Attachment G

Final Environmental Impact Report

Section 6

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Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Baswide RI/FS
Fort Ord, California

Ordnance Type	Function
35 mm LAW	Photo flash
66 mm LAW	HEAT
SMAW	HEAT, inert
37 mm Cannon	High explosive, armor piercing, inert
57 mm Recoilless Rifle	HEAT
75 mm Recoilless Rifle	HEAT
90 mm Recoilless Rifle	HEAT
106 mm Recoilless Rifle	HEAT
40 mm Aircraft Rounds	High explosive
40 mm Grenade	High explosive
40 mm Airburst	High explosive
Fragmentation Hand Grenade	High explosive
40 mm Round (M203)	High explosive, photo flash, inert
Rifle Grenade	High explosive, white phosphorous

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Baswide RI/FS
Fort Ord, California

Ordnance Type	Function
14.5 mm Subcaliber Artillery	Photo flash
75 mm Howitzer	High explosive, white phosphorous, smoke, illumination
105 mm Howitzer	High explosive, white phosphorous, smoke, illumination
155 mm Howitzer	High explosive, white phosphorous, smoke, illumination
Claymore Mine (M18A1)	High explosive
Anti-Tank Mine	High explosive
Dragon M47	HEAT, inert
2.36" Anti Tank Rocket (Bazooka)	HEAT
3.5" Anti Tank Rocket	HEAT
84 mm Round (M136)	HEAT
Gustov Mortar	HEAT
100 lb. GP Bomb	Inert
250 lb. GP Bomb (M57A1)	High explosive
500 lb. Bomb	Inert

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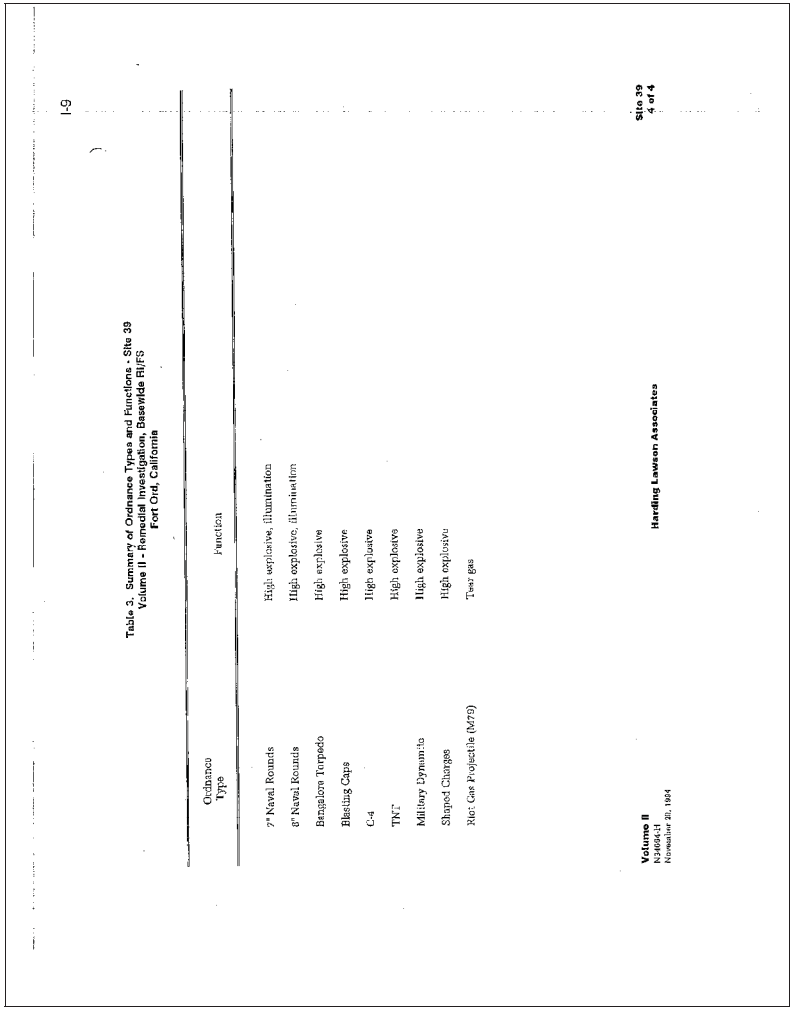

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Ordnance Type	Function
7" Naval Rounds	High explosive, illumination
8" Naval Rounds	High explosive, illumination
Bangalore Torpedo	High explosive
Blasting Caps	High explosive
C-4	High explosive
TNT	High explosive
Military Dynamite	High explosive
Shaped Charges	High explosive
Riot Gas Projectile (M79)	Tear gas

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Harding Lawson Associates

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Comments on

Draft
MRS-SEA.1-4
Time Critical Removal Action and Geophysical Operations (Phase 1)
Technical Information Paper
Former Fort Ord, California
July, 2004.

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September 2004

Comments prepared for the Fort Ord Administrative record

These comments were prepared at the request of the Fort Ord Environmental Justice Network (FOEJN) to provide technical comment to the Army and summarize the report on the Munitions and Explosives of Concern removal at the Seaside sites for the community. FOEJN represents the affected community in the greater Fort Ord area in the clean up of contamination and ordnance related waste.

Mention of any trade name or commercial product or company does not constitute endorsement by any individual or party that prepared or sponsored this report.

Recommendations:

1 conduct an independent quality control/ quality assurance review of the removals because of the uncertainty with finding all of the identified anomalies;
2 conduct soil sampling for chemical weapons material compounds because WW I weapons used with chemical weapons were found on the site;

Purpose of this report and this action: The report on the Time Critical Removal Action cleanup at the Seaside areas near Gen. Jim Moore Blvd is meant to summarize all of the work that was done at these sites in the period from 2002 to 2004. The work was to clear some brush, remove surface Munitions and Explosives of Concern, do a geophysical survey and then remove the buried Munitions and Explosives of Concern. All of these steps were taken and are described

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in this report. The Army is required to report on what was done and how effective the work was in both finding and removing the Munitions and Explosives of Concern. Any problems with finding debris or Munitions and Explosives of Concern are supposed to be identified.

There are several significant findings in this report, having to do with other aspects of the Fort Ord clean up.

First, this site survey used several different pieces of equipment to locate debris and unexploded ordnance, one of which was the Schonstedt metal detector. The report notes that Parsons recommended discontinuing use of the Schonstedt at one point because it was not working out as they had hoped. We raised this issue on the First Tee site- that the exclusive use of a Schondstedt was not sufficient to locate more deeply buried munitions.

Second, the site survey and excavations dug up three older types of munitions or unexploded ordnance (UXO): Livens projector, Stokes mortars and 4.2 inch mortars. All three of these have the potential to contain chemical warfare materiel. At least one other military site from WW I has these types of munitions and chemical weapons. The Army has stated in meetings that chemical weapons were not used or found on the site. The finding of Livens, Stokes and 3.5 inch mortars is evidence to the contrary. These were some kind of chemicals or smokes used on Fort Ord back in the WW I era. This issue warrants further investigation.

Summary:

This technical information paper is a summary of the work conducted by Parsons under contract to the Army to find and remove unexploded ordnance, munitions debris and other debris from a part of Fort Ord. The area under study is designated as MRS-SEA.1-4, constituting four adjacent plots along Gen. Jim Moore Blvd and Eucalyptus Rd. through the Del Ray Oaks and Seaside areas.

The activity that this report describes is the brush clearing and then the clean-up of old munitions, waste, unexploded ordnance, debris, etc. All the waste and munitions that were left behind on the site were supposed to be identified, mapped and removed.

The MRS-SEA areas are not intended to be part of the future wildlife habitat. Therefore the wildlife protection issues are not the same as for the range areas that were burned last fall (October 2003). The cleanup plan (Fort Ord Ordnance and Explosives clean up Programmatic Work Plan) calls for manual clearing of the shrubbery using heavy cutting equipment, some digging equipment, and hand held chain saws. Approximately 70% of the clearing was done with equipment and 30% by hand (page 3-2).

The initial removal of surface Munitions and Explosives of Concern was done as a Time Critical Removal Action (Time Critical Removal Action) (explained immediately below). Following the Time Critical Removal Action, the contractors proceeded to conduct the more intensive and time-consuming geophysical investigation for clearing the area to depth.

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TCRA is a Time Critical Removal Action: The Time Critical Removal Action is a clean up action that happens quickly and with little delay because the agencies recognize there is an immediate threat to human health. Time Critical Removal Action cleanups are done when an agency is cleaning up a contaminated site and discovers exposed contamination or something equally as dangerous. In the case of Fort Ord and the Munitions and Explosives of Concern, a Time Critical Removal Action cleanup is done, and was in the case of the Seaside areas, when there are exposed Munitions and Explosives of Concern or dangerous debris. The location of this action also made a Time Critical Removal Action necessary because the public could readily get to the sites.

A Time Critical Removal Action cleanup is also conducted with a streamlined administrative process so that it can proceed faster to remove the threat to public health.

The Army Corps of Engineers defines a Time Critical Removal Action as: "Removal Actions where, based on the site evaluation, a determination is made that a removal is appropriate, and that less than 6 months exists before onsite removal activity must begin."

