4.0 CEQA CONSIDERATIONS

This section of the Draft EIR discusses long-term implications of the proposed project as required by CEQA. The topics discussed include significant irreversible commitment of resources, growth-inducing impacts, and significant and unavoidable environmental effects, and effects found not to be significant. Cumulative impacts and alternatives to the proposed project are also discussed herein.

4.1 Significant and Unavoidable Environmental Effects

For the purpose of this section, unavoidable adverse impacts are those effects of the proposed project that would significantly affect either natural systems or other community resources, and cannot be mitigated to a less-than-significant level. The proposed Specific Plan and PUD, if implemented, would result in the following significant and unavoidable project impact under project conditions:

- Agricultural Resources – Phase 2 (City site)

4.2 Significant Irreversible Changes

Section 15126.2(c) of the State CEQA Guidelines requires an EIR to discuss the significant irreversible environmental changes that would be involved in the proposed project should it be implemented. Examples include the following: uses of nonrenewable resources during the initial and continued phases of the project, since a large commitment of such resources makes removal or nonuse thereafter unlikely; primary and secondary impacts of a project that would generally commit future generations to similar uses (e.g., highway improvements that provide access to a previously inaccessible area); and/or irreversible damage that could result from any potential environmental accidents associated with the proposed project.

4.2.1 Analysis

The proposed Specific Plan and PUD would result in an increased intensity of development with the conversion of vacant, rural residential, and agricultural uses to proposed residential uses and a park. A variety of nonrenewable and limited resources would be irretrievably committed for construction and operation, including but not limited to oil, natural gas, gasoline, lumber, sand and gravel, asphalt, steel, water, land, energy, and construction materials. In addition, the proposed project would result in an increase in demand on public services and utilities.

An increase in the intensity of land uses within the planning area would result in an increase in regional electric energy consumption to satisfy additional electricity demands from the proposed Specific Plan and PUD. These energy resource demands relate to initial proposed project construction, transport of goods and people, and lighting, heating, and cooling of buildings.

Development of the planning area to support urban uses may be regarded as a permanent and irreversible change. Development of Phase 2 (City site) would essentially eliminate any remaining agricultural production within the planning area. Grading, utility extensions, new and improved roadways, and construction of buildings would permanently alter the character of the planning area to one that is urbanized. The proposed Specific Plan and PUD would generally commit future generations to similar urban uses within the planning area.

4.3 Growth Inducement

CEQA requires that any growth-inducing aspect of a project be discussed in an EIR. According to CEQA, it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment. A project would have growth-inducing effects if it would:

- Foster economic or population growth, or the construction of additional housing (either directly or indirectly) in the surrounding environment;
- Remove obstacles to population growth;
- Tax existing community services or facilities, requiring the construction of new facilities that could cause significant environmental effects; or
- Encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

As such, this subsection of the EIR analyzes the potential environmental consequences of the foreseeable growth and development of the surrounding area that could be induced by implementation of the proposed Specific Plan and PUD and all entitlement actions.

4.3.1 Remove Obstacles to and/or Foster Population Growth

Several types of projects can induce population growth by removing obstacles that prevent growth, for example, a major expansion of a wastewater treatment facility. Such a project would allow for additional service connections within its service area and therefore, would allow future construction and growth.

The proposed project is consistent with Measure U, which directs growth within and around the City of Watsonville in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. In addition, the County of Santa Cruz Housing Element specifically requires that the County site within the planning area be adequately zoned to allow the development of housing units at a density of 20 units per acre.

Measure U established an urban limit line (ULL) along the northern boundary, which excludes land previously included east and west of East Lake Avenue, and directs growth into several unincorporated areas. The three primary areas of growth include the Atkinson Lane, Buena Vista, and Manabe-Burgstrom (now Manabe-Ow) Specific Plan areas. A western boundary west of Highway 1 was defined by Measure U to remain undeveloped. The proposed project would be located entirely within the Atkinson Lane Specific Plan Area. Development of Phase 2 (City site) would not occur until City annexation of the planning area. Approximately one half of the planning area is located within the City's Sphere of Influence (SOI) and the entire planning area is located within the City's 25-Year Urban Limit Line (ULL), which defines where development can occur. The planning area is located adjacent to existing developed areas and therefore would not remove obstacles to population growth and/or foster additional population growth outside of the ULL

4.3.2 Conversion of Adjacent Agricultural Land to Urban Uses

The planning area is located adjacent to agricultural lands to the east of the project site, which are located outside of the City's ULL in unincorporated Santa Cruz County. These parcels are designated "Agriculture Commercial (CA)" in the *Santa Cruz County Zoning Code* and as "Agriculture" in the *Santa Cruz County General Plan.* The proposed project incorporates a 200-foot buffer on the eastern portion of the planning area adjacent to existing agricultural uses as a permanent limit to urban development on the eastern border. Measure U established the ULL in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. Since the surrounding agricultural land is located outside of the ULL, significant constraints would preclude conversion of adjacent farmland to urban use. Therefore, the proposed project would not induce conversion of adjacent agricultural land to urban uses.

4.3.3 Tax Existing Community Services or Facilities

The proposed Specific Plan and PUD would require additional police, fire, and other public services. Future development would be required to pay applicable development impact fees at the time of issuance of the building permits. The County and the City will enter into an agreement to reserve all funds paid into its impact fee accounts by the proposed project for off-site improvements. Mitigation measures are incorporated herein that would require the County of Santa Cruz and the City of Watsonville enter into a JPA or CFD as part of the proposed Specific Plan and PUD in order to fund municipal services for the proposed project not covered by City or County impact fees and property taxes. With implementation of this mitigation measure, the proposed project would not tax existing community services of facilities.

4.4 Effects Found Not to be Significant

A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Section 15328). The term "environment," as used in this definition, means the physical conditions that exist within the area that will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise and objects of historic or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the proposed project. The "environment" includes both natural and man-made conditions (CEQA Guidelines Section 15360).

Detailed analyses and discussion of environmental topics found to be significant are provided within Section 3.0 of this EIR. Listed below are those environmental issues found to have no impact as a result of the proposed project. This determination is based on the standards of significance contained within the CEQA Guidelines and the Notice of Preparation process for the proposed project.

4.4.1 Energy

Energy demands for the proposed project would be serviced by PG&E. Extension of utility services within the planning area would be in accordance with City and County policies. The demand on energy resources is not anticipated to impact the current utilities level of service.

PG&E has builder incentive programs to encourage energy efficient construction for new single- and multi-family housing. There is limited funding for these programs and incentives are awarded on a first come, first serve basis. However, energy efficient construction reduces the demand on energy sources and promotes a healthier environment. Some simple design features that can be incorporated in the specifications may include tight construction and sealed ducts, energy saving windows, improved insulation and super-efficient heating and air conditioning systems.

4.4.2 Mineral Resources

According to the City of Watsonville General Plan and the County of Santa Cruz General Plan there are no mineral resources in the vicinity of the planning area. Therefore, no impact on mineral resources would be associated with implementation of the proposed Specific Plan and PUD.

4.5 Cumulative Impacts

4.5.1 CEQA Requirements

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are substantial or which compound or increase other environmental impacts. An evaluation of cumulative impacts is required by CEQA when they are significant, but need not be as detailed as the discussion of project impacts. Cumulative conditions are defined as conditions in the foreseeable future with all approved, pending, and known planned development in place. The CEQA Guidelines require that an EIR discuss the cumulative impacts of a project where the project's incremental effect is cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

The criteria for determining significance of cumulative impacts are the same as those that apply to the project-level analysis unless otherwise noted in the section, where other agency standards regarding cumulative analyses may apply. Where the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR indicates why the cumulative impact is not significant and is not discussed in further detail in the EIR. Where the EIR identifies a significant cumulative impact, but finds that the project's contribution to that impact would be less than considerable, an explanation for that conclusion is provided.

According to the California State CEQA Guidelines section 15130 (a)(1), there is no need to evaluate cumulative impacts to which the project does not contribute. Relevant potential cumulative impacts to which the proposed project could contribute include: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, utilities, and recreation, and transportation and traffic. Each of these topics is addressed herein.

4.5.2 Cumulative Impacts Analysis and Assumptions

Impacts associated with cumulative development were analyzed based on the project's effects in combination with a summary of projections in the adopted *City of Watsonville General Plan* (2005), as amended with adoption of Measure U in 2002. Following adoption of the 2005 *City of*

Watsonville General Plan by the City in 1994, Measure U was passed by 60 percent of the voters in 2002. Measure U directs new growth to designated areas within and around the City of Watsonville in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. Measure U established an urban limit line (ULL) along the northern boundary, which excludes land previously included in the *City of Watsonville General Plan* located east and west of East Lake Avenue, and directs growth into several unincorporated areas. In addition to the planning area, the three primary areas of growth include: 1) Atkinson Lane, 2) Buena Vista, and 3) Manabe-Burgstrom (now Manabe-Ow) Specific Plan areas. A western boundary west of Highway 1 was defined by Measure U to remain undeveloped. In addition, Measure U resulted in the phasing of development in the 2005 *City of Watsonville General Plan* in order to provide for coordinated and comprehensive planning and development in each of the identified specific plan and development areas.

The *City of Watsonville General Plan* (City of Watsonville 2005) anticipated a total population of 51,600 in the City and SOI by 2005. Annexation and buildout of the future growth areas would increase the City's population by 17,300.

4.5.3 Cumulative Impact Analysis

Aesthetics

With buildout of the planning area, the proposed project would be an extension to the City limits and Sphere of Influence, which would contribute incrementally to changes in the rural, agricultural character of the City and surrounding area due to the size and location of proposed project. However, the proposed project is consistent with Measure U, which would preserve environmentally sensitive and prime agricultural land in exchange for development of the three identified Specific Plan areas, including the Atkinson Lane Specific Plan area. Future development would be required to undergo design review, thereby ensuring that cumulative development would result in a less than significant cumulative impact.

The proposed Specific Plan and PUD, combined with other cumulative projects would incrementally increase ambient light and glare contributing to the existing light sources within the City limits and surrounding area. Increased nighttime lighting and illumination could result in adverse effects to adjacent land uses through the "spilling over" of light into these areas and "sky glow" conditions. New light sources would result in an incremental increase in ambient nighttime light in the area, potentially affecting the adjacent residential neighborhoods located surrounding the planning area. Future development within the planning area would be required to comply with the design guidelines by demonstrating the proposed exterior lighting is non-intrusive quality while still providing an adequate amount of light. Compliance with the design guidelines and PUD requirements would therefore ensure that the proposed development would not introduce substantial light and glare, which would pose a hazard or nuisance.

> **Conclusion:** The proposed project is consistent with Measure U, which would preserve environmentally sensitive and prime agricultural land in exchange for development of the three identified Specific Plan areas. There are no known cumulative projects which would result in a significant impact to aesthetics. The proposed project would be required to comply with the design guidelines in the proposed Specific Plan and PUD requirements, which would ensure that the proposed project does not contribute to

cumulative light and glare in the City and surrounding areas and would ensure that the proposed Specific Plan and PUD is of quality design. Therefore, the design features of the proposed Specific Plan and PUD would minimize the project's cumulative contribution to aesthetics and visual quality, which would ensure that the proposed project would have a **less than significant cumulative impact** to aesthetics and visual character.

