sphere Polygon 8a | 50 | 10 |
| Line Loss | 530 | 348 |
| FORA Strategic Reserve | 785 | 0 |

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**Schaaf & Wheeler**
CONSULTING CIVIL ENGINEERS

# MEMORANDUM

| | | | |
|---|---|---|---|
| TO: | File | DATE: | May 18, 2016 |
| FROM: | Andrew Sterbenz | JOB#: | MCWD.43.12.020 |
| SUBJECT: | Jurisdictional Water Allocations | | |

The purpose of this memorandum is to summarize the potable water allocations within the Ord Community, both from the Fort Ord Reuse Authority (FORA) to the respective jurisdictions and from the jurisdictions to specific projects.

**Groundwater Supply**

Potable water supply for the former Fort Ord (MCWD Ord Community service area) comes from the Salinas Valley Groundwater Basin (SVGB), which is managed by the Monterey County Water Resources Agency (MCWRA). MCWRA operates two reservoirs which capture winter runoff and maintain year-round flow in the Salinas River, which recharges the groundwater basin. MCWRA established Zones 2 and 2A as benefit assessment zones to finance the construction and operation of Lakes Nacimiento and San Antonio, respectively. Under the "Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404", dated September 21, 1993, the U.S. Army may withdraw up to 6,600 acre-feet per year from the Salinas Valley Groundwater Basin for use on the former Fort Ord, including those portions of the former Fort Ord that overly the Seaside Groundwater Basin. The MCWD Central Marina service area was similarly annexed into Zones 2/2A in 1996.

On October 24, 2001, the United States quitclaimed the water and sewer infrastructure on the former Fort Ord, including the SVGB groundwater allocation, through FORA to the Marina Coast Water District. The U.S. retained 1,729 AFY for use in the Presidio of Monterey Annex (military housing and facilities within the Ord Community) and the Bureau of Land Management. Under agreements between the U.S. Army and FORA (2000), and between MCWD and FORA (1998), the FORA Board allocated the remaining water supply among the land use jurisdictions in the Ord Community. MCWD owns and operates the water system and the underlying groundwater extraction rights, except for the rights reserved to the U.S. Army. MCWD provides water and sewer service to the Presidio of Monterey Annex under direct contract with the U.S. Army.

**Allocations to Land Use Jurisdictions**

The original and current allocation of potable water supply among the Ord Community Land Use Jurisdictions is shown in Table 1, below. FORA initially allocated supply among the jurisdictions on April 12, 1996, under the Development and Reuse Management Plan, adopted as part of the Base Reuse

Plan. At that time, FORA held out a strategic reserve of 785 AFY. On August 14, 1998, the allocations were adjusted and the strategic reserve reduced to 755 AFY. In 2001, the U.S. Army allocated 38 AFY to Brostram Park in Seaside, reducing the retained total to 1,691 AFY. In 2005, the U.S. Army allocated 114 AFY to Seaside as part of a real estate exchange between the Army and the City, reducing the retained total to 1,577 AFY. As the jurisdictions developed specific plans for the redevelopment of Ord Community, FORA made several "loans" from the strategic reserve to jurisdictions. On January 12, 2007, FORA made these loans permanent.

**Table 1. Salinas Valley Groundwater Allocations**

| Jurisdiction | Original Allocation (1996) Acre-feet/year | Current Allocation (2007) Acre-feet/year |
|---|---|---|
| U.S. Army (retained)[1] | 1,410 | 1,577 |
| City of Seaside | 710 | 1,012 |
| City of Del Rey Oaks | 75 | 242.5 |
| City of Monterey | 65 | 65 |
| City of Marina | 1,185 | 1,325 |
| Monterey County | 545 | 710 |
| CSUMB | 1,055 | 1,035 |
| UCMBEST | 165 | 230 |
| State Parks | 45 | 45 |
| County/Marina Sphere (Polygon 8a) | 50 | 10 |
| Line Loss | 530 | 348.5 |
| FORA Strategic Reserve[2] | 785 | 0 |

Notes:
1. The U.S. Army retained 1,729 AFY of groundwater rights for the POM Annex, but it is accounted for in the original allocation table as 1,410 AFY for POM Annex use, 160 AFY as a portion of the strategic reserve, and 159 AFY (10%) as a portion of the line loss allowance.
2. The original strategic reserve included 160 AFY for the POM Annex, 125 AFY for CSUMB, 230 AFY for Seaside and 270 AFY of unencumbered supply.

The County/Marina Sphere of influence area (included in the table above) is defined as County Planning Area 8a in the Base Reuse Plan. This area is bounded by Imjin Parkway on the north, Inter-Garrison Road on the south, the Marina City Limit on the west (7th Avenue alignment) and the CSUMB property on the east (includes a short portion of Abrams Drive). This is generally the landfill parcel, but it includes the Ord Market (former shoppette) at the corner of Imjin Parkway and Abrams Drive.

The existing Bayonet/Black Horse Golf Courses on the former Fort Ord use approximately 400 AFY for landscape irrigation. This water was supplied from existing wells in the Seaside Groundwater Basin. The Base Reuse Plan assumed that supply from these wells would continue indefinitely, or until it could be replaced with recycled water. In 2005 the Seaside Groundwater Basin was adjudicated, which increased the urgency to convert the system to recycled water.

The assumed line loss of 348.5 AFY represents 5.3% of the total water allocation, which is an ambitious target. Water loss rates around 10% are more typical within municipal water systems.

**Sub-Allocations by Land Use Jurisdictions**

MCWD maintains a listing of water sub-allocations made by land use jurisdictions to specific projects. When publishing a water supply assessment report, the list is updated for the affected jurisdiction(s) and included in the report. The current sub-allocation table is attached.

Some of the water uses within the Ord Community were on-going at the time of the Base Closure (such as the public schools) or transitioned to new uses without formal allocations (such as the conversion of Preston Park military housing to affordable public housing). The values for existing uses that do not have formal allocations reflect the peak demand years.

Two jurisdictions, the City of Del Rey Oaks and the City of Monterey, have not yet formally approved development in the Ord Community, and therefore have not made any sub-allocations. Several other jurisdictions (CSUMB, UCMBEST, U.S. Army and State Parks) retain all of their property under single ownership, and have not needed to sub-allocate water supply to internal projects. In 2007, State Parks allocated 5.5 AFY for the American Youth Hostel project in Seaside. In 2014, the U.S. Army allocated 5 AFY to the California Central Coast Veterans Cemetery Project in Seaside, with an additional 10 afy for the first two years for landscape establishment. These project allocations are reflected in the summary table.

In the City of Marina, sub-allocations have been made for three specific plan areas: Marina Heights, University Villages (now called Dunes on Monterey Bay) and Cypress Knolls. Project-specific allocations have also been made for the Monterey Peninsula College 12$^{th}$ Street Campus, the Rock Rose Gardens housing project, and the Promontory apartments. The table also includes several projects which are subsets of Specific Plan allocations.

In the City of Seaside, sub-allocations have been made to two specific plan areas: Seaside Highlands and Seaside Main Gate. Project-specific allocations have also been made for the Monterey College of Law, Monterey Peninsula College, Chartwell School and the American Youth Hostel. The water allocations for Sun Bay Apartments and Bay View Mobile Home Park were established through the MOA between the USA and FORA, as amended in 2001. The Water Supply Assessment for the Seaside Main Gate Project identified a demand range from 207 to 213 AFY, but the City allocation was only for the retail portion of that project. A Water Supply Assessment has been prepared for the Monterey Downs Specific Plan area, which includes portions of Seaside and unincorporated Monterey County. That specific plan has not yet been adopted by the City.

Also within Seaside, the Bayonet/Blackhorse Golf Courses were originally irrigated from a well in the Seaside Groundwater Basin. In 2010, MCWD and Seaside entered into a land purchase agreement. Under that agreement, MCWD is providing 2,500 acre-feet of SVGB supply to irrigate the golf course, which allows Seaside to reduce their groundwater use from the Seaside Groundwater Basin. This is a term agreement and not a permanent allocation, so it is listed in summary table without an allocation value.

In Monterey County, sub-allocation was made for the East Garrison Specific Plan area, and project-specific allocations were made for Monterey Peninsula College and for the Ord Market. The Ord Market is within the Marina Sphere sub-area.

**Attachments**

Table 2, Sub-Allocations by Jurisdiction

Table 3.11-2, Allocation of Existing Potable Water Supply by Jurisdiction, from the FORA Development and Resource Management Plan

**References**

Agreement between the United States of America and the Monterey County Water Resources Agency concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, Agreement No. A-06404, September 21, 1993.

Fort Ord Reuse Authority, Development and Resource Management Plan portion of the Fort Ord Base Reuse Plan, 1997

Fort Ord Reuse Authority, Board Agenda Packet for January 12, 2007, item 8b: Resolution of the Authority Board changing the 150 AFY loans granted to Del Rey Oaks, Seaside, Marina, and Monterey County in October 1998 to permanent additions to their water allocations

Memorandum of Agreement Between the United States of America, Acting By and Through the Secretary of The Army, United States Department of the Army and the Fort Ord Reuse Authority for the Sale of Portions of the Former Fort Ord, Located in Monterey County, California, June 20, 2000

Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands, 1996

Assignment of Easements on Former Fort Ord and Ord Military Community, County of Monterey, and Quitclaim Deed for Water and Wastewater Systems, between Fort Ord reuse Authority (Grantor) and Marina Coast Water District (Grantee), October 24, 2001

**Table 2. Water Sub-Allocations by Jurisdiction**

| Ord Community Land Use Jurisdiction | SVGB Allocation (AFY) | Suballocations To | Suballocation Amount (AFY) | Resolution No. | Date | Notes: |
|---|---|---|---|---|---|---|
| U.S. Army | 1,577 | | | | | |
| | | Exisitng POM Annex | 686 | | | maximum annual use, DPW has not allocated by facility |
| | | Veterans Cemetery | 5 | USA | 2014 | 15 AFY for 2 years, 5 AFY permanent |
| CSUMB | 1,035 | | | | | |
| | | None | | | | Campus has not allocated by facility. |
| Del Rey Oaks | 242.5 | | | | | |
| | | None | | | | |
| City of Monterey | 65 | | | | | |
| | | None | | | | |
| County of Monterey | 710 | | 522.5 | | | |
| | | East Garrison 1 | 470 | 05-268 | 10/4/2005 | |
| | | MPC | 52.5 | 02-XX | 12/10/2002 | |
| | | ~~Whispering Oaks~~ | 0 | | | Allocated 93 AFY, later revoked with the specific plan. |
| County/Marina Sphere | 10 | | 5 | | | Reuse Plan polygon 8a (landfill parcel, shoppette) |
| | | Ord Market | 5 | | 3/27/2008 | |
| UCMBEST | 230 | | | | | |
| | | None | | | | |
| City of Seaside | 1,012 | | 786.6 | | | |
| | | Sunbay Apts (Thorson) | 120.0 | USA | 10/23/2001 | Amendment 1 to Agreement dated 6/20/2000 between USA and FORA |
| | | Bay View Park (Brostram) | 84.8 | USA | 10/23/2001 | Amendment 1 to Agreement dated 6/20/2000 between USA and FORA |
| | | Seaside Highlands | 168.5 | 02-07 | 2002 | 43.1 AFY to be replaced with RW when available |
| | | Seaside Resort | 161.4 | 05-44 | 2005 | |
| | | Monterey College of Law | 2.8 | 04-20 | 3/18/2004 | |
| | | Monterey Penninsula College | 9.7 | 09-36 | 7/16/2009 | |
| | | MPUSD | 81.0 | USA | | existing at time of base closure |
| | | Chartwell School | 6.4 | 05-26 | 5/19/2005 | |
| | | Other | 3.0 | | | existing at time of base closure |
| | | Main Gate | 149 | 08-XX | 5/15/2008 | WSA totalled 207 AFY. City allocated retail portion only. |
| | | State Parks transfer for AYH | -5.5 | 07-XX | 11/15/2007 | Agreement to transfer supply for this project |
| | | Amer. Youth Hostile | 5.5 | 07-XX | 11/15/2007 | Agreement to supply AYH with transferred supply |
| | | Bayonet/Blackhorse Golf (temp) | | temp | | Agreed on 4/1/10: 2500 AF in exchange for 17 ac parcel, max 500 AF/Yr |
| | | Monterey Downs | | | | Not yet approved, WSA estimated 852.5 AFY |
| State Parks and Rec. | 45 | | | | | |
| | | Seaside for Amer. Youth Hostel | 5.5 | | 11/15/2007 | AYH parcel goes to Seaside along with 5.5 AFY supply |
| City of Marina | 1,325 | | 1319.8 | | | |
| | | Existing use | 233.1 | | | Preston Park, Abrams Park, Airport, Veterans Housing, etc. |
| | | Marina Heights | 292.4 | 2004-41 | 3/3/2004 | |
| | | University Villages | 593.0 | 2005-129 | 5/31/2005 | renamed Dunes on Monterey Bay |
| | | Cypress Knolls | 156.1 | 2006-289 | 11/8/2006 | |
| | | MPC - 12th St Campus | 7.0 | 2007-xx | 2/6/2007 | |
| | | Imjin Office Park | 0.0 | | | IS-MND projected 11.76 AFY. No formal allcoation made |
| | | CHOMP Wellness Center | 0.0 | | | 21 AFY, Subset of University Villages |
| | | Rock Rose Gardens | 4.9 | PC2011-07 | 6/9/2011 | Planning commission, existing demand formalized as allocation |
| | | Promontory Apartments | 33.3 | 2013-86 | 7/2/2013 | |
| Assumed Line Loss | 348.5 | | | | | |
| | | | | | | |
| Total GW: | 6,600 | | | | | |

SVGB = Salinas Valley Groundwater Basin
AFY = acre-feet/year
XX = Resolution # not included in meeting minutes
RW = Recycled Water

**TABLE 3.11-2**
**Allocation of Existing Potable Water Supply**
**By Jurisdiction**
**(Based on FORA's April 12, 1996 Resolution**

| JURISDICTION | TOTAL WATER ALLOCATION (AFY) | NOTES |
|---|---|---|
| City of Seaside | 710 | |
| County/City of Del Rey Oaks | 75 | Plus reclaimed water for golf course |
| County/City of Monterey | 65 | |
| City of Marina | 1,185 | |
| Monterey County | 545 | |
| ARMY | 1,410 | |
| CSUMB | 1,055 | Plus reclaimed water for irrigation |
| UCMBEST | 165 | Plus reclaimed water for irrigation |
| County/State Parks and Recreation | 45 | |
| County/Marina Sphere Polygon 8a | 50 | |
| SUBTOTAL | 5,295 AFY | |
| Line Loss (10%) | 530 | |
| FORA Strategic Receive | 785 | Encumbered Reserve:<br>Army – 160 AFY1<br>CSUMB – 125 AFY1<br>Seaside – 230 AFY2<br>Unencumbered – 270 AFY |
| TOTAL | 6,600 AFY | |

ENCUMBRANCES TO FORA'S STRATEGIC RESERVE

1. 160 AFY at the POM Annex and 125 AFY at CSUMB polygon 10 are available upon metering of existing dwelling units.
2. 230 AFY loaned to Seaside is available to Seaside for golf course irrigation until reclaimed replacement water is provided.

