



CITY OF MORRO BAY PUBLIC WORKS ADVISORY BOARD AGENDA

The City of Morro Bay provides essential public services and infrastructure to maintain a safe, clean and healthy place for residents and visitors to live, work and play.

**Wednesday, May 17, 2017
Veterans Memorial Building - 5:30 P.M.
209 Surf Street, Morro Bay, CA**

Ric Deschler, Chair
John Erwin

Steven Shively, Vice-Chair
Janith Goldman
Stewart Skiff

Christian Erlendson
Christopher Parker

ESTABLISH QUORUM AND CALL TO ORDER
MOMENT OF SILENCE/PLEDGE OF ALLEGIANCE
ANNOUNCEMENTS
PRESENTATIONS – None

PUBLIC COMMENT PERIOD

Members of the audience wishing to address the Board on City business matters not on the agenda may do so at this time. To increase the effectiveness of the Public Comment Period, the following rules shall be followed:

- When recognized by the Chair, please come forward to the podium and state your name and city of residence for the record.
- Comments are to be limited to three minutes.
- All remarks shall be addressed to the Board, as a whole, and not to any individual member thereof.
- The Board respectfully requests that you refrain from making slanderous, profane or personal remarks against any elected official, commission and/or staff.
- Please refrain from public displays or outbursts such as unsolicited applause, comments or cheering.
- Any disruptive activities that substantially interfere with the ability of the Board to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.
- Your participation in Board meetings is welcome and your courtesy will be appreciated.

A. CONSENT CALENDAR

- A-1 Approval of Minutes of April 19, 2017 Meeting
Recommendation: Approve minutes.

B. BUSINESS ITEMS

- B-1 Directors Report – Informational summary of current Public Works Activities
Recommendation: Information item, no action needed.
- B-2 Discussion on Adopt-A-Park/Street Program and Memorial Programs
Recommendation: Review the Adopt-A-Park/Street and Memorial Programs, provide comments as necessary, and recommend the City Council approve the staff recommendations outlined in the staff report.
- B-3 2016 Annual Water Report and recommendation for allocation of Water Equivalency Units (WEUs) for 2017
Recommendation: Staff recommends the Board receive and provide comment on the presentation summarizing the annual water report and allocation of the 2017 Water Equivalency Units

C. POTENTIAL FUTURE AGENDA ITEMS

Review of proposed Capital Improvement Program (CIP)

D. ADJOURNMENT

Adjourn to the Public Works Advisory Board meeting at the Veteran's Memorial Building, 209 Surf Street, on June 21, 2017 at 5:30 p.m.

This agenda is subject to amendment up to 72 hours prior to the date and time set for the meeting. Please refer to the agenda posted at the Public Works Department, 955 Shasta Avenue, for any revisions or call the department at 772-6263 for further information.

Materials related to an item on this Agenda are available for public inspection during normal business hours in the Public Works Department at 955 Shasta, City Hall at 595 Harbor, Mill's/ASAP at 495 Morro Bay Boulevard, or the Morro Bay Library at 695 Harbor, Morro Bay, CA 93442. Materials related to an item on this agenda submitted to the Board after publication of the agenda packet are available for inspection at the Public Works Department during normal business hours or at the scheduled meeting.

This agenda may be found on the Internet at: www.morrobayca.gov/pwab or you can subscribe to Notify Me for email notification when the Agenda is posted on the City's website. To subscribe, go to www.morrobayca.gov/notifyme and follow the instructions.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Public Works Department at (805) 772-6263. Notification 24 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

- | | | |
|----------|---|---|
| PRESENT: | Steve Shively
Ric Deschler
Chris Parker
Stewart Skiff
John Erwin
Janith Goldman
Christian Erlendson | Vice Chair
Chairman
Board Member
Board Member
Board Member
Board Member
Board Member |
| STAFF: | Rob Livick
Mike Nunley
Eileen Shields
Janeen Burlingame
Joe Mueller
Damaris Hansen
Gina Gregory | Public Works Director
WRF Program Manager
WRF Program Senior Engineer
Management Analyst
Utilities Division Manager
Environmental Programs Manager
Office Assistant |

ESTABLISH QUORUM, CALL TO ORDER AND MOMENT OF SILENCE

The meeting was called to order at 5:30 p.m.
A quorum was present and there was a moment of silence.

ANNOUNCEMENTS
<https://youtu.be/qCMd4iMm4sA?t=45s>

Chairman Ric Deschler announced that he would be leaving the meeting at 6:50 P.M. and introduced Christian Erlendson the newest member of the Public Works Advisory Board.

PRESENTATIONS – None

PUBLIC COMMENT PERIOD
<https://youtu.be/qCMd4iMm4sA?t=1m34s>

The public comment period was opened, seeing none, the public comment period was closed.

A. CONSENT AGENDA
<https://youtu.be/qCMd4iMm4sA?t=2m4s>

A-1 APPROVAL OF MINUTES OF MARCH 15, 2017 MEETING

MOTION: Steve Shively moved to approve Item A-1. The motion was seconded by John Erwin and carried 7-0-0 unanimously.

B. BUSINESS ITEMS

B-1 Directors Report – Informational summary of current Public Works Activities
<https://youtu.be/qCMd4iMm4sA?t=2m49s>

Rob Livick presented the staff report.
The Board asked questions of staff and commented on the Director's Report.

B-2 Preliminary Finding from the Draft Sewer and Water Rates Study Update
<https://youtu.be/qCMd4iMm4sA?t=33m59s>

Mike Nunley and Eileen Shields presented the Preliminary Finding from the Draft Sewer and Water Rates Study Update.

The public comment period was opened.

Julie Kleagle, resident of Morro Bay voiced her concern on the original cost of \$74.7 million dollars in 2015 to the new potential costs. She asked why it has been increased so greatly.

Mike Nunley and Rob Livick answered her question.

The public comment period was closed.

Discussion, comments and questions continued amongst Board members and staff.

ADJOURNMENT

The meeting adjourned at 8:17 P.M. to a regular Public Works Advisory Board meeting to be held on May 17, 2017 at 5:30 p.m. at the Veteran's Memorial Building, 209 Surf Street.



AGENDA NO: B-1

MEETING DATE: May 17, 2017

Staff Report

TO: Public Works Advisory Board **DATE:** May 10, 2017
FROM: Rob Livick, PE/PLS – Public Works Director/City Engineer
SUBJECT: Director’s Report / Information Items

Please contact the individual staff members prior to the meeting, if possible, for more detailed information.

Notify Me: Sign up for Notify Me on the City’s Website www.morrobayca.gov/notifyme for notification of Council, Board’s and Commission’s agendas and minutes.

Service Requests: The City has a feature to the City’s website, Service Requests www.morrobayca.gov/905/Service-Requests, or the mobile App “My Morro Bay” (Available on both Android and IOS operating systems) where citizens can report a concern to the City for predetermined issues without the need to phone the City during business hours (for example: reporting a pothole).

