

## **4.8 HYDROLOGY AND WATER QUALITY**

### **4.8.1 Setting**

The existing drainage on the site is unchanged since certification of the 1998 MBS FEIR; however, regulatory requirements related to stormwater runoff have changed as discussed in *Section 4.8.1.4* below.

The project site is located adjacent to Monterey Bay which is a primary factor in analyzing the project's potential impacts on water resources. The project has the potential to result in stormwater pollution, salt water intrusion into groundwater, and flooding.

#### **4.8.1.1 *Drainage***

The project site is presently vacant and contains no drainage facilities. The irregular topography of the site including the sand pit in the southwestern portion of the project site results in an uneven drainage pattern. Stormwater currently percolates into the sandy soil of the site and little stormwater runoff enters the bay as surface water runoff. Because Sand City is principally located on sand dunes, most stormwater percolates into the soil.

The quality of stormwater runoff from developed areas is typically degraded through contact with automotive-related contaminants along streets and parking lots, as well as other urban sources of contaminants. The storm drainage system that serves the developed portions of Sand City discharges stormwater runoff to the surf zone of Monterey Bay.

#### **4.8.1.2 *Groundwater***

The Seaside Groundwater Basin has been relied upon to serve the needs of the Monterey Peninsula and the City of Sand City since State Order 95-10 was issued in 1995. The order limited the ability of California American Water (Cal-Am) to draw water from the Carmel River, and directed the company to maximize its diversions from the Seaside Groundwater Basin instead.

In 2003, Cal-Am sought a court adjudication and management plan to address strains on the groundwater basin. The Monterey County Superior Court issued a decision and judgment in 2006 that adjudicated the basin, made factual determinations and implemented a “physical solution” which is a Court supervised groundwater management plan. The “physical solution” was implemented to address various issues including that production from the basin was exceeding the natural safe yield (California American Water v. City of Seaside, Case Number M66343, 2006). The court's ruling establishes the “natural safe yield” for the potable water-bearing aquifers of the Seaside Groundwater Basin and requires pumping in those aquifers to be reduced to the natural safe yield level over time. The judgment also mandated the preparation and implementation of a Seaside Basin Monitoring and Management Plan. The purpose of the Monitoring and Management Plan is to monitor the existing and future condition of the basin and to manage the basin as a perpetual source of water for beneficial uses. Actions that will be taken under the Monitoring and Management Plan include: monitoring of current yield conditions and the threat of potential seawater intrusion into the coastal subarea of the basin; development and import of supplemental water supplies for the purpose of eliminating excess pumping in the basin and the associated threat of seawater intrusion; and establishment of procedures that will be implemented to address seawater intrusion. The court's decision allows the current rates of pumping to continue for three years after which a ten percent

reduction in pumping will be required every third year to reduce and eventually eliminate the exceedance conditions.

In the adjudication, the court confirmed that the current owner of the property, Security National Guaranty, Inc., is entitled to 149 acre-feet of groundwater per year from the basin. Under the judgment, Security National Guaranty, Inc. has priority rights to use its legal entitlement of water. Thus, in the event that groundwater levels decline or are otherwise impacted for any reason and withdrawal reductions are mandated, non-priority users must reduce their use of the groundwater as needed, down to zero, before any of Security National’s 149-acre feet of water can be reduced. Specifically, the judgment provides that the owner has “a prior and paramount right over those Parties Producing under the Standard Production Allocation to produce the amount set forth in Table 2 (149 acre-feet annually) in perpetuity, and said Alternative Production shall not be subject to any reductions under Section III.B.2 or at such times as the Watermaster determines to reduce the Operating Yield ...” (refer to Section B (3), 2006 Judgment of the Monterey County Superior Court). In the judgment, “Major Standard Production Allocations” parties include Cal-Am and the City of Seaside. Since Security National Guaranty, Inc. has the described priority protection in the court’s judgment, the revised project has a secure, long-term supply of water that is unlikely to be impacted even if the groundwater basin is subject to substantially reduced withdrawal.

The court also approved a plan to monitor for any saltwater intrusion into the groundwater basin. The monitoring occurs using long-standing monitoring wells, including two monitoring wells on the project site. Historical records to date show there has been no evidence of saltwater intrusion. The court considered extensive hydrology data in evaluating potential environmental impacts including saltwater intrusion. Monitoring wells on the project site would continue to be used to collect groundwater data.