The Technical Memorandum from Hopkins Groundwater Consultants in undergoing final revision and will be added in a supplemental draft.

## Appendix F: Water Shortage Contingency Plan with Resolution of Adoption

The following documents are included in this appendix:

1. Resolution 2015-33, dated July 6, 2015, Adopting an Updated Water Shortage Contingency Plan
2. MCWD Water Shortage Contingency Plan, dated July 6, 2015
3. Resolution 2014-34, dated November 3, 2014, Declaring Water Conservation Stage 3 (included as an example of an implementing resolution)

July 6, 2015

Resolution No. 2015-33
Resolution of the Board of Directors
Marina Coast Water District
Adopting an Updated Water Shortage Contingency Plan

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("MCWD"), at a regular meeting duly called and held on July 6, 2015, at 211 Hillcrest Avenue, Marina, California as follows:

WHEREAS, Section 10632 of the California Water Code requires the Marina Coast Water District to maintain a Water Shortage Contingency Plan within its Urban Water Management Plan; and,

WHEREAS, the District maintains a Water Shortage Contingency Plan and desires to update said plan in accordance with the Water Code and provide a guidance document for management of water shortages within the District; and,

WHEREAS, due to ongoing historic drought conditions, the District desires to incorporate current mandatory water conservation measures into an updated Water Shortage Contingency Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby:

1. Approve and adopt the attached Water Shortage Contingency Plan, and,

2. Authorize the Interim General Manager to file the Water Shortage Contingency Plan with the California Department of Water Resources.

PASSED AND ADOPTED on July 6, 2015 by the Board of Directors of the Marina Coast Water District by the following roll call vote:

| | | |
|---|---|---|
| Ayes: | Directors | Shriner, Moore, Lee, Le |
| Noes: | Directors | None |
| Absent: | Directors | Gustafson |
| Abstained: | Directors | None |

Peter Le

Peter Le, Vice President

ATTEST:

Bill Kocher, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2015-33 adopted July 6, 2015.

Bill Kocher, Secretary

# MARINA COAST WATER DISTRICT
# WATER SHORTAGE CONTINGENCY PLAN

## 1.0 INTRODUCTION AND BACKGROUND

This Water Shortage Contingency Plan is developed in compliance with California Water Code Section 10632. Requirements of subsections (a)(1)-(a)(9) and (b) are identified below and are accompanied by the required elements and information.

The Marina Coast Water District (MCWD) obtains its water supply from the Salinas Valley Groundwater Basin (SVGB). The SVGB is not adjudicated and provides water for growers, municipalities and other municipal and industrial uses in the Salinas Valley. Due to cumulative basin pumping, coastal aquifers are experiencing seawater intrusion. MCWD continues to work with Monterey County Water Resources Agency (MCWRA) in developing plans to coordinate and encourage preservation of the SVGB aquifers by all municipal and agricultural users.

In 2005, MCWD interconnected its two service areas, Central Marina and the Ord Community. The interconnection has improved system-wide reliability, making maximum use of available water storage tanks in the Ord Community and allowing both areas to be served by any of the eight District wells. In 2007, the District consolidated the two systems under a single Public Water System Permit.

The District continues its participation as a member of the Water Awareness Committee of Monterey County (WAC). Through the WAC, representatives from several agencies throughout Monterey County work together coordinating conservation and other water awareness efforts including education programs, information booths for special events and public understanding of Monterey County water challenges and opportunities.

***California Water Code Section 10632(a)(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies, including but not limited to, a regional power outage, an earthquake or other disaster.***

The MCWD developed and adopted an Emergency Response Plan[1] for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Water Resources Control Board, Division of Drinking Water (DDW). This Plan contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply.

## 2.0 STAGES OF ACTION

***California Water Code Section 10632(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.***

[1] Ordinance 44, adopted in 2007

The MCWD has developed a five-stage Water Conservation Plan that includes two voluntary and three mandatory stages. Table 1 generally describes the various stages. Specific water supply conditions applicable to each stage, referred to as "triggering mechanisms" herein, are discussed in the next section.

**Table 1: Water Conservation Stages and Demand Reduction Goals**

| Stage | Water Shortage Level | Demand Reduction Goal | Type Program |
|---|---|---|---|
| Stage 1 | 0 – 10% | 10% reduction | Voluntary Compliance |
| Stage 2 | >10 - 25% | 20% reduction | Voluntary Compliance |
| Stage 3 | >25 - 35% | 30% reduction | Mandatory Compliance |
| Stage 4 | >35 – 50% | 40% reduction | Mandatory Compliance |
| Stage 5 | >50% | 50%+ reduction | Mandatory Compliance |
| **Priorities** for use of available water, based on California Water Code Chapter 3 are:<br>1. Health and Safety - interior residential and fire fighting<br>2. Commercial, Industrial, and Governmental - maintain jobs & economic base<br>3. Existing Landscaping - especially trees and shrubs<br>4. New Demand - projects without permits when shortage declared | | | |

***California Water Code Section 10632(a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.***

This requirement is oriented toward water supply systems that are primarily supplied with surface water and are therefore directly affected by short-term fluctuations in hydrology (i.e., drought conditions). MCWD's current water supply is produced through groundwater pumping from the large SVGB. MCWD supply availability from this basin has not historically varied due to short-term hydrologic conditions. MCWD's wells are located in the Pressure Sub-Area of the SVGB. Within the Pressure Sub-Area, the historic difference between water levels under average and drought conditions is only 10- to 20-feet. The minimum water supply available during the driest three-year sequence is expected to match demands as discussed in the Urban Water Management Plan.

## 3.0 TRIGGERING MECHANISMS

The SVGB is currently the most important source of water for MCWD. In 2004, the MCWD's groundwater withdrawals of about 4,600 acre-feet accounted for less than one percent (1%) of the estimated basin-wide annual extractions of roughly 550,000 acre-feet. Given this relatively small percentage, MCWD conservation and contingency management activities can play only a small part within the SVGB. The foremost concern in developing appropriate triggers is achieving the maximum practical protection of an adequate long-term water supply of acceptable quality for MCWD customers. To that end, triggering mechanisms should be tied to factors that, directly or indirectly, have the greatest potential effect on the quality and quantity of available groundwater. Two general types of threats could cause MCWD to experience water shortages:

1. Unanticipated catastrophic system failure due to an earthquake, terrorist attack or sudden contamination of water supply, or
2. Chronic system shortage due to seawater intrusion reaching water supply wells in

concentrations such that those wells would have to be removed from service.

In the case of a catastrophic failure, the MCWD would assess the nature and extent of the failure, and the General Manager would identify the appropriate Conservation Stage in accordance with the expected level of water supply shortage. Should shortages be anticipated in amounts beyond fifty percent of normal demands, emergency actions will be taken in accordance with the MCWD's Emergency Response Plan, including enacting emergency ordinances as may be required by MCWD Board of Directors.

The chronic system threat to MCWD's present water supplies is seawater intrusion, which has occurred along the coastal margin of the Salinas Valley in response to historic over-drafting of the basin. Contamination from volatile organic compounds (VOCs) has also affected MCWD wells and could pose additional problems. Although seawater intrusion has not yet affected the deep zone (900-Foot Aquifer) of the SVGB (which is the source of supply for District Wells No.10, 11, 12 and 34), it is possible that continued extractions in the 900-Foot Aquifer could ultimately lead to contamination of these water supplies by seawater. MCWD monitors the rate of seawater intrusion and plans to develop alternative water resources that would be insulated from intrusion. However, it is possible for intrusion to appear in a relatively short time span and reduce overall supplies available. Consequently, the MCWD has structured this Water Shortage Contingency Plan with the primary goal of reducing water demands to allow time for alternative water supply measures, including the drilling of alternate wells in areas unaffected by intrusion and/or contamination. A specific triggering mechanism for various levels of conservation is tied to concentrations of chlorides in MCWD wells and possible concentrations of VOCs, such as trichloroethylene (TCE) which was previously observed at low levels in Well No. 9 (no longer in service) in Central Marina and is occasionally detected at Wells No. 29, 30 and 31 in the Ord Community. Chloride concentration is directly related to the seawater intrusion problem, and both parameters (chloride and VOCs) are related to the overall basin viability as a secure source of water supply.

Chloride concentration is a key indicator of water quality degradation due to seawater intrusion. Tests for statistically significant changes in chloride concentrations assist in the detection of the earliest stages of intrusion and are appropriate indicators of a water supply emergency. In addition, MCWD currently monitors its Ord Community wells for the presence of TCE and other organic compounds, and works with the U.S. Army regarding the Army's groundwater cleanup actions in the Ord Community.

Climate conditions are monitored by the State of California and by Monterey County. Monterey County specifically monitors water levels in the Salinas Valley Groundwater Basin. During prolonged or extended periods of drought, the State of California, acting through the Legislature, the State Water Resources Control Board (SWRCB) and/or the Department of Water Resources may enact rules or legislation directing urban water suppliers to implement demand reduction measures. Similarly, the County of Monterey, acting through the Board of Supervisors and/or the Monterey County Water Resources Agency may enact rules or ordinances directing urban water suppliers to implement demand reduction measures. Such legislation, rules or ordinances shall be considered as triggering mechanisms under this Plan.

## TRIGGERING MECHANISMS FOR CONSERVATION STAGES

These Triggering mechanisms shall be interpreted as guidelines and are summarized in Table 2. The General Manager and/or Board of Directors may impose any of the following conservation stages based upon facts and circumstances which may not have been otherwise anticipated in this plan.

**Table 2 Conservation Level Triggering Mechanisms**

| Conservation Stage and Water Shortage Level | Triggering Mechanism |
|---|---|
| Stage One<br>0-10% Water Shortage<br>Voluntary Compliance | 1) system malfunction resulting in up to 10% shortage<br>2) increase in chlorides which do not threaten to exceed drinking water quality standard<br>3) increase in VOC concentrations which do not threaten to exceed standards with blending<br>4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions |
| Stage Two<br>>10-25% Water Shortage<br>Voluntary Compliance | 1) system malfunction resulting in greater than10% shortage<br>2) increase in chlorides which may threaten to exceed drinking water quality standard<br>3) increase in VOC concentrations which do not threaten to exceed standards with blending<br>4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions |
| Stage Three<br>>25-35% Water Shortage<br>Mandatory Compliance | 1) system malfunction resulting in greater than 25% shortage<br>2) increase in chlorides which are expected to exceed drinking water quality standard<br>3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced by up to 25%<br>4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions |
| Stage Four<br>>35-50% Water Shortage<br>Mandatory Compliance | 1) system malfunction resulting in greater than 35% shortage<br>2) increase in chlorides which are expected to exceed drinking water quality standard<br>3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 35%<br>4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions |
| Stage Five<br>>50% Water Shortage<br>Mandatory Compliance | 1) system malfunction resulting in greater than 50% shortage<br>2) increase in chlorides which are expected to exceed drinking water quality standard |

| | |
|---|---|
| | 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 50%<br>4) directive by the State of California or the County of Monterey to implement demand reduction measures in response to drought conditions |

**STAGE 1 Triggers: Up to 10% Water Supply Shortage**

Stage 1 conservation measures may be called for as a result of malfunction of all or portions of the water system that reduces supplies by up to 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey, and/or the determination that there is a need to focus public attention on water conservation.

Further triggering could also be based on:

1) detection of a statistically significant increase in chloride concentrations but where such concentrations do not threaten to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of a statistically significant increase in VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water maximum contaminant level (MCL) for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

**STAGE 2 Triggers: >10% to 25% Water Supply Shortage**

Stage 2 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey, and/or the determination that there is a need to focus public attention on water conservation.

Further triggering could also be based on:

1) detection of a statistically significant increase in chloride concentrations where such concentrations may threaten to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of a statistically significant increase in VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

**STAGE 3 Triggers: >25% to 35% Water Supply Shortage**

Stage 3 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 25% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or when gross reduced well production of up to 25% is necessary to maintain adequate water quality.

**STAGE 4 Triggers: >35% to 50% Water Supply Shortage**

Stage 4 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 35% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the DDW "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of up to 35% is necessary to maintain adequate water quality.

**STAGE 5 Triggers: >50% Water Supply Shortage**

Stage 5 conservation measures may be called for due to in malfunction or failure of all or portions of the water system that reduces supplies by 50 % or more on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions that result in legislation, rules or ordinances enacted by the State of California and/or the County of Monterey.

Further triggering could also be based on:

1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the short term primary drinking water standard of 600 mg/l at

the well(s) in question, or

2) detection of VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and /or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of over 50% is necessary to maintain adequate water quality.