Time-Critical Removal Action

The first step was a survey of these areas and staking out the corners of the grids. After they surveyed the areas, they removed the brush, largely by cutting it with heavy equipment, but they did use some hand clearing on some parts of the site. After clearing, the contractor unexploded ordnance (UXO) teams walked the entire area to find surface debris and Munitions and Explosives of Concern. The teams used hand-held Schonstedt magnetometers to aid the visual inspection and investigation. The debris was removed; the Munitions and Explosives of Concern was identified and anything confirmed as explosive was either removed and destroyed, or blown in place. When explosives were blown in place, the item was covered with sand bags and plywood for protection.

The report summarizes the Munitions and Explosives of Concern items: 247 items were found to be Munitions and Explosives of Concern, 10 of which could not be moved because it was too dangerous (page 3-4). The other 237 items were removed to staging/ collecting areas and detonated later. The maps of the location of each MEC item are presented as figures 3-1 through 3-4. The contractors determined that 226 of the 247 items were in fact Munitions and Explosives of Concern, only 21 were really debris.

The Munitions and Explosives of Concern items included the following (Table 3-1, pages 3-4 and 3-5):

Smoke grenades
Fuzes
Rockets, practice, various sizes
Projectiles, practice and high explosive, various sizes

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Cartridge, practice
Illumination signal

A Quality Control/ Quality Assurance (QA/QC) inspection consisted of inspectors walking over 10% of the areas and re-inspecting them to be certain that the visual inspection had not missed anything. The QA/QC inspection found nothing had been overlooked in the initial inspection. Nor did the QA/QC inspection find any explosives mis-identified and placed with the debris.

TIME CRITICAL REMOVAL ACTION Issues and Questions:

The Time Critical Removal Action inspection and removal seems to have been conducted according to the specifications in the project work plan with no deviations and nothing abnormal. The results of the investigations turned up the debris and Munitions and Explosives of Concern that was expected. There are no lingering concerns over this part of the report.

The surface inspection and removal is more straightforward than the geophysical investigation because the team is looking for Munitions and Explosives of Concern and debris that is on the surface. The contractors are not (yet) looking for the buried ordnance and debris.

Non Time-Critical Removal Action:

The contractors followed the surface inspections with a geophysical survey of the entire area with different types of metal detecting equipment. For the most part, they tried to use equipment that could be pulled behind small tractors and cover larger areas in a day. After the entire area was surveyed with geophysical survey equipment, the results were put into computers to generate maps of the places where they found something. The specific spots and objects found are referred to anomalies. The report gives maps of what equipment was used where, in maps 4-1 through 4-4.

The contractors used the following metal detectors on this project:

EM61-MK2 – detects iron and non-iron metals; used as the primary digital survey device; is towed behind a tractor or pulled by hand
G-858- detects only iron containing metals; has two ways to operate
Schonstedt – hand held device that detects iron-containing metals

Once the anomalies had been mapped out, and the results entered in the computers, the contractors created maps of the anomalies, figures 4-5 through 4-80. The teams returned to confirm the presence and location of each anomaly and then remove the item. A great number and range of types of munitions and waste was found on the site during this investigation.

The teams dug up and removed 43,695 specific anomalies, weighing nearly 50,000 pounds, and consisting of debris and munitions from the areas. Most of the material was range debris, totaling 46,745 lbs; 2963 lbs were munitions debris, and 292 items were identified as munitions.

52 of these munitions and explosives were too deteriorated and unsafe to remove from the site. These unsafe items were blown in place. These items included Stokes mortars and 4.2 inch mortars, plus Livens projectiles. These items were scrutinized carefully, and when the contents could to be confirmed, the contractors called in the Army special unit that deals with chemical warfare materials (CWM). This unit examined the three types of Munitions and Explosives of Concern for chemical weapons materials and found titanium tetrachloride in all of them. Titanium tetrachloride was used during WW I as a smoke agent in projectiles that were fired at enemy lines to obscure sight lines and decrease visibility.

The results of the anomaly excavations that yielded Munitions and Explosives of Concern are presented in Table 4-2, with the identity and description of the item, the location, type of excavation, number and depth. The table shows at least 9 Stokes mortars and 2 Livens projectors. These Munitions and Explosives of Concern items are from WW I and did contain chemical weapons materials (smokes are considered CWM).

Parsons conducted a check (QA/QC) on the geophysical survey and re-location of the items they found, in the Quality Assurance and Quality Control operations (QA/QC). They buried a number of items in the areas to be sure that the survey teams would find them. This activity was largely successful, but several items were not recovered. These items were in places that are hard to find, or nearly inaccessible.

Non- Time Critical Removal Action Issues and Questions:

There were problems with the investigations intended to serve as a check on the process (QA/QC), leading the teams to repeat some surveys and to have to go back over some of the grids that had been examined or dug up. These problems have not been completely resolved and an additional review (QA/QC) should be conducted by an independent organization.

I have concerns that the quality assurance and control review (QA/QC) revealed problems that may indicate more problems remain. Some independent check on the investigation needs to be conducted.

The equipment issues are not serious, largely because they found these problems with using the Schondstedt and took steps to correct the problem by discontinuing use.

The greatest problem may be the presence of WW I Munitions and Explosives of Concern that did contain chemical weapons materials, specifically titanium tetrachloride. The titanium tetrachloride was used as a smoke agent. The compound is toxic and can cause serious health problems. Titanium tetrachloride is highly irritating to mucus membranes and can increase the instance of bronchitis and pneumonia. Exposure can lower ventilating capacity, and inhaled TiCl4 can actually become embedded in the lungs as titanium dioxide. Long term or acute exposure can lead to the formation of lung polyps. At room temperature TiCl4 can react with copper to form copper titanium chloride (CuTiCl4), and also readily reacts with all ketones.

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The Army needs to take soil samples at the locations where the chemical weapons materials munitions were recovered and at random locations throughout the areas, sampling for chemical weapons materials, chemical weapons materials residues and metals. This sampling is needed to confirm that no chemical contamination residues remain in the soil. The community remains extremely concerned about human health effects from the contaminants at Fort Ord and the soil sampling and testing for contaminants is needed to confirm that further contamination will not add to the present health threats faced by the community.

I do think that an independent survey needs to go back over these areas and conduct an additional confirmation or QA/QC investigation. In addition, the areas where they found the WW I munitions need soil sampling to test for chemical weapons materiel.

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 Basic & Clinical Pharmacology & Toxicology

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The Faroes Statement: Human Health Effects of Developmental Exposure to Chemicals in Our Environment

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The periods of embryonic, foetal and infant development are remarkably susceptible to environmental hazards. Toxic exposures to chemical pollutants during these windows of increased susceptibility can cause disease and disability in infants, children and across the entire span of human life. Among the effects of toxic exposures recognized in the past have been spontaneous abortion, congenital malformations, lowered birthweight and other adverse effects. These outcomes may be readily apparent. However, even subtle changes caused by chemical exposures during early development may lead to important functional deficits and increased risks of disease later in life. The timing of exposure during early life has therefore become a crucial factor to be considered in toxicological assessments.

During 20–24 May 2007, researchers in the fields of environmental health, environmental chemistry, developmental biology, toxicology, epidemiology, nutrition and paediatrics gathered at the International Conference on Fetal Programming and Developmental Toxicity, in Tórshavn, Faroe Islands. The conference goal was to highlight new insights into the effects of prenatal and early postnatal exposure to chemical agents, and their sustained effects on the individual throughout the lifespan. The conference brought together researchers to focus on human data and the translation of laboratory results to elucidate the environmental risks to human health.

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Research State of the Art

The developing embryo and foetus are extraordinarily susceptible to perturbation of the intrauterine environment. Chemical exposures during prenatal and early postnatal life can bring about important effects on gene expression, which may predispose to disease during adolescence and adult life. Some environmental chemicals can alter gene expression by DNA methylation and chromatin remodelling. These epigenetic changes can cause lasting functional changes in specific organs and tissues and increased susceptibility to disease that may even affect successive generations.

New research on rodent models shows that developmental exposures to environmental chemicals, such as hormonally active substances (endocrine disruptors), may increase the incidence of reproductive abnormalities, metabolic disorders such as diabetes, and cancer, presumably through epigenetic mechanisms that do not involve changes to DNA sequences but which may, nevertheless, be heritable.

Prenatal exposure to diethylstilboestrol, an oestrogenic drug no longer used during pregnancy, has been shown to cause an increased risk of vaginal, uterine and breast cancer

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in human beings and animal models. In animal models, low-level developmental exposure to a plastics ingredient, bisphenol A, may increase the susceptibility to breast or prostate cancer, and prenatal exposure to vinclozoline, a common fungicide, may also promote later development of cancer. These substances are only weak carcinogens, if at all, in the adult organism but are nonetheless hazardous to the growing foetus. In addition, when exposure to a carcinogenic substance occurs during early development, the expected lifespan will exceed the normal latency period for development of the disease.