The current basin management will be assisted by the approved Sand City reverse osmosis desalination facility, currently under construction. The desalination facility will eventually supply the City with 300 acre-feet of potable water from the Aromas Sands aquifer of the Seaside Groundwater Basin. This additional production will help relieve pressure on the basin and provide an additional water source.

#### **4.8.1.3        *Flooding***

According to the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Map (FIRM), the project site is located within Zones C, an area with minimal flood risk, and Zone A, an area subject to inundation by the 100-year flood.<sup>7</sup> The area subject to inundation covers a band of approximately 100 feet inland from the shoreline where no development is currently proposed. The potential for site inundation from storm wave run-up and tsunamis is discussed in *Section 4.6 Geology and Soils*.

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<sup>7</sup> Federal Emergency Management Agency. Flood Insurance Rate Map Community Panel No. 0604350001A. June 3, 1986.

**4.8.1.4 Regulatory Requirements**

**Overview**

The major federal legislation governing water quality is the Clean Water Act, as amended by the Water Quality Act of 1987. The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for water quality management nationwide.

**Monterey Regional Storm Water Management Program (MRSWMP)**

The Cities of Monterey, Carmel-by-the-Sea, Del Rey Oaks, Sand City, Seaside, Marina, Pacific Grove, and the County of Monterey are the eight co-permittees of the Monterey Regional Storm Water Management Program (MRSWMP) which was reviewed and approved by the Regional Water Quality Control Board (RWQCB) in September 2006. The purpose of the MRSWMP is to implement and enforce a series of Best Management Practices (BMPs) in order to conform to Phase II of the National Pollution Discharge Elimination System (NPDES) permit for medium and large municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater. These BMPs are designed to reduce the discharge of pollutants from the municipal separate storm sewer systems to the “maximum extent practicable,” both to protect water quality and to satisfy the appropriate water quality requirements of the federal Clean Water Act. The achievement of these objectives is gauged using a series of measurable goals, which also are contained in the MRSWMP.

The Phase II NPDES Program is intended to address potentially adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of storm water discharges that have the greatest likelihood of causing continued environmental degradation. The environmental problems associated with discharges from MS4s in urbanized areas and discharges resulting from construction activity include pesticides, fertilizers, oils, litter and other debris, and sediment. Stormwater discharges from MS4s in urbanized areas are a concern because of the potential for these discharges to contain pollutants. Concentrated development in urbanized areas substantially increases impervious surfaces, such as city streets, driveways, parking lots, and sidewalks, on which pollutants from concentrated human activities can settle and remain until a storm event washes them into nearby storm drains. The MRSWMP requires that construction site stormwater runoff control programs be prepared and post-construction BMPs be implemented on development sites greater than one (1) acre in size.

**4.8.2 Environmental Checklist and Discussion**

HYDROLOGY AND WATER QUALITY						
	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as “Approved Project”	Less Impact than “Approved Project”	Information Source(s)/ Discussion Location
Would the project: 1) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,2

HYDROLOGY AND WATER QUALITY						
	New Potentially Significant Impact	New Less Than Significant With Mitigation Incorporated	New Less Than Significant Impact	Same Impact as “Approved Project”	Less Impact than “Approved Project”	Information Source(s)/ Discussion Location
Would the project:						
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2
4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2
5) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2
6) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,2
7) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,2
8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,2
9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1,2
10) Be subject to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1

#### 4.8.2.1 *Drainage*

The proposed project would add some impervious surfaces to the project site but proposes to capture stormwater for on-site use and allow infiltration on the site. The approved project would create 7.30 acres of impervious surfaces whereas the revised project proposes 1.98 acres of impervious surfaces. The project includes two retention ponds, one located on the northwest portion of the site and one located on the east portion of the site adjacent to Sand Dunes Drive. A bioswale would be located adjacent to the retention pond on the northwest portion of the site. Storm drainage lines ranging from 12 inches to 24 inches would be located throughout the site. The project would not connect with off-site storm drainage lines in order to discharge stormwater from the site. Rain water is proposed to supplement on-site water use for all non-potable uses including showers, toilets, laundry, spa, and swimming pools. The project would not discharge water to a municipal storm sewer system and no storm water outfalls are proposed from the site to Monterey Bay.