Agricultural Resources

According to the California Farmland Conversion Report 2002-2004 published by the California Department of Conservation, Division of Land Resource Protection (DLRP 2006), 669 acres of prime farmland was converted in Santa Cruz County to urban uses between 2002 and 2004. The proposed project would contribute to the on-going conversion of Important Farmlands in Santa Cruz County by resulting in the conversion of approximately 45.31 acres of Important Farmland associated with implementation of the proposed Specific Plan and PUD.

The planning area was designated as one of three primary growth areas under Measure U, which directs new growth to designated areas within and around the City of Watsonville in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. Measure U established an urban limit line (ULL) along the northern boundary, excludes land previously included east and west of East Lake Avenue, and directs growth into several unincorporated areas. A western boundary west of Highway 1 was defined by Measure U to remain undeveloped. The proposed project is a component of Measure U, which was planned to limit the conversion of agricultural land to these three areas in order to preserve other Prime Farmlands.

Approximately 242 acres of Important Farmland would be converted under Measure U, including the 45.31 acres that is located within Phase 2 (City site) within the planning area. No Important Farmland is located within Phase 1 of the proposed project. A number of general plan policies in the *City of Watsonville General Plan* and *County of Santa Cruz General Plan* would limit the conversion of Important Farmlands. However, the physical conversion of this Important Farmland to urban uses would reduce the amount of valuable farmland available for crop production and would therefore contribute to the depletion of a valuable natural resource in the City of Watsonville and surrounding area.

Conclusion: The *City of Watsonville* and the *County of Santa Cruz General Plan* contain no policies or implementation programs, which require mitigation of offsets for the conversion of agricultural land and there is not an established agricultural compensation program in the City of Watsonville or Santa Cruz County. Therefore, there are no feasible mitigation measures available to reduce the cumulative impact to a less than significant level. Although there is no feasible mitigation measure available to reduce the impact to a less than significant level, future development shall contribute and participate towards any agricultural preservation program, agricultural mitigation fee or similar mitigation program as adopted and recognized by the City of Watsonville in place at the time of annexation to the City. However, since there is no guarantee that such a program would fully mitigate the loss of agricultural land within the Phase 2 (City site) of the proposed project; therefore, this impact remains a **significant and unavoidable cumulative impact**.

Air Quality

Regional Emissions

The geographical area for cumulative air emission impacts is the North Central Coast Air Basin, which includes Santa Cruz County. The MBUAPCD updated the regional *Air Quality Management Plan* (AQMP) in 2008. The AQMP includes current air quality data, revises the emission inventory and emission forecasts, proves an analysis of emission reductions needed to meet and maintain State ozone standards, and includes adoption of five stationary source controls to achieve emission reductions. In developing the emission forecasts, the AQMP accounts for population growth for cities and counties located within the basin.

The MBUAPCD prepares air quality plans, which address attainment of the state and federal O_3 standards. These plans accommodate growth by projecting growth in emissions based on different indicators. For example, population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG) are used to forecast population-related emissions. These forecasts are then accommodated within the AQMP. According to the *MBUAPCD CEQA Guidelines*, projects that are consistent with the AQMP would not result in cumulative impacts as related to regional emissions that have been factored into the AQMP. In a letter dated October 22, 2008, the AMBAG determined that the proposed Specific Plan and PUD would be consistent with the growth forecasts in the City of Watsonville. Therefore, the proposed Specific Plan and PUD is consistent with the regional forecasts and the AQMP and would not result in cumulative regional air quality impacts.

The traffic study included vehicular trips from all present, background, and future projects in the project vicinity. Therefore, CO hot spot concentrations calculated at these intersections include the cumulative traffic effect. The projected traffic volumes were modeled using the BREEZE ROADS dispersion model (which includes the CALINE4 plugin). The resultant values were added to an ambient concentration. The intersections currently operate at a level of service (LOS) ranging A to F for PM peak hour activities. At project buildout, the intersections would still operate at a LOS A or LOS F in an unmitigated condition. However, mitigation measures incorporated within the EIR would improve the level of service to acceptable levels of service.

CO dispersion modeling, using the BREEZE ROADs dispersion modeling was performed to estimate worst-case ambient concentrations of CO that sensitive receptors may be exposed to during long-term operation of the proposed project under cumulative conditions. As indicated in **Table 3.3-5: Carbon Monxide Concentrations (CO)**, CO concentrations would be well below the state and federal standards. The modeling results are compared to the California Ambient Air Quality Standards for CO of 9 ppm on an 8-hour average and 20 ppm on a 1-hour average. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere; adherence to the Ambient Air Quality Standards is typically demonstrated through an analysis of localized CO concentrations. Neither the 1-hour average nor the 8-hour average would be equaled or exceeded. Impacts in regards to cumulative CO hot spots would be considered less than significant under cumulative conditions. The proposed project, primarily a residential development, would not result in toxic air contaminant (TAC) emissions at buildout. The geographic area for cumulative impacts would be localized.

> **Conclusion:** Cumulative impacts related to regional and local air emissions are considered less than significant. Project contributions to regional cumulative air

emissions are not considered significant when a project is consistent with the AQMP. Cumulative CO concentrations with project buildout would not exceed state CO concentration standards, therefore the proposed Specific Plan and PUD would result in a **less than significant cumulative impact.**

Global Climate Change

Global climate change is a subject that is gaining increasing statewide, national and international attention. Recent reports released by the State of California indicate that climate change could have profound impacts on California's water supply and usage. In the recent report prepared by the California Climate Change Center, "Our Changing Climate: Assessing the Risks to California" (2006), the state's top scientists consider global warming to be a very serious issue requiring changes in resource, water supply, and public health management. Natural processes and human activities such as fossil fuel combustion, deforestation and other changes in land use are resulting in the accumulation of greenhouse gases (GHGs) such as carbon dioxide (CO_2) into the atmosphere. An increase in GHG emissions is said to result in an increase in the earth's average surface temperature, commonly referred to as global warming, which is expected to affect weather patterns, average sea level, ocean acidification, and precipitation rates (Jones & Stokes, August 2007).

California is a substantial contributor of global greenhouse gases, emitting over 400 million tons of carbon dioxide (CO_2) a year.[1] Greenhouse gases are global in their effect. Because primary greenhouse gases have a long lifetime in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere is mostly independent of the point of emission. Although GHG emissions are not currently addressed in federal regulations, the State of California recently passed the Global Warming Solutions Act of 2006 (AB 32), which seeks to reduce GHG emission generated by California. AB 32 (which is further described below) states:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

Global Climate Change Gases

The natural process through which heat is retained in the troposphere[2] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a three fold process as follows: shortwave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of longwave radiation; and greenhouse gases in the upper atmosphere absorb this longwave radiation and emit this longwave radiation both into space and back toward Earth. This "trapping" of the longwave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

[1] Air Resources Board 1990 to 2004 State Inventory (November 2007).

[2] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

The most abundant greenhouse gases are water vapor and carbon dioxide. While many other trace gases have greater ability to absorb and re-radiate longwave radiation, these gases are not as plentiful in the atmosphere. For this reason, and to gauge the potency of greenhouse gases, scientists have established a Global Warming Potential for each greenhouse gas based on its ability to absorb and re-radiate longwave radiation. The Global Warming Potential of a gas is determined using carbon dioxide as the reference gas with a Global Warming Potential of 1.

Greenhouse gases include, but are not limited to, the following:[3]

- Water Vapor (H_2O). Although water vapor has not received the scrutiny of other greenhouse gases, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively. The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than 1 percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change has not determined a Global Warming Potential for water vapor.
- Carbon Dioxide (CO_2). CO_2 is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of CO_2 in the atmosphere has increased 35 percent.[4] Carbon dioxide is the most widely emitted greenhouse gas and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other greenhouse gases. In 2004, 83.8 percent of California's greenhouse gas emissions were carbon dioxide.[5]
- Methane (CH_4). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane come from landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 21.
- Nitrous Oxide (N_2O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 310.
- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam

[3] All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

[4] United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 to 2004*, April 2006, http://www.epa.gov/climatechange/emissions/usinventoryreport.html.

[5] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, December 2006, http://www.energy.ca.gov/2006publications/CEC 600 2006 013/CEC 600 2006 013 SF.PDF.

blowing is growing as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The Global Warming Potential of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.

- Perfluorocarbons (PFCs). Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. Perfluorocarbons are potent greenhouse gases with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[6] The Global Warming Potential of PFCs range from 5,700 to 11,900.

- Sulfur hexafluoride (SF_6). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent greenhouse gas that has been evaluated by the Intergovernmental Panel on Climate Change with a Global Warming Potential of 23,900. However, its global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]).[7]

In addition to the six major greenhouse gases discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The Global Warming Potentials of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[8]

- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The Global Warming Potential of methyl chloroform is 110 times that of carbon dioxide.[9]

- Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the Environmental Protection

[6] Energy Information Administration, *Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride*, October 29, 2001, http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html.

[7] United States Environmental Protection Agency, *High GWP Gases and Climate Change*, October 19, 2006, http://www.epa.gov/highgwp/scientific.html#sf6.

[8] United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006, http://www.epa.gov/fedrgstr/EPA AIR/1996/January/Day 19/pr 372.html.

[9] United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006, http://www.epa.gov/fedrgstr/EPA AIR/1996/January/Day 19/pr 372.html.

Agency's Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with Global Warming Potentials ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[10]

- Ozone (O_3). Ozone occurs naturally in the stratosphere where it is largely responsible for filtering harmful ultraviolet (UV) radiation. In the troposphere, ozone acts as a greenhouse gas by absorbing and re-radiating the infrared energy emitted by the Earth. As a result of the industrial revolution and rising emissions of oxides of nitrogen (NO_X) and volatile organic compounds (VOCs) (ozone precursors), the concentrations of ozone in the troposphere have increased. Due to the short life span of ozone in the troposphere, its concentration and contribution as a greenhouse gas is not well established. However, the greenhouse effect of tropospheric ozone is considered small, as the irradiative forcing of ozone is 25 percent of that of carbon dioxide.[11]

Global Climate Change Regulatory Programs

Senate Bill 97

Senate Bill 97 of 2007 requires the California Office of Planning and Research (OPR) to develop CEQA guidelines for analysis and, if necessary, the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions to the California Resources Agency by July 1, 2009. These guidelines for analysis and mitigation must address, but are not limited to, greenhouse gas emissions effects associated with transportation or energy consumption. Following receipt of these guidelines, the California Resources Agency must certify and adopt the guidelines prepared by OPR by January 1, 2010. In his signing statement, Governor Arnold Schwarzenegger noted:

> *Current uncertainty as to what type of analysis of greenhouse gas emissions is required under the California Environmental Quality Act (CEQA) has led to legal claims being asserted which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.*

The OPR has begun the process of formulating the guidelines called for in Senate Bill 97. Part of that effort included a survey of existing climate change analyses performed by various lead agencies under CEQA. OPR's effort revealed many questions surrounding such analyses, including, among others, what is a "new" greenhouse gas emission, what is the appropriate baseline for a climate change analysis, and when would emissions become significant under CEQA.