Staff can also add Service Requests for someone over the phone or in the office if they do not have access to a computer. Each category in Service Requests is assigned to the appropriate staff member to handle so citizens don’t have to figure out what department to contact for an issue they need to report on.

BICYCLE TRANSPORTATION

Staff Contact: Rob Livick

Staff submitted responses to SLOCOG staff regarding Bicycle and Pedestrian Improvement Requests.

Ride On!

CONSOLIDATED MAINTENANCE

Staff Contact: Mike Wilcox

Staff has been focused on routine maintenance due to staff vacations and lack of resources. Seasonal work includes; weeding and mowing with much of this taking place along bike paths.

Now that the rains have subsided, staff is ramping up on road repairs. We are currently installing 4-5 tons of hot mix Asphalt weekly. If you see the crew working in your neighborhood, please take a minute to introduce yourself and say thank you.

Consolidated Maintenance worked alongside Harbor Patrol to install 5 information panels on the parking lot side of the Tidelands Restroom facility. The soda machines were removed by the vendor and magazine racks were moved to the park side of the restroom.



Staff has completed the installation of a new water main at the Veteran's Memorial Building, and they will be slowly renewing all of the building plumbing over the next few weeks.

Staff has completed the parking lot striping at City Hall, Public Works, and the Veteran's Memorial Building following the application of slurry seal coating. Staff will continue striping curbside parking throughout the business district as well as begin the process of adding accessible parking locations.

Staff plans to more clearly delineate the turn lane on Main Street alongside Taco Bell and Chevron with turn arrows painted on the asphalt and no parking signs added at the curb. This will likely eliminate traffic congestion due to drivers believing there is only one lane at this location.

If you have maintenance requests, please call 772-6261, use the smart phone app, myMorroBay, available for android and iPhone, or use the City's Service Requests online system on our website www.morrobayca.gov/905/Service-Requests. Upon receipt, the electronic requests will be reviewed and assigned to the appropriate staff for action. In the future, the City will be upgrading to a fully integrated maintenance work order system that will allow you to view the progress of your requests.

SIDEWALK REPAIR AND INSTALLATION

Staff Contact: Rick Sauerwein

2016 CDBG ADA Accessibility project: Staff is wrapping up final revisions to the Subrecipient Agreement and specifications prior to proceeding to with the Invitation to Bid. The County Board of Supervisors already approved reallocation of prior year funding to provide up to \$236,418 in additional funding to fill gaps in our existing sidewalk network to improve ADA Accessibility.

STORM WATER

Staff Contact: Damaris Hanson
Mike Wilcox

The rainy season is upon us and this means that City Maintenance crews are making sure our storm drains are clear and are cleaning all high priority drains. Please remember that debris such as leaves and twigs can prevent water from flowing from gutters into storm drains and cause localized flooding. To prevent clogging of these drains, properly dispose of yard waste in green waste bins. The City would also like to remind citizens, if you see a clogged storm drain, and if it is safe, you may attempt to remove the debris with a garden rake. If there is a significant blockage, contact the Public Works Department, 805-772-6261. While the City does not own any creek property except for those areas that fall within City parks or in the public right of way such as bridges and roads that cross creeks; if a large tree or debris were to get stuck at a bridge that we maintain then we would remove it, otherwise any other downed trees or vegetation is the responsibility of the property owner. If a property owner wants to remove trees and debris from the portion of the creek that is on their property it is the property owners responsibility to acquire the required permit from California Department of Fish and Wildlife and any other necessary agency.

Storm Drain lining/replacement at 2560 Ironwood is underway.

STREETS

Staff contact: Rick Sauerwein
Jarrod Whelan

Pavement Coatings Co. has completed the 2017 Street Preservation work and final sweeping will be scheduled later this month. staff is completing project documentation and processing payment and grant reimbursement.

Preparations are underway to reevaluate streets, update StreetSaver and prioritize work for the next delivery order.

Revenue impact of the new SB1, Road Maintenance and Rehabilitation Account are being evaluated as the 2017/18 budget is developed.

TREES – Urban Forest Management

Staff contact: Damaris Hanson
Mike Wilcox

A reminder that bird nesting season started on February 1st and run through June. During nesting season, no public right of way trees will be trimmed or removed unless in the case of an emergency, and private trees cannot be removed during nesting season.

WATER – Chorro Stream Gauge

Staff Contact: Rick Sauerwein
Pamela Newman

The City's consultant, WSC, has withdrawn from the project and the work is being included in the scope of the One Water contract. Coordination with National Marine Fisheries Service (NMFS) will resume after award.

WATER – Nutmeg Tank Replacement

Staff Contact: Rick Sauerwein
Jarrod Whelan

Staff is evaluating this work for a possible design-build contract to expedite completion. The draft RFP will be modified accordingly after this evaluation is complete.

WATER – Operations

Staff Contact: Rob Livick
Joe Mueller
Jamie James
Damaris Hanson

On April 14, 2017 the State Department of Water Resources announced: for 2017 the allocation of state water was increased to 85-percent. Due to the City's drought buffer, we can expect 100-percent delivery from the SWP to the City of Morro Bay.

During the month of April, the water staff completed various work orders:

- Exercised 55 valves
- Reset 37 meter boxes
- Performed routine water quality monitoring of the distribution system (170 work orders) well meter readings, sounded well water levels, collected monthly water quality samples
- Performed meter re-reads, turn off notices, meter re-reads, high meter reads, turn off and turn on of water service.
- Attended an Emergency Preparedness and fire extinguisher trainings.
- Valve replacement at 3000 Ironwood, crews completed a valve replacement for Del Mar Elementary while school was on spring break to minimize interruptions.

Upcoming projects: Several service replacements and a valve replacement at 2700 Hemlock.

WATER – Water Conservation

Staff Contact: Damaris Hanson

For the Month of April water conservation was 14% lower compared to April 2013. On April 7th Governor Brown lifted the January 17, 2014 drought declaration for most of California, including San Luis Obispo County. State Water Resources Control Board will rescind the water supply stress test as well as mandatory conservation standards. The City will still be required to report monthly our water conservation report to the State Water Board.

City water conservation rebates available; Cash for grass, rain barrel, irrigation retrofit, SMART irrigation controller, toilet retrofit and Energy star washing machine. State rebates now available for removing grass (up to \$2 per sq. ft.) and replacing a toilet that flushed more than 1.6 gallons per flush (\$100).

WASTEWATER – Collections

Staff Contact: Joe Mueller
John Gunderlock

In April the wastewater collections staff:

- cleaned approximately 14,000 feet of sewer mainline.
- no mainline overflows where reported.
- responded to one private lateral blockage.
- staff downloaded data from 15 temporary flow meters installed throughout the city to compile wastewater flow data for engineering and design.
- assisted consolidated maintenance with the installation of a small grinder pump station to handle the flows from the Rock restrooms.
- performed enhanced line cleaning of the downtown area in advance of the Car show weekend.
- worked with Dukes root control in the treatment and application of root control chemicals in 23,000 feet of sewer mainline.
- purchased a backup pump for lift station number one the Cloister's station.
- inspected three newly-installed lateral connections to city mainlines, Beachcomber, Torro Lane, and Sunset Ave for a six unit complex .
- performed routine lift station maintenance.
- assisted at the treatment facility performing additional duties.
- conducted 6 source control inspections at various businesses.

