Chapter 4 Alternatives

This section presents potential environmental impacts of the PWIMP or Proposed Program/Project. The scope of the analysis and key attributes of the analytical approach are presented below to assist readers in understanding the manner in which the impact analyses have been conducted in this Program EIR.

4.1 CEQA Requirements for Alternatives

CEQA requires that a reasonable range of feasible alternatives be evaluated in an EIR. The CEQA Guidelines, Section 15126.6, *Consideration and Discussion of Alternatives to the Proposed Project*, specify the following:

> "(a) Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376)."

With respect to the feasibility of alternatives, the CEQA Guidelines state, "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, jurisdictional boundaries, and whether an applicant can reasonably acquire, control or otherwise have access to the alternative site." The CEQA Guidelines also state that the alternatives discussion should not be remote or speculative, and need not be presented in the same level of detail as the assessment of the proposed project.

4.2 Alternatives Evaluated in this PEIR

As described in Chapter 1 – Introduction and Chapter 2 – Project Description, the PWIMP provides a phased program for constructing improvements to the City's infrastructure facilities that will accommodate planned growth while maintaining treatment reliability, meeting future regulatory requirements, and optimizing costs through the City's 2030 planning horizon. Specifically, the PWIMP addresses future planning needs including infrastructure additions and upgrades for City's water, wastewater, recycled water, and stormwater utilities. The PWIMP builds upon previous planning efforts using a coordinated methodology, which will allow the City to take full advantage of potential linkages and synergies between the four water utility systems. In addition, the PWIMP is also coordinated with a streets plan in an attempt to allow timing of future streets upgrades to be tied together with infrastructure upgrades. As such, the PWIMP identified numerous alternatives to the various needs and improvements of each of the four water utilities and went through an elaborate and public driven workshop process for

evaluating them from a technical and economic perspective. The result of the PWIMP is the recommended improvements to move forward with and which is evaluated in this PEIR as the Proposed Project. Also, the majority of the individual components of the PWIMP is the rehabilitation and replacement of existing facilities of which there are no real alternatives, other than not rehabilitation and/or replacing the aging infrastructure. As detailed in Chapter 3 – Environmental Analysis, the PWIMP would have several potentially significant impacts to the environment. However, with the implementation of the identified and corresponding mitigation measures, all of the potentially significant impacts can be reduced to less-than-significant levels. As a result, the only alternative that needs to be evaluated in this Program EIR is the CEQA required No Project Alternative. The No Project Alternative is discussed below. In addition, we have provided a summary of other water supply related alternatives that were eliminated from further consideration and the rationale.

4.2.1 No Project Alternative

Section 15126.6 (e) of the CEQA Guidelines requires the analysis of a No Project Alternative. The purpose of describing and analyzing a No Project Alternative is to allow decision-makers the opportunity to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The CEQA Guidelines state that the No Project Alternative is the circumstance under which the project would not proceed. If the No Project Alternative would not result in the preservation of existing conditions, the consequences of not approving a project should also be discussed.

Under the No Project Alternative, the PWIMP would not be implemented. Construction of the expanded AWPF, desalter, and new water and IPR/ASR wells and other facilities would not occur. As a result, secondary effluent produced from the OWTP would not be diverted from the existing ocean outfall for tertiary and advanced water treatment at the AWPF facility. Further rehabilitation of the existing pipelines and conveyance facilities that are at the end of their useful lives would not occur. This would cause the need for emergency repairs rather than a planned, orderly, and cost effective method for ensuring reliability with the various water, wastewater, recycled water, and stormwater pipeline and conveyance facilities.

Agricultural users would not be provided an alternative source of quality irrigation water and proposed new recycled water conveyance pipelines and storage would not be constructed. As a result, current groundwater pumping practices for irrigation would be continued as allowed by assigned allocations; unused groundwater pumping allocations (credits) would not be available for City use.

Groundwater injections afforded by new IPR/ASR wells would not occur, and over-drafted aquifer conditions would continue to occur or worsen. Additional potable water supplies potentially provided by treatment of extracted groundwater (allowed by transfer of unused groundwater pumping in lieu of groundwater recharge) would not be available for extraction and treatment by the proposed regional desalter expansion(s).

The No Project Alternative could result in a shortage in the amount of reliable and affordable water supplies available to meet both potable and non-potable demands. A shortage would require the City to consider other alternative solutions to meet the goal of the City to provide current and future residents and businesses with a reliable and affordable source of high-quality water.

The No Project Alternative was included as the Base Case Scenario in the groundwater flow modeling conducted for the PWIMP. The results of the modeling are discussed in the PWIMP, which is located on the City's website: www.oxnard.org. These results assist in understanding the potential condition of the

groundwater aquifer in 2030 under the No Project Alternative (i.e., existing conditions). To summarize, groundwater aquifer conditions under the No Project Alternative in the lower aquifer system (LAS) in the Southern Oxnard Plain will remain significantly above sea level, only occasionally dropping to near sea level during extended drier climatic periods. These conditions would indicate a low potential for coastal landward flow (i.e., seawater intrusion). In contrast, groundwater aquifer conditions in the LAS in the Southern Oxnard Plain and Pleasant Valley areas would continue to experience severe overdraft conditions and water quality degradation in the LAS of the southern Oxnard Plain and Pleasant Valley areas.