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[10] United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, March 7, 2006, http://www.epa.gov/ozone/ods.html.

[11] Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, Summary for Policymakers, February 2007.

Senate Bill 375

Senate Bill 375 would require metropolitan planning organizations to include sustainable communities' strategies in their regional transportation plans. The purpose of Senate Bill 375 would be to reduce greenhouse gas emissions from automobiles and light trucks, require the CARB to provide greenhouse gas emission reduction targets from the automobile and light truck sector for 2020 and 2035 by January 1, 2010 and update the regional targets until 2050. Senate Bill 375 would require certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill would also require affected regional agencies to prepare an alternative planning strategy to the sustainable communities' strategies if the sustainable communities' strategy is unable to achieve the greenhouse gas emissions reduction targets. Senate Bill 375 was approved by the California State Assembly and the California Senate in August 2008. Governor Schwarzenegger signed and approved Senate Bill 375 on September 30, 2008.

Assembly Bill 32

The Legislature enacted Assembly Bill 32 (Assembly Bill 32, Nuñez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. Assembly Bill 32 represents the first enforceable statewide program to limit greenhouse gas emissions from all major industries, with penalties for noncompliance. The CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of Assembly Bill 32. The foremost objective of the CARB is to adopt regulations that require the reporting and verification of statewide greenhouse gas emissions. This program would be used to monitor and enforce compliance with the established standards. The first greenhouse gas emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. The CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost effective greenhouse gas emission reductions. Assembly Bill 32 allows the CARB to adopt market based compliance mechanisms to meet the specified requirements. Finally, the CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market based compliance mechanism adopted. In order to advise the CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. By January 2009, the CARB must adopt mandatory reporting rules for significant sources of greenhouse gases and also a plan indicating how reductions in significant greenhouse gas sources would be achieved through regulations, market mechanisms, and other actions.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: Greenhouse gas emissions should be reduced to 2000 levels by 2010; greenhouse gas emissions should be reduced to 1990 levels by 2020; and greenhouse gas emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California EPA (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce greenhouse gases. Some of the agencies involved in the greenhouse gas reduction plan include Secretary of Business, Transportation, and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State

Legislature disclosing the progress made toward greenhouse gas emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

Cumulative Emissions

Although it is nearly universally recognized that the Earth is warming and that emissions of greenhouse gases from human activities contribute to global climate change, the extent of global climate change or the exact contribution from anthropogenic sources is still highly debated. Heightened scientific awareness continues to help inform the public debate over impacts of global warming. Global climate change impacts are a result of cumulative emissions from human activities in the region, the state, and the world. Cumulative development and growth in the area would primarily contribute indirect emissions of GHGs, which in conjunction with other global emissions, would contribute to global climate change. Given international concerns and the state of California's recent laws and indication of the serious nature of this issue, cumulative impacts related to global climate change are considered significant.

The CARB is in the process of developing an emissions inventory for the State. The proposed project would result in indirect emissions of GHGs associated with project traffic and construction. An individual project typically does not generate enough greenhouse gas emissions to significantly influence global climate change (AEP, June 29, 2007).

Table 4-1: Applicable Global Climate Change Strategies provides a list of recommended measures and strategies to help reduce global climate impacts that was provided by CARB and the Climate Action Team. The strategies listed in **Table 4-1: Applicable Global Climate Change Strategies**, would directly apply to the proposed project. This table provides an analysis of the project's conformance with the greenhouse gas reduction strategies. A reduction in vehicle miles traveled results in a decrease in fuel consumption and a decrease in greenhouse gas emissions. The proposed project incorporates many mitigation measures recommended to offset indirect GHG emissions. The proposed Specific Plan includes design guidelines that encourage sustainable and green development practices. These green design guidelines include: projects seeking Leadership in Energy and Environmental Design (LEED) certification, incorporation of roofing materials that are light color or reflective materials that reduce the heat island effect, and optimal building orientation for the use of active and passive solar energy features. Although, the proposed project would result in indirect GHG emissions, the planned features would minimize the project's cumulative contribution to global climate change.

> **Conclusion:** Greenhouse gas emissions throughout the world contribute to global warming and ultimately global climate change, which is considered a significant cumulative impact. Cumulative development and growth in the project region would primarily contribute indirect emissions of GHGs, which in conjunction with other global emissions, would contribute to global climate change. The incremental effects of the proposed Specific Plan and PUD would not be cumulatively considerable as the proposed project would be designed and built to reduce vehicle trips and emissions and incorporate green building design. Therefore, no significant impacts would occur.

Table 4-1: Applicable Global Climate Change Strategies

Strategies for Reducing Greenhouse Gas Emission Reduction[1]	Project Conformance
Vehicle Climate Change Standards. AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the CARB in September 2004.	Following a phase-in period, the majority of the vehicles that access the project would be expected to be in compliance with any vehicle standards that CARB adopts.
Other Light Duty Vehicle Technology. New standards would be adopted to phase in beginning in the year 2017 model year.	Following a phase-in period, the majority of the vehicles that access the project would be expected to be in compliance with any vehicle standards that CARB adopts.
Diesel Anti-Idling. In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	All vehicles, including diesel trucks accessing the project site, would be subject to the CARB measures and would be required to adhere to the 5-minute limit for vehicle idling.
Hydrofluorocarbon Reduction. 1) Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs; 5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations cover would comply with the measures.
Heavy-Duty Vehicle Emission Reduction Measures. Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	These are CARB enforced standards; vehicles that access the project that are required to comply with the standards would comply with the strategy.
Achieve 50 percent Statewide Recycling Goal and Zero Waste – High Recycling - 1) Design locations for separate waste and recycling receptacles; and 2) Utilize recycled components in the building design.	Pursuant to Assembly Bill 939, all projects in the City of Watsonville (including the proposed project) would be required to divert 50 percent of their solid waste stream.
Appliance Energy Efficiency Use. Use of energy efficient appliances (i.e., washer/dryers, refrigerators, stoves, etc.).	In October 2006, the State of California adopted Appliance Efficiency Regulations, which include standards for both Federally regulated appliances and non-Federally-regulated appliances. These regulations would apply to the proposed project
Measures to Improve Transportation Energy Efficiency. Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	The project promotes fuel conservation through design features, which promote alternative transportation (e.g. bike lanes and sidewalks), and programs which encourage public transportation use.
Smart Land Use and Intelligent Transportation. Transportation systems encourage high-density residential and commercial mixed-use.	The proposed project would be comprised of residential infill development, which would be considered a Smart Land Use.
Water Use Efficiency Features. To increase water use efficiency include use of both potable and non-potable water to the maximum extent practicable and use of low flow appliances (i.e., toilets, shower heads, washing machines, etc).	The proposed project would be required to comply with California Health and Safety Code (HSC) section 17921.3, which sets efficiency standards for bathroom fixtures. Additionally, California Code of Regulations, Title 20, Division 2, Chapter 4, Article 4, Section 1605.3 sets standards for washing machines and commercial pre-rinse spray valves.
Afforestation/Reforestation. Clustering residential development to preserve forest/woodland resources, increasing density, and preserving and restoring open space would comply with this strategy.	The proposed project would be located adjacent to existing development in the City of Watsonville and would not remove woodland resources. The proposed project includes a 3.9 acre seasonal and emergent freshwater wetland that occurs near the

Strategies for Reducing Greenhouse Gas Emission Reduction[1]	Project Conformance
	southwest corner of the planning area and a 4.0 acre riparian zone that occurs along the embankments of Corralitos Creek in the northwest portion of the planning area, which would be preserved with implementation of the proposed project in order to preserve and restore open space in the planning area. The proposed Specific Plan and PUD also includes dedication of a 2.7 acre wetland buffer and 1.9 acre riparian buffer. The proposed Specific Plan and PUD includes a trail along Corralitos Creek within the riparian buffer zone.
Achieve 50 percent Statewide Recycling Goal. In multi-family housing, separate recycling and waste receptacles should be planned.	The City of Watsonville is required to meet the 50 percent statewide recycling goal, and would continue to implement solid waste reduction measures.
Notes: 1 - Only the applicable strategies for reducing greenhouse gas emissions were included.	

Source: California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.

Biological Resources

The proposed project, in conjunction with other reasonably foreseeable growth areas would result in permanent loss of habitat and would contribute to biological resource impacts, including disturbance of special status species. Anticipated development of the planning area is expected to contribute to these impacts.

> **Conclusion:** Implementation of mitigation measures **MM 3.4-1** through **MM 3.4-8b** would ensure that the proposed project would not contribute to the potential loss and/or restriction of significant biological resources in the region. Therefore, the proposed project would have a **less than significant cumulative impact** to special status species, critical habitat, and wildlife movement.

Geology and Soils

The proposed project would not combine with any other factors or projects and thus, is not significant due to the localized, site-specific nature of geotechnical and seismic impacts.

> **Conclusion:** No significant impacts are predicted relative to geology or geologic hazards. Therefore, cumulative development would not result in **cumulative impacts** to geology and soils.

Hazards and Hazardous Materials

Implementation of the proposed project would result in potential risks associated with exposure to hazardous substances such as agricultural chemicals, hydrocarbons and other substances associated with previous land uses. However, hazards impacts would be site specific and are generally not affected or amplified by cumulative development in the area. As described in **Section 3.7: Hazards and Hazardous Materials**, with proper implementation of Mitigation Measures **MM3.7-3a** through **MM 3.7-10**, the proposed project would not contribute to an increase in the potential for soil or groundwater contamination or the potential risk of upset as a result of current or past land uses.

Conclusion: The proposed project would not combine with any planned growth in the area to form an impact greater or more significant than the proposed project impact alone. With implementation of Mitigation Measures **MM3.7-3a** through **MM 3.7-10**, the proposed project would not contribute to an increase in the potential for soil or groundwater contamination or the potential risk of upset as a result of current or past land uses. Therefore, cumulative hazards impacts associated with hazards and hazardous materials would be considered **less than significant**.

Hydrology and Water Quality

Buildout within the planning area would contribute to cumulative drainage flows and surface water quality impacts when combined with other growth and development in the area. However, the County of Santa Cruz and the City of Watsonville requires that all new projects follow the City's detention design criteria, which requires that all new development design and construct drainage facilities adequate to limit flows to pre-development levels and include best management practices for control of surface water contaminants.