WASTEWATER – Treatment

Staff Contact: Joe Mueller
John Gunderlock

Operations

- Flow for the month of March averaged 1.006 Million Gallons per Day (MGD) and totaled 30.173 MG.
- A total of 1.05 inches of rain was recorded at the treatment plant.
- On April 4th the Environmental Laboratory Accreditation Program completed their annual inspection of the laboratory with no major deficiencies noted.
- Replaced digester number 3 gas pressure relief valves.
- Cleaned digester number 3 gas discharge piping.
- Replaced the digesters online thermometers used to adjust the digester control temps.
- Covered the open area on the biofilter number 2 center column eliminating an open confined space and fall hazard.
- Repaired corroded eight inch gas feed line at waste gas burner.
- Performed maintenance and proactive repairs to the plants effluent blending control valve.
- Installed ultrasonic level indicator in the sodium hypochlorite chemical storage tank for accurate chemical use monitoring.

Staff attended the following training:

- Bloodborne Pathogens, Bio Hazard, Aerosol Transmissible Diseases
- Environmental Safety
- Micro Biology
- Harassment for Supervisors

Submitted Reports

- March 2017 Monthly Monitoring Data (eSMR)
- March 2017 Discharge Monitoring Forms (eDMR)
- 2017 First Quarter Receiving Water Survey

WASTEWATER – NEW WRF

Staff Contact: Rob Livick

Immediate next steps include:

Item	Date
Introduction of Proposed Sewer and Water Rates to City Council	April 25, 2017
Direction from Council to peer Review WRF Costs and look at Phasing Alternatives	April 25, 2017
Peer Review of WRF Project Costs – Panel of Local Agency Professional Engineers	June 2017
Confirmation of Phase I and Phase II WRF Budget	Delayed -Fall 2017
Council Selection and Award for Phase I WRF Offsite Improvements (Lift Station and Pipelines)	Delayed - Summer 2017
RFQ for Design/Construction of Phase I WRF Onsite Improvements	Delayed - Fall 2017
Release of Public Draft EIR	Delayed - Fall 2017
RFP for Design/Construction of Phase I WRF Onsite Improvements	Tentative October 2017
Certification of Final EIR (Critical Timeline for Grant Pursuit)	Delayed - Winter 2017/18
Negotiation/Award of Contract for Phase I WRF Onsite	Tentative May 2018

Improvements	
Award of Contract for Construction of Phase I Offsite Improvements (Lift Station and Pipelines)	April 2019
Completion of Phase I WRF Improvements	Summer 2021

Additional and updated information on the WRF project is available on the City's website (<http://morrobaywrf.com/>).

Schedule

Still on track for 2021 delivery.

ATTACHMENT

Bicycle and Pedestrian Improvement Requests submitted to SLOCOG and Received by February 8, 2017

Bicycle and Pedestrian Improvement Requests Received by February 8, 2017

Bicycle & Pedestrian Requests	Number of Requests	Included in Plan (Yes or No)	Funding Status	Operational/Maintenance	SLOCOG Staff/Jurisdiction Comments	Morro Bay Staff Comments
Morro Bay						
Provide more bike parking facilities at popular destinations - all public buildings, commuter destinations, business clusters.	*	Yes	Ongoing	Yes	Morro Bay Bike Plan Objective 4. The City has installed a Peak Rack at the Vets Hall donated by the SLO Bicycle Club.	In Progress as funds are available.
Provide traffic calming solutions on San Jacinto from Ironwood to Main St.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of projects summer 2017.	Improvements made on San Jacinto between Cedar and Main include bike lane reconfiguration and Green Bike lane
Ensure that crosswalks around Del Mar Elementary School are repainted frequently so they are visible to motorists.	*	Yes	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of projects summer 2017.	Ongoing with street Maintenance projects
Paint the bike lanes on San Jacinto from Cedar to Greenwood and on Greenwood from San Jacinto to Sequoia as a Safe Route to School.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of projects summer 2017.	See above
Paint green bike lanes on both sides of San Jacinto from Cedar to Main and convert the right turn pocket between Alder and Main to a protected bike lane with a bike box in the crosswalk.	*	Yes	Completed	Yes	This is expected to take place during the week of spring break beginning April 17, 2017. Completed.	See above
Build a multi-use trail on the south bank of Alva Paul Creek connecting Main St. to Del Mar Park.	*	Uncertain	Uncertain	No	May be development driven.	
Paint Class II bike lanes, sharrows & signs on Atascadero Rd. from Morro Creek to the high school to connect to existing Class II and Class I bikeways.	*	Yes	Completed	Yes	The City to place additional Share the Road signs on Atascadero Rd. between Morro Creek Bridge and the high school and paint centerline, fog line, and sharrows.	Share the road signs have been placed. Striping will be performed after School is out. In Summer 2017
Extend the Harborwalk/California Coastal Trail north from Morro Creek along the west boundary of the high school to the south end of the Morro Bay-Cayucos Connector.	*	Uncertain	Uncertain	No	Covered under CST-AT3-1001: North Embarcadero extension/Cayucos Connector?	Requires outside funding
Paint a crosswalk on South Bay at the intersection with Quintana so that bicyclists can more safely cross as pedestrians during periods of heavy motor traffic.	*	Uncertain	Uncertain	Yes	Signal timings could be adjusted. Will discuss with the City of Morro Bay.	Not warranted based on amount of pedestrian traffic. To be reconsidered when the Chorro Valley Bike path is in development.
Re-engineer the intersection of Quintana with Main St. in Morro Bay to provide safer crossing for northbound cyclists from Main to the bike trail.	*	Yes	Uncertain	Yes/No	Could be part of existing RTP project: CST-AT3-1005: Main St. / Morro Bay Blvd. street enhancements.	
Paint a green northbound bike lane on Main St. approaching Quintana where it begins the transition from the curb across the right turn motor vehicle lane.	*	Yes	Uncertain	Yes	Could be part of existing RTP project: CST-AT3-1005: Main St. / Morro Bay Blvd. street enhancements. Also covered in MB Bike Plan pp. 19-20 (although green paint not specifically mentioned).	Completed
Paint a green northbound bike lane from Lemo's to the freeway undercrossing.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	
Restripe North Main St. from Atascadero Rd. to Yerba Buena to provide: 1) a wider bike lane for southbound cyclists, or 2) a separated Class 4 bikeway that accommodates users in both directions on one side of the street.	*	Yes	Uncertain	Yes/No	Could be part of existing RTP project: CST-AT3-1005: Main St. / Morro Bay Blvd. street enhancements.	May have right of way constraints at several locations
Prevent flooding of the Class I multi-use trail beside PG&E property.	*	Uncertain	Not funded	Yes/No	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	Requires elevation of Bike Path and a larger culvert. It appears the existing design was designed to occasionally flood and require closure of path.
Provide safer crossing for bicyclists from the Embarcadero bike lanes to the Harborwalk in the area of the power plant entrance.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	City Staff will Review
Improve visibility for motorists and bicyclists at the Harborwalk crossing of Coleman Dr. near Coleman Park.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	City Staff will Review
Paint sharrows on Embarcadero Dr. and Morro Bay Blvd.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	Or signs Bicycles may use full lane
Refresh bike lane painting as needed throughout the city.	*	Yes	Ongoing	Yes	Bike lane striping is prioritized and refreshed annually with the pavement management plan projects.	Ongoing as resources are available
Create a bike corral at the intersection of Morro Bay Blvd. and Main St.	*	Uncertain	Uncertain	Yes	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	City Staff will review for viable location
Update 2011 Morro Bay Bicycle & Pedestrian Master Plan to incorporate current list of Unmet Needs.	*	Uncertain	N/A	No	Will discuss with the City of Morro Bay, will include in updated Bicycle Master Plan table of project proposals summer 2017.	Bike Plan update is based on resource availability