## 4.0 CONSERVATION REQUIREMENTS AND APPEAL PROCEDURES

The following are MCWD's conservation requirements by customer type and stage and the appeal procedures. These requirements and procedures are adopted as part of MCWD's Water Shortage Contingency Plan.

**STAGE 1 Actions: Voluntary – Minimal Conservation Requirement, 10% Demand Reduction Goal**

MCWD shall:

- notify all customers of the water shortage
- mail information to every customer and reasonably available potential water user explaining the importance of significant water use reductions
- provide technical information to customers on ways to improve water use efficiency
- conduct media campaign to remind consumers of the need to save water
- publicize the showerhead, toilet rebate and other efficiency programs
- enforce mandatory restrictions on water waste as provided in MCWD Code, Chapter 3

Stage 1 actions shall apply under any triggering event.

**STAGE 2 Actions: Voluntary – Moderate Conservation Requirement, 20% Demand Reduction Goal**

In addition to the actions listed in Stage 1, MCWD shall call for voluntary reductions of up to 25% for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. Stage 2 actions shall apply under any triggering event.

**STAGE 3 Actions: Mandatory – Severe Conservation Requirement, 30% Demand Reduction Goal**

In addition to the actions listed in Stage 1 and 2, MCWD shall establish mandatory annual allotments for each connection based on the average use of all connections within that category during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. When Stage 3 use reductions become necessary, administration and enforcement of the District's mandatory restrictions on water waste become the major focus of MCWD. If necessary, additional temporary personnel may be hired and special meetings of the Water Conservation Commission and /or Board of Directors may be scheduled.

Stage 3 actions shall be applied based upon triggering event, as noted below.

1. Each water service connection shall receive an allotted quantity of water, typically specified in hundred cubic feet (hcf) units per billing cycle. The Board of Directors may elect not to impose this action in response to a drought if the supply reduction trigger is not met.

2. The Board of Directors may pass an emergency ordinance increasing the usage rate for potable water consumed over a connections allocation, and/or in order to ensure stable revenues for operation and maintenance of MCWD. The Board of Directors may elect not to impose this action if water service allocations are not imposed.

3. As individual customers are notified of allotments, it is expected that many requests for special consideration will be received. These petitions must be processed rapidly, efficiently and fairly. Every application for waiver must be heard, evaluated and acted upon by the Water Conservation Commission as rapidly as possible. Every action by the Water Conservation Commission shall be referred to MCWD's Board of Directors for consideration. The procedures for appeal are defined, below. Appeals shall be considered under any Stage in which mandatory restrictions or allocations are imposed.

4. No building permits will be issued or meters installed for new accounts that had not received building permits before the "Severe Shortage" was declared. The Board of Directors may elect not to impose this action in response to a drought if the supply reduction trigger is not met.

5. The following water use restrictions shall be imposed.

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 3 | Existing, Irrigated Landscapes<br><br>Commercial Complexes, Residential Units, Public Parks, and Athletic Fields | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>Landscape watering with potable water shall be subject to the following limits:<br><br>(1) Landscape watering using sprinklers or automated irrigation systems is permitted only two days per week, Wednesdays and Saturdays, before 10:00 a.m. or after 5:00 p.m. The Board of Directors may choose to assign different watering days to specific areas if daily system-wide usage limits are required.<br><br>(2) With on-site supervision, including supervision by a professional gardener/landscaper, landscapes may be manually watered with drip irrigation, a soaker hose, a handheld hose with a positive action shut-off nozzle, or a watering can/bucket at any time, on any day, not more than 2 days per week.<br><br>(3) Irrigation of ornamental turf in roadway medians and parkway strips is prohibited. Plantings of trees, shrubs, ornamental grasses, and ground covers with low water demand, watered by drip irrigation, are encouraged. | During both Water Shortage and Drought Conditions |
| 3 | New, Irrigated Landscapes<br><br>Commercial Complexes, Residential units, Public Parks, and Athletic Fields | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>Landscape watering with potable water shall be subject to the following limits:<br><br>(1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Monday, Wednesday, and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation.<br><br>(2) Following the initial establishment period, landscape watering using sprinklers or automated irrigation systems is permitted only on the days associated with the current conservation stage in effect. | During both Water Shortage and Drought Conditions |

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 3 | Golf Courses | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br>Landscape watering with potable water shall be subject to the following limits:<br>(1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.<br>(2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).<br>(3) Course operators shall implement a plan to achieve a twenty (20) percent reduction in monthly irrigation water use. | During both Water Shortage and Drought Conditions |
| 3 | Hotels, motels and bed and breakfasts | Hotels, motels and B&B's must offer and clearly notify guests of a "limited linen/towel exchange" program. | During both Water Shortage and Drought Conditions |
| 3 | Swimming pools, hot tubs | Initially filling new and existing swimming pools is prohibited. Draining and refilling existing swimming pools is permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation. | During both Water Shortage and Drought Conditions |
| 3 | Decorative fountains, ponds and waterfalls over 20 gallons in size | Initially filling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals. | During both Water Shortage and Drought Conditions |
| 3 | Industrial and Commercial | Reduction of water use by any means is encouraged. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing. | During both Water Shortage and Drought Conditions |
| 3 | Vehicle and Equipment Washing | Washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted on any day, any time of the day, with the use of a positive action shut-off nozzle.<br>All customers are encouraged to only wash those vehicles as is necessary for health and safety utilizing commercial car wash facilities. | During both Water Shortage and Drought Conditions |

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 3 | Heavy Construction | The use of potable water for dust control shall be reduced to the greatest extent possible. | During both Water Shortage and Drought Conditions |

**STAGE 4 Actions: Mandatory – Critical Conservation Requirement, 40% Demand Reduction Goal**

In addition to the actions listed in the previous stages, MCWD shall establish allotments based upon a 35% -50% curtailment of water use. All new and previous appeals for waiver shall be evaluated by field audit and shall be reheard by the Water Conservation Commission, if necessary, upon recommendation of MCWD staff. Water rates may be increased by the Board of Directors.

The following water use restrictions shall be imposed.

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 4 | Existing, Irrigated Landscapes<br><br>Commercial Complexes, Residential units, Public Parks, and Athletic Fields | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>Landscape watering with potable water shall be subject to the following limits:<br><br>(1) Landscape watering using sprinklers or automated irrigation systems is permitted only one day per week, on Wednesdays before 10:00 a.m. or after 5:00 p.m. The Board of Directors may choose to assign different watering days to specific areas if daily system-wide usage limits are required.<br><br>(2) With on-site supervision, including supervision by a professional gardener/landscaper, landscapes may be manually watered with drip irrigation, a soaker hose, a handheld hose with a positive action shut-off nozzle, or a watering can/bucket at any time, on any day, not more than 1 day per week.<br><br>(3) Irrigation of ornamental turf in roadway medians and parkway strips is prohibited. Plantings of trees, shrubs, ornamental grasses, and ground covers with low water demand, watered by drip irrigation, are encouraged. | During both Water Shortage and Drought Conditions |
| 4 | New, Irrigated Landscapes | Landscape watering with recycled or other non-potable water sources water may continue without restriction. | During both Water |

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| | Commercial Complexes, Residential units, Public Parks, and Athletic Fields | The installation of new landscapes irrigated with potable water is discouraged.<br>Landscape watering with potable water shall be subject to the following limits:<br>(1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Monday, Wednesday, and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation.<br>(2) Following the initial establishment period, landscape watering using sprinklers or automated irrigation systems is permitted only on the days associated with the current conservation stage in effect. | Shortage and Drought Conditions |
| 4 | Golf Courses | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br>Landscape watering with potable water shall be subject to the following limits:<br>(1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.<br>(2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).<br>Course operators shall implement a plan to achieve a thirty (30) percent reduction in monthly irrigation water use. | During both Water Shortage and Drought Conditions |
| 4 | Hotels, motels and bed and breakfasts | Hotels, motels and B&B's must limit linen/towel changes to once every two (2) nights or for the entire stay, whichever is shorter, except for health and safety. | During both Water Shortage and Drought Conditions |
| 4 | Swimming pools, hot tubs | Initially filling new and existing swimming pools is prohibited. Draining and refilling existing swimming pools is permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation. | During both Water Shortage and Drought Conditions |

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 4 | Decorative fountains, ponds and waterfalls over 20 gallons in size | Filling or refilling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals. Owners are encouraged to move fish and aquatic animals to indoor tanks less subject to evaporation. | During both Water Shortage and Drought Conditions |
| 4 | Vehicle and Equipment Washing | Washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted on any day, any time of the day, with the use of a positive action shut-off nozzle.<br>All customers are encouraged to only wash those vehicles as is necessary for health and safety utilizing commercial car wash facilities. | During both Water Shortage and Drought Conditions |
| 4 | Industrial and commercial | Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.<br>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing. | During both Water Shortage and Drought Conditions |
| 4 | Heavy Construction | The use of potable water for dust control shall be reduced to the greatest extent possible. | During both Water Shortage and Drought Conditions |

**STAGE 5 Actions: Mandatory – Emergency Conservation Requirement, 50% Demand Reduction Goal**

Appropriate 50% water shortage allotments shall be calculated and noticed to customers. Appropriate administration and enforcement of this stringent program shall be the highest priority of MCWD activity. All resources of MCWD will be directed toward improvement and increase of water supply to the system. Water rates may be further increased by the Board of Directors.

The following water use restrictions shall be imposed:

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 5 | Existing, Irrigated Landscapes<br><br>Commercial Complexes, Residential units, Public Parks, and Athletic Fields | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>Landscape watering with potable water is prohibited. | During both Water Shortage and Drought Conditions |
| 5 | New, Irrigated Landscapes<br><br>Commercial Complexes, Residential units, Public Parks, and Athletic Fields | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>The installation of new landscapes irrigated with potable water is prohibited during Conservation Stage 5.<br><br>New landscapes installed prior to declaration of Conservation Stage 5 may water two (2) days a week to maintain adequate growth on newly installed landscapes, for the remainder of the initial five (5) week establishment period. Watering days for new landscapes are Wednesday and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation | During both Water Shortage and Drought Conditions |
| 5 | Golf Courses | Landscape watering with recycled water or other non-potable water sources may continue without restriction.<br><br>Landscape watering with potable water shall be subject to the following limits:<br><br>(3) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.<br><br>(4) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).<br><br>Course operators shall implement a plan to achieve a forty (40) percent reduction in monthly irrigation water use. | During both Water Shortage and Drought Conditions |
| 5 | Hotels, motels and bed and breakfasts | Hotels, motels and B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, whichever is shorter, except for health and safety. | During both Water Shortage and Drought Conditions |

| Stage | Type Use | Restriction | Applies |
|---|---|---|---|
| 5 | Swimming pools, hot tubs | Filling new swimming pools and/or draining and refilling existing swimming pools is prohibited. All pools and tubs shall be covered when not in use to reduce evaporation. Contact District conservation staff if an existing swimming pool must be repaired and refilled during Conservation Stage 5. | During both Water Shortage and Drought Conditions |
| 5 | Decorative fountains, ponds and waterfalls over 20 gallons in size | Filling or refilling new and existing decorative fountains, ponds and waterfalls is prohibited. Adding water to make up for evaporative loss is allowed only for ponds and fountains that serve as aquarium tanks for fish or aquatic animals. Owners are encouraged to move fish and aquatic animals to indoor tanks less subject to evaporation. | During both Water Shortage and Drought Conditions |
| 5 | Vehicle and Equipment Washing | Washing of vehicles and mobile equipment is prohibited. Only commercial facilities with water recycling systems may be used. | During both Water Shortage and Drought |
| 5 | Industrial and commercial | Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.<br>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing. | During both Water Shortage and Drought Conditions |
| 5 | Heavy Construction | The use of potable water for dust control shall be reduced to the greatest extent possible. The District may establish mandatory construction water budgets, if needed. | During both Water Shortage and Drought Conditions |

## Appeals Procedure

1. Any person who wishes to appeal a customer classification or allotment shall do so in writing by using the forms provided by MCWD.

2. Appeals will be reviewed by the District staff. Site visits may be scheduled if required.

3. A condition of granting an appeal shall be that all plumbing fixtures or irrigation systems be replaced or modified for maximum water conservation.

4. Examples of appeals that may be considered are as follows:

a. Substantial medical requirements.

b. Commercial/Industrial/Institutional accounts where any additional water supply reductions will result in unemployment or inappropriate hardship, after confirmation by the MCWD staff that the account has instituted all applicable water efficiency improvements.

5. In the event an appeal is requested for irrigation of trees or vegetation, MCWD staff may use the services of a qualified consultant in determining the validity of the request. Costs for such consulting services shall be paid by the party or parties making the request.

6. District staff shall refer all appeals to the Water Conservation Commission. The Water Conservation Commission may refer appeals to MCWD's Board of Directors.

7. If the Water Conservation Commission and the applicant are unable to reach accord, then the appeal shall be heard by the MCWD Board of Directors, who will make the final determination.

8. All appeals shall be reported monthly to the Board as a part of the Water Supply Report.

## 5.0 MANDATORY PROHIBITIONS ON WATER USE

***California Water Code Section 10632(a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning. Section 10632(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code. Section 10632(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.***

The MCWD adopted a "Water Waste/Water Conservation" Ordinance (Ordinance No. 20) in April of 1990, which prohibits water waste and promotes water conservation. Since the initial adoption, revisions were adopted by the Board of Directors on April 14, 1992 and October 4, 1993. The ordinance has most recently been revised on and now appears as Chapter 3.36 of MCWD Code. Section 3.36.030, Mandatory Restrictions on Water Waste, details the applicable prohibitions of use. These prohibitions are in force at all times. Additional water use reduction methods available to water users or MCWD to adopt in order to comply with use reductions during the more restrictive stages of water shortages (Stages 4 and 5) include, but are not limited to, the following:

a) elimination of turf irrigation with potable supplies;

b) restriction of landscape watering to shrubs and trees by hand or drip irrigation only;

c) elimination of vehicle washing except in car washes that have water recirculation

systems;

d) prohibition on filling or topping off of swimming pools where damage to pumping equipment will not result;

e) elimination of the issuance of construction meters;

f) shut-off of dedicated landscape irrigation meters; and

g) moratorium on provision of new supply meters.