Conclusion: Future development within the planning area would be required to identify, with Tentative Map submittals, a detailed final drainage plan designed to control the rate and volume of stormwater runoff to pre-development conditions for up to a 10-year storm within the Phase 1 (County site) and for a variety of storm event recurrences up to the 25-year storm consistent with the conceptual stormwater plan in the proposed Specific Plan and the City of Watsonville Stormwater Management Plan performance standards, or equivalent measures for buildout of the proposed project as required by mitigation measures **MM 3.8-1a** and **MM 3.8-1b**. In addition, in order to comply with the National Pollution Discharge Elimination System (NPDES) requirements for construction of site storm water discharges, Phases 1 and 2 would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies how the project applicants within the planning area would protect water quality during construction activities as required by mitigation measure **MM 3.8-2**. Therefore, the proposed project's contribution to cumulative stormwater runoff and contamination impacts would be considered **less than significant** with mitigation measures incorporated herein.

Land Use and Planning

The proposed project would be generally consistent with policies in the *City of Watsonville General Plan* and *County of Santa Cruz General Plan* with implementation of the mitigation measures identified within this EIR. Therefore, the proposed project would not result in a cumulative considerable impact to land use and planning.

The proposed project and reasonably foreseeable projects could result in cumulative land use conflicts in the surrounding area. The City of Watsonville is surrounded to a large extent by active farmland, which may be susceptible to conversion to urban uses. The agricultural land uses east of the planning area are located outside of the ULL in unincorporated Santa Cruz County and are designated "Agriculture Commercial (CA)" in the *Santa Cruz County Zoning Code* and as "Agriculture" in the *Santa Cruz County General Plan.* The proposed project incorporates a 200-foot buffer on the eastern portion of the planning area adjacent to existing agricultural uses as a permanent limit to urban development on the eastern border. Measure U established the ULL in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25

years. Since the surrounding agricultural land is located outside of the ULL, significant constraints would preclude conversion of adjacent farmland to urban use.

> **Conclusion:** Measure U established the ULL in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. Since the surrounding agricultural land is located outside of the ULL, significant constraints would preclude conversion of adjacent farmland to urban use. Therefore, the proposed project is anticipated to result in a **less than significant cumulative impact** to land use and planning.

Noise

The proposed project along with reasonably foreseeable cumulative projects would result in increased traffic volumes along study roadway segments, including the following: Holohan Road, Airport Boulevard, Green Valley Road, Freedom Boulevard, East Lake Boulevard (Highway 152), Main Street, Wagner Avenue, Crestview Drive, Martinelli Street, Brewington Avenue, Gardener Avenue, Highway 129-Riverside Drive, and Harkins Slough Road. Predicted noise levels were calculated based on traffic data obtained from the traffic impact analysis for cumulative conditions and compared with existing conditions. Predicted noise levels are summarized in **Table 4-2: Predicted Cumulative Noise Levels**, which compares "Existing" conditions to "Cumulative Plus Project" conditions.

Based on the modeling conducted, cumulative conditions would result in an increase in ambient noise levels along these study roadways. Predicated increases in noise levels on study roadway segments would be below 3 dBA except on the following study roadway segments where predicted noise levels would increase by approximately: 3.7 dBA on Green Valley Road north of Holohan Road to a predicted noise level of 64.9 dBA; 9.6 dBA on Wagner Avenue, west of East Lake Drive to a predicted noise level of 53.6dBA; 9.6 dBA on Crestview Drive, east of Brewington Avenue to a predicted noise level of 56 dBA; and 7.3 dBA on Brewington Avenue, north of Crestview Drive to a predicted noise level of 52 dBA. Within the City of Watsonville and the County of Santa Cruz, the maximum exterior noise levels acceptable for residential land uses and other noise sensitive areas is 60 dBA. Based on the resulting noise levels as shown in **Table 4-2: Predicted Cumulative Noise Levels**, noise levels on these study roadway segments would be within City and County standards with the exception of the noise levels on Green Valley Road, north of Holohan Road, which would have a predicted noise level of 64.9 dBA under cumulative conditions.

> **Conclusion:** The proposed project would contribute approximately six trips in the AM peak hour and eight trips in the PM peak hour to the roadway segment of Green Valley Road, north of Holohan Road, which would be located within unincorporated Santa Cruz County. Several policies in the *County of Santa Cruz General Plan* including Policy 6.9.1 (Land Use Compatibility Guidelines) and Policy 6.10.2 (Evaluation and Mitigation) would ensure that foreseeable future development located along Green Valley Road, north of Holohan Road evaluate noise attenuation measures as part of the project design in order to attenuate noise levels under cumulative conditions. Therefore, this would be considered a **less than significant cumulative impact**.

Table 4-2: Predicted Cumulative Noise Levels

Roadway Segment	Existing					Cumulative + Project					Difference in dBA @ 100 feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Holohan Road											
Between Green Valley Road and East Lake Ave.	14,010	60.8	119	55	26	15,950	61.3	130	60	28	.5
Airport Boulevard											
Between Freedom Blvd. and Green Valley Road	16,250	64.2	280	89	28	17,600	64.6	304	96	30	.4
Between Freedom Blvd. and Highway 1	19,240	64.6	332	105	33	22,120	65.2	382	121	38	.6
Green Valley Road											
North of Holohan Rd.	16,590	61.2	133	62	29	19,360	64.9	334	106	33	3.7
Between Freedom Blvd. and Holohan Road	14,250	63.5	246	78	25	22,230	65.5	384	121	38	2
Between Main Street and Freedom Blvd.	21,020	65.0	363	115	36	22,820	65.4	393	124	39	.4
South of Main St.	25,580	65.8	441	139	44	26,800	66.1	462	146	46	.3
Freedom Boulevard											
Between Airport Blvd. and Green Valley Road	12,560	61.6	155	49	16	20,700	63.7	256	81	26	2.1
Between Green Valley Road and Gardner Ave.	19,510	63.3	241	76	24	31,320	65.3	387	122	39	2
Between Gardner Ave. and Atkinson Lane	25,810	64.7	319	101	32	25,075	64.4	310	98	31	-0.3
Between Atkinson Lane and Crestview Dr.	20,210	63.7	250	79	25	29,380	65.1	363	115	36	1.4
East Lake Avenue (Highway 152)											
Between Wagner Ave. and Holohan Road	12,580	64.9	229	107	49	14,820	65.6	256	119	55	.7
North of Holohan Road	13,830	65.2	244	113	53	10,840	64.1	208	96	45	-1.1
Main Street											
Between Green Valley Road and Highway 1	31,910	66.6	550	174	55	46,300	68.2	798	252	80	1.6

Roadway Segment	Existing					Cumulative + Project					Difference in dBA @ 100 feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Green Valley Road and Ohlone Parkway	33,990	67.0	587	186	59	42,900	68.0	740	234	74	1.0
Crestview Drive											
Between Freedom Blvd. and Brewington Ave.	3,075	55.5	38	12	4	5,680	58.2	70	22	7	2.7
East of Brewington Ave.	380	46.4	5	1	0	3,520	56.0	43	14	4	9.6
Wagner Avenue											
West of East Lake Ave.	310	44.0	3	1	0	2,820	53.6	24	8	2	9.6
East of East Lake Ave.	2,520	53.0	22	7	2	3,290	54.2	28	9	3	1.2
Martinelli Street											
Between Freedom Blvd. and Brewington Ave.	6,200	57.0	53	17	5	6,460	57.2	55	18	6	.2
East of Brewington Ave.	6,170	57.0	53	17	5	3,520	54.5	30	10	3	-2.5
Brewington Avenue											
South of Martinelli St.	1,320	50.2	11	4	1	1,710	51.4	15	5	1	1.2
Between Martinelli St. and Crestview Dr.	1,160	49.7	10	3	1	1,775	51.5	15	5	2	1.8
North of Crestview Dr.	360	44.7	3	1	0	1,950	52.0	17	5	2	7.3
Gardner Avenue											
East of Freedom Blvd.	2,780	53.6	24	8	2	4,500	55.6	39	12	4	2.0
Clifford Avenue											
South of Freedom Blvd.	5,320	56.3	46	14	5	5,720	56.6	49	16	5	.3
Highway 129-Riverside Drive											
East of North Bound On/Off Ramps	9,390	58.3	91	42	20						
West of South Bound On/Off Ramps	6,250	57.2	69	32	15						
Harkins Slough Road											
East of North Bound Off Ramp (Highway 1)	10,040	61.9	173	55	17	14,080	63.3	243	77	24	1.4
West of South Bound On Ramp (Highway 1)	2,610	53.4	39	18	8	6,010	57.0	68	31	15	3.6

Population and Housing

According to AMBAG, there are approximately 14,073 existing, planned, or permitted housing units in the City of Watsonville for a total population of 52,492 people. Once the planning area is annexed to the City of Watsonville, the population growth within the planning area would raise the total population in the City of Watsonville by 1,679 persons. According to the Department of Finance (DOF) population forecast for the City of Watsonville, by the year 2015 the population in the City would consist of 54,857 people and by the year 2020 would consist of 56,544 people.

> **Conclusion:** Buildout of the proposed project is accommodated for in the regional forecasts for the City of Watsonville and the County of Santa Cruz and the proposed project would have a less than significant cumulative impact on population growth in the County of Santa Cruz and City of Watsonville. Demolition of the existing four residential homes within the planning area would not necessitate the construction of replacement housing off-site and therefore, the proposed project would **less than significant cumulative impact** as a result of the removal of residential housing and population growth in the area.

Public Services, Utilities, and Recreation

Implementation of the proposed project in combination with reasonably foreseeable development would result in the increased demand for public services, which would result in the need for the provision of fire and police protection services, educational services, and parks and recreation facilities.

> **Conclusion:** The increased need for funding of public services would be covered in whole or in part by development impact fees assessed on all new construction within the planning area. In addition, mitigation measure **MM 3.12-1** incorporated herein would require that the City and the County mitigate any potential funding gap through several financing mechanisms including increased PILOT payments, special taxes through a Community Facilities District (CFD) or other financing program established by the City and the County. The funding gap would be paid by each unit of the project. As a result, the proposed project would not contribute to a cumulative impact to public services and therefore the proposed project would have a **less than significant cumulative impact.**

Water Supply

The water supply for the City of Watsonville and surrounding unincorporated Santa Cruz County is drawn solely from surface water and the Pajaro Valley Groundwater basin, which as a whole is currently experiencing overdraft conditions and seawater intrusion. Implementation of the proposed project, in combination with foreseeable future growth would increase the cumulative demand for groundwater resources. The City of Watsonville, as the water purveyor for the proposed project, is able to meet its water demands through the use of surface water and groundwater. The existing water system has sufficient capacity to provide water to the proposed project and the necessary infrastructure to serve the proposed project. The PVWMD is continuing to implement their Basin Plan in order to address the long-term impact of the groundwater basin, including completion of several water supply and distribution projects, including 20 miles of a distribution pipeline and a Recycled Water Facility with the City of Watsonville, which will provide 4,000 acre feet of new, drought proof, reliable irrigation supply

to the coast. The PVWMD is also currently beginning a rate re-establishment process so that the Basin Plan can be implemented.