The human reproductive system is highly vulnerable to changes in the intrauterine hormonal environment. In men, there is an increase in the occurrence of testicular cancer, poor semen quality and cryptorchidism, jointly termed the testicular dysgenesis syndrome. In animals, a similar combination of outcomes is replicated by developmental exposure to certain phthalate esters. However, links between environmental chemicals and the testicular dysgenesis syndrome in human beings are still unclear, although suggestive associations have been found with maternal smoking, fertility treatment of the mother, phthalate exposure and occupational exposure to pesticides with suspected oestrogenic and anti-androgenic activity. Perinatal exposure to endocrine-disrupting chemicals, such as polychlorinated or polybrominated biphenyls or dichlorodiphenyltrichloroethane compounds, may affect puberty development and sexual maturation at adolescence. Many other environmental chemicals can cause such effects in animal models. Expression of some of these effects may be promoted by predisposing genetic traits.

The brain is particularly sensitive to toxic exposures during development, which involves a complex series of steps that must be completed in the right sequence and at the right time. Slight decrements in brain function may have serious implications for future social functioning and economic activities, even in the absence of mental retardation or obvious disease. Each neurotoxic contaminant may perhaps cause only a negligible effect, but the combination of several toxic chemicals, along with other adverse factors, such as poor nutrition, may trigger substantial decrements in brain function.

The immune system also undergoes crucial developmental maturation both before and after birth. New evidence suggests that a number of persistent and non-persistent environmental pollutants may alter the development of the immune system. Studies in a variety of species of experimental animals indicate polychlorinated biphenyls to be highly immunotoxic. While exposures of human adults show little indication of such effects, early life exposures appear capable of inducing similar aberrations in children as seen in other species. Asthma, allergic sensitization or greater susceptibility to infections may be linked to prenatal or early postnatal chemical exposures. In addition, because of multiple interactions between the immune and nervous systems, abnormal maturation of immune responsiveness may also be implicated in some neurodevelopmental disorders.

While the research on developmental toxic effects has, to date, emphasized maternal exposures and the infant environment, the possibility exists that paternal exposures may also affect the child's development. Experimental studies suggest that ionizing radiation, smoking and certain environmental chemicals may be of importance, and that some exposures may affect the health and development of children, as well as the sex ratio of the offspring.

Conclusions

Three aspects of children's health are important in conjunction with developmental toxicity risks. First, the mother's chemical body burden will be shared with her foetus or neonate, and the child may, in some instances, be exposed to larger doses relative to the body weight. Second, susceptibility to a wide range of adverse effects is increased during development, from preconception through adolescence, depending on the organ system. Third, developmental exposures to environmental chemicals can lead to life-long functional deficits and disease.

Research into the environmental influence on developmental programming of health and disease has, therefore, led to a new paradigm of toxicologic understanding. The old paradigm, developed over four centuries ago by Paracelsus, was that 'the dose makes the poison'. However, for exposures sustained during early development, another critical, but largely ignored, issue is that 'the timing makes the poison'. This extended paradigm deserves wide attention to protect the foetus and child against preventable hazards.

These insights derive in part from numerous animal studies indicating that events during the foetal and early postnatal period may be responsible for reproductive, immunological, neurobehavioural, cardiovascular and endocrine dysfunctions and diseases, including certain cancers and obesity. Some of these adverse effects have been linked to environmental chemicals at realistic human exposure levels (i.e. levels similar to those occurring from environmental sources).

Among the mechanisms involved, particular concern is raised about changes in gene expression due to altered epigenetic marking, which not only may lead to increased susceptibility to diseases later in life, but may, in some cases, also affect subsequent generations.

Most chronic disease processes are characterized by multi-causality and complexity. Understanding such processes requires a broad systems approach that focuses on integrative biology within socio-environmental contexts.

Recommendations

Studies on the aetiology of human disease need to incorporate early development and characterize appropriately the factors that determine organ functions and subsequent disease risks. Such associations can best be examined in long-term prospective studies, and existing and planned pregnancy or birth cohorts should be utilized for this purpose.

The aetiology of human disease can be better understood through cross-disciplinary approaches, translation of animal data, better exposure biomarkers and understanding individual susceptibility. Improved communication needs to be

County of Monterey Resource Management
Agency, Planning Department

Comment Letters
Individuals

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stimulated among the scientific disciplines involved and between scientists and policy-makers.

Environmental chemical exposure assessment should emphasize the time period of early development. Exposure data already routinely collected should be applied, when feasible, in epidemiological studies. In addition, cord blood, cord tissue, human milk and other biological samples should be collected for assessment of exposure biomarkers and for determination of gene expression changes.

Because human beings are exposed to numerous chemicals during development and throughout life, mixed exposures need to be considered in a life-course approach to disease. Other factors, such as nutrition, other lifestyle factors and societal environment, need to be considered for additive or interactive effects. This research should also capitalize on the ability of genetic variation and gene–environment interaction to explore the causal nature of environmental exposures with respect to health outcomes.

Risk assessment of environmental chemicals needs to take into account the susceptibility of early development and the long-term implications of adverse programming in a variety of organ systems. Although test protocols exist to assess reproductive toxicity, neurodevelopmental toxicity and immune toxicity, such tests are not routinely used, and the potential for such effects is, therefore, not necessarily considered in decisions on safety levels of environmental exposures.

The accumulated research evidence suggests that prevention efforts against toxic exposures to environmental chemicals should focus on protecting the embryo, foetus and small child as highly vulnerable populations. Given the ubiquitous exposure to many environmental chemicals, there needs to be renewed efforts to prevent harm. Healthier solutions should be researched and proposed in future work. Prevention should not await definitive evidence of causality when delays in decision-making would lead to the propagation of toxic exposures and their long-term, harmful consequences. Current procedures, therefore, need to be revised to address the need to protect the most vulnerable life stages through greater use of precautionary approaches to exposure reduction.

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Neurodevelopmental Disorders in Children

Autism and ADHD

environmentalchemistry.com/yogi/environmental/200804childrenautismadhd.html

By Mona Sethi Gupta, Ph.D.
April 14 2008

Autism, ADHD, learning disabilities, developmental delays and intellectual retardation are among the neurodevelopmental disorders that extract an enormous emotional, mental and financial toll in terms of compromised quality of life and lifelong disability. Additionally, these require special education, psychological and medical support services that drain resources and contribute to further stress on the families and communities. While it is generally accepted that the cause for these disabilities is likely to include genetic and environmental factors, for a vast majority of these disabilities, the cause remains unknown. Many factors contribute in complex ways to brain development. These include gene expression, heredity, socioeconomic factors, stress, drugs, nutrition and chemical contaminants. Brain development is a long, complicated process involving cell proliferation, migration, differentiation and cell death (apoptosis). There are multiple ways by which chemicals can disrupt neurological development such as influencing gene expression, protein pathways [1] and hypothyroidism [2]. It is a well established fact that a child's nervous system is more sensitive to chemical exposures compared to an adult nervous system. This is evident from incidence of permanent brain damage in fetus of pregnant mothers who consumed alcohol during their pregnancy resulting in fetal alcohol spectrum disorder [3]. Similarly, pregnant women involved in methylmercury disasters showed minimal signs of toxicity compared to their children who displayed effects ranging from cerebral palsy to delayed development [4].

In the 1950s, Thalidomide was introduced into the market to treat morning sickness and as a sedative. It created an epidemic of 15,000 babies worldwide with missing limbs and other developmental disabilities including mental retardation and autism [5]. Today, it is a widely accepted fact that chemicals in the environment can cause developmental disabilities in children. Even more intriguing is the fact that certain environmental agents can cause long-lasting damage to the developing brain at exposure levels that have no lasting effect in the adult.

A wide range of toxic chemicals in the environment have been associated with neurodevelopmental disabilities which affect an estimated 3-8% of the 4 million babies born each year in the Unites States. In a recent study published in The Lancet, researchers from Harvard School of Public Health and the Mount Sinai School of Medicine examined publicly available data on chemical toxicity to identify the industrial chemicals likely to damage the developing brain. The researchers compiled a list of 202 industrial chemicals that are known to be toxic to the human brain using the Hazardous Substance Data Bank of the National Library of Medicine and other data sources [6]. The exposure to these chemicals came from industrial accidents, occupational exposure, suicide attempts and accidental poisonings. The authors noted that the list was not comprehensive since the number of chemicals that can cause neurotoxicity in laboratory animal test exceeds 1000. A key point highlighted in the study was the fact that even though moderate amounts of

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chemicals, such as lead and mercury, were needed to cause neurological damage in most adults, only small amounts might be needed to damage the developing brains in babies, infants and young children.

It is a well known fact that certain chemicals, such as lead, mercury, PCBs, dioxins, arsenic and toluene can cause clinical and sub-clinical deficits in neurobehavioral development through injury to the fetal brain. The developing brain is extremely vulnerable to these environmental agents at doses much lower than those that affect adult brain function. Studies have shown that prenatal exposure to even relatively low levels of lead result in lifelong reductions of intellectual functions and disorders of behavior [7]. Polychlorinated biphenyls (PCBs) cross the placental barrier and can cause injury to the developing brain [8]. Organic mercury compounds such as methyl mercury are among the most potent neurotoxins causing severe developmental problems [9]. In view of this fact, it seems disconcerting that there is little information available on possible toxic potential for the 80,000 chemicals registered with the Environmental Protection Agency (EPA). Of the 3000 chemicals produced or imported at over 1 million pounds a year, a mere 23% have been tested for their potential to cause developmental damage [10].