*Note: requests submitted by the Morro Bay Citizens Bike Committee, County BAC, & SLO Bike Club.



AGENDA NO: B-2

MEETING DATE: May 17, 2017

Staff Report

TO: Public Works Advisory Board **DATE:** May 10, 2017
FROM: Rob Livick, PE/PLS - Public Works Director/City Engineer
 Janeen Burlingame – Administrative Analyst
SUBJECT: Discussion on Adopt-A-Park/Street and Memorial Programs

RECOMMENDATION

Staff recommends the Public Works Advisory Board review the Adopt-A-Park/Street and Memorial Programs, provide comments as necessary, and recommend the City Council approve the staff recommendations outlined in the staff report.

FISCAL IMPACT

The Adopt-A-Park and Adopt-A-Street programs will have nominal staff costs associated with activities to coordinate with volunteers, provide materials, and remove bags of collected trash or green waste material.

All memorial programs as previously established by City Council are to be on a cost recovery basis. As such, to be consistent with past policy, the proposed fee for the new memorial benches and plaques at the Rock and Target Rock locations are designed to recover the cost for their purchase and installation as well. Additionally, there will be nominal staff costs associated with the ordering and installation of plaques when they are purchased and ready to place on the benches.

BACKGROUND

What are Adopt-A-Street and Adopt-A-Park Programs?

Adopt-A-Street is a collaborative effort between city residents, merchants, community groups, and city government. Groups, merchants, or individuals agree to adopt an area and take responsibility for keeping the street and sidewalks clean. Adopt-A-Street creates a cleaner, more pleasant environment for everyone who lives, works and shops in adopted areas, while strengthening ties as the community works together to keep the city clean.

Adopt-A-Park is a collaborative effort between city residents, community groups, and city government to improve and maintain city parks and its facilities. Neighbors and community groups volunteer their time to improve the chosen park. Adopters can work on a variety of projects including planting and maintaining flower beds; cleaning up litter; maintaining trails and paths; painting and caring for park structures; planting, mulching and watering trees; and generally making sure the park is in order.

How much does it cost?

Adopting a street or park is free. The city provides all of the necessary supplies, such as cleaning supplies, litter and compostable leaf bags, gloves, tools and plants.

Prepared By: JB

Dept Review: RL

What is the time commitment?

The time commitment is completely up to the individual resident, merchant, or community group depending on what project is being done. Generally, the Adopt-A-Street or Park events last two to three hours depending on the project. Adopters can also work individually, at their own leisure.

DISCUSSION

ADOPT-A-PARK

In April 1981, the City Council designated Morro Bay Beautiful as the official coordinating group for beautification of the City as part of the California Resource Rally that urged citizens, city personnel and agencies to participate in and support recycling, litter control and waste reduction activities. Over the years, Morro Bay Beautiful has been part of various beautification projects around town, including collecting litter at various garbage containers along the Rock and waterfront, maintenance of planter boxes in the Downtown, coordinating with artists to place art on public trash cans throughout the City, and median maintenance by the Morro Bay power plant.

The City began operating an Adopt-A-Park program in the early 1990's. Expanding on Morro Bay Beautiful's beautification efforts, the program was designed to have organizations or groups interested in adopting various City parks where its volunteers would be involved with the maintenance and upkeep of these parks. There was a letter agreement between the City and group/organization that outlined the scope of work for the park being adopted, delineating the duties and schedule of activities to be performed by the adopter.

Typically, activities include: litter collection, emptying of trash containers and relining them with new bags; visual inspection of tables, benches, barbecues, drinking fountains, interpretive panels, play apparatus, special areas, and light bollards for damage/cleanliness; alerting City staff or Police to any damage or vandalism; and completing incident report forms for any unusual occurrences, vandalism or damage found while on patrol.

The City provides adopters with gloves, "pickers," "mashers," cart and supplies. City staff meets regularly with adopters, as necessary, to review work and ascertain problems. Adopters register with the City as volunteers prior to working on the park being adopted to be properly covered by City insurance.

The term for the Adopt-A-Park agreement is usually one year, based on the City's fiscal year for budgetary planning.

Recommendations

Staff recommends continuing the Adopt-A-Park program with the following changes:

1. Place a recognition panel at the adopted location
2. Adoptions are on a one year basis with the option for automatic renewal of another one year period (unlimited renewals unless there is a waiting list for the location being adopted).
3. Provision for the City to terminate the agreement at any time for any reason.

ADOPT-A-STREET

The City is interested in adding to the adoption program, to more formally create an Adopt-A-Street program that would include streets and rights-of-way, expanding on projects undertaken by Morro Bay Beautiful (litter pick up, median maintenance, planter box maintenance), and allow for other organizations and groups to adopt other street or public rights-of-way locations.

The idea is the City would identify street and public rights-of-way areas that would be eligible for adoption by merchants, groups or individuals. Work activities would primarily be litter collection, weed removal, installation and maintenance of landscaped areas, and visual inspection of trash/recycling containers and benches for damage or vandalism. As with Adopt-A-Parks, there would be no fee to adopt a street/public rights-of-way and the City would provide basic cleaning supplies and tools.

Recommendations

Staff recommends:

1. Expanding the adoption program to include streets and rights-of way, using the current Adopt-A-Park program as a model and shall include items such as an application, volunteer release and waiver, and statement of commitment (outlines partnership between City and group identifying activities each would agree to perform).
2. Place a recognition panel at the adopted location.
3. Adoptions are on a one year basis with the option for automatic renewal of another one year period (unlimited renewals unless there is a waiting list for the location being adopted).
4. Provision for the City to terminate the agreement at any time for any reason.

MEMORIAL PLAQUE PROGRAM

Over the years, the City established several memorial plaque programs: trees, benches, and bike racks. It is important to note that the installation of the dedicated items is at the Director’s discretion in terms of location.