> **Conclusion:** Implementation of the proposed project would result in a significant increase in the amount of impervious surfaces at the project site. However, since the proposed project would result in a reduction in the amount of water use within the planning area over existing conditions, the proposed project would not substantially contribute to a depletion of groundwater supplies or interfere with groundwater recharge to the extent that it would result in lowering of the groundwater table.
>
> In addition, future development on Phase 1 (County site) and the remainder of the planning area would be required to pay the City's groundwater impact fee, which is currently set at $347.56 per bedroom and is used to retrofit water fixtures (e.g. toilets, showerheads, etc.) within the City. The water retrofit program, which is funded by the groundwater impact fees results in a savings of 748 gallons of water per month, would offset approximately 70 to 100 percent of the water consumption of new homes within the planning area and would reduce future development's impact on the groundwater basin. However, the proposed project in combination with reasonably foreseeable future growth would result in an incremental increase of water use that would continue to contribute to the depletion of water supply within the Pajaro Valley Groundwater basin, which is currently in overdraft condition. This would be considered a **significant and unavoidable cumulative impact**.

Transportation and Circulation

Cumulative traffic was evaluated with and without the proposed project using the 2030 AMBAG model. The methodology used to obtain the traffic volumes consisted of using the difference between the 2000/2008 volumes and the 2030 volumes to determine annual growth. The 2008 traffic volumes were then exponentially grown to 2030 using the annual growth rate calculated from the model/traffic counts. The extension of Wagner Avenue as part of the proposed project would generate traffic from Freedom Boulevard and Martinelli Street for cumulative conditions. This is mainly due to congested conditions occurring further east on Freedom Boulevard closer to downtown.

Cumulative Without Project Analysis

Intersections

All of the study intersections would operate at acceptable levels of service with the exception of the following intersections. The majority of intersections studied require significant improvements to operate at acceptable conditions, which may require right-of-way acquisition.

- **East Lake Avenue/Wagner Avenue** intersection is anticipated to operate at an overall LOS D during the AM peak hour and LOS C during the PM peak hour. This intersection has a worst approach LOS of F during both the AM and PM peak hours. The volumes do not meet signal warrants for the peak hours. The installation of a traffic signal would improve the LOS to acceptable conditions during both peak periods (i.e. LOS A) during the AM and LOS B during the PM peak period.

- **Freedom Boulevard/Crestview Drive**. The existing queue length is 150 feet and the SimTraffic analysis indicates a 95th percentile queue of 185 feet. The volumes would increase by approximately by 10 to 15 percent on the eastbound left for cumulative conditions and subsequently the queue could increase as well. However, the simulation indicates that the 95th percentile queue would remain at 185 feet with modified signal timing. An overall eastbound left turn pocket length of 200 feet would suffice for cumulative conditions.
- **East Lake Avenue/Holohan Road** intersection is anticipated to operate at LOS E in the AM peak hour and LOS F in the PM peak hour. With the addition of a dedicated eastbound right-turn lane and a shared eastbound left-turn lane on Holohan Road, the intersection would operate at LOS D during the AM peak hour and LOS D during the PM peak hour.
- **Green Valley Road/Holohan Road** intersection is anticipated to operate at LOS E during both the AM and PM peak hours. The addition of an exclusive southbound right-turn lane would improve the LOS to C during the AM peak hour and E during the PM peak hour. Additional improvements on all the approaches would require significant ROW acquisition to retain acceptable levels of service.
- **Green Valley Road/Main Street** intersection is anticipated to operate at LOS F in the AM and PM peak hours. Additional improvements at the intersection are infeasible and would not improve the delay at this intersection.
- **Highway 1 NB Ramps/Harkins Slough Road** ramp terminal intersection is anticipated to operate at LOS F in the AM peak hour and LOS A in the PM peak hour. The worst approach is forecast to operate at LOS F in the AM peak hour and LOS E in the PM peak hour. The city plans to construal ramps to the north on Highway 1 at this location.
- **Highway 1 NB Ramps/Harkins Slough Road** ramp terminal intersection is anticipated to operate at LOS F in the AM peak hour and LOS A in the PM peak hour. The worst approach is forecast to operate at LOS F in the AM peak hour and LOS E in the PM peak hour. The City plans to construct ramps to the north on Highway 1 at this location. The **Highway 1 SB Ramps/Harkins Slough Road** ramp terminal intersection is anticipated to operate at LOS F during both the AM and PM peak hours. Signalizing both the northbound and southbound ramp intersections would improve the signal operation to an acceptable level of service. The close pacing of the two intersections and the intersection of Harkins Slough Road and Green Valley Road would require that the signal timing be coordinated/interconnected and the bridge widened.
- **Airport Boulevard/Freedom Boulevard** intersection is anticipated to operate at LOS F in the AM peak hour and LOS E in the PM peak hour. Similar to the improvements identified for project conditions, the planned widening of Airport Boulevard and reconfiguring of the intersection to include the following geometry, would improve the LOS to D during both analysis peak hours. Install a second through and shared right-turn lane on the Airport Boulevard approach from Highway 1 and a second right-turn lane on Freedom Boulevard at the Airport Boulevard/Freedom Boulevard Intersection. The receiving leg on Airport Boulevard shall be widened in order to accommodate the two through-lanes. These improvements may result in additional right of way.

- **Highway 1 NB Ramps/Highway 129 – Riverside Drive** ramp terminal intersection is anticipated to operate at an overall LOS A in the AM and PM peak hour. The worst approach is forecast to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. The worst approach is measured on the NB off ramp. **Highway 1 SB Ramps/Highway 129 – Riverside Drive** ramp terminal intersection is anticipated to operate at an overall LOS F in the AM and PM peak hours. The worst approach is forecast to operate at LOS E in both the AM and PM peak hours. Signalization of the ramps would improve the LOS to acceptable conditions.
- **Airport Boulevard/Ranport Road** intersection is anticipated to operate at LOS B in both the AM and PM peak hours. The worst approach is forecast to operate at LOS F in both the AM and PM peak hours. The eastbound volume at the intersection would continue to remain low and no improvements are recommended for cumulative conditions.
- **Highway 1 NB Ramps/Larkin Valley Road** ramp terminal intersection is anticipated to operating at LOS F in both the AM and PM peak hours. This intersection is closely spaced to the Airport Boulevard/Larkin Valley Road intersection and therefore improvements would need to take both intersections into consideration. Coordinated signals operations would not mitigate the impact and queues spill back through both intersections as indicated by the SimTraffic analysis. The provision of two roundabouts (one at the northbound hook ramp terminal, and one at the Airport Boulevard/Larkin Valley intersection) indicate adequate operations and the LOS would improve to acceptable levels (LOS A).

Segments

The City of Watsonville and Santa Cruz County criteria for roadway segment operations was used to evaluate the street segments in the vicinity of the project site. The criteria are consistent with the methodologies outlined in the HCM and based on thresholds of peak hour traffic volumes and roadway facility type. The roadway segments and ramps along Highway 1 were analyzed using HCS software. All of the study street segments would operate at acceptable levels of service, except for Highway 1 between Main Street (Highway 152) and Larkin Valley Road, which would operate at LOS E during the PM peak hour. The freeway would have to be widened to six lanes in order to improve the LOS to acceptable levels of service.

Cumulative Plus Project Conditions – Intersections and Roadway Segments

All of the study intersections and segments would continue to operate at the same levels of service with the addition of the proposed project under cumulative conditions. However, the delays would increase due to the addition of the project trips, except for the intersection of Airport Boulevard and Freedom Boulevard, where the LOS would further decrease from E to F in the PM peak hour. Thus, intersections that would operate at an acceptable LOS would continue to do so with the addition of the project traffic and intersections operating at adverse levels of service would also continue to do so. The proposed project does not cause any intersection to deteriorate from acceptable LOS to unacceptable LOS for cumulative conditions. The County of Santa Cruz one percent threshold of significance criteria was used to identify significant cumulative project impacts. Along Highway 1, the proposed project would add less than one percent to the cumulative traffic volumes and the addition of project traffic and therefore is

considered less than significant impact for the two highway study segments north of Highway 152 (Main Street).

Mitigation measures **MM 3.15-5** through **MM 3.13-8** that are incorporated herein under project conditions that would mitigate the cumulative impacts to the East Lake Avenue/Holohan Road; Airport Boulevard/Freedom Boulevard, Highway 1 NB and SB Ramps/Harkins Slough Road, and Highway 1 NB Ramps/Larkin Valley Road intersections to a less than significant level.

However, under cumulative conditions, the volume to capacity ratio at the East Lake Avenue/Wagner Avenue intersection would increase by more than one percent and therefore, the proposed project would result in a cumulative impact to this intersection, which is considered a **potentially significant cumulative impact**. Implementation of the following mitigation measure would reduce this impact to a **less than significant level**.

Mitigation Measure

MM 4-1 Project applicants within the planning area shall pay their proportionate fair share towards installation of a traffic signal at the East Lake Avenue/Wagner Avenue intersection prior to occupancy of the proposed project. The estimated cost of this improvement is $325,000. The City of Watsonville is updating their fee program and will adopt the program prior to implementation of the first phase of the proposed project. The City of Watsonville shall coordinate with Caltrans to approve design and installation of the signal.

Payment of the proportional fair share towards installation of the traffic signal would satisfy the cumulative impacts associated with the proposed project and would reduce the cumulative impact at this intersection to a **less than significant level**.

Cumulative Plus Project Conditions – Increase in Potential Traffic Hazards

In addition to mitigation measure **MM 3.13-11**, the proposed project would contribute to a cumulative significant impact to hazardous conditions on Brewington Avenue south of Crestview Drive as a result of increased traffic from the proposed project. The following mitigation measure would reduce this impact to a **less than significant level**.

MM 4-2 Project applicants within the planning area shall pay their proportionate fair share contribution towards a traffic calming plan on Brewington Avenue. The City of Watsonville is updating their fee program and will adopt the program prior to implementation of the first phase of the proposed project.

Payment of the proportional fair share towards a traffic calming plan on Brewington Avenue would reduce this impact to a **less than significant level**.

4.6 Project Alternatives

As identified in the various sections of this EIR, the proposed project would result in significant environmental effects. The proposed project would result in significant and unavoidable impact to agricultural resources within Phase 2 (City site). All other impacts in the EIR can be reduced to a less than significant level with incorporation of mitigation measures specified in this Draft EIR as incorporated herein. Notwithstanding, this alternatives discussion briefly identifies and

describes a range of alternatives as developed with City and County staff in order to reduce environmental impacts of the proposed project:

- Alternative #1 – No Project/No Development Alternative;
- Alternative #2 – Proposed Project without the Wagner Road Extension;
- Alternative #3 – Reduced Project Density (Six to Nine Units Per Acre); and
- Alternative #4 – Alternative Project Design

Environmental impacts associated with each of these four alternatives as compared with the impacts resulting from the proposed project. The impact level of each of the alternatives (less, similar, greater) is noted in parentheses at the beginning of each comparison. **Table 4-4: Comparison of Project Alternatives** to the proposed project at the conclusion of this section provides a summary. This section also identifies the "environmentally superior" alternative.