If water use reductions called for in Stages 3-5 are not achieved, the MCWD may amend this Water Shortage Contingency Plan to make any of the above available conservation tactics mandatory.

## 6.0 PENALTIES OR CHARGES FOR EXCESSIVE USE

***California Water Code Section 10632(a)(6) Penalties or charges for excessive use.***

Section 3.36.050 of MCWD Code provides for a system of violations and notices. Violation of provisions of this Water Shortage Contingency Plan shall be enforced under Section 3.36.050 of MCWD Code.

## 7.0 REVENUE AND EXPENDITURE IMPACTS

***California Water Code Section 10632(a)(7) – An analysis of the impacts of each of the actions and conditions described in subdivisions (a)(1) to (a)(6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.***

Enforcement of the Water Shortage Contingency Plan is assumed to be covered by enhanced revenues from application of excess use charges and penalties. MCWD reserves may be used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate MCWD needs. Revenue impacts from water sales losses are estimated as follows, based upon Tier 2 rates of $2.79/hcf in Central Marina and $3.27/hcf in the Ord Community, and recognizing approximately 10% of MCWD's customers are not metered as of 2013.

**Table 3: Potential Revenue Impacts of Implementation of WSCP**

| | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 |
|---|---|---|---|---|---|
| Assumed Reduction | 10 percent | 20 percent | 30 percent | 40 percent | 50 percent |
| Water Sales Loss | $579,804 | $1,159,607 | $1,739,411 | $2,319,215 | $2,899,018 |
| Revenue Source: Pumping savings at $135/af | $57,807 | $115,614 | $173,421 | $231,228 | $289,035 |
| Net Revenue Reduction | $521,997 | $1,043,993 | $1,565,990 | $2,087,987 | $2,609,983 |

| | | | | | |
|---|---|---|---|---|---|
| Percent of Total Annual Water System Revenue | 6% | 12% | 18% | 24% | 30% |

* Table based on FY2012-13 water sales, $8,839,268 for 4,282 acre-feet

# 8.0 WATER SHORTAGE CONTINGENCY PLAN IMPLEMENTATION

***California Water Code Section 10632 (a)(8) A draft water shortage contingency resolution or ordinance.***

MCWD Board of Directors adopted the Water Shortage Contingency Plan in Resolution No. 2014-__, which enables implementation of the Plan upon advice of staff based in part on the triggering mechanisms discussed herein. The resolution is attached as Appendix A to this Plan.

Chapter 3.36.035 of the MCWD Code of Ordinances[2] provides for enforcement of the current Water Shortage Contingency Plan. Chapter 2.09 of the Code of Ordinances[3] contains a sample ordinance which may be adopted in the event of a local emergency, including a water shortage.

# 9.0 WATER USE MONITORING PROCEDURES

***California Water Code Section 10632* (a)(9) *A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.***

**Normal Monitoring Procedure:**

In normal water supply conditions, production figures are recorded daily by MCWD O&M personnel. Totals are reported monthly to the O&M Superintendent. Production figures are reported in the Annual Report to the Drinking Water Program, which is submitted to the SWRCB Division of Drinking Water each year.

**Stage 1 and 2 Water Shortages**

During a Stage 1 or 2 water shortage, daily production figures will be reported to the O&M Superintendent. The O&M Superintendent compares the weekly production to the target weekly production to verify that the reduction goal is being met. Monthly reports are forwarded to the District Engineer and the General Manager, the Water Conservation Commission and the MCWD Board of Directors. If reduction goals are not met, the General Manager may notify the Board of Directors so that corrective action can be taken.

**Stage 3 and 4 Water Shortages**

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager and weekly reports to the Water Conservation Commission and Board of Directors. Special meetings may be called for administration of the

[2] Ordinance 41, adopted in 2005
[3] Ordinance 44, adopted in 2007

Water Shortage Contingency Plan.

**Stage 5 Water Shortage**

During a Stage 5 shortage, production figures will be reported to the O&M Superintendent hourly, and to the General Manager daily. Reports will also be provided to MCWD's Board of Directors, the Monterey County Office of Emergency Services, and land use jurisdictions located within MCWD's service territory.

November 3, 2014

Resolution No. 2014-34
Resolution of the Board of Directors
Marina Coast Water District
Declaring Water Conservation Stage 3 as Required by the State Water Resource Control Board's Emergency Mandatory Water Conservation Regulations

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("MCWD"), at a regular meeting duly called and held on November 3, 2014, at 211 Hillcrest Avenue, Marina, California as follows:

WHEREAS, the State Water Resources Control Board (SWRCB) adopted Mandatory Water Conservation Regulations (Emergency Regulations), which went into effect on July 29, 2014; and,

WHEREAS, the District supplies more than 3,000 acre-feet of water annually and, therefore, the District is classified as an "urban water supplier" pursuant to Water Code Section 10617; and,

WHEREAS, the Emergency Regulations specifically require the following:

> To promote water conservation, each urban water supplier shall implement all requirements and actions of the stage of its water shortage contingency plan that imposes mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water.

WHEREAS, on November 3, 2014, the District adopted a Water Shortage Contingency Plan (District Plan) pursuant to Water Code Section 10632; and,

WHEREAS, under the District Plan, mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water are not required until Stage 3; and,

WHEREAS, the District' water supply is not actually experiencing a severe water shortage; and,

WHEREAS, the Emergency Regulations require the Board of Directors to declare a Water Conservation Stage 3 even though the District is not actually experiencing a severe water shortage.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby do the following:

1. Declare a Water Conservation Stage 3 under the District Plan as mandated by the SWRCB.

2. Find that since the District's water supply is not actually experiencing a severe water shortage, the following Stage 3 requirements shall **not** be implemented at this time, but shall be subject to periodic review by the Board of Directors:

a. "Each water service connection shall receive an allotted quantity of water, typically specified in hundred cubic feet (hcf) units per billing cycle."

b. "No building permits will be issued or meters installed for new accounts that had not received building permits before the 'Severe Shortage' was declared."

3. The Stage 3 mandatory water use restrictions set forth in the District Plan's restrictions table for Stage 3 shall be implemented effective with the adoption of this Resolution.

4. Direct staff to notify all customers in writing of this decision within 10 days of the date of adoption.

PASSED AND ADOPTED on November 3, 2014 by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors Le, Shriner, Moore

Noes: Directors None

Absent: Directors Gustafson, Lee

Abstained: Directors None

Thomas P. Moore

Thomas P. Moore, President

ATTEST:

Brian C. Lee, Deputy Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2014-34 adopted November 3, 2014.

Brian C. Lee, Deputy Secretary

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## Appendix G: DWR Urban Water Management Plan Checklist

Checklist arranged by Water Code Section

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10608.20(b)** | Retail suppliers shall adopt a 2020 water use target using one of four methods. | Baselines and Targets | Section 5.7 and App E | **3.4** |
| **10608.20(e)** | Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data. | Baselines and Targets | Chapter 5 and App E | **3.4** |
| **10608.22** | Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100. | Baselines and Targets | Section 5.7.2 | **3.4** |
| **10608.24(a)** | Retail suppliers shall meet their interim target by December 31, 2015. | Baselines and Targets | Section 5.8 and App E | **3.4** |
| **10608.24(d)(2)** | If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment. | Baselines and Targets | Section 5.8.2 | **N/A** |
| **10608.26(a)** | Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets. | Plan Adoption, Submittal, and Implementation | Section 10.3 | **1.2** |
| **10608.36** | Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions. | Baselines and Targets | Section 5.1 | **N/A** |
| **10608.40** | Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form. | Baselines and Targets | Section 5.8 and App E | **3.4** **App H** |
| **10620(b)** | Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier. | Plan Preparation | Section 2.1 | **1.4** **App A** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10620(d)(2)** | Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. | Plan Preparation | Section 2.5.2 | **1.3** |
| **10620(f)** | Describe water management tools and options to maximize resources and minimize the need to import water from other regions. | Water Supply Reliability Assessment | Section 7.4 | **4.2**<br>**4.4** |
| **10621(b)** | Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. | Plan Adoption, Submittal, and Implementation | Section 10.2.1 | **1.3**<br>**App D** |
| **10621(d)** | Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016. | Plan Adoption, Submittal, and Implementation | Sections 10.3.1 and 10.4 | **1.4** |
| **10631(a)** | Describe the water supplier service area. | System Description | Section 3.1 | **2.1** |
| **10631(a)** | Describe the climate of the service area of the supplier. | System Description | Section 3.3 | **2.2** |
| **10631(a)** | Indicate the current population of the service area. | System Description and Baselines and Targets | Sections 3.4 and 5.4 | **2.3** |
| **10631(a)** | Provide population projections for 2020, 2025, 2030, and 2035. | System Description | Section 3.4 | **2.3** |
| **10631(a)** | Describe other demographic factors affecting the supplier's water management planning. | System Description | Section 3.4 | **2.4** |
| **10631(b)** | Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035. | System Supplies | Chapter 6 | **4.1**<br>**4.2**<br>**4.4** |
| **10631(b)** | Indicate whether groundwater is an existing or planned source of water available to the supplier. | System Supplies | Section 6.2 | **4.1**<br>**4.2** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10631(b)(1)** | Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization. | System Supplies | Section 6.2.2 | **4.2** |
| **10631(b)(2)** | Describe the groundwater basin. | System Supplies | Section 6.2.1 | **4.2** |
| **10631(b)(2)** | Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump. | System Supplies | Section 6.2.2 | **4.2** |
| **10631(b)(2)** | For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition. | System Supplies | Section 6.2.3 | **4.2** |
| **10631(b)(3)** | Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years | System Supplies | Section 6.2.4 | **4.2** |
| **10631(b)(4)** | Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped. | System Supplies | Sections 6.2 and 6.9 | **4.2** |
| **10631(c)(1)** | Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage. | Water Supply Reliability Assessment | Section 7.1 | **5.1**<br>**5.2** |
| **10631(c)(1)** | Provide data for an average water year, a single dry water year, and multiple dry water years | Water Supply Reliability Assessment | Section 7.2 | **5.1** |
| **10631(c)(2)** | For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source. | Water Supply Reliability Assessment | Section 7.1 | **4.2.4** |
| **10631(d)** | Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis. | System Supplies | Section 6.7 | **4.3** |
| **10631(e)(1)** | Quantify past, current, and projected water use, identifying the uses among water use sectors. | System Water Use | Section 4.2 | **3.1**<br>**3.2**<br>**3.3** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10631(e)(3)(A)** | Report the distribution system water loss for the most recent 12-month period available. | System Water Use | Section 4.3 | **6.__** |
| **10631(f)(1)** | Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code. | Demand Management Measures | Sections 9.2 and 9.3 | **6.2** |
| **10631(f)(2)** | Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program. | Demand Management Measures | Sections 9.1 and 9.3 | **6.__** |
| **10631(g)** | Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years. | System Supplies | Section 6.8 | **4.4** |
| **10631(h)** | Describe desalinated water project opportunities for long-term supply. | System Supplies | Section 6.6 | **4.6** |
| **10631(i)** | CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU. | Demand Management Measures | Section 9.5 | **N/A** **6.__** |
| **10631(j)** | Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source. | System Supplies | Section 2.5.1 | **N/A** |
| **10631(j)** | Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types. | System Supplies | Section 2.5.1 | **N/A** |
| **10631.1(a)** | Include projected water use needed for lower income housing projected in the service area of the supplier. | System Water Use | Section 4.5 | **3.3.1** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10632(a) and 10632(a)(1)** | Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage. | Water Shortage Contingency Planning | Section 8.1 | **5.5 App F** |
| **10632(a)(2)** | Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency. | Water Shortage Contingency Planning | Section 8.9 | **5.7** |
| **10632(a)(3)** | Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies. | Water Shortage Contingency Planning | Section 8.8 | **5.5.1 App F** |
| **10632(a)(4)** | Identify mandatory prohibitions against specific water use practices during water shortages. | Water Shortage Contingency Planning | Section 8.2 | **5.5 App F** |
| **10632(a)(5)** | Specify consumption reduction methods in the most restrictive stages. | Water Shortage Contingency Planning | Section 8.4 | **5.5 App F** |
| **10632(a)(6)** | Indicated penalties or charges for excessive use, where applicable. | Water Shortage Contingency Planning | Section 8.3 | **5.5.3 App F** |
| **10632(a)(7)** | Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts. | Water Shortage Contingency Planning | Section 8.6 | **5.5.4 App F** |
| **10632(a)(8)** | Provide a draft water shortage contingency resolution or ordinance. | Water Shortage Contingency Planning | Section 8.7 | **App F** |
| **10632(a)(9)** | Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis. | Water Shortage Contingency Planning | Section 8.5 | **App F** |
| **10633** | For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area. | System Supplies (Recycled Water) | Section 6.5.1 | **4.6** |
| **10633(a)** | Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal. | System Supplies (Recycled Water) | Section 6.5.2 | **4.6** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10633(b)** | Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project. | System Supplies (Recycled Water) | Section 6.5.2.2 | **4.6** |
| **10633(c)** | Describe the recycled water currently being used in the supplier's service area. | System Supplies (Recycled Water) | Section 6.5.3 and 6.5.4 | **N/A** |
| **10633(d)** | Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses. | System Supplies (Recycled Water) | Section 6.5.4 | **4.6** |
| **10633(e)** | Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected. | System Supplies (Recycled Water) | Section 6.5.4 | **4.6**<br>**4.4** |
| **10633(f)** | Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year. | System Supplies (Recycled Water) | Section 6.5.5 | **4.6** |
| **10633(g)** | Provide a plan for optimizing the use of recycled water in the supplier's service area. | System Supplies (Recycled Water) | Section 6.5.5 | **4.6** |
| **10634** | Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability | Water Supply Reliability Assessment | Section 7.1 | **4.2.4**<br>**4.2.5**<br>**5.2** |
| **10635(a)** | Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years. | Water Supply Reliability Assessment | Section 7.3 | **5.1** |
| **10635(b)** | Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR. | Plan Adoption, Submittal, and Implementation | Section 10.4.4 | **App F** |

| CWC Section | UWMP Requirement | Subject | Guidebook Location | UWMP Location |
|---|---|---|---|---|
| **10642** | Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. | Plan Preparation | Section 2.5.2 | **App D** |
| **10642** | Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan. | Plan Adoption, Submittal, and Implementation | Sections 10.2.2, 10.3, and 10.5 | **App D** |
| **10642** | The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. | Plan Adoption, Submittal, and Implementation | Sections 10.2.1 | **App D** |
| **10642** | Provide supporting documentation that the plan has been adopted as prepared or modified. | Plan Adoption, Submittal, and Implementation | Section 10.3.1 | **App A** |
| **10644(a)** | Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library. | Plan Adoption, Submittal, and Implementation | Section 10.4.3 | **App D** |
| **10644(a)(1)** | Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption. | Plan Adoption, Submittal, and Implementation | Section 10.4.4 | **App D** |
| **10644(a)(2)** | The plan, or amendments to the plan, submitted to the department shall be submitted electronically. | Plan Adoption, Submittal, and Implementation | Sections 10.4.1 and 10.4.2 | **Transmittal Letter** |
| **10645** | **Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.** | **Plan Adoption, Submittal, and Implementation** | **Section 10.5** | **Transmittal Letter** |

## Appendix H: Standardized Data Tables and SB X7-7 Verification Form

The following tables are provided, as required by the Department of Water Resources 2015 UWMP Guidebook for Urban Water Suppliers. Only the tables applicable to MCWD are included, as listed below.