Trees: In 1990, the City Council established, through Resolution No. 40-90, a commemorative tree program in parks, public places, and rights-of-way to encourage the planting of trees to improve air quality, aesthetics, and the environment.

Per the resolution:

“Donation of commemorative trees for all City parks, public places and rights-of-way shall be governed by the following policies:

1. *Tree species shall be drought-tolerant and acceptable to the Department head responsible for maintaining the tree as governed by the master street tree list, park and open space master plan and/or approved landscaping plans for public property proximate to public buildings or used as parking lots.*
2. *Commemorative plaques shall be of cast bronze, no larger than 4” x 10” and contain the names of the tree, date donated and a brief statement laid out as shown below:*

<i>Scientific Name</i>
<i>Common Name</i>
<i>Statement</i>
<i>Date</i>
3. *The City shall not be responsible for replacement of trees or plaques damaged by vandalism, acts of god or acts of nature. The City shall install and maintain the tree and plaque to the best of its ability within water and financial resources.*
4. *Trees, donated for rights-of-way shall be planted in existing tree wells according to the approved City standards; the cost of all improvements to be paid by the donor.*
5. *Only fifteen (15) gallon or larger trees shall be accepted by the City for the commemorative tree program.”*

In 2000, the City Council adopted Resolution No. 04-00 that approved a \$250 fee for the installation of 15-gallon trees and bronze plaques in the parks and public parkways.

If an individual wants to donate a tree to a park without a dedication plaque, the Department would continue to accept those donations to replace trees that have been removed from the parks due to damage or disease. These trees are placed in the parks at the discretion of the Department and the type of tree is determined by the Department.

Currently, there are no spaces available in the parks for additional memorial trees; however, there are several public rights-of-way locations available for memorial trees.

Recommendations

Staff recommends that the plaques not require the scientific or common name of the tree be put on the plaque as sometimes a tree does not thrive and is replaced by another type of tree and the plaque is no longer correct and an additional expense would be incurred by the donor to have a new plaque made.

Benches: Resolution No. 04-00 also established fees for memorial benches in the parks or public parkways only, it did not establish a memorial bench program for public rights-of-way.

The following rates were approved by Council in Resolution No. 04-00 for dedicated items in the parks and parkways:

- | | |
|--|--------------------------------------|
| • Park bench and bronze plaque | \$450 |
| • Park bench in Tidelands or Cloisters parks and bronze plaque | \$900 |
| • Other park amenity (ex. drinking fountain) | To be determined on individual basis |

When an individual wants to have a bench with a dedicated plaque installed, the process includes the following activities:

-
- Order and purchase of park bench
- Order, proofing and purchase of bronze plaque
- Assembly of bench and installation of bronze plaque on bench
- Installation of bench with plaque
- Maintain and repair bench/plaque for the life of the item

In 2004, the City Council established a memorial street bench program for the public rights-of-way. The program would be available for any public rights-of-way site in the City, on a first come first served basis, be run on a total cost recovery basis, and mechanisms be developed for on-going maintenance, locations, design and ADA-type considerations.

For several years, the memorial bench program has been on hold as there were no spaces available. There is a waitlist of approximately 40 individuals who would like a memorial plaque when space becomes available.

In 2017, the City Council added a project during its mid-year budget adjustment to purchase and install 30 benches at the Rock and Target Rock parking areas that would have the ability to have memorial plaques. Over the past few months, Consolidated Maintenance staff have been working on installation of the 30 new benches. Each bench has three memorial plaque spaces. As with the other memorials, where cost recovery is the determining factor for the fees established, the same should be the case for the new benches.

Recommendations

Staff recommends the following:

1. Establish a fee for the new concrete bench memorial plaques at \$545 per memorial plaque space or \$1,632 per bench (which includes three memorial plaque spaces).
2. Establish the new concrete bench as the standard for all new benches that are placed in the parks, parkways, and public rights-of-way to ensure a uniform and consist look throughout the City. As such, when existing wood benches have deteriorated to the point where they need to be replaced, that the concrete bench be used.

Bike Racks: In April 2011, the City Council established a Bike Racks with Dedication Plaques program to provide needed short-term bicycling parking. The program was modeled after the City of San Luis Obispo's "Racks with Plaques" program where there is no cost to the City as a donor contributes the amount required to pay for the rack, commemorative plaque, installation, and long term maintenance of the rack. Donations are tax deductible and donation of the rack are subject to the City's donation policies.

Key benefits include:

- Bicyclists are provided with more, conveniently located, easy to use bicycle parking racks.
- The City is able to provide, new, highly functional and attractive bicycle parking racks at no cost.
- The donor helps the City and receives permanent recognition.

Per the policy outlined in the Council staff report, racks installed in the Downtown are to be Powder-Coated Forrest Green to match the street lighting and racks installed outside Downtown and in City parks are to be Powder-Coated Blue. Bike rack locations within the public right-of-way or on City property need approval by City staff prior to installation, to ensure that the rack does not interfere with pedestrian traffic or parking.

Recommendations

All donated bike racks to date, which include one in the Downtown, are blue. To be consistent, staff recommends that all donated bike racks be Powder-Coated Blue regardless of their location in the City.

CONCLUSION

Staff recommends the Public Works Advisory Board review the Adopt-A-Street/Park and Memorial Programs, provide comments as necessary, and recommend the City Council approve the staff recommendations outlined in the staff report.



AGENDA NO: B-3

MEETING DATE: May 17, 2017

Staff Report

TO: Public Works Advisory Board **DATE:** May 10, 2017
FROM: Rob Livick, PE/PLS – Public Works Director/City Engineer
Damaris Hanson, Environmental Program Manager
SUBJECT: 2016 Annual Water Report and recommendation for allocation of Water Equivalency Units (WEUs) for 2017

RECOMMENDATION

Staff recommends the Board receive and provide comment on the presentation summarizing the annual water report and allocation of the 2017 Water Equivalency Units:

1. Review the updated City water supply portfolio and provide input on the 2016 WEU program. Staff recommends the two-to-one offset for a WEU be suspend due to the City receiving its full allocation of State Water Supply and the Governor rescinding the emergency drought declaration.
2. Provide recommendation to City Council to allocate 115 Water Equivalency Units (WEUs) for 2017
3. Provide a recommendation to City Council to modify water conservation requirements to moderately restricted from severely restricted supply conditions.

ALTERNATIVES

As an alternative to authorizing development that creates new WEUs, Council could place a moratorium on the establishment of any new WEU until such time the City develops new water supplies.

FISCAL IMPACT

There are no fiscal impacts directly associated with the allocation of the WEUs. Staff prepares the annual water report and makes the recommendation on the authorization of WEUs as a routine annual task. Although, a moratorium on new WEUs would reduce the amount of revenue the City receives through building and planning fees, property taxes, sales taxes and other property related revenues.