Autism is a neurodevelopmental disorder characterized by impaired social interaction as well as verbal and non-verbal communication. There are various degrees of severity involved in this disorder. Therefore, this condition is commonly referred to as "autism spectrum disorders" or ASD which include autism, Asperger's syndrome, pervasive developmental disorders not otherwise specified (PDD-NOS) and high-functioning autism. Statistics based on data gathered in 2002 indicates that more than 550,000 children are affected by varying degrees of autism spectrum disorders (ASD). In fact, it has been reported that autism is the fastest growing developmental disability, increasing at a rate of 10 to 17 percent annually according to the Autism Society of America. While improved diagnostic measures may contribute to the perceived increase in the number of cases, it is becoming increasingly apparent that environmental neurotoxins in combination with genetic predispositions could also create adverse gene-environment interactions.

Surveys conducted in California indicate an almost 210% increase in the number of cases of autism in children over the past 10 years. There is increasing concern that certain chemicals (such as mercury, halogenated aromatics and pesticides) and biotic factors (such as vaccine antigens) may act synergistically to alter certain susceptibility or genetic risk factors to result in ASD. The UC Davis Center for Children's Environmental Health has established the first large scale epidemiological study to investigate the underlying causes of autism. The UC Davis researchers at the Children's center have suggested an association between thimerosal (ethyl mercury) and immune system dysfunction in mice. In a recent study, Windham et. al. (2006) explored the possible association between ASD and environmental exposures to hazardous air pollutants in the San Francisco Bay area [11]. Based on the data from the study, the authors suggested that living in areas with higher ambient levels of HAPs, especially metals and chlorinated solvents, during pregnancy or early childhood could be associated with a moderately increased risk of autism. This study highlighted the need for more complex etiologic studies combining exposure to multiple compounds by various pathways with genetic information to further understand the contribution of environmental exposures to the development of autism.

Another developmental disorder that affect the areas of social skills, behavior and communication is Attention Deficit Hyperactivity Disorder (ADHD). Presently, some researchers believe that there is a correlation between ASD and ADHD. It is estimated that ADHD affects approximately 4.5 million children in the US. The main characteristics that define ADHD include inattention, hyperactivity and impulsivity. Though almost everyone at some point in their life blurts out something inappropriate or has difficulty focusing on a task or could become forgetful, experts say that such behavior must be demonstrated to a degree that is inappropriate for that age, for a diagnosis to be made. There is insufficient evidence that suggests that ADHD could be a result of simply social factors or child-rearing factors. Other factors such as environmental agents like heavy metals and organohalides, traumatic brain injury, food additives and sugar, neurobiology and genetics have been implicated in the etiology of this condition.

Medications that seem to be most effective in treating ADHD are a class of drugs known as stimulants such as Ritalin (methylphenidate). However, there is mounting controversy over the widespread use of methylphenidate and possible life-threatening effects from its long-term use. This makes it imperative that alternative modalities be implemented for ADHD management. Nutrient deficiencies are common in ADHD; supplementation with minerals, the B vitamins (added in singly), omega-3 and omega-6 essential fatty acids, flavonoids, and the essential phospholipid phosphatidylserine (PS) can improve ADHD symptoms [12]. In a first of its kind study, Dr. Sarina Grosswald, an educator and expert in cognitive learning and clinical neuropsychologist, William Stixrud investigated the effect of meditation in kids with ADHD in the school setting. For the study, kids with ADHD meditated 10 minutes, twice a day. This study revealed that kids who meditated showed a 45 to 50 percent reduction in stress, anxiety and depression. These kids also showed significant improvements in organizational skills, memory, strategizing, mental flexibility, attention and impulsivity. According to Stixrud, teaching a child to regulate his own body and mind in response to anxiety should be the first response rather than putting them on medication.

Neurodevelopmental disorders have increased over the past 30 years and are at least partly attributed to exposure to environmental contaminants. Therefore, it becomes imperative to mitigate environmental factors that may influence disease. The impact of environmental toxins on children's health has become a major focus in the federal government resulting in establishment of eight new research centers in children's environmental health with joint funding from EPA and the National Institute of Environmental Health Sciences (NIEHS). "The brains of our children are our most precious economic resource, and we haven't recognized how vulnerable they are," says Philippe Grandjean, adjunct professor at Harvard School of Public Health and the lead author of the study published in The Lancet . "We must make protection of the young brain a paramount goal of public health protection. You have only one chance to develop a brain."

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Fort Ord Community Advisory Group
PO Box 2173
Monterey, CA 93942
Email: focag@fortordcag.org
Website: www.fortordcag.org

3-11-08

FOR THE ADMINISTRATIVE RECORD
Hand delivered to FORA 3-12-08

Fort Ord Reuse Authority (FORA)
100 12th St., Building 2880
Marina, CA 93933
c/o Mr. Stan Cook, Ms. Laura Baldwin

RE: Comments; FORA ESCA Remediation Program (RP) / Document Control Number: 09595-07-078-001

Dear Mr. Cook and Ms. Baldwin,

Most agree the Army needs to clean up the mess it made at Fort Ord. However, under no circumstance should munitions cleanup be privatized and a waiver granted exempting adherence to Environmental laws in place to protect the publics health, safety, and the environment. To do so would be an abomination of due diligence and process. What is the justification for the Covenant Deferral Request?

"Because of missing or incomplete range activity records , misdirected shots, and poor or undocumented disposal practices, no area in Site 39 can be considered clear of UXO/ OEW". This statement is typical of military munitions training ranges at former Fort Ord. The proposed 3300 acres to be transferred for residential housing, commercial and other public uses is highly contaminated with UXO, OEW, and military munitions constituents.

1994 RI/FS;
"Site 39 was used Since the early 1900s for ordinance training activities. As a result, OEW, including UXO, is present at the site. OEW is defined as bombs and war heads; guided And unguided ballistic missiles; artillery, mortar, and rocket ammunition; small arms ammunition; anti-personnel and anti-tank mines; demolition charges; pyrotechnics; grenades; torpedoes and depth charges; containerized or uncontainerized high explosives and propellants; nuclear materials; chemicals and radiological agents; and all similar or related items designed to cause damage to personnel or materials. Oil in which explosive

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compounds are detected will be considered OEW if the concentration is sufficient to present an imminent hazard. UXO is a subset of OEW and consists of unexploded bombs, warheads, artillery shells, mortar rounds, and chemical weapons. Components or ordnance items (e.g., boosters, bursters, fuzes, igniter tubes) are also included in the UXO definition. Many of the UXO/OEW items listed above have been found at Site 39. Nonuclear materials, chemical agents, or biological agents have been found or reported to have been used at the site."

To date only limited sampling and removal has been conducted at most of the sites part of the Remediation Program (RP). The proposed FOSET and remediation is in large part based on assumptions rather than sound scientific methodology. There is a significant difference between sampling and clearance to a prescribed depth for a particular use. CERCLA would require a revised RI/FS and ROD for this program. Since the 1994 Base Wide RI/FS, the scope of land uses have changed significantly. Many sites included in the RP were not considered for residential uses because of the exposure dangers to public health and safety from UXO, OEW, and residual contamination.(1) (2) The extent of contamination at former Fort Ord from military munitions training and disposal is unknown. Historically, dangerous military munitions and constituents show up in the most unlikely places. No square inch of former training ranges should be assumed to be free or safe from dangerous ordnance and chemicals. A example of military munitions live and inert found in parcels slated for residential development include but are not limited to the following;

fragment hand grenades MKII ,smoke hand grenades M18, hand grenade M10, 4inch trench mortars MK1, 4inch trench mortars FM, 4inch trenordnance components, blasting caps M6, blasting caps M7, hand grenade fuzes M228, 75mm Shrapnel MK1 , 37mm LE MK1 , 75mm HE MK1, Livens projector FM, surface trip flare M49, 3.5inch rocket M29, 35mm Rockets M73, 3inch Hotchkiss projector, activator mine AT M1, mine AT M1, primer igniter tube M57, cartridge ignition M2, signal illumination M125, mine fuze M6A1, rifle grenade M22, 57mm projector HE M306, flash artillery M110, projectile PD M503ch mortars HC, 3inch trench mortars MK1, 81mm mortar HE M43, 40mm projector M781

Because of the nature of military munitions use and cleanup, the strictest standards available, i.e. CIRCLA should be implemented to the greatest extent possible. Any attempts to side step or circumvent this public health and environmental law must not be allowed . To do so will likely result in negative human health and environmental impacts.

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Historical maps indicate that over the years as ranges were decommissioned, new ranges were opened. It appears that over time there are literally layers and overlaps of ranges the extent of which is unknown. How many millions of troops trained at Fort Ord? How many millions of pounds of munitions were used at former fort Ord? Of the millions of pounds of munitions used , how many millions of pounds of constituents were released into the environment? Were did the residual contamination go?

A new previously unidentified exposure pathway to human and ecological receptors now exists. The burning of former training ranges has resulted in a new and significant threat to human health and safety. A new RI/FS should include Ash analysis for all sites burned purposely or accidentally, and the potential onsite and offsite exposure to human and ecological receptors. This new exposure and potential effects on human and ecological receptors was never analyzed in the 1994 Base Wide RI/FS.