DWR Reporting Tables: 2-1, 2-2, 2-3, 2-4, 3-1, 4-1, 4-2, 4-3, 4-4, 4-5, 5-1, 5-2, 6-1, 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 7-1, 7-2, 7-3, 7-4, 8-1, 8-2, 8-3, 8-4, 10-1

SB X7-7 Verification Tables: 0, 1, 2, 3, 4, 4-A, 5, 6, 7, 7-E, 7-F, 8, 9

| Table 2-1 Retail Only: Public Water Systems | | | |
|---|---|---|---|
| Public Water System Number | Public Water System Name | Number of Municipal Connections 2015 | Volume of Water Supplied 2015 |
| CA2710017 | Marina Coast Water District | 7,500 | 3228.04 |
| | | | |
| | | | |
| | **TOTAL** | 7500 | 3,228 |
| NOTES: | | | |

| Table 2-2: Plan Identification (Select One) | | |
|---|---|---|
| ☑ | Individual UWMP | |
| ☐ | Regional UWMP (RUWMP)<br>*(checking this triggers the next line to appear)* | |
| | **Select One:** | |
| | ☐ | RUWMP includes a Regional Alliance |
| | ☐ | RUWMP does not include a Regional Alliance |
| NOTES: | | |

| Table 2-3: Agency Identification | |
|---|---|
| Type of Agency (select one or both) | |
| ☐ | Agency is a wholesaler |
| ☑ | Agency is a retailer |
| Fiscal or Calendar Year (select one) | |
| ☑ | UWMP Tables Are in Calendar Years |
| ☐ | UWMP Tables Are in Fiscal Years |
| If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins (dd/mm) | |
| *dd/mm* | |
| Units of Measure Used in UWMP (select from Drop down) | |
| Unit | AF |
| NOTES: | |

| **Table 2-4 Retail: Water Supplier Information Exchange** |
|---|
| The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631. |
| Wholesale Water Supplier Name *(Add additional rows as needed)* |
| Not Applicable |
| |
| |
| |
| |
| NOTES: |

| Table 3-1 Retail: Population - Current and Projected | | | | | | |
|---|---|---|---|---|---|---|
| Population Served | 2015 | 2020 | 2025 | 2030 | 2035 | 2040*(opt)* |
| | 32,375 | 40,464 | 56,648 | 64,635 | 70,161 | |
| NOTES: | | | | | | |

| Table 4-1 Retail: Demands for Potable and Raw Water - Actual | | | |
|---|---|---|---|
| Use Type<br>*(Add additional rows as needed)* | 2015 Actual | | |
| ***Use Drop down list***<br>*May select each use multiple times*<br>*These are the only Use Types that will be recognized by the WUEdata online submittal tool* | Additional Description<br>*(as needed)* | Level of Treatment When Delivered<br>*Drop down list* | Volume |
| Single Family | metered | Drinking Water | 968 |
| Multi-Family | flat rate | Drinking Water | 206 |
| Multi-Family | metered | Drinking Water | 905 |
| Commercial | metered | Drinking Water | 327 |
| Industrial | metered | Drinking Water | 0 |
| Institutional/Governmental | metered | Drinking Water | 156 |
| Landscape | metered | Drinking Water | 632 |
| Losses | | Drinking Water | 34 |
| | | | |
| | | **TOTAL** | 3,228 |
| NOTES: | | | |

| Table 4-2 Retail: Demands for Potable and Raw Water - Projected | | | | | | |
|---|---|---|---|---|---|---|
| Use Type *(Add additional rows as needed)* | Additional Description *(as needed)* | Projected Water Use *Report To the Extent that Records are Available* | | | | |
| ***Use Drop down list*** *May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool* | | 2020 | 2025 | 2030 | 2035 | 2040-opt |
| Single Family | | 1,717 | 2,728 | 3,128 | 3,432 | |
| Multi-Family | | 1,658 | 2,351 | 2,734 | 2,971 | |
| Commercial | | 1,220 | 2,339 | 2,616 | 2,645 | |
| Industrial | | 24 | 214 | 250 | 750 | |
| Institutional/Governmental | | 276 | 501 | 503 | 508 | |
| Landscape | Municipal/Domestic | 275 | 257 | 61 | 64 | |
| | | | | | | |
| Losses | | 435 | 467 | 467 | 467 | |
| | **TOTAL** | 5604.844 | 8856.874 | 9759.495 | 10837.98 | 0 |
| NOTES: | | | | | | |

| Table 4-3 Retail: Total Water Demands | | | | | | |
|---|---|---|---|---|---|---|
| | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 *(opt)* |
| Potable and Raw Water *From Tables 4-1 and 4-2* | 3,228 | 5,605 | 8,857 | 9,759 | 10,838 | 0 |
| Recycled Water Demand *From Table 6-4* | 0 | 600 | 1,080 | 1,359 | 1,359 | 0 |
| **TOTAL WATER DEMAND** | 3,228 | 6,205 | 9,936 | 11,118 | 12,197 | 0 |
| NOTES: | | | | | | |

| Table 4-4 Retail: 12 Month Water Loss Audit Reporting | |
|---|---|
| Reporting Period Start Date (mm/yyyy) | Volume of Water Loss |
| 07/2014 | 86.1 |
| NOTES: Report based on FY14/15 | |

| Table 4-5 Retail Only: Inclusion in Water Use Projections | |
|---|---|
| Are Future Water Savings Included in Projections?<br>(Refer to Appendix K of UWMP Guidebook)<br>*Drop down list (y/n)* | No |
| If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found. | |
| Are Lower Income Residential Demands Included In Projections?<br>*Drop down list (y/n)* | Yes |
| NOTES: Projections for new developments reflect water-conserving fixtures, but no reduction are made for | |

**Table 5-1 Baselines and Targets Summary**
*Retail Agency or Regional Alliance Only*

| Baseline Period | Start Year | End Year | Average Baseline GPCD* | 2015 Interim Target * | Confirmed 2020 Target* |
|---|---|---|---|---|---|
| 10-15 year | *1999* | *2008* | *135.25* | *126.13* | *117* |
| 5 Year | *2004* | *2008* | *130.64* | | |

*All values are in Gallons per Capita per Day (GPCD)

NOTES:

**Table 5-2: 2015 Compliance**

*Retail Agency or Regional Alliance Only**

| Actual 2015 GPCD | 2015 Interim Target GPCD | **Optional Adjustments to 2015 GPCD** "0" for adjustments not used | | | | Enter *From Methodology 8* | 2015 GPCD *(Adjusted if applicable)* | Did Supplier Achieve Targeted Reduction for 2015? Y/N |
|---|---|---|---|---|---|---|---|---|
| | | Extraordinary Events | Economic Adjustment | Weather Normalization | TOTAL Adjustments | Adjusted 2015 GPCD | | |
| 89.01 | 126.13 | 0 | 0 | 0 | 0 | 89.01 | 89.01 | Yes |

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Update with population check.

| Table 6-1 Retail: Groundwater Volume Pumped | | | | | | |
|---|---|---|---|---|---|---|
| ☐ | Supplier does not pump groundwater.<br>The supplier will not complete the table below. | | | | | |
| Groundwater Type<br>***Drop Down List***<br>*May use each category multiple times* | Location or Basin Name | 2011 | 2012 | 2013 | 2014 | 2015 |
| *Add additional rows as needed* | | | | | | |
| Alluvial Basin | Salinas Valley Groundwater Basin, Pressure SubArea | 4046.6 | 4173.6 | 4413.3 | 4025.9 | 3228.04 |
| | | | | | | |
| | | | | | | |
| | **TOTAL** | 4,047 | 4,174 | 4,413 | 4,026 | 3,228 |
| NOTES: | | | | | | |

| Table 6-2 Retail: Wastewater Collected Within Service Area in 2015 | | | | | | |
|---|---|---|---|---|---|---|
| ☐ | There is no wastewater collection system. The supplier will not complete the table below. | | | | | |
| 100 | Percentage of 2015 service area covered by wastewater collection system *(optional)* | | | | | |
| 100 | Percentage of 2015 service area population covered by wastewater collection system *(optional)* | | | | | |
| **Wastewater Collection** | | | **Recipient of Collected Wastewater** | | | |
| Name of Wastewater Collection Agency | Wastewater Volume Metered or Estimated? *Drop Down List* | Volume of Wastewater Collected in 2015 | Name of Wastewater Treatment Agency Receiving Collected Wastewater | Treatment Plant Name | Is WWTP Located Within UWMP Area? *Drop Down List* | Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List* |
| *Add additional rows as needed* | | | | | | |
| MCWD - Marina PS | Metered | 1,226 | *MRWPCA* | MRWPCA RTP | No | No |
| MCWD - Ord Flume | Metered | 887 | *MRWPCA* | MRWPCA RTP | No | No |
| MCWD - Marina Airport | Estimated | 2.2 | *MRWPCA* | MRWPCA RTP | No | No |
| | | | | | | |
| | | | | | | |
| **Total Wastewater Collected from Service Area in 2015:** | | 2,115 | | | | |
| NOTES: The Monterey Regional Water Pollution Control Agency (MRWPCA) provides regional wastewater treatment. | | | | | | |

| Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | No wastewater is treated or disposed of within the UWMP service area.<br>The supplier will not complete the table below. | | | | | | | | | |
| Wastewater Treatment Plant Name | Discharge Location Name or Identifier | Discharge Location Description | Wastewater Discharge ID Number *(optional)* | Method of Disposal *Drop down list* | Does This Plant Treat Wastewater Generated Outside the Service Area? | Treatment Level *Drop down list* | 2015 volumes | | | |
| | | | | | | | Wastewater Treated | Discharged Treated Wastewater | Recycled Within Service Area | Recycled Outside of Service Area |
| *Add additional rows as needed* | | | | | | | | | | |
| MRWPCA | Ocean Outfall | Monterey Bay | ermit CA00485 | Ocean outfall | Yes | Secondary, Disinfected - 2.2 | 19,712 | 5,462 | 0 | 14,250 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | **Total** | 19,712 | 5,462 | 0 | 14,250 |
| NOTES: WW from MCWD is treated at the MRWPCA Regional treatment Plant. The majority is recycled and delivered to the Castroville Seawater Intrusion project for | | | | | | | | | | |

**Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area**

| | |
|---|---|
| ☐ | Recycled water is not used and is not planned for use within the service area of the supplier.<br>The supplier will not complete the table below. |
| Name of Agency Producing (Treating) the Recycled Water: | Monterey Regional Water Pollution Control Agency |
| Name of Agency Operating the Recycled Water Distribution System: | |
| Supplemental Water Added in 2015 | |
| Source of 2015 Supplemental Water | |

| Beneficial Use Type<br>*These are the only Use Types that will be recognized by the DWR online submittal tool* | General Description of 2015 Uses | Level of Treatment<br>*Drop down list* | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 (opt) |
|---|---|---|---|---|---|---|---|---|
| Agricultural irrigation | | | | | | | | |
| Landscape irrigation (excludes golf courses) | Planned for future | Tertiary | 0 | 200 | 480 | 759 | 759 | |
| Golf course irrigation | Planned for future | Tertiary | 0 | 400 | 600 | 600 | 600 | |
| Commercial use | | | | | | | | |
| Industrial use | | | | | | | | |
| Geothermal and other energy production | | | | | | | | |
| Seawater intrusion barrier | | | | | | | | |
| Recreational impoundment | | | | | | | | |
| Wetlands or wildlife habitat | | | | | | | | |
| Groundwater recharge (IPR) | | | | | | | | |
| Surface water augmentation (IPR) | | | | | | | | |
| Direct potable reuse | | | | | | | | |
| Other — Type of Use | | | | | | | | |
| | | **Total:** | 0 | 600 | 1,080 | 1,359 | 1,359 | 0 |