County and City staff did not consider off-site locations as the proposed project was consistent with Measure U, which identified the Atkinson Lane Specific Plan area as a future growth area.

4.6.1 Relationship to Project Objectives

Consistent with the CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed project shall be discussed. The following project objectives are based on the goals of the MOU and the community. Each alternative would be evaluated as to how well it meets the objectives of the project, as currently proposed.

- Rezone the 16-acre County site to allow a residential density of 20-units per acre to achieve the housing allocation goal as required by the County Housing Element.
- Provide housing capacity to address the City's projected needs for the next three housing element cycles.
- Create a development plan for the planning area that addresses roadway layout, housing types and affordability restrictions, parks and schools, infrastructure financing, neighborhood concerns, protection of environmental resources, and specific development guidelines.
- Restrict development to not exceed a total of 450 residential units.
- On the County site, allow 200 multi-family units with a mix of rental and "for sale" units at a density of 20 units/acre.
- Allow units that accommodate a range of income levels – from very low to moderate to market rate
- Restrict a minimum 40 percent of the units as affordable work force housing.
- Strive to restrict 80 percent of the units on the County Site with long-term affordability covenants.
- Include a mix of both rental and ownership housing.
- Integrate development with the surrounding neighborhoods.

- Provide a financing plan for implementation by both the City and County for jointly financing required infrastructure to serve the Planning Area and surrounding neighborhood.
- Allow annexation of the planning area to the City of Watsonville following adoption of a Specific Plan; but not before January 1, 2010, or before the County Site has been developed.

4.6.2 Alternative #1 - No Project Alternative

CEQA Guidelines Section 15126.6(e)(3) requires that a "no-project" alternative be evaluated as part of an EIR, proceeding under one of two scenarios: the planning area remaining in its current state or, development of the planning area under its current zoning designation. Alternative #1 – No Project Alternative considers the environmental effects of not approving the proposed project with anticipated future development based on the existing zoning designations within the planning area. As shown in **Figure 2-11: Existing Zoning**, Phases 1 and 2 (County site), Phase 1 (City site), as well as the northeastern portion of Phase 2 (City site) are currently designated for residential uses with the remainder of the planning area designated for agricultural uses. Phase 1 and 2 (County site) are designated R-1 (Single Family Residential – Low Density) in accordance with the Santa Cruz County Code and Phase 1 (City site) is designated R-1 (Residential-Single Family) under the City of Watsonville Zoning Ordinance. The remainder of the planning area within Phase 2 (County site) is designated Agriculture Commercial (CA) in accordance with the County of Santa Cruz County Code. Development under Alternative #1 – No Project Alternative would allow for development of approximately 1.9 acres for approximately 15 single family homes within Phase 1 (City site) and development of approximately 6.8 acres for approximately 30 to 50 single family homes within Phase 1 (County site). Total development under Alternative #1 – No Project Alternative would include between approximately 45 and 65 single family homes in accordance with the existing zoning designations within the planning area. Due to the active agricultural uses within Phase 2 (City site), this alternative would require a 200 foot permanent agricultural buffer within the County site, similar to the proposed project, which would restrict future development within this area. The impacts associated with this alternative are discussed below.

Comparative Analysis

Aesthetics and Visual Character (less). Under the Alternative #1, there would be a slight change to the visual character of the planning area. The majority of Phase 2 (City site) would remain in agricultural production with Phases 1 and 2 (County site) and Phase 1 (City site), as well the northeastern portion of Phase 2 (City site) eventually developed as low density residential uses in accordance with the existing zoning designations for those portions of the planning area. Although the proposed project would result in a less than significant impact with respect to aesthetics and visual character, this alternative would result in a reduction in the amount of development within the planning area in comparison to the proposed project.

Agricultural Resources (less). Under Alternative #1, the conversion of Important Farmland would not occur and the significant and unavoidable impact for Phase 2 (City site) would be avoided. Potential conflicts between agricultural and urban uses would be similar to the proposed project as Phase 2 (County site) would require a 200-foot agricultural buffer between the existing agricultural uses and proposed residential homes within Phase 1 (County site) Therefore, the No

Project Alternative would result in a reduction of impacts to agricultural resources in comparison to the proposed project.

Air Quality (slightly greater). The potentially significant short-term air quality impacts that would result with implementation of the proposed project would be reduced under this alternative due to a reduction in the amount of development. Mitigation measures required for the proposed project to reduce the short-term and long-term potentially significant impact would still be required under this alternative. Under this alternative, the agricultural uses within Phase 2 (City site) would continue, which would result in a continuation of PM_{10} emissions associated with ongoing agricultural practices. Therefore, this alternative would result in slightly greater impacts in comparison to the proposed project.

Biological Resources (similar). Potentially significant impacts to special status plant and wildlife species would be similar under this scenario as the planning area would include grading and site preparation activities in the western portion of the planning area adjacent to the freshwater marsh/seasonal wetland and the northeastern portion of the planning area adjacent to Atkinson Lane. However, mitigation measures incorporated herein would also be required under this alternative in order to reduce potential impacts to special status plant and wildlife species.

Geology and Soils (slightly less). The potentially significant impacts related to exposing future residential development to ground shaking, earthquake induced settlement, or adverse soil conditions would be slightly less under this alternative in comparison to the proposed project. Development would proceed in the western and northeastern portion of the planning area. However, development would be at a lower density than the proposed project; and therefore, would result in a slight reduction of impacts from the effects of geology and soil in comparison to the proposed project. However, mitigation measures incorporated herein would reduce potential impacts from geology and soils to a less than significant level for the proposed project.

Hazards and Hazardous Materials (slightly greater). Potential hazards within the planning area associated with agricultural pesticide residues would remain at the project site as future development would not proceed within the portions of Phase 2 (City site) designated as Agriculture Commercial under the Santa Cruz County Code. Mitigation measures are incorporated herein to address potential residual hazardous chemicals; and therefore, this alternative would result in a slightly greater impact in comparison to the proposed project. Mitigation measures incorporated herein would not be implemented within Phase 2 (City site). Therefore, this alternative has a slightly greater impact in comparison to the proposed project.

Hydrology and Water Quality (less). The potentially significant surface water runoff and water quality impacts due to construction activities and post-construction non-point source pollution would be reduced under Alternative #1 due to a reduction in the amount of impervious surfaces in comparison to the proposed project. However, mitigation measures incorporated herein would also be required under this alternative in order to reduce potentially significant impacts to short and long-term surface water hydrology. Therefore, this alternative would result in a reduction in comparison to the proposed project with respect to hydrology and water quality due to the overall decrease in the amount of impervious surfaces.

Land Use and Planning (greater). The proposed project would include the construction of a maximum of 450 residential units, which would include a mix of housing types and densities that will meet a variety of the City's future housing needs, including the City's goal of making 50

percent of the units available as affordable housing. Alternative #1 would reduce the amount of residential development within the planning area, which would not allow the City of Watsonville and County of Santa Cruz to meet their affordable housing goals and would not implement Measure U, which was designed to direct growth within and around the City of Watsonville in order to protect agricultural lands and environmentally sensitive areas, while providing the means for the City to address housing and job needs for the next 20 to 25 years. Therefore, the No Project Alternative would result in a greater range of impacts to land use and planning in comparison to the proposed project as it would be inconsistent with Measure U.

Noise (less). Alternative #1 would result in a reduction of the short-term and long-term impacts in comparison to the proposed project with respect to noise with a reduction in the amount of traffic to the planning area under this alternative.

Population and Housing (similar). Alternative #1 would result in future development within the planning area of between 45 and 65 single family homes in accordance with the existing zoning designations within the planning area. However, buildout of the proposed project is accommodated for in the regional forecasts for the City of Watsonville and the County of Santa Cruz and therefore, this alternative would have similar impacts in comparison to the proposed project.

Public Services, Utilities, and Recreation (slightly less). The No Project Alternative would result in a reduction in the impacts to public services, utilities, and recreation in comparison to the proposed project. However, the proposed project as mitigated would ensure that the City and the County enter into a an agreement as part of the proposed Specific Plan and PUD in order to fund municipal services for the proposed project not covered by City or County impact fees and taxes, if deemed necessary. Therefore, Alternative #1 would result in slightly less impacts in comparison to the proposed project, as mitigated.

Transportation and Circulation (less). Alternative #1 would result in a reduction in the amount of daily trips to the planning area with development of between 45 and 65 single family homes. Therefore, the No Project Alternative would result in a reduction in the traffic impacts in comparison to the proposed project.

Ability to Meet Project Objectives

Alternative #1 - No Project Alternative would *meet* the following project objectives:

- Restrict development to not exceed a total of 450 residential units.
- Integrate development with the surrounding neighborhoods.
- Create a development plan for the planning area that addresses roadway layout, housing types and affordability restrictions, parks and schools, infrastructure financing, neighborhood concerns, protection of environmental resources, and specific development guidelines.
- Provide a financing plan for implementation by both the City and County for jointly financing required infrastructure to serve the planning area and surrounding neighborhood.

- Allow annexation of the planning area to the City of Watsonville following adoption of a Specific Plan; but not before January 1, 2010, or before the County Site has been developed.

However, Alternative #1 would *only partially meet* or would not meet the following objectives:

- Strive to restrict 80 percent of the units on the County site with long-term affordability covenants.
- Include a mix of both rental and ownership housing.
- Restrict a minimum 40 percent of the units as affordable work force housing.
- Allow units that accommodate a range of income levels – from very low to moderate to market rate
- Rezone the 16-acre County site to allow a residential density of 20-units per acre to achieve the housing allocation goal as required by the County Housing Element.
- Provide housing capacity to address the City's projected needs for the next three housing element cycles.
- On the County site, allow a mix of rental and "for sale" units at a density of 20 units/acre.

4.6.3 Alternative #2 – Proposed Project Without the Wagner Avenue Extension

Characteristics

Alternative #2 – Proposed Project Without the Wagner Avenue Extension would eliminate the Wagner Avenue Extension from the proposed project. Elimination of the Wagner Avenue extension would decrease the significant impact to prime agricultural land by a maximum of 1.51 acres. With elimination of the proposed Wagner Avenue Extension, project trips would be re-distributed to other roadways in the vicinity of the planning area, including Brewington Avenue and Martinelli Street, which may increase the traffic and affect the quality of life for residents on these neighborhood streets under this alternative.

Comparative Analysis

Aesthetics and Visual Character (slightly less). The proposed project would result in a slight reduction in the visual impacts within the planning area with the elimination of the Wagner Avenue extension. However, the proposed Wagner Avenue extension would widen an existing roadway; and therefore, would not be considered a substantial alteration over existing conditions. Views of the planning area from East Lake Avenue/Highway 152 would be distant and somewhat obscured; and therefore, although Alternative #2 would eliminate construction of this roadway, the impact to aesthetics and visual character would only be slightly less than the proposed project.