The No Project Alternative would avoid the less-than-significant significant with mitigation impacts identified for the PWIMP Program. However, several of the beneficial impacts of the PWIMP related to groundwater recharge in the LAS would not be realized, including increased groundwater elevations, minimization of coastal landward flow of seawater, and reduction of severe overdraft conditions and water quality degradation. In addition, the No Project Alternative fails to meet any of the stated objectives for the Proposed Project.

4.2.2 Alternatives Eliminated From Further Consideration

Summarized below are the alternatives that were considered and eliminated from further consideration – along with the rationale for elimination.

Relocation of the Oxnard Wastewater Treatment Plant. The PWIMP identified the possibility of the City relocating it's existing OWTP rather than rehabilitating the existing facility on the same site. However, the details of the proposed new location, timing and numerous other necessary details are not known at this time. Concerns for rehabilitation of the existing include the ability to meet demands during the rehabilitation construction period. Concerns for the relocation of the existing OWTP to a new location include costs, economics, location and etc. As a result, the possibility of relocating the existing OWTF cannot be adequately addressed or analyzed in this PEIR. Further, the existing OWTP needs immediate improvements to function properly, regardless if it is relocated or rehabilitated. As a result, the City should prepare a separate environmental document on this possibility, if and when the City decides to really consider relocating the existing OWTP and when more details are known and are ripe for discussion and analysis. For these reasons, this potential alternative is eliminated from further consideration in this PEIR.

Alternative Locations for New PWIMP Facilities. The exact locations of the new facilities such as the new wells, storage facilities, and new pipeline/conveyance facilities have not been precisely identified at this time. These new facilities would need to be evaluated further at the project level with additional and separate environmental analysis and document(s). For purposes of this PEIR, it is assumed that the potential impacts of a different location would be essentially the same and can be reduced to less-than-significant levels with the incorporation with the identified mitigation measures. As a result, this alternative(s) of relocating new PWIMP facilities to different locations is eliminated from further consideration.

Increased Groundwater Pumping. Under this alternative, the City would increase its current allocation for groundwater from UWCD or increase groundwater pumping from its own wells without the use of additional recycled water or recharge through DPR/IPR/ASR wells. However, to eliminate groundwater overdraft and bring extractions within safe yield, the FCGMA adopted Ordinance No. 5. This ordinance established historical allocations for each well pumped in the Oxnard Plain Basin and a schedule of pumping allocation reductions. Under this alternative, the imposed groundwater reductions under

Ordinance No. 5 will continue to affect the existing local water supplies of the City, by limiting the amount of groundwater that the City can buy from UWCD or extract from its own wells without recharging the Oxnard Plain and Pleasant Valley aquifers. Extraction beyond the current pumping allocation (with reductions) would be subject to a penalty fee based upon the cost to import water and the current groundwater conditions within the FCGMA, resulting in significant economic ramifications for the City. This alternative would result in continued pumping of groundwater and would contribute to the continuation or worsening of overdraft conditions in the Oxnard Plain and Pleasant Valley aquifers. Overdraft has historically resulted in groundwater storage reductions, declining groundwater levels to below sea level, water quality degradation, and ground subsidence. While purchase of additional groundwater may increase water supply reliability in the short term and provide temporary water supply security in meeting planned growth and associated water demand, it fails to meet the remaining objectives for reduced water supply costs and enhanced local water supply stewardship through wastewater recycle and reuse. For these reasons, this potential alternative is eliminated from further consideration in this PEIR.

Purchase of Imported Water Supplies. Under this alternative, the City would increase surface water deliveries from the State Water Project provided to the Calleguas Municipal Water District (CMWD) by the Metropolitan Water District of Southern California (MWD or Metropolitan). The imported water supplies of the City would be contracted through CMWD under a tiered rate program. CMWD restructured its rate system to generally be consistent with the approach used by MWD in allocating water among its member agencies. In general, CMWD has developed a 10-year purchase order for each of its member agencies, including the City. As part of its purchase order, the City is provided an allocation of 90 percent of its maximum demand. This allocation is termed Tier 1 water and is priced at a lower rate than water purchases that exceed this allocation termed Tier 2 water. The Tier 1allocation increases as a function of the 10-year rolling averages of total purchases exclusive of agricultural water purchases. Over the course of the purchase order, each signatory agrees to purchase 60 percent of its maximum demand for the rolling 10-year average. If the purchase order minimum is not reached, then the signatory would pay CMWD the difference in volume times the average water rate over the life of the contract. Tier 2 water prices significantly exceed the Tier 1 water price. However, if CMWD is able to manage its water resources to the point that it does not have to purchase Tier 2 water from MWD, then it will reimburse each of its member agencies in a relative proportion among those agencies that exceeded their Tier 1 allocation. Any City purchases that exceed the Tier 1 historical 10-year rolling average will be purchased at the Tier 2 premium amount. In addition, imported supply may not be available in all years; for example, due to State Water Project supply limitations in drought years and other emergency situations.