*IPR - Indirect Potable Reuse*

NOTES:

| Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual | | | |
|---|---|---|---|
| ☐ | Recycled water was not used in 2010 nor projected for use in 2015.<br>The supplier will not complete the table below. | | |
| Use Type<br>*These are the only Use Types that will be recognized by the WUEdata online submittal tool* | | 2010 Projection for 2015 | 2015 actual use |
| Agricultural irrigation | | 0 | 0 |
| Landscape irrigation (excludes golf courses) | | 319 | 0 |
| Golf course irrigation | | 461 | 0 |
| Commercial use | | 0 | 0 |
| Industrial use | | 0 | 0 |
| Geothermal and other energy production | | 0 | 0 |
| Seawater intrusion barrier | | 0 | 0 |
| Recreational impoundment | | 0 | 0 |
| Wetlands or wildlife habitat | | 0 | 0 |
| Groundwater recharge (IPR) | | 0 | 0 |
| Surface water augmentation (IPR) | | 0 | 0 |
| Direct potable reuse | | 0 | 0 |
| Other | Required for this use | | |
| **Total** | | 780 | 0 |
| NOTES: Construction of recycled water delivery system delayed due to economic downturn. | | | |

| Table 6-6 Retail: Methods to Expand Future Recycled Water Use | | | |
|---|---|---|---|
| ☐ | Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation. | | |
| | Provide page location of narrative in UWMP | | |
| Name of Action | Description | Planned Implementation Year | Expected Increase in Recycled Water Use |
| *Add additional rows as needed* | | | |
| RUWAP (Recycled) | Build distribution system | 2018 | 600 |
| | | | |
| | | | |
| | | **Total** | 600 |
| NOTES: | | | |

| Table 6-7 Retail: Expected Future Water Supply Projects or Programs | | | | | | |
|---|---|---|---|---|---|---|
| ☐ | No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below. | | | | | |
| ☐ | Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format. | | | | | |
| | Provide page location of narrative in the UWMP | | | | | |
| Name of Future Projects or Programs | Joint Project with other agencies? | | Description (if needed) | Planned Implementation Year | Planned for Use in Year Type *Drop Down List User may select more than one.* | Expected Increase in Water Supply to Agency *This may be a range* |
| | *Drop Down List (y/n)* | *If Yes, Agency Name* | | | | |
| *Add additional rows as needed* | | | | | | |
| RUWAP (Potable) | No | | Seawater Desal | 2025 | Average Year | 500 to 1800 |
| | | | | | | |
| | | | | | | |
| NOTES: planned seawater desalination facility will be needed by 2025. | | | | | | |

| Table 6-8 Retail: Water Supplies — Actual | | | | |
|---|---|---|---|---|
| Water Supply | Additional Detail on Water Supply | 2015 | | |
| ***Drop down list*** *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool* | | Actual Volume | Water Quality *Drop Down List* | Total Right or Safe Yield *(optional)* |
| *Add additional rows as needed* | | | | |
| Groundwater | Marina Wells | 1,420 | Drinking Water | 3,020 |
| Groundwater | Ord Wells | 1,808 | Drinking Water | 6,600 |
| | | | | |
| | | | | |
| | **Total** | 3,228 | | 9,620 |
| NOTES: | | | | |

| Table 6-9 Retail: Water Supplies — Projected | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Supply | Additional Detail on Water Supply | Projected Water Supply *Report To the Extent Practicable* | | | | | | | | | |
| ***Drop down list*** *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool* | | **2020** | | **2025** | | **2030** | | **2035** | | **2040** *(opt)* | |
| | | Reasonably Available Volume | Total Right or Safe Yield *(optional)* | Reasonably Available Volume | Total Right or Safe Yield *(optional)* | Reasonably Available Volume | Total Right or Safe Yield *(optional)* | Reasonably Available Volume | Total Right or Safe Yield *(optional)* | Reasonably Available Volume | Total Right or Safe Yield *(optional)* |
| *Add additional rows as needed* | | | | | | | | | | | |
| Groundwater | Marina Wells | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 | 3,020 |
| Groundwater | Ord Wells | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 | 6,600 |
| Groundwater | Armstrong Ranch | | | 680 | 920 | 680 | 920 | 680 | 920 | 680 | 920 |
| Groundwater | Cemex | | | | | | | 500 | 500 | 500 | 500 |
| Recycled Water | | 600 | | 1,080 | | 1,359 | | 1,359 | | 1,359 | |
| Desalinated Water | | | | 491 | | 1,335 | | 1,766 | | 1,800 | |
| | **Total** | 10,220 | 9,620 | 11,871 | 10,540 | 12,994 | 10,540 | 13,925 | 11,040 | 13,959 | 11,040 |
| NOTES: Groundwater from the Salinas Valley Groundwater Basin, 180/400 ft Subarea | | | | | | | | | | | |

| Table 7-1 Retail: Basis of Water Year Data | | | |
|---|---|---|---|
| Year Type | Base Year | Available Supplies if Year Type Repeats | |
| | | Agency may provide volume only, percent only, or both | |
| | | Volume Available | % of Average Supply |
| Average Year | 2035 | 13,959 | 100% |
| Single-Dry Year | 2035 | 13,959 | 100% |
| Multiple-Dry Years 1st Year | 2035 | 13,959 | 100% |
| Multiple-Dry Years 2nd Year | 2035 | 13,959 | 100% |
| Multiple-Dry Years 3rd Year | 2035 | 13,959 | 100% |
| Multiple-Dry Years 4th Year *Optional* | | | |
| Multiple-Dry Years 5th Year *Optional* | | | |
| Multiple-Dry Years 6th Year *Optional* | | | |
| *Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.* | | | |
| NOTES: | | | |

| Table 7-2 Retail: Normal Year Supply and Demand Comparison | | | | | |
|---|---|---|---|---|---|
| | 2020 | 2025 | 2030 | 2035 | 2040 *(Opt)* |
| Supply totals *(autofill from Table 6-9)* | 10,220 | 11,871 | 12,994 | 13,925 | 13,959 |
| Demand totals *(autofill from Table 4-3)* | 6,205 | 9,936 | 11,118 | 12,197 | 0 |
| Difference | 4,015 | 1,935 | 1,876 | 1,728 | 13,959 |
| NOTES: | | | | | |

| Table 7-3 Retail: Single Dry Year Supply and Demand Comparison | | | | | |
|---|---|---|---|---|---|
| | 2020 | 2025 | 2030 | 2035 | 2040 (Opt) |
| Supply totals | 10,220 | 11,871 | 12,994 | 13,925 | |
| Demand totals | 6,267 | 10,036 | 11,230 | 12,319 | |
| Difference | 3,953 | 1,835 | 1,764 | 1,606 | 0 |
| NOTES: | | | | | |

| Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison | | | | | | |
|---|---|---|---|---|---|---|
| | | 2020 | 2025 | 2030 | 2035 | 2040 (Opt) |
| First year | Supply totals | 10,220 | 11,871 | 12,994 | 13,925 | 13,959 |
| | Demand totals | 6,267 | 10,036 | 11,230 | 12,319 | |
| | Difference | 3,953 | 1,835 | 1,764 | 1,606 | 13,959 |
| Second year | Supply totals | 10,220 | 11,871 | 12,994 | 13,925 | 13,959 |
| | Demand totals | 5,460 | 8,744 | 9,784 | 10,733 | |
| | Difference | 4,760 | 3,127 | 3,210 | 3,192 | 13,959 |
| Third year | Supply totals | 10,220 | 11,871 | 12,994 | 13,925 | 13,959 |
| | Demand totals | 4,654 | 7,452 | 8,339 | 9,148 | |
| | Difference | 5,566 | 4,419 | 4,655 | 4,777 | 13,959 |
| Fourth year *(optional)* | Supply totals | | | | | |
| | Demand totals | | | | | |
| | Difference | 0 | 0 | 0 | 0 | 0 |
| Fifth year *(optional)* | Supply totals | | | | | |
| | Demand totals | | | | | |
| | Difference | 0 | 0 | 0 | 0 | 0 |
| Sixth year *(optional)* | Supply totals | | | | | |
| | Demand totals | | | | | |
| | Difference | 0 | 0 | 0 | 0 | 0 |
| NOTES: | | | | | | |

| Table 8-1 Retail<br>Stages of Water Shortage Contingency Plan | | |
|---|---|---|
| Stage | Complete Both | |
| | Percent Supply Reduction[1]<br>*Numerical value as a percent* | Water Supply Condition<br>(*Narrative description)* |
| *Add additional rows as needed* | | |
| 1 | 10% | Mechanical loss of 10% capacity, or |
| 1 | 10% | Chlorides increase but WQ standard met, or |
| 1 | 10% | VOC increase but WQ standards met, or |
| 1 | 10% | Drought declared by State or County |
| 2 | 25% | Mechanical loss of 10-25% capacity, or |
| 2 | 25% | Chlorides increase but WQ standard met, or |
| 2 | 25% | VOC increase but WQ STD can be met, or |
| 2 | 25% | Drought declared by State or County |
| 3 | 35% | Mechanical loss of 25-35% capacity, or |
| 3 | 35% | Chlorides increase above WQ standard, or |
| 3 | 35% | VOC increase but WQ STD can be met, or |
| 3 | 35% | Drought declared by State or County |
| 4 | 50% | Mechanical loss of 35-50% capacity, or |
| 4 | 50% | Chlorides increase above WQ standard, or |
| 4 | 50% | VOC increase but WQ STD can be met, or |
| 4 | 50% | Drought declared by State or County |
| 5 | 51% | Mechanical loss of over 50% capacity, or |
| 5 | 51% | Chlorides increase above WQ standard, or |
| 5 | 51% | VOC increase but WQ STD can be met, or |
| 5 | 51% | Drought declared by State or County |
| [1] *One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.* | | |
| NOTES: See the full WSCP for detailed descriptions | | |

| Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses | | | |
|---|---|---|---|
| Stage | Restrictions and Prohibitions on End Users<br>***Drop down list***<br>*These are the only categories that will be accepted by the WUEdata online submittal tool* | Additional Explanation or Reference<br>*(optional)* | Penalty, Charge, or Other Enforcement?<br>*Drop Down List* |
| *Add additional rows as needed* | | | |
| 0-5 | Landscape - Restrict or prohibit runoff from landscape irrigation | | Yes |
| 0-5 | Landscape - Limit landscape irrigation to specific times | | Yes |
| 0-5 | Landscape - Prohibit certain types of landscape irrigation | | Yes |
| 0-5 | CII - Restaurants may only serve water upon request | | Yes |
| 0-5 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | | Yes |
| 0-5 | Other water feature or swimming pool restriction | Drain and refill for repair only | Yes |
| 0-5 | Water Features - Restrict water use for decorative water features, such as fountains | Must be recirculating | Yes |
| 0-5 | Other - Prohibit use of potable water for washing hard surfaces | | Yes |
| 3-5 | Pools and Spas - Require covers for pools and spas | | Yes |
| 3-5 | Landscape - Limit landscape irrigation to specific days | | Yes |
| 3-5 | CII - Lodging establishment must offer opt out of linen service | | Yes |
| 3-5 | Other - Prohibit use of potable water for construction and dust control | Use recycled/non-potable when available | Yes |
| 5 | Landscape - Prohibit all landscape irrigation | Only recycled water | Yes |
| 5 | Other - Prohibit use of potable water for construction and dust control | Only recycled water | Yes |
| 5 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | | Yes |
| | | | |
| NOTES: Stage 0 (no shortage) reflects District Code Section 3.36.030, Prohibitions on Water Waste | | | |

| Table 8-3 Retail Only:<br>Stages of Water Shortage Contingency Plan - Consumption Reduction Methods | | |
|---|---|---|
| Stage | Consumption Reduction Methods by Water Supplier<br>***Drop down list***<br>*These are the only categories that will be accepted by the WUEdata online submittal tool* | Additional Explanation or Reference<br>*(optional)* |
| *Add additional rows as needed* | | |
| 1-5 | Expand Public Information Campaign | |
| 0-5 | Offer Water Use Surveys | |
| 0-5 | Provide Rebates on Plumbing Fixtures and Devices | |
| 0-5 | Provide Rebates for Landscape Irrigation Efficiency | |
| 0-5 | Provide Rebates for Turf Replacement | |
| 2-5 | Decrease Line Flushing | |
| 3-5 | Implement or Modify Drought Rate Structure or Surcharge | |
| | | |
| | | |
| | | |
| NOTES: See the full WSCP for full descriptions | | |

| Table 8-4 Retail: Minimum Supply Next Three Years | | | |
|---|---|---|---|
| | 2016 | 2017 | 2018 |
| Available Water Supply | 9,620 | 9,620 | 9,620 |
| NOTES: | | | |

| Table 10-1 Retail: Notification to Cities and Counties | | |
|---|---|---|
| City Name | 60 Day Notice | Notice of Public Hearing |
| *Add additional rows as needed* | | |
| City of Marina | ☑ | ☑ |
| City of Seaside | ☑ | ☑ |
| City of Del Rey Oaks | X | X |
| City of Monterey | X | X |
| CSU Monterey Bay | X | X |
| UC MBEST | X | X |
| CA State Parks | X | X |
| U.S. Army Presidio of Monterey | X | X |
| Fort Ord Reuse Authority | X | X |
| MCWRA | X | X |
| MPWMD | X | X |
| Cal-Am | X | X |
| | | |
| | ☐ | ☐ |
| County Name *Drop Down List* | 60 Day Notice | Notice of Public Hearing |
| *Add additional rows as needed* | | |
| Monterey County | ☑ | ☑ |
| | ☐ | ☐ |
| | ☐ | ☐ |
| NOTES: | | |

| **SB X7-7 Table 0: Units of Measure Used in UWMP*** *(select one from the drop down list)* |
| --- |
| Acre Feet |
| **The unit of measure must be consistent with Table 2-3* |
| NOTES: |

| SB X7-7 Table-1: Baseline Period Ranges | | | |
|---|---|---|---|
| **Baseline** | **Parameter** | **Value** | **Units** |
| 10- to 15-year baseline period | 2008 total water deliveries | 4,102 | Acre Feet |
| | 2008 total volume of delivered recycled water | 0 | Acre Feet |
| | 2008 recycled water as a percent of total deliveries | 0.00% | Percent |
| | Number of years in baseline period[1] | 10 | Years |
| | Year beginning baseline period range | 1999 | |
| | Year ending baseline period range[2] | 2008 | |
| 5-year baseline period | Number of years in baseline period | 5 | Years |
| | Year beginning baseline period range | 2004 | |
| | Year ending baseline period range[3] | 2008 | |