BACKGROUND

Pursuant to the MBMC Section 13.20.060, the Annual Water Report has been prepared by the Public Works Department and forwarded to the Public Works Advisory Board for review and consideration. This report describes the uses that have received water equivalency allocations in 2016 (Table 1) as indicated by City Council Resolution No. 06-16. That Resolution indicates the City Council would continue to set an annual limit on residential

Prepared By: DH

Dept Review: RL

units and their mix as set forth in Ordinance 266. In addition, that report provides a snapshot of the City’s population (Table 2) *Note: the population used in this report and for water conservation differ due to the different ways the regulating agencies require the reporting*, water production (Table 3), per capita water use trends (Table 4), and water loss estimates (Tables 5 & 6).

DISCUSSION

Water Conservation

Statewide Conservation Requirements: In 2014, Governor Jerry Brown declared an emergency due to drought conditions. That declaration called for a voluntary 20-percent reduction in water consumption. In May 2015, the State imposed additional water conservation requirements. The statewide conservation goal was to reduce water production 25-percent over 2013 values. That 25-percent requirement was tiered based on existing water usage. The tiers ranged from a low of 8-percent to a high of 36-percent reduction. Morro Bay was required to reduce water production by 12-percent. On May 18, 2016, the State Water Board adopted a statewide water conservation approach that allowed urban water suppliers to replace their prior state-assigned percentage target reduction with a localized “stress test” approach based on a showing of whether the urban water supplier has at least three-years of water supply under extended drought conditions.

On April 7, 2017 Governor Jerry Brown lifted the drought emergency. The State Water Resources Control Board will continue to require reporting requirements and prohibitions on wasteful practices such as watering during or after rainfall, hosing off sidewalks and irrigating ornamental turf on public street medians. Governor Brown has stated “Conservation must remain a way of life”.

Local Conservation Requirements: In January 2014, the City implemented Mandatory Water Conservation Requirements for Severely Restricted Water Supply Conditions. In 2015, the City reduced its overall water consumption to 92 gallons per person per day. That is an overall consumption rate that amalgamates the total City’s water consumption and divides by the total population. In June 2016, Morro Bay completed the “stress test” and reduced our mandatory water conservation requirements from 12% to 0%. Over 83% of the State had 0% conservation after the stress test was completed. From 2014 to the present the City’s water conservation rate has continue to decrease.

Year	% Reduction Compared to 2013
2014	8%
2015	13.50%
2016	21%

Water Supply Options

In April, the California Department of Water Resources (DWR) informed the State Water Project (SWP) contractors the allocation for 2017 would be 85-percent of the contracted amount. This allocation in combination with the drought buffer is available to make up the

difference between delivery requests and demand. Therefore, the City should be receiving all our allocated water from State Water for 2017.

The City's other sources of water are constrained. The Chorro Valley wells require stream flows in Chorro Creek to exceed 1.4 cfs in order to pump groundwater from those wells; additionally, water pumped from those wells is high in nitrates and cannot be used without treatment or blending. The City would need to perform upgrades to the water system in order to treat this water from the Chorro Valley. The Morro Valley wells are also high in nitrates and require treatment at the City's water treatment (Brackish Water Reverse Osmosis) plant to remove nitrates. The salt water wells, outfall and associated piping components were recently re-permitted through with a permanent Coastal Development Permit after the previous permit expired. This permit only allows the City to use the Salt water wells, associated pumping and outfall on an emergency basis and only up to 645 ac-ft per year.

Water Management Planning

The next update of the City's Water Management Plan will occur over the next 9-12 months in order to inform the General Plan and Local Coastal Plan regarding the availability of resources needed to build out that next General Plan through the Council approved contract to prepare a OneWater Plan. The OneWater concept is to view all the City's water resources (Potable, Waste and Storm) holistically so the community can understand the complete water resources picture. The plan should use the so called triple bottom line approach so all three aspects (social, environmental and financial) of water resources planning are addressed.

Potable Water Production Data

As shown in Table 3, for calendar year 2016 no water was extracted from City's Chorro and Morro Basins for direct distribution into the water supply, 958 acre-feet were delivered from the State Water Project (SWP), and 36 acre-feet of treated Morro Basin well water from the water treatment (Brackish Water Reverse Osmosis) plant. Table 3 shows the total water production for that year was 1018 acre-feet, which is a reduction of 94 acre feet from 2015, and a 757 acre-foot per year reduction from a high of 1751 acre-feet in 1980.

Table 4 provides an historical record of water production and use from 1960 through 2016. Beginning in 1997, per capita water use has been re-calculated, based upon the amount of water delivered to customers (metered/sold) rather than gross production, to closely reflect actual community consumption practices.

Table 5 shows the calculations for each year's un-metered and unaccounted water loss. The City's water loss for 2016 is 1.8%. Table 6 provides the history of unaccounted water loss from 1985 through 2016. Due to the City's proactive maintenance, including a proactive leak detection and repair program, unaccounted water loss continues to be less than five percent.

History of the WEUs allocation

The intent of the WEU allocations is to regulate the addition of new water users to the City's

water system and to ensure the demand for water shall not exceed available water supply. Historically, the City Council has allocated a total of 160 residential WEUs for multi- and single-family residential, commercial and industrial purposes until 2002. That number was increased to a total of 230 residential WEUs until the 2006 allocation approval when the Council reduced the total by half, or to 115 WEU.

Water Allocation Mix:

WEUs are allocated each year for residential, commercial and industrial uses. Tables 1 shows, historically the majority of residential permits issued have been single-family units. The typical allocation mix provides sufficient allocations for the single-family development while providing sufficient multiple-family allocations to encourage and facilitate their development. The City's 2014-2019 Housing Element indicates, for the period from 2014 to 2019, Morro Bay's fair share of housing will be 155 residential units.

Summary of 2015 activity:

The Council authorized 115 WEUs for 2016 with 60 percent (50 WEU) to be used for single-family dwellings and 40 percent for multiple-family dwellings with no rollovers. Those WEUs were allocated on a first-come, first-served basis. The tracking of the WEUs utilized in 2016 indicates 12.15 of the 115 WEUs allocated were used as follows:

- 0.15 Commercial – Hofbrau addition
- 12 Single-Family

That is not a comprehensive list of all building activity, but rather a list of those activities which required a WEU allocation.

Current WEU Allocation Program:

The 2016 WEU program required each new WEU resulting from development in 2016 to be offset on a two-to-one basis by providing retrofits to existing uses or, if retrofit is shown to be infeasible, then by paying in-lieu fees in the amount of \$6,032 per each new WEU created. Given the water availability staff will be recommending that City Council suspend this WEU offset requirement.

Recommendations:

Staff recommends the advisory board to review the annual water report and provide comments to City Council regarding the 2017 WEU allocation program.