The proposed project would reduce the amount of impervious surfaces on the site when compared to the approved project and, therefore, would not result in any new or more significant drainage impacts than were described in the certified 1998 MBS FEIR. **(Less Impact than Approved Project)**

#### 4.8.2.2 *Groundwater*

The project site has an existing well on-site and a water use entitlement from the Seaside Groundwater Basin adjudication for 149 acre-feet per year. The revised project would create an estimated demand of approximately 63.8 acre-feet of water per year as compared to the approved project which had an estimated water demand range of approximately 99 to 125 acre-feet per year. The estimated water demand for the revised project includes a conservative estimate of 1.2 acre-feet of water per year for landscape purposes although all landscaping water needs are proposed to be met using graywater. In addition, the project would require approximately 12.5 acre-feet of water to establish plants within the first year after planting on the site. The quantity of water necessary to establish plants would not be required on an on-going basis and is not included in the annual water demand for the project. The project applicant has applied for a water distribution permit from the Monterey Peninsula Water Management District (MPWMD) and estimates annual water use to be approximately 63.8 acre-feet per year, but seeks a permit to use up to 90 acre-feet per year. This figure remains below the 149 acre-feet authorized by the physical solution imposed by the court and thus is legally permissible. Although the project is estimated to use 63.8 acre-feet per year, this Addendum evaluates impacts as if the full 90 acre-feet per year applied for were actually used which would allow for the use of 8.1 acre-feet of potable water for landscaping in the event the proposed graywater systems fail. The potential use of 90 acre-feet of water per year is significantly less than the water demand range of 99 to 125 acre-feet per year estimated to be needed in the certified 1998 MBS FEIR for the approved project. Thus, the water use impacts of the proposed project would be less than those identified in the certified 1998 MBS FEIR. In addition to the reduction in water use, the groundwater impacts of the proposed project are expected to be reduced compared to the previously approved project, because the Seaside Groundwater Basin is now managed via a “physical solution” under the auspices of the Monterey County Superior Court, which has balanced the rights, needs and impacts of water production by other users within the basin.

As described earlier in this Addendum, the revised project would contract with Cal-Am Water Company (Cal-Am) to provide water service to the project using the property’s water entitlement. The water supply for the project would be pumped from Cal-Am’s Peralta wells which are further inland than the site’s well, thus reducing the potential for salt water intrusion. The project would

direct excess graywater and stormwater runoff to infiltration swales which will contribute to groundwater recharge.

Thus, the proposed revised project would result in substantially reduced water demand from the basin than the approved project. The demand is likely to be approximately two-thirds to one-half of the demand range of the approved project and in the worst case (i.e., if the total 90 acre-feet were used); the demand would be nine to 35 acre-feet less per year than the approved project. These figures include a ten percent “buffer” built into the estimated demand and thus are conservative (i.e., the water demand is not expected to be as much as estimated). Based on this substantial water use reduction, combined with the Court ordered physical solution and monitoring and management plan to secure the long term sustainability of the basin, the revised project would not result in any new or more significant hydrology impacts than were described in the certified 1998 MBS FEIR. **(Less Impact than Approved Project)**

#### **4.8.2.3          *Flooding***

According to the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Map (FIRM), the portions of the project site proposed for development are located within Zone C, an area with minimal flood risk. The proposed development would not be subject to flooding, and would not result in any new or more significant flooding impacts than were described in the certified 1998 MBS FEIR. **(No New Impact)**

#### **4.8.2.4          *Water Quality***

### **Construction-Related Impacts**

Construction of the proposed project, as well as grading and excavation activities, may result in temporary impacts to surface water quality. Construction of the proposed project also would result in a disturbance to the underlying soils, thereby increasing the potential for sedimentation and erosion. Pollutants such as oil, grease, and heavy metals released during the operation of heavy equipment during construction could be adhered to the sediments and/or carried directly by stormwater into Monterey Bay. Construction activities on sites where more than one (1) acre would be disturbed are subject to the permitting requirements of the National Pollution Discharge Elimination System (NPDES). The project would adhere to the NPDES permit through conformance with the Monterey Regional Storm Water Management Program (MRSWMP) which requires the preparation of a construction site stormwater runoff control program.