[1] *If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.*

[2] *The ending year must be between December 31, 2004 and December 31, 2010.*

[3] *The ending year must be between December 31, 2007 and December 31, 2010.*

NOTES:

| SB X7-7 Table 2: Method for Population Estimates | |
|---|---|
| **Method Used to Determine Population** (may check more than one) | |
| ☑ | **1. Department of Finance** (DOF)<br>DOF Table E-8 (1990 - 2000) and (2000-2010) and<br>DOF Table E-5 (2011 - 2015) when available |
| ☑ | **2. Persons-per-Connection Method** |
| ☐ | **3. DWR Population Tool** |
| ☐ | **4. Other**<br>DWR recommends pre-review |
| NOTES: Service area crosses multiple jurisdictions. All of the City of | |

| SB X7-7 Table 3: Service Area Population | | |
|---|---|---|
| **Year** | | **Population** |
| 10 to 15 Year Baseline Population | | |
| Year 1 | 1999 | 28,657 |
| Year 2 | 2000 | 29,137 |
| Year 3 | 2001 | 29,416 |
| Year 4 | 2002 | 29,648 |
| Year 5 | 2003 | 29,613 |
| Year 6 | 2004 | 29,633 |
| Year 7 | 2005 | 29,477 |
| Year 8 | 2006 | 29,154 |
| Year 9 | 2007 | 29,065 |
| Year 10 | 2008 | 29,533 |
| *Year 11* | | |
| *Year 12* | | |
| *Year 13* | | |
| *Year 14* | | |
| *Year 15* | | |
| 5 Year Baseline Population | | |
| Year 1 | 2004 | 29,633 |
| Year 2 | 2005 | 29,477 |
| Year 3 | 2006 | 29,154 |
| Year 4 | 2007 | 29,065 |
| Year 5 | 2008 | 29,533 |
| 2015 Compliance Year Population | | |
| **2015** | | 32,375 |
| NOTES: | | |

| SB X7-7 Table 4: Annual Gross Water Use * | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Baseline Year** *Fm SB X7-7 Table 3* | **Volume Into Distribution System** *Fm SB X7-7 Table(s) 4-A* | **Deductions** | | | | | **Annual Gross Water Use** |
| | | | Exported Water | Change in Dist. System Storage (+/-) | Indirect Recycled Water *Fm SB X7-7 Table 4-B* | Water Delivered for Agricultural Use | Process Water *Fm SB X7-7 Table(s) 4-D* | |
| 10 to 15 Year Baseline - Gross Water Use | | | | | | | | |
| Year 1 | 1999 | 4637 | 0 | 0 | 0 | 0 | 0 | 4,637 |
| Year 2 | 2000 | 4671.2 | 0 | 0 | 0 | 0 | 0 | 4,671 |
| Year 3 | 2001 | 4513 | 0 | 0 | 0 | 0 | 0 | 4,513 |
| Year 4 | 2002 | 4442.8 | 0 | 0 | 0 | 0 | 0 | 4,443 |
| Year 5 | 2003 | 4329.7 | 0 | 0 | 0 | 0 | 0 | 4,330 |
| Year 6 | 2004 | 4684.6 | 0 | 0 | 0 | 0 | 0 | 4,685 |
| Year 7 | 2005 | 4188.1 | 0 | 0 | 0 | 0 | 0 | 4,188 |
| Year 8 | 2006 | 4295.3 | 0 | 0 | 0 | 0 | 0 | 4,295 |
| Year 9 | 2007 | 4563 | 0 | 0 | 0 | 0 | 0 | 4,563 |
| Year 10 | 2008 | 4102.2 | 0 | 0 | 0 | 0 | 0 | 4,102 |
| *Year 11* | 0 | 0 | | | 0 | | 0 | 0 |
| *Year 12* | 0 | 0 | | | 0 | | 0 | 0 |
| *Year 13* | 0 | 0 | | | 0 | | 0 | 0 |
| *Year 14* | 0 | 0 | | | 0 | | 0 | 0 |
| *Year 15* | 0 | 0 | | | 0 | | 0 | 0 |
| **10 - 15 year baseline average gross water use** | | | | | | | | **2,962** |
| 5 Year Baseline - Gross Water Use | | | | | | | | |
| Year 1 | 2004 | 4,685 | 0 | 0 | 0 | 0 | 0 | 4,685 |
| Year 2 | 2005 | 4,188 | 0 | 0 | 0 | 0 | 0 | 4,188 |
| Year 3 | 2006 | 4,295 | 0 | 0 | 0 | 0 | 0 | 4,295 |
| Year 4 | 2007 | 4,563 | 0 | 0 | 0 | 0 | 0 | 4,563 |
| Year 5 | 2008 | 4,102 | 0 | 0 | 0 | 0 | 0 | 4,102 |
| **5 year baseline average gross water use** | | | | | | | | **4,367** |
| 2015 Compliance Year - Gross Water Use | | | | | | | | |
| **2015** | | 3,228 | 0 | 0 | 0 | 0 | 0 | 3,228 |
| * NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3 | | | | | | | | |
| NOTES: All water supply from District-owned wells. | | | | | | | | |

**SB X7-7 Table 4-A: Volume Entering the Distribution System(s)**

Complete one table for each source.

| **Name of Source** | Salinas Valley Groundwater Basin |
|---|---|
| **This water source is:** | |
| ☑ | The supplier's own water source |
| ☐ | A purchased or imported source |

| **Baseline Year** *Fm SB X7-7 Table 3* | | Volume Entering Distribution System | Meter Error Adjustment* *Optional (+/-)* | Corrected Volume Entering Distribution System |
|---|---|---|---|---|
| 10 to 15 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 1999 | 4637 | | 4,637 |
| Year 2 | 2000 | 4671.2 | | 4,671 |
| Year 3 | 2001 | 4513 | | 4,513 |
| Year 4 | 2002 | 4442.8 | | 4,443 |
| Year 5 | 2003 | 4329.7 | | 4,330 |
| Year 6 | 2004 | 4684.6 | | 4,685 |
| Year 7 | 2005 | 4188.1 | | 4,188 |
| Year 8 | 2006 | 4295.3 | | 4,295 |
| Year 9 | 2007 | 4563 | | 4,563 |
| Year 10 | 2008 | 4102.2 | | 4,102 |
| Year 11 | 0 | | | 0 |
| Year 12 | 0 | | | 0 |
| Year 13 | 0 | | | 0 |
| Year 14 | 0 | | | 0 |
| Year 15 | 0 | | | 0 |
| 5 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 2004 | 4684.6 | | 4,685 |
| Year 2 | 2005 | 4188.1 | | 4,188 |
| Year 3 | 2006 | 4295.3 | | 4,295 |
| Year 4 | 2007 | 4563 | | 4,563 |
| Year 5 | 2008 | 4102.2 | | 4,102 |
| 2015 Compliance Year - Water into Distribution System | | | | |
| **2015** | | 3228.04 | | 3,228 |

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

| SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD) | | | | |
|---|---|---|---|---|
| **Baseline Year** *Fm SB X7-7 Table 3* | | Service Area Population *Fm SB X7-7 Table 3* | Annual Gross Water Use *Fm SB X7-7 Table 4* | Daily Per Capita Water Use (GPCD) |
| 10 to 15 Year Baseline GPCD | | | | |
| Year 1 | 1999 | 28,657 | 4,637 | 144 |
| Year 2 | 2000 | 29,137 | 4,671 | 143 |
| Year 3 | 2001 | 29,416 | 4,513 | 137 |
| Year 4 | 2002 | 29,648 | 4,443 | 134 |
| Year 5 | 2003 | 29,613 | 4,330 | 131 |
| Year 6 | 2004 | 29,633 | 4,685 | 141 |
| Year 7 | 2005 | 29,477 | 4,188 | 127 |
| Year 8 | 2006 | 29,154 | 4,295 | 132 |
| Year 9 | 2007 | 29,065 | 4,563 | 140 |
| Year 10 | 2008 | 29,533 | 4,102 | 124 |
| *Year 11* | 0 | 0 | 0 | |
| *Year 12* | 0 | 0 | 0 | |
| *Year 13* | 0 | 0 | 0 | |
| *Year 14* | 0 | 0 | 0 | |
| *Year 15* | 0 | 0 | 0 | |
| **10-15 Year Average Baseline GPCD** | | | | **135** |
| 5 Year Baseline GPCD | | | | |
| **Baseline Year** *Fm SB X7-7 Table 3* | | Service Area Population *Fm SB X7-7 Table 3* | Gross Water Use *Fm SB X7-7 Table 4* | Daily Per Capita Water Use |
| Year 1 | 2004 | 29,633 | 4,685 | 141 |
| Year 2 | 2005 | 29,477 | 4,188 | 127 |
| Year 3 | 2006 | 29,154 | 4,295 | 132 |
| Year 4 | 2007 | 29,065 | 4,563 | 140 |
| Year 5 | 2008 | 29,533 | 4,102 | 124 |
| **5 Year Average Baseline GPCD** | | | | **133** |
| 2015 Compliance Year GPCD | | | | |
| **2015** | | 32,375 | 3,228 | 89 |
| NOTES: | | | | |

| **SB X7-7 Table 6**: Gallons per Capita per Day<br>*Summary From Table SB X7-7 Table 5* | |
|---|---|
| 10-15 Year Baseline GPCD | 135 |
| 5 Year Baseline GPCD | 133 |
| 2015 Compliance Year GPCD | 89 |
| NOTES: | |

| **SB X7-7 Table 7: 2020 Target Method**<br>*Select Only One* | | |
|---|---|---|
| Target Method | | Supporting Documentation |
| ☐ | Method 1 | SB X7-7 Table 7A |
| ☐ | Method 2 | SB X7-7 Tables 7B, 7C, and 7D<br>*Contact DWR for these tables* |
| ☑ | Method 3 | SB X7-7 Table 7-E |
| ☐ | Method 4 | Method 4 Calculator |
| NOTES: | | |

| SB X7-7 Table 7-E: Target Method 3 | | | | |
|---|---|---|---|---|
| Agency May Select More Than One as Applicable | Percentage of Service Area in This Hydrological Region | Hydrologic Region | "2020 Plan" Regional Targets | Method 3 Regional Targets (95%) |
| ☐ | | North Coast | 137 | 130 |
| ☐ | | North Lahontan | 173 | 164 |
| ☐ | | Sacramento River | 176 | 167 |
| ☐ | | San Francisco Bay | 131 | 124 |
| ☐ | | San Joaquin River | 174 | 165 |
| ☑ | 100% | Central Coast | 123 | 117 |
| ☐ | | Tulare Lake | 188 | 179 |
| ☐ | | South Lahontan | 170 | 162 |
| ☐ | | South Coast | 149 | 142 |
| ☐ | | Colorado River | 211 | 200 |
| **Target** *(If more than one region is selected, this value is calculated.)* | | | | **117** |
| NOTES: | | | | |

| SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target | | | |
|---|---|---|---|
| 5 Year Baseline GPCD *From SB X7-7 Table 5* | Maximum 2020 Target* | Calculated 2020 Target *Fm Appropriate Target Table* | Confirmed 2020 Target |
| 133 | 126 | 117 | 117 |
| ** Maximum 2020 Target is 95% of the 5 Year Baseline GPCD* | | | |
| NOTES: | | | |

| SB X7-7 Table 8: 2015 Interim Target GPCD | | |
|---|---|---|
| Confirmed 2020 Target *Fm SB X7-7 Table 7-F* | 10-15 year Baseline GPCD *Fm SB X7-7 Table 5* | 2015 Interim Target GPCD |
| 117 | 135 | 126 |
| NOTES: | | |

| SB X7-7 Table 9: 2015 Compliance | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Actual 2015 GPCD | 2015 Interim Target GPCD | Optional Adjustments *(in GPCD)* | | | | | 2015 GPCD *(Adjusted if applicable)* | Did Supplier Achieve Targeted Reduction for 2015? |
| | | Extraordinary Events | Weather Normalization | Economic Adjustment | TOTAL Adjustments | Adjusted 2015 GPCD | | |
| 89 | 126 | *NA* | *NA* | *NA* | 0 | 89.01338654 | 89.01338654 | YES |
| NOTES: | | | | | | | | |

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## Appendix I: Voluntary Reporting of Energy Intensity

The MCWD water distribution system has five pressure zones, with eight water storage tanks and six booster pump stations. The District produces all of its water supply from groundwater wells. Treatment consists of chlorination to meet distribution system requirements. Some water is provided directly to customers in the lowest pressure zone, and the rest is boosted into the upper zones for storage and customer use. Power consumption for 2015 is tabulated below. Total water production for the year was 3,228 acre-feet. The portion of that supply boosted into the upper pressure zones was not metered or estimated.

**2015 Water System Power Use**

| Component | kWh |
|---|---|
| Wells | 1,451,161 |
| Booster Pump Stations | 1,024,865 |
| SCADA (Controls) | 1,397 |
| Desalination | 0 |
| Total | 2,477,423 |

MCWD provides wastewater collection within its service area, but not treatment. Wastewater treatment is provided by the Monterey Regional Water Pollution Control Agency at the regional treatment plant. The MCWD wastewater collection system includes 20 pump stations. Power consumption for 2015 is tabulated below. Total wastewater conveyed for the year was 2,115 acre-feet.

**2015 Wastewater System Power Use**

| Component | kWh |
|---|---|
| Lift Stations | 278,600 |
| SCADA | 413 |
| Total | 279,013 |

DWR Standard Tables O-1A and O-2 are provided on the following pages.