Agricultural Resources (slightly less). With the elimination of the proposed Wagner Avenue extension, approximately 42.4 acres of Important Farmland would be converted compared to 43.91 acres of Important Farmland under the proposed project. This alternative would result in a reduction in the conversion of Important Farmland by a maximum of 1.51 acres. Therefore, Alternative #2 would result in slightly less impacts with respect to the conversion of Important Farmland in comparison to the proposed project. However, this alternative would still result in a significant and unavoidable impact to Important Farmland within Phase 2 (City site).

Air Quality (slightly less). Alternative #2 would reduce the amount of acreage that would be disturbed; and therefore, short-term air quality impacts that would result from construction activities would be slightly reduced under this alternative. However, the proposed project as mitigated reduces potentially significant short-term and long-term air quality impacts to a less than significant level. Similar mitigation measures would be required under this alternative.

Biological Resources (similar). No sensitive biological resources are located within the proposed right-of-way of the Wagner Avenue extension as it is comprised of an existing roadway surrounded by cultivated agricultural fields. Therefore, Alternative #2 would not reduce impacts with respect to biological resources in comparison to the proposed project. Similar mitigation measures incorporated herein for the proposed project would be required for this alternative to reduce impacts to special status plant and wildlife species.

Geology and Soils (similar). The potentially significant impacts related to ground shaking, earthquake induced settlement, or adverse soil conditions under this alternative would be similar to the proposed project with implementation of mitigation measures incorporated herein. Therefore, Alternative #2 would result in similar impacts from the effects of geology and soil in comparison to the proposed project with incorporation of mitigation herein.

Hazards and Hazardous Materials (similar). Alternative #2 would result in similar impacts as the proposed project with respect to hazards and hazardous materials with elimination of the Wagner Avenue extension.

Hydrology and Water Quality (slightly less). Alternative #2 would result in slightly less impacts to the proposed project with a reduction in the amount of impervious surfaces with elimination of the Wagner Avenue extension.

Land Use and Planning (slightly greater). Alternative #2 would result in slightly greater impacts to the proposed project with respect to land use and planning. The Wagner Avenue extension is included in the City's Capital Improvement Program and therefore, elimination of the Wagner Avenue extension would not be consistent with the Capital Improvement Program or the *City of Watsonville General Plan*. Therefore, Alternative #2 would result in slightly greater impacts in comparison to the proposed project.

Noise (slightly less). Alternative #2 would result in a slightly less impacts in comparison to the proposed project with respect to noise. Long-term traffic noise that would not be experienced by the residential uses located along Wagner Avenue with elimination of improvements to this roadway segment would not be anticipated under this alternative.

Population and Housing (similar). As this alternative would not result in any changes to the residential development within the planning area, Alternative #2 would result in similar impacts in comparison to the proposed project. However, buildout of the proposed project is accommodated for in the regional forecasts for the City of Watsonville and the County of Santa Cruz.

Public Services, Utilities, and Recreation (similar). As this alternative would not result in any changes to the residential development within the planning area, this alternative would result in similar impacts to public services, utilities and recreation in comparison to the proposed project. The proposed project as mitigated would ensure that the City and the County enter into a an

agreement as part of the proposed Specific Plan and PUD in order to fund municipal services for the proposed project not covered by City or County impact fees and taxes, if deemed necessary. Therefore, Alternative #2 would require similar mitigation measures in comparison to the proposed project.

Transportation and Circulation (greater). Under this alternative, the Wagner Avenue extension would not be constructed and therefore traffic associated with the proposed project would be primarily distributed on Freedom Boulevard, Martinelli Street and Tuttle Avenue. In addition, approximately five percent of the project traffic would distribute through the neighborhood streets. Vehicles would be redirected south through the Brewington Avenue/Martinelli Street intersection, and eastward down Martinelli Street to access East Lake Avenue. Three intersections that would be affected by the route changes would include the East Lake Avenue/Wagner Avenue, Brewington Avenue/Crestview Drive, and Brewington Avenue/Martinelli Street intersections. The LOS analysis indicates that the change in volumes to all three of the intersections did not affect the overall operations of the intersections.

A TIRE index analysis was performed as part of the Traffic Impact Analysis to determine how the increase in traffic due to the proposed project may affect the quality of life to the residents in the vicinity of the proposed project if the Wagner Avenue extension was not implemented. The TIRE index is a measure of the impact of traffic on residents along a street. It is based on the theory that a given increase in traffic volume has a greater impact on a residential environment along a residential street with low traffic volumes than along a street with high pre-existing traffic volumes. The TIRE index is not used to determine possible impacts in traffic operations but rather to give an indication of the experience local residents will have due to increased traffic on a local street. It represents the effect of traffic on the comfort of human activities such as walking, cycling, playing near a street and the freedom to maneuver personal autos in and out of residential driveways.

The TIRE index scale ranges from 0 to 5 depending on daily traffic volume. An index of 0 represents the least infusion of traffic and 5 the greatest and, thereby, the poorest residential environment. See **Table 4-3: TIRE Index Chart** below for more information.

Table 4-3: TIRE Index Chart

TIRE Index	Daily Traffic Volume	Residential Environment Typical of
0	1 to 8	A cul-de-sac street with one home
1	9 to 89	A cul-de-sac street with 2 to 15 homes
2	90 to 890	A 2-lane minor street
3	891 to 8900	A 2-lane collector or arterial street
4	8901 to 89,000	A 2- to 6-lane arterial
5	89,001 and up	A 2- to 6-lane arterial

A TIRE index analysis was performed on Brewington Avenue between Crestview Drive and Martinelli Street; Martinelli Street between Brewington Avenue and East Lake Avenue; and Brewington Avenue north of Crestview Drive. Typically an increase of more than 0.1 indicates that the residents would experience an increase in the traffic volumes. Streets with a TIRE of 3 or

above are "traffic dominated." With elimination of the Wagner Avenue extension, the TIRE index results are as follows.

- **Brewington Avenue north of Crestview Drive.** The TIRE index on Brewington Avenue north of Crestview Drive would increase from 2.6 to 3.3 with the addition of the project traffic. The increase in TIRE index would be experienced by the local residents and therefore Brewington Avenue would be considered "traffic dominated."
- **Brewington Avenue between Crestview Drive and Martinelli Street.** The TIRE index on Brewington Avenue between the Crestview and Martinelli intersections would increase from 3.1 to 3.2. The increase in TIRE index would be experienced by the local residents and therefore is considered "traffic dominated."
- **Martinelli Street between Brewington Avenue and East Lake Avenue.** The TIRE index on Martinelli Street between the Brewington Avenue and East Lake Avenue would not increase and stay at 3.8 with the addition of the project traffic and therefore the increase would not be experienced by the local residents.

With elimination of the Wagner Avenue extension, Brewington Avenue would result in an increase in traffic that would be experienced by the local residents. Therefore, under this alternative, the impacts would be greater to the existing street segments due to the distribution of the project traffic in comparison to the proposed project. In addition, without the proposed Wagner Avenue extension, increased traffic would be experienced by neighbors both north and south of Crestview Drive, which may result in increased traffic hazards in these neighborhoods.

This alternative would also require mitigation measures similar to those measures incorporated herein that would reduce transportation and traffic impacts associated with increased traffic to the planning area.

Ability to Meet Project Objectives

Alternative #2 would *meet* all of the project objectives:

- Rezone the 16-acre County site to allow a residential density of 20-units per acre to achieve the housing allocation goal as required by the County Housing Element.
- Provide housing capacity to address the City's projected needs for the next three housing element cycles.
- Create a development plan for the planning area that addresses roadway layout, housing types and affordability restrictions, parks and schools, infrastructure financing, neighborhood concerns, protection of environmental resources, and specific development guidelines.
- Restrict development to not exceed a total of 450 residential units.
- On the County site, allow 200 multi-family units with a mix of rental and "for sale" units at a density of 20 units/acre.
- Allow units that accommodate a range of income levels – from very low to moderate to market rate

- Restrict a minimum 40 percent of the units as affordable work force housing.
- Strive to restrict 80 percent of the units on the County site with long-term affordability covenants.
- Include a mix of both rental and ownership housing.
- Integrate development with the surrounding neighborhoods.
- Provide a financing plan for implementation by both the City and County for jointly financing required infrastructure to serve the Planning Area and surrounding neighborhood.
- Allow annexation of the planning area to the City of Watsonville following adoption of a Specific Plan; but not before January 1, 2010, or before the County Site has been developed.

4.6.4 Alternative #3 – Reduced Density (Six to Nine Units per Acre)

Characteristics

Alternative #3 – Reduced Density (Six to Nine Units per Acre) would reduce the proposed residential density within the planning area to six to nine units per acre. This level of residential development would be similar to the existing residential development densities that currently surround the planning area and would include a maximum of 317 residential units within the planning area. Due to the reduced density of this alternative, the residential units under this alternative would not be likely be able to accommodate a range of income levels for affordable housing.

Comparative Analysis

Aesthetics and Visual Character (similar). Under Alternative #3, there would not be a significant change in the visual character of the planning area as the entire planning area would still be developed, similar to the proposed project.

Agricultural Resources (similar). Under Alternative #3, impacts to the Important Farmland would be similar to the proposed project as the entire planning area would be converted to urban uses with implementation of this alternative.

Air Quality (slightly less). The potentially significant short-term air quality impacts that would result with implementation of the proposed project would be similar under this alternative since the total number of acres disturbed with would not change under this alternative. However, with a reduction in the number of residential units within the planning area, long-term operational air quality impacts would be reduced due to a reduction in vehicle trips to the planning area. However, the proposed project mitigates both short-term and long-term operational air quality emissions to a less than significant level and similar mitigation measures would also be required under this alternative.

Biological Resources (similar). Potentially significant impacts to various special status wildlife species would be similar under this scenario as the planning area would continue to be subject to site disturbance and construction/demolition activities within the entire planning area.

Geology and Soils (similar). The potentially significant impacts related to ground shaking, earthquake induced settlement, or adverse soil conditions under this alternative would be similar to the proposed project with implementation of mitigation measures incorporated herein. Therefore, Alternative #4would result in similar impacts from the effects of geology and soil in comparison to the proposed project with incorporation of mitigation herein.

Hazards and Hazardous Materials (similar). Potential hazards within the planning area associated with possible septic systems and residual agricultural pesticide residues would remain at the project site. Mitigation measures are incorporated herein to address these hazardous materials. Therefore, this alternative would result in similar impacts in comparison to the proposed project with respect to hazards and hazardous materials with mitigation measures incorporated herein.

Hydrology and Water Quality (less). The potentially significant surface water runoff and water quality impacts due to construction activities and post-construction non-point source pollution would be reduced under Alternative #3. This alternative would allow for more open space and the incorporation of more pervious surfaces throughout the planning area. Therefore, Alternative #4 would result in fewer impacts in comparison to the proposed project with respect to surface water hydrology and water quality.

Land Use and Planning (slightly greater). The proposed project would include the construction of approximately 450 residential units, which would include a mix of housing types and densities that would meet a variety of the City's future housing needs, including the City's goal of making 50 percent of the units available as affordable housing. As Alternative #3 would reduce the total amount of development within the planning area, this alternative would not allow the City of Watsonville and County of Santa Cruz to meet their affordable housing goals and would not be consistent with Measure U and would not allow the development of affordable housing as mandated by the state.