When disturbance to underlying soils occurs, the surface runoff that flows across the site may contain sediments that are ultimately discharged into the storm drain system.

The development of the proposed project would contribute to the significant construction-related water quality impacts identified in the certified 1998 MBS FEIR. The proposed project would not result in any new or more significant construction-related water quality impacts than were described in the certified 1998 MBS FEIR.

**Impact HYD-1:**          The proposed project would result in the same construction-related water quality impacts as the approved project. **(Same Significant Impact as Approved Project)**

**Mitigation Measure:** The Storm Water Pollution Prevention Plan (SWPPP) for the revised project includes the following measures to reduce the construction-related water quality impacts of the project to a less than significant level:

**MM HYD-1.1:** The project will comply with the NPDES General Construction Activity Storm Water Permit administered by the Regional Water Quality Control Board. Prior to construction grading the applicant will file a Notice of Intent (NOI) to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan that addresses measures that will be included in the project to minimize and control construction-related runoff. The following measures will be included in the SWPPP:

- Preserve existing vegetation where required and when feasible.
- Apply temporary soil stabilization (erosion control) to remaining active and non-active areas as required by the Construction Site BMPs Manual and the Special Provisions and as necessary to maintain effectiveness.
- Implement temporary soil stabilization measures at regular intervals throughout the defined rainy season to achieve and maintain the project's disturbed soil area requirements. Temporary soil stabilization will be implemented 20 days prior to the defined rainy season.
- Stabilize non-active areas within 14 days of cessation of construction activities.
- Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, and lining swales as required.
- Apply seed to areas deemed substantially complete by the project engineer during the defined rainy season.
- Apply permanent erosion control to all remaining disturbed soil areas as required at the completion of construction.
- A stabilized construction entrance/exit will be used to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- A tire wash area will be installed at the stabilized construction entrance/exit point to remove sediment from tires and under carriages and to prevent sediment from being transported onto public roadways.
- Street sweeping and vacuuming will be used to remove tracked soil particles from paved roads to prevent the sediment from entering a storm drain or watercourse.
- Wind erosion or dust control will be achieved by applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance generated by construction activities.

### **Post-Construction Impacts**

Storm water from urban uses contains metals, pesticides, herbicides, and other contaminants such as oil, grease, lead, and animal waste. Runoff from the proposed project may contain increased oil and grease from parked vehicles. The proposed project would capture storm water runoff from the site for reuse on-site and infiltration into the aquifer. The development of the proposed project could result in similar post-construction water quality impacts as identified in the certified 1998 MBS FEIR and would be subject to the MRSWMP approved in 2006. Although the project would not connect to

the Sand City storm sewer system it would still be subject to the implementation of BMPs which are included in the project as proposed.

**Impact HYD-2:** The proposed project has the potential to increase pollutant loads associated with urban development in storm water runoff. **(Same Significant Impact as Approved Project)**

**Mitigation Measures:** The project will comply with the MRSWMP through the implementation of the following measures included in the certified 1998 MBS FEIR and as amended in the SWPPP for the revised project:

**MM HYD-2.1:** Submit a copy of the Storm Water Pollution Prevention Plan to the City of Sand City for approval by the City Engineer along with the project building permit application.

**MM HYD-2.2:** The project will treat storm water runoff through the use of bioswales and lined ditches, permanent erosion control including seeding and planting, and outlet protection.

**MM HYD-2.3:** A final drainage analysis for the storm water collection system and bioswales shall be submitted for approval to the City Engineer.

**MM HYD-2.4:** Plans for storm water treatment system shall be submitted for approval by the City Engineer.

**MM HYD-2.5:** An operation and maintenance plan shall be prepared and submitted to the City Engineer for approval of the storm water treatment system.

**MM HYD-2.6:** The site drainage plan shall address all required water pollution control measures for preventing direct discharges into the Monterey Bay and Monterey Bay National Marine Sanctuary.

#### **4.8.3**      **Conclusion**

**Impact HYD-1:** The proposed project, with the implementation of the above measures, would not result in any new or more significant construction-related water quality impacts than those addressed in the certified 1998 MBS FEIR. **(No New Impact)**

**Impact HYD-2:** The proposed project, with the implementation of the above measures, would not result in any new or more significant post-construction water quality impacts than those addressed in the certified 1998 MBS FEIR. **(No New Impact)**