Under this alternative, the City would purchase water above its Tier 1 CMWD allocation. Tier 2 water would be purchased at a premium cost, resulting in significant economic ramifications for the City. In addition, increased reliance on imported surface water exposes the City to a risk that the water may not be available when needed (i.e., drought years). When considered with other demands on state water, additional City demand for imported surface water has the potential to adversely affect northern California Bay-Delta ecosystems. While purchase of additional imported surface water may increase water supply reliability in the short-term and provide temporary water supply security in meeting planned growth and associated water demand, it fails to meet the remaining objectives of the PWIMP. For these reasons, this potential alternative is eliminated from further consideration in this PEIR.

Seawater Desalination. Under this alternative, the City would address its concerns with respect to water supply by construction of a desalination plant to convert seawater into fresh water. Desalination is a

process that removes dissolved minerals (including but not limited to salt) from water. A number of technologies have been developed for desalination, including RO, distillation, electrodialysis, and vacuum freezing. The most common desalination techniques considered by municipalities, water districts, and private companies for the development of seawater desalination in California include RO or distillation.

- **Reverse Osmosis.** With this technology, pressure is applied to the intake water, forcing the water molecules though a semipermeable membrane. The salt molecules do not pass through the membrane, and the water that passes through becomes potable product water.
- **Distillation**. With this technology, the intake water is heated to produce steam. The steam is then condensed to produce product water with low salt concentration.

Recent technology has identified another desalination concept using two-stage nanofiltration. This process is thought to provide energy savings and improved water quality.

Plant specifics in terms of capacity and recovery (i.e., percent of product water per unit input flow) have not been explored. However, in general, for every 100 gallons of seawater input, 15 to 50 gallons of fresh water could be produced, which is a recovery of 15 to 50 percent. The remainder is waste concentrate containing dissolved solids (California Coastal Commission, 1993). The cost to produce water from desalination depends on the technology used and the plant capacity, among other factors. Current price estimates for desalinated water produced in California range from $850 to $1,200 per acre-foot.

Seawater desalination presents a potentially beneficial method to meet the City of Oxnard's water supply needs. These beneficial effects include, but are not limited to:

- Generally, and especially during emergency and drought periods, supplies of seawater available for desalination may be less limited than regional or local surface or groundwater supplies, and could provide the City significantly improved water reliability;
- Seawater desalination could replace or reduce the need for excessive groundwater pumping in coastal areas, potentially resulting in a reduction in the degree of seawater intrusion;
- Seawater desalination could assist the City in implementing programs to reduce groundwater pumping and allow the groundwater aquifer to recover from overdraft conditions; and
- Ongoing technical advances in seawater desalination techniques may increase the cost-effectiveness of the technology as traditional sources of surface and groundwater supplies become increasingly less available and the cost of these sources increase, making seawater desalination a cost-effective water supply.

Seawater desalination does, however, have several potential drawbacks. Because all or portions of seawater desalination plants are often located within the coastal zone and in proximity to the shoreline, environmental impacts to sensitive resources can be high.

Construction-related impacts could include air emissions; disturbance of dune, surf zone, and seafloor ecology; disturbance of seabirds, marine mammals, other land and marine species, and their habitats; disturbance to archaeological and paleontological resources; erosion; interference with coastal access and recreation; noise; nonpoint source pollution; and obstruction of views by machinery, piping, or tall structures. Potentially significant operational impacts associated with desalination plants include energy use, air quality, the marine environment, and growth inducement. The location of desalination plants within the coastal zone also presents regulatory authority and legislative considerations. The California

Coastal Commission often becomes involved in the process of reviewing permits for desalination plants or related facilities.

Under this alternative, the City would construct a desalination plant to produce potable water supplies. While this alternative would meet two of the project objectives, including increased water supply reliability and water supply security in meeting planned growth and associated water demand, the cost to produce desalinated water is economically infeasible on the scale necessary to meet the proposed project objectives. In addition, seawater desalination does not meet the other objectives of the PWIMP. Therefore, seawater desalination is not considered a feasible alternative to the PWIMP.

4.2.3 Environmentally Superior Alternative

Section 15126.6(e)(2) of the CEQA Guidelines requires an EIR to identify an environmentally superior alternative. Of the two alternatives considered in this section (Proposed Project and the No Project Alternative), the Proposed PWIMP Project appears to be environmentally superior to the No Project Alternative. The No Project Alternative would not meet any of the goals and objectives of the PWIMP and would not allow the city to have reliable water, wastewater, recycled water and stormwater facilities to accommodate the planned and approved growth through the City's 2030 General Plan and planning process. Further, the Proposed PWIMP Project would meet all of the objectives, would have many beneficial long-term impacts to the City's water supplies and utilities/infrastructure, and would not result in any significant environmental impacts that could not reasonably be reduced to less-than-significant levels. The PWIMP would help contribute to indirect significant unavoidable impacts identified in City's 2030 General Plan as water would remove an obstacle for growth. However, the City has already approved this plan growth and commissioned the PWIMP and this environmental document to accommodate this planned and approved growth. As a result, the Proposed PWIMP Project is considered to be the environmentally superior alternative.