In the Monterey Herald dated 12-05-07 Pg. B6, there was a brief account of a recent U.S. Geological Survey study of ash resulting from the Southern California wild fires. The USGS study found caustic alkali materials and elevated levels of arsenic, lead, and other metals. The studies led author said that USGS found that "rainwater runoff from burned areas may hurt eco systems, aquatic wildfire habitat and surface water quality." Has the ESCA process analyzed the data revealed in this study? If not, why not?

It appears USGS is well equipped with staff and technology to analyze potential significant negative impacts resulting from burning wild land habitat. USGS participation in analyzing burn impacts at former Fort Ord could result in significant new information that would greatly benefit the full disclosure of impacts resulting from the burning. This new significant information will greatly benefit the understanding of potential adverse impacts by the public, regulators, decision makers, Army and all those involved in the ESCA process.

If USGS is not required to analyze data at the former Fort Ord, what justification exists for this decision?

Many military munitions constituents are known endocrine disruptors, carcinogens, mutagens, ect.. Environmental contamination is reaching epidemic levels likely due to lax regulation, oversight, and enforcement of environmental laws over industry and commerce. Nationally, conservatively, 1 in 150 children has autism. Asthma, Alzheimer's Disease, cancer, to list a few are at epidemic levels. Today, the U.S. public is sicker than ever before. USGS studies show pharmaceuticals are increasingly showing up in U.S. reclaimed and drinking water supplies. Is there endocrine disruptor screening being conducted at former Fort Ord? If not, why not? Does Soil analysis of ranges include every known or suspected OEW constituent used at For Ord? If not, why not?

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The public is very concerned with the undermining of the Regulatory agencies and their current ability to protect human health, safety, and the environment. A 1999 EPA Range Rule position letter addressing Military Base Closures states; "During the last several years an increasing number of issues have arisen relative to UXO, hazardous contaminants, and military range cleanup. The following represents a description of the major EPA issues or concerns along with installations where we have encountered these problems. This list should not be construed as exhaustive." Since this EPA position letter it appears efforts are being made to circumvent the environmental laws in place to protect the public.(3)

FORA should adopt the Precautionary Principle (1998 Wingspread Statement) and apply it to the Fort Ord Reuse Plan to ensure safety for current and future generations to the greatest extent possible.(4)

Thank you for the opportunity to comment on this project. We look forward to your response to our concerns.

Sincerely,

Lance Houston
FOCAG Member

Cc.
Assemblyman John Laird
Cal DTSC, c/o Joyce Whiten and Yolanda Gaarza
U.S. EPA, Region 9, c/o Viola Cooper
Mick Weaver, FOCAG
Bruce Becker, FOCAG
Debra Mickelson
David Dilworth, HOPE

Attachments;
(1) Scientific Integrity in Policy Making Update-July 2004 Introduction / Union of Concerned Scientists / Full Repot @ www.ucsusa.org
(2) EPA - Why we need a code of professional ethics www.nteu280.org/Issues/NTEU-%20Professional%20Ethics.htm
(3) 1999 EPA letter to DoD, Range Rule www.epa.gov/fedfac/documents/uxomemo.htm
(4) 1998 Wingspread statement www.rachel.org/library/getfile.cfm?ID=189

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Union of Concerned Scientists
www.ucsusa.org

Scientific Integrity in Policy Making Update-July 2004

Introduction

On February 18, 2004, 62 preeminent scientists including Nobel laureates, National Medal of Science recipients, former senior advisers to administrations of both parties, numerous members of the National Academy of Sciences, and other well-known researchers released a statement titled *Restoring Scientific Integrity in Policy Making*. In this statement, the scientists charged the Bush administration with widespread and unprecedented "manipulation of the process through which science enters into its decisions." The scientists' statement made brief reference to specific cases that illustrate this pattern of behavior. In conjunction with the statement, the Union of Concerned Scientists (UCS) released detailed documentation backing up the scientists' charges in its report, *Scientific Integrity in Policy Making*.

On April 2, the White House Office of Science and Technology Policy issued a statement by Director John H. Marburger III that dismissed the scientists' concerns and attempted to debunk the specific charges. In a detailed analysis released April 19, UCS reviewed each charge again, and directly addressed the administration's responses, concluding, "UCS stands by the findings and conclusions of our report." The UCS analysis found that the White House response failed to offer substantive evidence to support its claims. Instead, the White House document was filled with largely irrelevant information and arguments unrelated to the scientists' charges.

"The administration is dismissive of the concerns of leading scientists across the country," said Kurt Gottfried, UCS board chair and emeritus professor of physics at Cornell University. "The absence of a candid and constructive response from the White House is troubling, as these issues—from childhood lead poisoning and mercury emissions to climate change and nuclear weapons—have serious consequences for public health, well-being, and national security."

Since the release of the UCS report in February, the administration has continued to undermine the integrity of science in policy making seemingly unchecked. Many scientists have spoken out about their frustration with an administration that has undermined the quality of the science that informs policy making by suppressing, distorting, or manipulating the work done by scientists at federal agencies and on scientific advisory panels. For instance, Michael Kelly, a biologist who had served at the National Oceanic and Atmospheric Administration's National Marine Fisheries Service for nine years, recently resigned his position and issued an indictment of Bush administration practices. As Kelly wrote, "I speak for many of my fellow biologists who are embarrassed and disgusted by the agency's apparent misuse of science."

This document investigates several new incidents that have surfaced since the February 2004 UCS report. These new incidents have been corroborated through in-depth interviews and internal government documents, including some documents released through the Freedom of Information Act. The cases that follow include:

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- egregious disregard of scientific study, across several agencies, regarding the environmental impacts of mountaintop removal mining;
- censorship and distortion of scientific analysis, and manipulation of the scientific process, across several issues and agencies in regard to the Endangered Species Act;
- distortion of scientific knowledge in decisions about emergency contraception;
- new evidence about the use of political litmus tests for scientific advisory panel appointees. These new revelations put to rest any arguments offered by the administration that the cases to date have been isolated incidents involving a few bad actors.

Concern in the scientific community has continued to grow. In the months since the original UCS report, more than 4,000 scientists have signed onto the scientists' statement. Signers include 48 Nobel laureates, 62 National Medal of Science recipients, and 127 members of the National Academy of Sciences. A number of these scientists have served in multiple administrations, both Democratic and Republican, underscoring the unprecedented nature of this administration's practices and demonstrating that the issues of scientific integrity transcend partisan politics.

The United States has an impressive history of investing in and reaping the benefits of scientific research. The actions by the Bush administration threaten to undermine the morale and compromise the integrity of scientists working for and advising America's world-class governmental research institutions and agencies. Not only does the public expect and deserve government to provide it with accurate information, the government has a responsibility to ensure that policy decisions are not based on intentionally or knowingly flawed science. To do so carries serious implications for the health, safety, and environment of all Americans.

Given the lack of serious consideration and response by the administration to concerns raised by scores of prominent scientists, UCS is committed to continuing to investigate and publicize cases—corroborated by witnesses and documentation—in which politics is allowed to stifle or distort the integrity of the scientific process in governmental policy making. UCS—working with scientists across many disciplines, other organizations, and elected officials—will also seek to develop and implement solutions that will protect government scientists from retribution when they bring scientific abuse to light, provide better scientific advice to Congress, strengthen the role of the Office of Science and Technology Policy, strengthen and ensure adherence to conflict of interest guidelines for federal advisory panels, and ensure full access to government scientific analysis that has not been legitimately classified for national security reasons.

Union of Concerned Scientists

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NTEU CHAPTER 280 - U.S. ENVIRONMENTAL PROTECTION AGENCY, NATIONAL HEADQUARTERS
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WHY WE NEED A CODE OF PROFESSIONAL ETHICS

www.nteu280.org/Issues/NTEU-%20Professional%20Ethics.htm

This document is intended to explain why a code of professional ethics is needed in the EPA workplace.

8/25/99

Management Practices and Workplace Conditions of Concern Because They Create Pressure To Violate the Code of Ethics For Professionals at EPA

There are current management practices and workplace conditions at EPA condoned by some elements of management which place strong pressure on EPA professionals to violate ethical principles and practices. Several examples follow:

1. Fear by some EPA managers of political retribution from economically powerful industries that are doing things harmful to the environment is one negative condition we as professionals must deal with at EPA. Some managers fear being punished if they tell the truth and/or "do the right thing" with regard to controlling the environmental problem which that particular industry is causing. This is especially problematic when the fearful manager is at the top of an organization's chain of command. The fearful manager "chickens out," because its easier to deal with the dismay and anger of the professionals that work for him or her than to deal with the dismay and anger of higher echelon managers or of an industry with lots of money to contribute to the re-election campaigns of members of Congress and with plenty of access to those members and their staffs, and with the certainty of a sympathetic hearing.

2. It is this condition - political pressure down the chain of command - that is the source of the problem for most unethical behavior by professionals at EPA: Frightened managers pressure professionals to write assessments and analyses that appear to justify a control action which is well less than that which the real risks and real costs suggest are actually warranted.

3. There is a lack of a management process for dealing with a conflict between a professionals's analysis of an issue and Agency policy on that issue. This is a problem: 1) when facts elicited in an analysis do not support the Agency policy and the analysis is then ignored, altered or otherwise subverted by management; or 2)when the professional refuses to remain silent on the issue, and is then subjected to disciplinary sanctions.