***Urban Water Supplier:*** *Marina Coast Water District*

**Water Delivery Product** (If delivering more than one type of product use Table O-1C)

*Retail Potable Deliveries*

**Table O-1A: Voluntary Energy Intensity - Water Supply Process Approach**

Enter Start Date for Reporting Period 1/1/2015

End Date 12/31/2015

| | Urban Water Supplier Operational Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Water Management Process | | | | | | Non-Consequential Hydropower (if applicable) | |
| | Extract and Divert | Place into Storage | Conveyance | Treatment | Distribution | Total Utility | Hydropower | Net Utility |
| *Volume of Water Entering Process (AF)* | *3228* | *0* | *0* | *0* | *2905.2* | *2905.2* | *0* | *2905.2* |
| *Energy Consumed (kWh)* | *1451161* | *0* | *0* | *0* | *1026262* | *2477423* | | *2477423* |
| *Energy Intensity (kWh/AF)* | *449.6* | *0.0* | *0.0* | *0.0* | *353.3* | *852.8* | *0.0* | *852.8* |

**Quantity of Self-Generated Renewable Energy**

None kWh

**Data Quality** *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

*Combination of Estimates and Metered Data*

**Data Quality Narrative:**

Power use is from PG&E Meters. Well Production from Well Meters. Distribution volume is estimated at 90% of well production.

**Narrative:**

All water originates as groundwater at District wells. The Extract and Divert power use includes chlorination for distribution.

***Urban Water Supplier:*** *Marina Coast Water District*

| Table O-2: Voluntary Energy Intensity - Wastewater & Recycled Water | | | | | |
|---|---|---|---|---|---|
| Enter Start Date for Reporting Period | 1/1/2015 | Urban Water Supplier Operational Control | | | |
| End Date | 12/31/2015 | Water Management Process | | | |
| | | Collection / Conveyance | Treatment | Discharge / Distribution | Total |
| *Volume of Wastewater Entering Process (AF)* | | *2115* | *0* | *0* | *0* |
| *Wastewater Energy Consumed (kWh)* | | *279013* | *0* | *0* | *279013* |
| *Wastewater Energy Intensity (kWh/AF)* | | *131.9* | *0.0* | *0.0* | *0.0* |
| *Volume of Recycled Water Entering Process (AF)* | | *0* | *0* | *0* | *0* |
| *Recycled Water Energy Consumed (kWh)* | | *0* | *0* | *0* | *0* |
| *Recycled Water Energy Intensity (kWh/AF)* | | *0.0* | *0.0* | *0.0* | *0.0* |

**Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations**

None kWh

**Data Quality** *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

*Combination of Estimates and Metered Data*

**Data Quality Narrative:**

Power is sum of PG&E meters for lift stations and sewer SCADA. Flow is sum of two metered stations plus Marina Airport estimate.

**Narrative:**

Wastewater is collected from throughout the system and conveyed to the MRWPCA Regional Interceptor.

## Appendix J: Water Loss Audit Tables

A system water audit was prepared using the AWWA Free Water Audit Software v5.0. Because the report audit requires financial data as well as water production and deliveries, this report was prepared for FY 2014-15 (July 1, 2014 – June 30, 2015). Financial data came from the District's Certified Annual Financial Report of FY 2014/15.

Water production during that period totaled 3,642 acre-feet, with 86 acre-feet of water loss (approximately 2%). The low loss rate is due to the District's tracking of unmetered water uses, such as water main flushing, hydrant testing and fire department training.

The Audit output tables are provided on the following pages.

# AWWA Free Water Audit Software v5.0



This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

**Please begin by providing the following information**

| | |
|---|---|
| Name of Contact Person: | Paul Lord |
| Email Address: | plord@mcwd.org |
| Telephone \| Ext.: | 831.883.5905 |
| Name of City / Utility: | Marina Coast Water District |
| City/Town/Municipality: | Marina |
| State / Province: | California (CA) |
| Country: | USA |
| Year: | 2015 Financial Year |
| Start Date: | 07/2014 Enter MM/YYYY numeric format |
| End Date: | 06/2015 Enter MM/YYYY numeric format |
| Audit Preparation Date: | 1/15/2016 |
| Volume Reporting Units: | Acre-feet |
| PWSID / Other ID: | CA2710017 |

**The following guidance will help you complete the Audit**

All audit data are entered on the ***Reporting Worksheet***

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

**The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page**

***Instructions***
The current sheet. Enter contact information and basic audit details (year, units etc)

***Reporting Worksheet***
Enter the required data on this worksheet to calculate the water balance and data grading

***Comments***
Enter comments to explain how values were calculated or to document data sources

***Performance Indicators***
Review the performance indicators to evaluate the results of the audit

***Water Balance***
The values entered in the Reporting Worksheet are used to populate the Water Balance

***Dashboard***
A graphical summary of the water balance and Non-Revenue Water components

***Grading Matrix***
Presents the possible grading options for each input component of the audit

***Service Connection Diagram***
Diagrams depicting possible customer service connection line configurations

***Definitions***
Use this sheet to understand the terms used in the audit process

***Loss Control Planning***
Use this sheet to interpret the results of the audit validity score and performance indicators

***Example Audits***
Reporting Worksheet and Performance Indicators examples are shown for two validated audits

***Acknowledgements***
Acknowledgements for the AWWA Free Water Audit Software v5.0

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

# AWWA Free Water Audit Software:
## Reporting Worksheet

WAS v5.0


? Click to access definition
+ Click to add a comment

**Water Audit Report for:** Marina Coast Water District (CA2710017)
**Reporting Year:** 2015 | 7/2014 - 6/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

**All volumes to be entered as: ACRE-FEET PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

### WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

| | | | | | Pcnt: | Value: | |
|---|---|---|---|---|---|---|---|
| Volume from own sources: | 8 | 3,641.510 | acre-ft/yr | 5 | | | acre-ft/yr |
| Water imported: | n/a | 0.000 | acre-ft/yr | | | | acre-ft/yr |
| Water exported: | n/a | 0.000 | acre-ft/yr | | | | acre-ft/yr |

Enter negative % or value for under-registration
Enter positive % or value for over-registration

**WATER SUPPLIED:** 3,641.510 acre-ft/yr

### AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

| | | | | Pcnt: | Value: | |
|---|---|---|---|---|---|---|
| Billed metered: | 6 | 3,334.800 | acre-ft/yr | | | |
| Billed unmetered: | 6 | 206.360 | acre-ft/yr | | | |
| Unbilled metered: | 8 | 10.427 | acre-ft/yr | | | |
| Unbilled unmetered: | 6 | 3.776 | acre-ft/yr | | 3.776 | acre-ft/yr |

Use buttons to select percentage of water supplied **OR** value

**AUTHORIZED CONSUMPTION:** ? 3,555.363 acre-ft/yr

### WATER LOSSES (Water Supplied - Authorized Consumption)

86.147 acre-ft/yr

**Apparent Losses**

| | | | | Pcnt: | Value: | |
|---|---|---|---|---|---|---|
| Unauthorized consumption: | | 9.104 | acre-ft/yr | 0.25% | | acre-ft/yr |

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

| | | | | | | |
|---|---|---|---|---|---|---|
| Customer metering inaccuracies: | 7 | 16.810 | acre-ft/yr | 0.50% | | acre-ft/yr |
| Systematic data handling errors: | | 8.337 | acre-ft/yr | 0.25% | | acre-ft/yr |

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:** ? 34.251 acre-ft/yr

**Real Losses (Current Annual Real Losses or CARL)**

**Real Losses = Water Losses - Apparent Losses:** ? 51.896 acre-ft/yr

**WATER LOSSES:** 86.147 acre-ft/yr

### NON-REVENUE WATER

**NON-REVENUE WATER:** ? 100.350 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

| | | | |
|---|---|---|---|
| Length of mains: | 6 | 147.0 | miles |
| Number of active AND inactive service connections: | 7 | 8,534 | |
| Service connection density: | | 58 | conn./mile main |

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 3 60.0 psi

### COST DATA

| | | | | |
|---|---|---|---|---|
| Total annual cost of operating water system: | 10 | $8,700,333 | $/Year | |
| Customer retail unit cost (applied to Apparent Losses): | 8 | $6.15 | $/100 cubic feet (ccf) | |
| Variable production cost (applied to Real Losses): | 5 | $1,300.00 | $/acre-ft | ☐ Use Customer Retail Unit Cost to value real losses |

### WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 72 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

### PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Variable production cost (applied to Real Losses)

# AWWA Free Water Audit Software:
## System Attributes and Performance Indicators



**Water Audit Report for:** Marina Coast Water District (CA2710017)
**Reporting Year:** 2015 | 7/2014 - 6/2015

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 72 out of 100 ***

**System Attributes:**

| | | | |
|---|---|---|---|
| | Apparent Losses: | 34.251 | acre-ft/yr |
| + | Real Losses: | 51.896 | acre-ft/yr |
| = | **Water Losses:** | **86.147** | acre-ft/yr |
| ? | Unavoidable Annual Real Losses (UARL): | 139.48 | acre-ft/yr |
| | Annual cost of Apparent Losses: | $91,756 | |
| | Annual cost of Real Losses: | $67,464 | Valued at **Variable Production Cost** |

Return to Reporting Worksheet to change this assumpiton

**Performance Indicators:**

| | | | |
|---|---|---|---|
| Financial: | Non-revenue water as percent by volume of Water Supplied: | 2.8% | |
| | Non-revenue water as percent by cost of operating system: | 2.0% | Real Losses valued at Variable Production Cost |
| Operational Efficiency: | Apparent Losses per service connection per day: | 3.58 | gallons/connection/day |
| | Real Losses per service connection per day: | 5.43 | gallons/connection/day |
| | Real Losses per length of main per day*: | N/A | |
| | Real Losses per service connection per day per psi pressure: | 0.09 | gallons/connection/day/psi |

| | | | |
|---|---|---|---|
| | From Above, Real Losses = Current Annual Real Losses (CARL): | 51.90 | acre-feet/year |
| ? | Infrastructure Leakage Index (ILI) [CARL/UARL]: | 0.37 | |

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

# AWWA Free Water Audit Software:
# User Comments



Use this worksheet to add comments or notes to explain how an input value was calculated, or to document the sources of the information used.

| | |
|---|---|
| **General Comment:** | |

| Audit Item | Comment |
|---|---|
| Volume from own sources: | All wells are metered. Readings are taken monthly. |
| Vol. from own sources: Master meter error adjustment: | |
| Water imported: | No water imported. |
| Water imported: master meter error adjustment: | |
| Water exported: | No water exported during this period. |
| Water exported: master meter error adjustment: | |
| Billed metered: | Total water sales of 3,578 AF during FY 14-15 (CAFR Schedule 7). Value is 3578 minus estimate of flat rate account use. |
| Billed unmetered: | District has 737 unmetered residential accounts in the Ord Community out of 3414 total accounts in the Ord Community. Use assumes 0.33 AF/DU. All Central Marina accounts are metered. |
| Unbilled metered: | The District meters internal water use at the wastewater lift stations (wash down water) and at the corporation yard (office and truck filling station). |

| Audit Item | Comment |
|---|---|
| Unbilled unmetered: | The District records hydrant run times for line flushing, fire pressure testing and fire training. Run times are converted to water use estimates and recorded in the work order database. The total estimate for 2015 was entered in this field. |
| Unauthorized consumption: | Default value used. |
| Customer metering inaccuracies: | Meters were upgrades to AMR in 2004-2005. Accuracy assumed to still be +/- 0.5% |
| Systematic data handling errors: | Default value used. |
| Length of mains: | Data from CAFR Schedule 13 |
| Number of active AND inactive service connections: | Value is active account total from 2015 CAFR, Schedule 6. Does not include inactive service connections. |
| Average length of customer service line: | NA |
| Average operating pressure: | Estimated using the average within the B-Zone (middle of the elevation range) |
| Total annual cost of operating water system: | Data from 4Q15 financials. Marina Water Ops + Marina Water CIP + Ord Water Ops + Ord Water CIP. $2,237,560 + $111,928 + $4,888,56 + $1,461,992 = $8,700,333 |
| Customer retail unit cost (applied to Apparent Losses): | Total water sales revenue / total water sales. $9,581,388 / 3578 AF = $2,677.86/AF = $6.15/hcf |
| Variable production cost (applied to Real Losses): | Using the average commodity rates, estimated at $2.99/hcf. Need to update with data from O&M. |

# AWWA Free Water Audit Software: Water Balance

WAS v5.0

American Water Works Association.

| | | |
|---|---|---|
| Water Audit Report for: | Marina Coast Water District (CA2710017) | |
| Reporting Year: | 2015 | 7/2014 - 6/2015 |
| Data Validity Score: | 72 | |

**Own Sources** (Adjusted for known errors)
*3,641.510*

**Water Imported**
*0.000*

**System Input**
*3,641.510*

**Water Exported**
*0.000*

**Water Supplied**
*3,641.510*

**Authorized Consumption**
*3,555.363*

**Water Losses**
*86.147*

**Billed Authorized Consumption**
*3,541.160*

**Unbilled Authorized Consumption**
*14.203*

**Apparent Losses**
*34.251*

**Real Losses**
*51.896*

**Billed Water Exported**

**Billed Metered Consumption (water exported is removed)**
*3,334.800*

**Billed Unmetered Consumption**
*206.360*

**Unbilled Metered Consumption**
*10.427*

**Unbilled Unmetered Consumption**
*3.776*

**Unauthorized Consumption**
*9.104*

**Customer Metering Inaccuracies**
*16.810*

**Systematic Data Handling Errors**
*8.337*

**Leakage on Transmission and/or Distribution Mains**
*Not broken down*

**Leakage and Overflows at Utility's Storage Tanks**
*Not broken down*

**Leakage on Service Connections**
*Not broken down*

**Revenue Water**
0.000

**Revenue Water**
3,541.160

**Non-Revenue Water (NRW)**
100.350

## Appendix K: Comments Received on the Draft Plan

___ verbal comments were submitted at the Public Hearing for the UWMP.

___ comment letters were received:

Responses follow each letter.