ATTACHMENTS

1. Table 1: Distribution of Water Equivalency Units
2. Table 2: Population
3. Table 3: Water Production
4. Table 4: Per Capita Water Use
5. Table 5: Unaccounted for Water Loss for 2014
6. Table 6: Historical Unaccounted for Water Loss

Table 1
HISTORIC TRACKING OF ALLOCATIONS
 Allocations tracked on a calendar year basis

Allocation Year (January 1-December 31)	Total WEU Available	Number of Residential WEUs available	Single Family Residential WEUs allocated	Number of SFR Units	Multiple Family Residential WEUs allocated	Number of Multiple Family Units	Number of Commercial/Industrial WEU available	Commercial "A"	Commercial "B"	Industrial	Total WEU Allocated
2016	115	50	12	12	0	0	65	0.15	0	0	12.15
2015	115	50	18	18	1.62	3	65	0.3	0	0	19.92
2014	115	50	8	8	11.34	21	65	4.03	0	0	23.37
2013	115	50	20.54	20.54	0	0	65	0	0.37	0	20.91
2012	115	50	7	7	0	0	65	0	7.13	0	14.13
2011	115	50	4.54	5	0	0	65	3.85	0	0	8.85
2010	115	50	9.54	10	0	0	65	0.74	0	0	10.28
2009	115	50	2.62	5	2.62	0	65	0	0	0	2.62
2008	115	50	6.54	7	1.6	1	65	3.97	0	0	12.11
2007	115	50	25.7	28	10.2	18	65	1.15	0	0	37.44
2006	230	100	35.62	37	5.76	8	130	3	3.84	0	48.22
2005	230	100	40.48	46	6.17	10	130	15.5	1.63	0	63.78
2004	230	100	28	28	11.42	19	130	0	2.44	0	41.86
2003	262	100	54	54	8.86	15	130	7.56	0	0	70.42
2002	160	69.52	28	28	5.24	8	90	6.1	9.3	0	48.64
2001	160	69.52	63	63	6.89	11	90	4.77	0	0	74.66
2000	160	69.52	68	68	4.86	9	90	9.39	0	0	82.25
1999	160	69.52	53	53	1.32	2	90	0	0	0	54.38
1998	156	68	56.62	66	6.48	18	90	1.38	0	0	64.48

Allocations tracked on a fiscal year basis.

Allocation Year (July 1 of previous year to June 30 of the year shown)	Total WEU Available	Number of Residential WEUs available	Single Family Residential WEUs allocated	Multiple Family Residential WEUs allocated	Number of Commercial A WEU available	Commercial "A" allocated	Number of Commercial B WEU available	Commercial "B" allocated	Number of Industrial WEU available	Industrial allocated	Total WEU Allocated
1997	153.13	66.12	7.54	0.36	62.37	0.05	0.05	11.71	12.93	0	7.95
1996	153.13	66.12	23	0	62.37	62.37	11.71	2.63	12.93	0	88.00
1995	146.65	63.74	29.44	0	60.11	19.15	11.29	4.06	12.46	0	52.83
1994	147.6	63.74	29	0.36	60.11	0	11.29	0	12.46	0	29.36
1993	149.55	64.58	43	1.56	60.9	9.54	11.44	0.57	12.63	0	54.67
1992	149.55	64.58	46	10.25	60.9	0	11.44	8.07	12.63	0.43	64.75

Notes:

In 2003 there was a one time allocation for Colmer Tract 2285

In 1998, 2000, 2001 & 2002 there were residential rollover of WEUs

Commercial "A" (Commercial fishing/Agriculture, coastal dependent uses, coastal related, public, quasi-public and institutional uses, visitor accommodations, campgrounds)

Commercial "B" (Visitor-serving uses except visitor accommodations)

TABLE 2
PROJECTED GROWTH RATES VERSUS ACTUAL POPULATION INCREASES

Year	Population		Housing	
	Population Per Ord. 266/LCP ¹	Actual Population ²	Units Per Ord. 266 Projections	Actual No. Of Housing Units ³
1980	9425	9064	N/A	5180
1981	9705	9206	N/A	5298
1982	9998	9297	N/A	5302
1983	10298	9435	N/A	5326
1984	10400	9599	N/A	5363
1985	10505	9747	5440	5403
1986	10610	9881	5517	5473
1987	10716	9819	5594	5548
1988	10823	9975	5671	5638
1989	10931	10133	5748	5647
1990	11040	9664	5825	5694
1991	11150	9806	5902	5760
1992	11262	9736	5979	5760
1993	11489	9979	6056	5845
1994	11489	10071	6133	5877
1995	11604	9518	6210	5888
1996	11720	9687	6287	5922
1997	11837	9696	6364	5960
1998	11955	9845	6441	6005
1999	12123	9871	6518	6048
2000	12196	9981	6595	6104
2000	12196	10410 *	6595	6104
2001	12200 ⁴	10486	6672 ⁴	6178
2002	12200 ⁴	10510	6672 ⁴	6220
2003	12200 ⁴	10510	6672 ⁴	6289
2004	12200 ⁴	10522	6672 ⁴	6336
2005	12200 ⁴	10270	6672 ⁴	6392
2006	12200 ⁴	10491	6672 ⁴	6437
2007	12200 ⁴	10436	6672 ⁴	6483
2008	12200 ⁴	10506	6672 ⁴	6492
2009	12200 ⁴	10555	6672 ⁴	6496
2010	12200 ⁴	10234	6672 ⁴	6506
2011	12200 ⁴	10296	6672 ⁴	6511
2012	12200 ⁴	10331	6672 ⁴	6518
2013	12200 ⁴	10427	6672 ⁴	6538
2014	12200 ⁴	10547	6672 ⁴	6566
2015	12200 ⁴	10601	6672 ⁴	6569
2016	12200 ⁴	10714	6672 ⁴	6581

¹ This column represents population based on Ordinance 266's projected growth of 77 units per year. These figures indicate that the City's growth rate is behind the Ordinance 266 schedule.

² Actual population figures are taken from the California Department of Finance "Housing Estimates" report. The 1990 decennial census is the benchmark for the estimates prior to 2000. After 2000 the 2000 decennial census is used and a second entrée for 2000 shows the adjustment for the new census. Again the 2010 Census adjusts the population figure for 2010. The figures represent totals as of January 1st of each year indicated. The population figure includes an estimated 21% vacancy rate. A lower vacancy rate would result in a higher population.

³ The total number of Housing units includes the addition of all new residential units to the City's Housing Stock, as well as the deduction of all units lost through demolition, removal, or change of use from residential to non-residential.

⁴ This is the maximum population or housing under Ordinance 266 without an election to allow further building.