4. Tracking and assessment of professional performance should be based on the number of assessments or analyses prepared and their quality, as judged in light of applicable professional standards, and not exclusively on the number of assessments or analyses that produced a certain prescribed result. (E.g., the performance standard should not be "number of new pesticides registered" but "number of proposed new pesticides assessed.")

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5. When work is initially assigned to a professional, the assignment must be made in such a way that it is clear that the work product is to be a complete, unconstrained analysis or assessment of the matter at issue.

6. The amount of work time and calendar time allotted to the professional assigned to do the work by the manager assigning the work must be appropriate to the importance of the results. Consideration must be given to the health and environmental risks involved, control and other costs, the complexity of the subject matter, the size of the relevant literature, and the number of experts on that subject within and outside EPA who must be consulted for a complete and balanced work product to be produced.

7. As civil servants serving the public interest, U.S. Environmental Protection Agency employees are entrusted with the responsibility of acting conscientiously to fulfill EPA's assigned mission to protect human health and the environment:

o Those in our trust include:
– The American public, including dependent minors and others not yet of voting age
– Other people throughout the world who are affected by the actions of Americans both here and abroad
– Future generations
– Other living things
– The Earth itself and its ability to sustain life.

o Those affected by our actions also include:
– Those who release pollutants into our environment
– Producers and users of toxic substances
– Those who generate, transport and dispose of hazardous wastes and other wastes and discards.

Those in this latter group are members of the "regulated community"; they are ***not*** our "customers". They are those whose behavior we must monitor, assess and enforce against environmental standards and the law.

We accept the usefulness of obtaining feedback from those in the first group regarding their satisfaction with our performance. Although some in the latter group appreciate our efforts and do their best to cooperate, many others do not. We reject the validity of assessing how "satisfied" those in the latter group are with our performance.
Every person we deal with, including those in the "the regulated community", deserve to be treated with dignity and respect. But they also need to be handled with candor as to the seriousness of any violations and their impact on the public interest. They need to be handled with firmness when they violate the law.

8. In working to fulfill its mission, EPA managers and staff rarely interact directly with the general public or with regulated firms. Instead, for most programs, EPA managers and staff work with and through State and local agencies. While in some cases the relationship between EPA and the State or Local agency is one of true partnership, more often it is not. Further, with the current focus within EPA on identifying customers and getting customer feedback, there is also a tendency to view State and local environmental agencies as our

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"customers." Neither is an accurate description of the nature of the relationship in most cases. Treating State and local environmental agencies and officials as "customers" is therefore inappropriate. They are not our customers; they are at best our partners, but more often they are an additional class of entities and individuals that we - to all intents and purposes - regulate.

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Synergism

Canadian Centre for Occupational Health and Safety (CCOHS)
http://www.ccohs.ca/oshanswers/chemicals/synergism.html

What is meant by the term "synergism"?

Synergism comes from the Greek word *"synergos"* meaning working together. It refers to the interaction between two or more "things" when the combined effect is greater than if you added the "things" on their own (a type of "when is one plus one is greater than two" effect).

In toxicology, synergism refers to the effect caused when exposure to two or more chemicals at a time results in health effects that are greater than the sum of the effects of the individual chemicals.

When chemicals are synergistic, the potential hazards of the chemicals should be re-evaluated, taking their synergistic properties into consideration.

What are related terms?

In addition to synergism, other terms are used to define the toxicologic interactions.
Additive Effect - This action occurs when the combined effect of two or more chemicals is equal to the sum of the effect of each agents given alone (they do not interact in a direct way); for example:

2 + 2 = 4

This effect is the most common when two chemicals are given together.

Potentiation - This effect results when one substance that does not normally have a toxic effect is added to another chemical, it makes the second chemical much more toxic; for example:

0 + 2 > 2, not just 2

Antagonism - Antagonism is the opposite of synergism. It is the situation where the combined effect of two or more compounds is less toxic than the individual effects; for example:

4 + 6 < 10

Antagonistic effects are the basis of many antidotes for poisonings or for medical treatments. For example, ethyl alcohol (ethanol) can antagonize the toxic effects of methyl alcohol (methanol) by displacing it from the enzyme that oxidizes the methanol

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In comparison, a **synergistic effect** is the situation where the combined effect of two chemicals is much greater than the sum of the effects of each agent given alone, for example:

2 + 2 >> 4 (maybe 10 times or more)

Why does synergism occur?

While the mechanisms of synergism can change from situation to situation, most of the time there appears to be an effect on the enzymes that regulate or influence the way our bodies work.

Our bodies have enzymes that are designed to do specific "jobs". For example, there is an enzyme that helps break down alcohol - this is why we do not stay intoxicated "forever" after consuming alcohol. These enzymes normally transform (metabolize) the foreign substances (alcohol in this example) into less toxic or non-toxic substances which are eliminated out of the body.

With synergism, an enzyme function could either be inhibited (restricted) or accelerated in some way. Either way, the result is that the chemicals are either "free" or "enhanced" to cause a greater biologic effect in the body.

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Civil War cannonball kills Virginia relic collector

http://www.newsweek.com/id/135153?tid=relatedcl

By STEVE SZKOTAK Associated Press Writer
Article Last Updated: 05/02/2008 07:24:17 PM PDT

Brenda White, widow of Civil War Relics collector Sam White, looks over... ((AP Photo/Steve Helber)) CHESTER, Va.—Like many boys in the South, Sam White got hooked on the Civil War early, digging up rusting bullets and military buttons in the b attle-scarred earth of his hometown.

As an adult, he crisscrossed the Virginia countryside in search of wartime relics—weapons, battle flags, even artillery shells buried in the red clay. He sometimes put on diving gear to feel for treasures hidden in the black muck of river bottoms.

But in February, White's hobby cost him his life: A cannonball he was restoring exploded, killing him in his driveway.

More than 140 years after Lee surrendered to Grant, the cannonball was still powerful enough to send a chunk of shrapnel through the front porch of a house a quarter-mile from White's home in this leafy Richmond suburb.

White's death shook the close-knit fraternity of relic collectors and raised concerns about the dangers of other Civil War munitions that lie buried beneath old battlefields. Explosives experts said the fatal blast defied extraordinary odds.

"You can't drop these things on the ground and make them go off," said retired Col. John F. Bierneck, for merly of the Army Ordnance Corps.

White, 53, was one of thousands of hobbyists who comb former battlegrounds for artifacts using metal detectors, pickaxes, shovels and trowels.

"There just aren't many areas in the South in which battlefields aren't located. They're literally under your feet," said Harry Ridgeway, a former relic hunter who has amassed a vast collection. "It's just a huge thrill to pull even a mundane relic out of the ground."
After growing up in Petersburg, White went to college, served on his local police force, then worked for 25 years as a deliveryman for UPS. He retired in 1998 and devoted most of his time to relic hunting.

He was an avid reader, a Civil War raconteur and an amateur historian who watched History Channel programs over and over, to the mild annoyance of his wife.
"I used to laugh at him and say, 'Why do you watch this? You know how it turned out. It's not going to be any different,'" Brenda White said.

She didn't share her husband's devotion, but she was understanding of his interest.
"True relic hunters who have this passion, they don't live that way vicariously, like if you were a sports fanatic," she said. "Finding a treasure is their touchdown, even if it's two, three bullets."

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1999 EPA Position Paper Range Rule
To
Department of Defense (DoD)
Ms. Sherri W. Goodman
Deputy Under Secretary of Defense
dated April 22, 1999

EPA ISSUES AT CLOSED, TRANSFERRED, AND TRANSFERRING MILITARY RANGES
During the last several years an increasing number of issues have arisen relative to UXO, hazardous contaminants, and military range cleanup. The following represents a description of the major EPA issues or concerns along with installations where we have encountered these problems. This list should not be construed as exhaustive.

1. **Range Assessment and Investigation**
   1. Range investigations often lack sufficient site-specific information. The Services and the USACE generally are not adhering to CERCLA standards and procedures for assessment and cleanup. The PA/SI, RI/FS, Removal, Remedial, and NOFA processes need to be equivalent to those specified under CERCLA and the NCP. [For example, at the Black Hills Army Depot the PA/SI did not meet the minimum requirements set by EPA for assessment. The RI/FS workplans and all associated documents were based upon this deficient PA/SI and were also determined not to meet EPA minimum requirements. Other sites with similar issues include Savanna Army Depot, Badlands Bombing Range, Lowry Bombing Range, Fort Ritchie, Fort Meade, and the Nansemond Ordnance Depot.]

   2. There has been an increasing tendency for UXO investigations to use statistical grid sampling methods. Although statistical grid sampling may yield additional information, extrapolation of these results often lead to inappropriate decisions. The statistical grid sampling approach used by the USACE would only be appropriate if one expected a relatively uniform distribution of UXO, which is not the case at military ranges. EPA believes that in order to achieve protection of human health and the environment, UXO investigations should be based on a combination of information such as historical data (e.g., archives, photos, interviews), range use information, visual site inspections, previous detection surveys, previous Explosives and Ordnance Demolition (EOD) Unit response actions, and the resultant knowledge of impact zones and "hot spots." [For example, at the Lowry Bombing Range the USACE proposed and attempted to use the statistical sampling and extrapolation methodology. The State of Colorado has recently indicated that those methods significantly underestimated the amount of ordnance present (inert or live). Other sites that have similar issues are Savanna Army Depot, Fort Ord, Fort Ritchie, and the Nansemond Army Depot.]