Noise (slightly less). Alternative #3 would result in a slightly less impacts in comparison to the proposed project with respect to short-term and long-term noise levels.

Population and Housing (less). Alternative #3 would result in the reduction in the number of residential homes within the planning area, which would not generate additional growth in the vicinity of the City. However, buildout of the proposed project is accommodated for in the regional forecasts for the City of Watsonville and the County of Santa Cruz.

Public Services, Utilities, and Recreation (slightly less). Alternative #3 would result in a slight reduction in the impacts to public services, utilities, and recreation in comparison to the proposed project with a reduction in the residential density in comparison to the proposed project. However, the proposed project as mitigated would ensure that the City and the County enter into a an agreement as part of the proposed Specific Plan and PUD in order to fund municipal services for the proposed project not covered by City or County impact fees and taxes, if deemed necessary. This alternative would require the same program in order to mitigate the impacts of the proposed development.

Transportation and Circulation (less). Alternative #3 would result in a reduction in the number of trips to the planning area; and therefore, would result in a reduction in the traffic impacts in comparison to the proposed project. However, this alternative would also require mitigation

measures similar to those measures incorporated herein that would reduce transportation and traffic impacts associated with increased traffic to the planning area.

Ability to Meet Project Objectives

Alternative #3 would *meet* the following project objectives:

- Create a development plan for the planning area that addresses roadway layout, housing types and affordability restrictions, parks and schools, infrastructure financing, neighborhood concerns, protection of environmental resources, and specific development guidelines.
- Restrict development to not exceed a total of 450 residential units.
- Include a mix of both rental and ownership housing.
- Integrate development with the surrounding neighborhoods.
- Provide a financing plan for implementation by both the City and County for jointly financing required infrastructure to serve the planning area and surrounding neighborhood.
- Allow annexation of the planning area to the City of Watsonville following adoption of a Specific Plan; but not before January 1, 2010, or before the County Site has been developed.

However, Alternative #3 would *only partially meet* or would *not meet* the following objectives:

- Allow units that accommodate a range of income levels – from very low to moderate to market rate
- Restrict a minimum 40 percent of the units as affordable work force housing.
- Strive to restrict 80 percent of the units on the County site with long-term affordability covenants.
- Rezone the 16-acre County site to allow a residential density of 20-units per acre to achieve the housing allocation goal as required by the County Housing Element.
- Provide housing capacity to address the City's projected needs for the next three housing element cycles.
- On the County site, allow a mix of rental and "for sale" units at a density of 20 units/acre.

4.6.4 Alternative #4 – Alternative Project Design

Characteristics

Alternative #4 would include development of a park/active open space and medium density residential uses within the Phase 2 (County site) upon rezoning of Phase 2 (City site). This alternative design is shown in **Figure 4-1: Alternative #4 – Alternative Project Design**. This alternative would result in changes to the land use composition including approximately two additional acres of parks/active open space; a decrease of approximately four acres of Residential

–High Density uses to 6.5 acres; and an increase of 2 acres of Residential-Medium Density uses to 16.2 acres. All other components of the proposed Specific Plan and PUD would remain the same as the proposed project under this alternative. Alternative #4 - Alternative Project Design would result in a reduction of 80 Residential-High Density units and an additional 22 Residential-Medium Density units in the Phase 2 (County site) in comparison to the proposed project. Alternative #4 - Alternative Project Design would result in the construction of a maximum of 370 residential units.

Comparative Analysis

Aesthetics and Visual Character (similar). Under Alternative #4, there would not be a significant change in the visual character of the planning area in comparison to the proposed project as the entire planning area would still be developed under this alternative. However, the proposed project would result in a less than significant impact with respect to aesthetics and visual character and therefore this alternative would result in no change in comparison to the proposed project.

Agricultural Resources (similar). Under Alternative #4, impacts to the Important Farmland would be similar to the proposed project as the entire planning area would be converted to urban uses with implementation of this alternative. Therefore, the significant and unavoidable impact to Important Farmland would remain under this alternative.

Air Quality (slightly less). The potentially significant short-term air quality impacts that would result with implementation of the proposed project would be similar under this alternative since the total number of acres disturbed would not change with implementation of Alternative #4. However, with a reduction in the number of residential units within the planning area to 370, long-term operational air quality impacts would be reduced. However, mitigation measures required for the proposed project to reduce the short-term and long-term potentially significant air quality impacts would also be required under this alternative.

Biological Resources (similar). Potentially significant impacts to various special status plant and wildlife species would be similar under this scenario as the planning area would continue to be subject to site disturbance and construction/demolition activities within the entire planning area. However, mitigation measures incorporated herein would also be required under this alternative in order to reduce potential impacts to special status plant and wildlife species.

Geology and Soils (similar). The potentially significant impacts related to ground shaking, earthquake induced settlement, or adverse soil conditions under this alternative would be similar to the proposed project with implementation of mitigation measures incorporated herein. Therefore, Alternative #4 would result in similar impacts from the effects of geology and soil in comparison to the proposed project with incorporation of mitigation herein.

Hazards and Hazardous Materials (similar). Potential hazards within the planning area associated with possible residual hazardous materials at septic systems and agricultural pesticide residues would also exist under this alternative. However, mitigation measures are incorporated herein to address these hazardous materials and therefore this alternative would result in similar impacts in comparison to the proposed project with respect to hazards and hazardous materials.

Hydrology and Water Quality (slightly less). The potentially significant surface water runoff and water quality impacts due to construction activities and post-construction non-point source pollution would be slightly reduced under Alternative #4 due to an increase in the amount of open space and pervious surfaces with incorporation of an additional two acres of park space. Therefore, Alternative #4 would result in a slight reduction in impacts in comparison to the proposed project with respect to surface water hydrology and water quality.

Land Use and Planning (slightly greater). The proposed project would include the construction of approximately 450 residential units, which would include a mix of housing types and densities that would meet a variety of the City's future housing needs, including the City's goal of making 50 percent of the units available as affordable housing. As Alternative #4 would reduce the total amount of development within the planning area to 370 units, this alternative slightly reduce the ability of the City of Watsonville and County of Santa Cruz to meet their affordable housing goals.

Noise (similar). Alternative #4 would result in similar impacts in comparison to the proposed project with respect to short-term and long-term noise levels.

Population and Housing (similar). Alternative #4 would result in the reduction in the number of residential homes within the planning area, which would not generate additional growth in the vicinity of the City. However, buildout of the proposed project is accommodated for in the regional forecasts for the City of Watsonville and the County of Santa Cruz; and therefore, this alternative would have a similar impact in comparison to the proposed project.

Public Services, Utilities, and Recreation (slightly less). Alternative #4 would result in a slight reduction in the impacts to public services, utilities, and recreation in comparison to the proposed project with a reduction in the residential density to 370 units in comparison to the proposed project. However, the proposed project as mitigated would ensure that the City and the County enter into a an agreement as part of the proposed Specific Plan and PUD in order to fund municipal services for the proposed project not covered by City or County impact fees and taxes, if deemed necessary. This alternative would require the same program in order to mitigate the impacts of the proposed development.

Transportation and Circulation (less). Alternative #4 would result in a reduction in the number of trips to the planning area; and therefore, would result in a reduction in the traffic impacts in comparison to the proposed project. However, this alternative would also require mitigation measures similar to those measures incorporated herein that would reduce transportation and traffic impacts associated with increased traffic to the planning area.

Ability to Meet Project Objectives

Alternative #4 would *meet* the following project objectives:

- Create a development plan for the planning area that addresses roadway layout, housing types and affordability restrictions, parks and schools, infrastructure financing, neighborhood concerns, protection of environmental resources, and specific development guidelines.
- Restrict development to not exceed a total of 450 residential units.

- Allow units that accommodate a range of income levels – from very low to moderate to market rate
- Restrict a minimum 40 percent of the units as affordable work force housing.
- Strive to restrict 80 percent of the units on the County site with long-term affordability covenants.
- Include a mix of both rental and ownership housing.
- Integrate development with the surrounding neighborhoods.
- Provide a financing plan for implementation by both the City and County for jointly financing required infrastructure to serve the planning area and surrounding neighborhood.
- Allow annexation of the planning area to the City of Watsonville following adoption of a Specific Plan; but not before January 1, 2010, or before the County site has been developed.
- Provide housing capacity to address the City's projected needs for the next three housing element cycles.

However, Alternative #4 would only *partially meet* or would *not meet* the following objectives:

- Rezone the 16-acre County site to allow a residential density of 20-units per acre to achieve the housing allocation goal as required by the County Housing Element.
- On the County site, allow a mix of rental and "for sale" units at a density of 20 units/acre.

4.7 Environmentally Superior Alternative

CEQA Guidelines Section 15126(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives. Alternative #1-No Project Alternative would be the environmentally superior alternative as it would eliminate the significant and unavoidable impact to agricultural resources within the eastern portion of the planning area and would reduce impacts associated with: aesthetics and visual character; biological resources; geology and soils; hydrology and water quality; public services, utilities, and recreation; and transportation and circulation. However, Alternative #1-No Project Alternative meets less of the project objectives and would not be consistent with Measure U. Among the other alternatives, Alternative #2-Proposed Project Without the Wagner Avenue Extension would be considered the environmentally superior alternative, as it would reduce impacts related to: agricultural resources, aesthetics and visual character, air quality, hydrology and water quality and noise. Although this alternative would not entirely reduce the significant and unavoidable impact to agricultural resources, this alternative would reduce the physical conversion of Important Farmland by approximately 1.51 acres. **Table 4-4: Comparison of Project Alternatives to the Proposed Project** rates the impacts of the above alternatives compared to the impacts of the proposed project.

Table 4-4: Comparison of Project Alternatives to the Proposed Project

Environmental Category	Alternative #1 - No Project Alternative	Alternative #2 – Proposed Project Without Wagner Avenue Extension	Alternative #3 – Reduced Density	Alternative #4 – Alternative Design
Aesthetics and Visual Character	Less	Slightly Less	Similar	Similar
Agricultural Resources	Less	Slightly Less	Similar	Similar
Air Quality	Slightly Greater	Slightly Less	Slightly Less	Slightly Less
Biological Resources	Similar	Similar	Similar	Similar
Geology and Soils	Less	Similar	Similar	Similar
Hazards and Hazardous Materials	Slightly Greater	Similar	Similar	Similar
Hydrology and Water Quality	Less	Slightly Less	Less	Slightly Less
Land Use and Planning	Greater	Slightly Greater	Slightly Greater	Slightly Greater
Noise	Less	Slightly Less	Slightly Less	Similar
Population and Housing	Similar	Similar	Similar	Similar
Public Services, Utilities, and Recreation	Less	Similar	Slightly Less	Slightly Less
Transportation and Circulation	Less	Greater	Less	Less
Consistency with Project Objectives	Less	Similar	Less	Slightly Less