TABLE 3

WATER PRODUCTION DATA 1980 - 2015
(Acre Feet - AF)

Year	Chorro Basin	Morro Basin	** R/O Plant	State Water	TOTAL (AF)
1980	1079	672	*	*	1751
1981	1143	584	*	*	1727
1982	1061	526	*	*	1587
1983	995	537	*	*	1532
1984	1097	572	*	*	1669
1985	1108	582	*	*	1690
1986	1059	552	*	*	1611
1987	1124	531	*	*	1655
1988	1120	528	*	*	1648
1989	1047	512	*	*	1559
1990	963	564	*	*	1527
1991	808	449	*	*	1257
1992	1049	270	*	*	1319
1993	994	397	*	*	1391
1994	954	460	*	*	1414
1995	986	420	*	*	1406
1996	1261	240	*	*	1501
1997	985	249	*	301	1535
1998	38	*	*	1288	1326
1999	34	*	*	1359	1393
2000	4	*	*	1396	1400
2001	11	*	*	1399	1410
2002	1	32	48	1373	1454
2003	1	28	13	1379	1421
2004	49	213	10	1205	1477
2005	204	150	0	1007	1361
2006	257	80	25	1009	1371
2007	276	35	19	1116	1446
2008	184	52	28	1175	1439
2009	235	80	64	1069	1448
2010	74	54	258	873	1259
2011	14	0.5	84	1144	1243
2012	0	3.9	70	1129	1203
2013	0	27	107	1137	1271
2014	0	0	41	1141	1183
2015	0	0	138	952	1088
2016	0	0	36	958	994

** R/O Plant Production numbers include Morro Groundwater treated via Brackish Water Reverse Osmosis (BWRO)
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TABLE 4

TOTAL HISTORIC WATER PRODUCTION & RAINFALL
FOR THE CITY OF MORRO BAY

Year	Rainfall	City Population	Production in acre feet	Production in millions of gallons	Average daily production in millions of gallons	Average use in gallons per capita per day
1960	10.48	5,599	894	291	0.8	142
1961	8.6	*	842	274	0.75	*
1962	17.22	*	999	326	0.89	*
1963	18.52	*	840	274	0.75	*
1964	11.26	*	881	287	0.79	*
1965	16.08	6,400	1000	326	0.89	140
1966	11.24	6,500	1188	387	1.06	163
1967	20.09	6,600	1194	389	1.07	161
1968	9.64	6,750	1298	423	1.16	172
1969	28.74	6,900	1255	409	1.12	162
1970	9.84	7,109	1534	500	1.37	193
1971	14.2	7,450	1533	500	1.37	184
1972	7.41	7,517	1547	504	1.38	184
1973	27.51	7,725	1424	464	1.27	165
1974	22.35	7,942	1482	483	1.38	167
1975	14.43	8,165	1510	492	1.35	165
1976	11.38	8,394	1574	513	1.41	167
1977	8.35	8,525	1249	407	1.12	131
1978	29.68	8,625	1430	466	1.28	148
1979	17.06	9,150	1614	526	1.44	157
1980	20.99	9,064	1651	538	1.47	162
1981	13.11	9,206	1727	563	1.54	168
1982	20.01	9,297	1586	517	1.42	152
1983	35.01	9,435	1534	500	1.37	145
1984	10.08	9,599	1669	544	1.49	155
1985	10.02	9,747	1691	551	1.51	155
1986	17.17	9,881	1614	526	1.44	146
1987	12.29	9,819	1655	539	1.48	150
1988	15.01	9,975	1648	537	1.47	147
1989	10.88	10,133	1559	508	1.39	137
1990	8.78	9,664	1527	498	1.36	Table -
1991	16.01	9,806	1256	410	1.12	114
1992	19.63	9,736	1319	430	1.18	121
1993	24.21	9,979	1391	452	1.24	124
1994	11.05	10,071	1414	462	1.26	126
1995	40.01	9,518	1418	462	1.27	133
1996	15.47	9,687	1501	462	1.34	138
1997	18.56	9,696	1535	489	1.37	141
1998	18.01	9,845	1326	432	1.18	120
1999	13.11	9,871	1393	454	1.24	126
2000	19.63	10,410	1400	456	1.25	120
2001	16.04	10,486	1410	459	1.26	118
2002	9.36	10,510	1454	474	1.3	123
2003	13.75	10,485	1421	466	1.28	122
2004	9.48	10,522	1477	481	1.32	125
2005	30.19	10,270	1361	444	1.22	118
2006	18.9	10,491	1371	447	1.23	117
2007	7.24	10,436	1446	471	1.29	118
2008	13.34	10,548	1439	469	1.23	122
2009	12.25	10,555	1448	472	1.29	120
2010	17.26	10,608	1259	410	1.12	106
2011	12.99	10,234	1243	405	1.11	108
2012	10.16	10,327	1203	392	1.07	105
2013	4.05	10,370	1349	440	1.21	117
2014	12.62	10,234	1183	385	1.05	103
2015	8.55	10,544	1088	354	0.97	92
2016	18.79	10,284	994	324	0.88	86

a: [average] determined from metered water sold, not water produced

TABLE 5

<p>COMPUTATIONS: UNACCOUNTED FOR WATER LOSS TABLE - 2016 ACRE FEET (AF)</p>

	AF
<u>WATER PRODUCED</u>	
From the City of Morro Bay Public Services	994
<u>WATER SOLD</u>	
From the City of Morro Bay Finance Department	1,002
<u>DIFFERENCE</u>	-8
<u>CITY WATER USE/LOSS (Unmetered & Estimated)</u>	
Fire Training	0.4
Sweeper	0.3
Non-potable irrigation water (Lila Keiser Park and High School irrigation)	24.5
Dead End Flushing, Water Leaks, Fire Hydrant/Line Breaks	1
TOTAL	26.2
<u>UNACCOUNTED FOR WATER LOSS¹</u>	18
<u>LOSS AS PERCENT OF PRODUCTION</u>	1.8%

TABLE 6

UNACCOUNTED FOR WATER LOSS (Acre Feet - AF)						
Year	Water Produced	Water Sold	Difference	City Water Use/Loss	Unaccounted for Water Loss	Percent of Production
1985	1690	1411	280	73	207	12.2%
1986	1610	1330	281	69	212	13.1%
1987	1655	1370	259	70	189	11.4%
1988	1641	1386	255	71	184	11.2%
1989	1559	1343	216	47	170	10.9%
1990	1527	1249	279	47	232	15.2%
1991	1256	1008	248	45	203	16.2%
1992	1319	1068	250	36	215	16.3%
1993	1391	1178	213	0.8	213	15.3%
1994	1414	1194	220	33	187	13.2%
1995	1418	1173	245	60	184	13.0%
1996	1501	1194	307	33	274	18.2%
1997	1535	1247	288	49	239	15.6%
1998	1326	1131	195	17	178	13.4%
1999	1393	1185	208	17	191	13.7%
2000	1400	1206	194	27	167	11.9%
2001	1410	1251	159	29	130	9.2%
2002	1453	1267	186	24	162	11.2%
2003	1428	1267	162	25	137	9.6%
2004	1477	1260	217	26	192	13.0%
2005	1362	1214	147	22	125	9.2%
2006	1371	1219	152	19.2	133	9.7%
2007	1410	1276	135	21.6	113	8.0%
2008	1386	1306	80	67.3	13	0.9%
2009	1373	1253	120	84.9	35	2.5%
2010	1252	1255	-3	1.4	-5	-0.4%
2011	1243	1167	76	1.7	74	6.0%
2012	1204	1163	40.97	1.4	39.57	3.3%
2013	1273	1186	86.93	1.7	85.23	6.7%
2014	1181	1137	44.23	2.1	42.13	3.6%
2015	1088	1037	51	1.7	49.3	4.6%
2016	994	1002	-8	26.2	18	1.8%