   3. Military ranges generally are not designated by the Services or the USACE as areas of concern (AOC) even when the installation is listed on the

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Superfund National Priorities List (NPL). EPA believes all areas at closed, transferred, and transferring bases with known or suspected UXO are areas of concern and need to be evaluated in the CERCLA and NCP context. More recently, the Services and the USACE have unilaterally excluded UXO areas from proposed CERCLA Records of Decisions (RODs) or from RODs being implemented where UXO was included in the remedy (e.g., NAF Adak, Umatilla Army Depot) . [At the Umatilla Army Depot, the Army has indicated that they will not address UXO as specified in the ROD. This decision is now in dispute resolution. At NAF Adak, the Navy has recently indicated that they do not wish to proceed with a ROD for a separate UXO operable unit. At Savanna Army Depot, the entire depot (approximately 21 square miles) was initially utilized as a firing range. Activities up to 1997 were not directed at UXO assessment and response, rather they were directed in large degree toward open burning and disposal grounds and non-explosive chemical contamination. Up to this time, UXO in potential firing areas was not included within the realm of the potential cleanup, therefore, most UXO prone or suspected areas were not considered areas of concern. In 1998, the Army tentatively agreed to evaluate several options for assessing areas known or suspected to be contaminated with UXO. The USACE has proposed to use Sitestats/Gridstats which EPA believes is a very problematic analytical method (see 1b above). Other facilities that have ranges with similar issues include, but are not limited to: Jefferson Proving Ground, Lowry Bombing Range, Badlands Bombing Range, Fort Meade, Camp Bonneville, Fort Ord, Aberdeen Proving Ground, Tobyhanna Army Depot, NAF Adak, and Fort Ritchie.]

4. EPA is encouraged by DoD's recent shift to address ranges through a "risk management" strategy focusing on both range assessment and remediation for UXO and other constituents. DoD needs to continue to develop and ultimately implement this approach through the USACE and the Services. However, despite this recent change in strategy, EPA has noted at a number of ranges the USACE continues to apply statistical sampling and risk assessment methods which often lead to premature "informed risk management decisions." Since the proposed Range Rule process is heavily dependent upon accurate "informed risk management decision making," DoD needs to ensure that this revised strategy develops accurate information, reduces short-term risks, and sets the stage to achieve long-term risk reduction goals. The current approach utilized by the USACE generally does not address these goals. [For example, at Fort Ritchie, the Army had proposed to surface clear and provide contractor support in UXO areas that have been proposed by the LRA to include a residential area. Based in large degree upon the statistical sampling, the Army wanted to perform only a surface clearance, even though the DDESB standards recommend much more conservative clearance for residential land use. It is important to note that in many areas where UXO clearance is not performed to the frost line or sufficient depth, additional UXO is likely to surface via frost heaving or erosional processes (i.e., mortars have been found to surface on a golf course). These and other UXO-related issues require the

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Army develop a long-term UXO remedial strategy for this area. Other ranges with similar circumstances include Savanna Army Depot, Lowry Bombing Range, Fort Meade, Nansemond Army Depot, Fort Ord, Jefferson Proving Ground, and Badlands Bombing Range.]

5. DoD is generally not applying the best available technologies to assess and remediate UXO. In most cases, there appears to be a standard approach to default to the traditional methods known as "mag and flag". Yet, according to the USACE and others, application of these methods often results in more expensive, slower, and less accurate UXO detections than other demonstrated technologies. DoD needs to begin using better technologies earlier to achieve the most protective level of UXO cleanup, while continuing to examine the capabilities, uncertainties, and acceptabilities of the various detection approaches. [For example, at Fort Ritchie only surface clearance is proposed for areas known to be contaminated with UXO that will be used for residential and commercial purposes. When asked what measures would be used during excavation, the Army indicated they would only have personnel on-site with a magnetometer. At Badlands Bombing Range, the artillery impact area was surveyed using mag and flag but this location would have been suitable for using multiple towed array sensor methods that have yielded more reliable results at other similar locations at Badlands.]

6. In those cases where UXO investigations at ranges (or UXO sites) have been performed, the general approach has been to limit investigation to known ranges/ UXO sites only. Investigations should not be limited to within the "fenceline," especially when information suggests that UXO problems are more extensive. [Although Aberdeen Proving Ground has agreed to perform additional clearance ¼ mile around the existing facility, no additional investigation is being performed off-site (e.g., especially in the adjacent rivers or in the Chesapeake Bay). Other sites with similar issues include the Badlands Bombing Range, Savanna Army Depot, Tooele Army Depot, Lowry Bombing Range, Jefferson Proving Ground, and NAF Adak.]

2. Non-Compliance with Regulatory Authorities

1. DDESB 6055.9 Standards for depth of clearance generally are not being followed. [For example, at Fort Ritchie a surface clearance is proposed for a residential area. DDESB 6055.9 Standards (chapter 12) specifies that default depths of clearance to 10 feet should be used unless an alternative is justified and approved by the DDESB based on detailed site-specific information. As no detailed investigations have taken place over the range areas at Fort Ritchie, a default clearance depth of 10 feet should be used (unless bedrock is shallower). Please note that EPA views chapter 12 as critical due to the nature of explosives safety issues. In addition, many other range situations have already been documented to have uncontrolled listed wastes (and/or hazardous substances) and may present an imminent and substantial endangerment to human health and the environment. Other ranges with similar problems include: Savanna Army Depot, Fort Meade,

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Fort Ord, Badlands Bombing Range, Lowry Bombing Range, Umatilla Army Depot, Camp Bonneville, Jefferson Proving Ground, Nansemond Ordnance Depot, Tooele Army Depot, and NAF Adak.]

2. Current EPA environmental regulations, including, but not limited to, RCRA and CERCLA, are applicable, but generally are not being followed. [This is particularly relevant to the depth of clearance of UXO. Many UXO-contaminated areas at closed, transferred, or transferring military ranges are: 1) not being investigated, or 2) when discovered, are not being addressed consistent with human health, environmental, or explosives safety regulations. These types of situations have been noted at many ranges including: Savanna Army Depot, Fort Meade, Fort Ord, Badlands Bombing Range, Lowry Bombing Range, Umatilla Army Depot, Camp Bonneville, Jefferson Proving Ground, Nansemond Ordnance Depot, Tooele Army Depot, and NAF Adak. Other information pertinent to this issue is presented in 1(a) above, and 4(a) below.]

3. Communication, Coordination and Dissemination of Information

Efforts by the Services and the USACE to communicate the scope, nature, and extent of UXO response activities have not always been successful. In some cases, there has been little or no effort. Regulators and the public need to be better informed during all stages of the efforts to address military ranges. The over-reliance on time-critical response actions also tends to reduce coordination with the regulators and other non-DoD parties. [For example, the regulators and the public have been discouraged by the USACE lack of cooperation at the Black Hills Army Depot. Adequate information and answers concerning investigations and cleanup activities have not been provided to these parties. At Fort Wingate there has been little or no public involvement concerning UXO issues. At BRAC RAB meetings only cursory information is presented on the USACE activities. Neither the State, Tribes, or the general public have received sufficient documentation on the USACE UXO activities at Fort Wingate that has both BRAC and FUDS properties. Another example is with the proposed transfer of property at Fort McClellan. The Army has been in the process of negotiating a transfer of UXO contaminated property with the U.S. Fish and Wildlife Service (USFWS). It appears that State and Federal regulatory agencies have not been contacted to participate in these negotiations. Similar situations have been noted at the Badlands Bombing Range, Lowry Bombing Range, Jefferson Proving Ground, Fort Ord, and Fort Ritchie.]

4. Remedy Selection and Implementation

1. EPA believes some range UXO detection/clearance operations may not be appropriate for CERCLA removal nor RCRA emergency situations. To further complicate matters is the Service/USACE preference to implement "CERCLA-like" accelerated actions. Some of these actions may not be consistent with CERCLA and the NCP and generally result in less regulator and public oversight/involvement. Using time-critical/emergency responses as the sole response paradigm should not be a default approach for the Services/USACE, especially for range problems that are well beyond the scope of such actions. [For example, at Fort Ord clearance was conducted

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for several years as a time-critical removal action. Similar circumstances are noted at Jefferson Proving Ground, Umatilla Army Depot, and Fort Meade.]

2. There is a general over-reliance on institutional controls as the principal remedy component or as the only remedy to ensure protectiveness. Where

employed, the institutional controls may not be adequately defined, roles and responsibilities are left unclear and ultimately they may not prevent future incidents where UXO is encountered. The Services and the USACE are not always implementing adequate access controls (e.g., fencing, posting of guards, patrols, etc.) where needed. In addition, periodic inspections need to be performed at many locations where UXO has been identified, is suspected, or may have surfaced via erosion or frost heaving at previously cleared areas. [For example, at NAF Adak institutional controls are proposed for vast areas outside the town where UXO will generally not be cleared, nor has the area been adequately investigated despite DoD records indicating potentially extensive UXO contamination. This appears to be a problem because the recent reuse proposals to expand the town's uses are expected to lead to an increase in the population (primarily members of the Aleut Tribe, especially children). At Tobyhanna Army Depot, a 20,000 acre UXO area is now a State park where only signs were posted. The park was closed in 1997 when 53 unexploded 37 mm shells were found and a recent removal action has found significant additional UXO. Other examples of access problems have been noted at Camp Elliott (Tierrasanta), Camp Bonneville, Jefferson Proving Ground, Lowry Bombing Range, Badlands Bombing Range, Fort Ritchie, Fort Wingate, and Nansemond Army Depot.]

3. Effective regulatory and DoD oversight is an important aspect of remedy implementation. When it is not implemented, the risk of incidents increase. [For example, the UXO from the Fort Irwin cleanup was mistaken for clean scrap and transported to a scrap yard for recycling (in violation of RCRA – the UXO went to a non-permitted facility without manifest). An employee was killed when he attempted to cut live UXO with welding equipment. Other examples of where better oversight was needed include, Fort Ord, Jefferson Proving Ground, and Fort Meade where UXO contaminated areas were inappropriately slated for transfer.]

5. Transfer of UXO Contaminated Land

1. EPA believes DoD generally should retain ownership and/or control of UXO areas that are not yet assessed and/or cleaned up as determined by DoD, the appropriate regulatory agencies and the public (e.g., "permanently dudded" impact areas; UXO burial sites; sites not yet scheduled to be remediated). Federal land management agencies generally want DoD to complete all environmental restoration prior to any transfer to them. Present land transfer practices by DoD indicate that UXO contaminated lands continue to be transferred. [At Fort McClellan the transfer of approximately 10,000 acres of UXO contaminated land has been proposed. The area has not been adequately assessed and UXO contamination not yet addressed. The

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proposed transfer is to the USFWS who do not appear to have sufficient resources to address UXO contamination of this magnitude. At Jefferson Proving Ground, a portion of UXO contaminated property north of the firing line was proposed for transfer to the USFWS. The area was proposed to be used for recreational purposes, but it has not been thoroughly assessed and UXO not addressed. It has also been mentioned that the USFWS has since decided not to proceed with the transfer. At Nomans Land Island,

although the fed-to-fed transfer has already taken place, DoD has a continuing obligation to address UXO safety issues there, as does the USFWS (i.e., to secure the property against trespassers, per the transfer agreement). Although the area is planned to be used as a wildlife refuge, it is known to be frequented by boating enthusiasts, and UXO safety issues remain because storm events and other processes (freeze/thaw) will continue to expose UXO in areas where only surface clearance has been performed. At Fort Wingate, two closed test ranges containing UXO are slated for transfer to the DOI. The land may then be re-developed for residential, commercial, open space, and subsistence farming/ranching uses. Much of these lands are proposed to be transferred to the DOI. Another example is the UXO contaminated areas transferred to the State at the Tobyhanna Army Depot.]

2. In some cases, the Services and the USACE have performed only a cursory investigation (see # 1). Based upon limited information, property has been and is being transferred. Rather than sufficiently assessing sites and making the property safe for use or transfer, the DoD and the Services appear to be transferring the land and then waiting for others to identify problems for DoD response. [For example, DoD is contacted periodically about newly found UXO at a number of transferred sites. This has been noted at the Aberdeen Proving Ground, Raritan Arsenal, Morgan Depot, White Sands Missile Range, Lowry Bombing Range, Badlands Bombing Range, Fort Ritchie, Tobyhanna Army Depot, Fort Ord, Fort Meade (i.e.,Tipton Air Field), Jefferson Proving Ground, Raritan Arsenal, Morgan Depot, and at EPA private sites such as the Cohen Property Site in Massachusetts. Although the EOD units have a good response record, their responses tend to be limited to the newly found UXO, with generally no further investigation performed to determine the nature and extent of any additional UXO. This EOD "house call" type follow-up cannot substitute for adequate investigations.]

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The Wingspread Statement on the Precautionary Principle

January 1998

The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions; along with global climate change, stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment - the larger system of which humans are but a part.

We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the Precautionary Principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

In this context the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

Participants: Dr. Nicholas Ashford, M.I.T.; Katherine Barrett, Univ. of British Columbia; Anita Bernstein, Chicago-Kent College of Law; Dr. Robert Costanza, Univ. of Maryland; Pat Costner, Greenpeace; Dr. Carl Cranor, Univ. of California, Riverside; Dr. Peter deFur, Virginia Commonwealth Univ.; Gordon Durnil, Attorney; Dr. Kenneth Geiser, Toxics Use Reduction Inst., Univ. of Mass., Lowell; Dr. Andrew Jordan, Centre for Social and Economic Research on; the Global Environment, Univ. Of East Anglia; Andrew King, United Steelworkers of America, Canadian Office; Dr. Frederick Kirschenmann, Farmer; Stephen Lester, Center for Health, Environment and Justice; Sue Maret, Union Inst.; Dr. Michael M'Gonigle, Univ. of Victoria, British Columbia; Dr. Peter Montague, Environmental Research Foundation; Dr. John Peterson Myers, W. Alton Jones Foundation; Dr. Mary O'Brien, Environmental Consultant; Dr. David

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Ozonoff, Boston Univ.; Carolyn Raffensperger, Science and Environmental Health Network; Dr. Philip Regal, Univ. of Minnesota; Hon. Pamela Resor, Massachusetts House of Representatives; Florence Robinson, Louisiana Environmental Network; Dr. Ted Schettler, Physicians for Social Responsibility; Ted Smith, Silicon Valley Toxics Coalition; Dr. Klaus-Richard Sperling, Alfred-Wegener- Institut, Hamburg; Dr. Sandra Steingraber, Author; Diane Takvorian, Environmental Health Coalition; Joel Tickner, Univ. of Mass., Lowell; Dr. Konrad von Moltke, Dartmouth College; Dr. Bo Wahlstrom, KEMI (National Chemical Inspectorate), Sweden; Jackie Warledo, Indigenous Environmental Network;

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Perchlorate Summaries

Fort Ord, CA

Facility & Location

Fort Ord is located near Monterey Bay in central California, approximately 80 miles south of San Francisco. Since 1917, the installation has served primarily as training and staging facility for infantry troops. In 1940, the 7th Infantry Division (ID) was activated, then 4th, 5th and 6th Divisions as well. In 1957, Fort Ord became a United States Army Infantry Training Center. In 1974, the 7th ID was reactivated at Fort Ord. In 1983, the 7th ID was converted to a light division, operating without heavy tanks or armor. Fort Ord was selected in 1991 for closure under the Base Realignment and Closure (BRAC) process. Troops were reassigned in 1994 when the post formally closed. Although Army personnel still operate a small portion of the post, active Army divisions are not stationed at Fort Ord.

EPA identified Fort Ord as a Superfund site in 1990 due to groundwater contamination. A Multi-Range Area (MRA) located in the south-central portion of Fort Ord is expected to have the highest density of munitions and explosives of concern such as artillery and mortar, containerized and uncontainerized explosives and propellants.

Media Sampled

The Army has tested soil at Fort Ord for perchlorate.
Soil -- The Army tested 442 samples from the Site 39 - Multi-Range Area. Of these, 41 samples detected perchlorate ranging from 13 ppb to 106 ppb. The Army also tested ten soil samples from Site 39-Range 36A. Perchlorate was not detected in any of these samples.

Appropriate Action

Not applicable

POC Information

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These Munitions are widely used in the training of US Military troops.

Pyrotechnics are used to send signals, to illuminate areas of interest, to simulate other weapons during training, and as ignition elements for certain weapons.(1)

Pyrotechnic Devices

Military Explosives (Chemistry) 30 September 1984

UNITED STATES PYROTECHNICS; CHAPTER 10

All pyrotechnic compositions contain oxidizers and fuels. Additional ingredients present in most compositions include binding agents, retardants, and waterproofing agents. Ingredients such as smoke dyes and color intensifiers are present in the appropriate types of compositions.

Oxidizers: are substances in which anoxidizing agent is liberated at the high temperatures of the chemical reaction involved.

Fuels: include finely powdered aluminum, magnesium, metal hydrides, red phosphorus, sulfur, charcoal, boron, silicon, and suicides. The most frequently used are powdered aluminum and magnesium.

Binding agents: include resins, waxes, plastics, and oils. These materials make the finely divided particles adhere to each other when compressed into pyrotechnic items.

Retardants are materials that are used to reduce the burning rate of the fuel-oxidizing agent mixture, with a minimum effect on the color intensity of the composition.

Waterproofing agents are necessary in many pyrotechnic compositions because of the susceptibility of metallic magnesium to reaction with moisture, the reactivity of metallic aluminum with certain compounds in the presence of moisture, and the hygroscopicity of nitrates and peroxides.

Color intensifiers:
- hexachloroethane (C2Cl6)
- hexachlorobenzene (C6Cl6)
- polyvinyl chloride
- dechlorane (C1oCl12).

Smoke dyes are azo and anthraquinone dyes. These dyes provide the color in smokes used for signaling, marking, and spotting.

Flares and Signals The illumination provided by a flare is produced by both the thermal radiation from the product oxide particles and the spectral emission from excited metals.

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Infrared Flare Formulas:
- Silicon
- Potassium nitrate (KNO_3)
- Cesium Nitrate ($CsNO_3$)
- Rubidium Nitrate ($RbNO_3$)
- Hexamethylene
- tetramine
- Epoxy resin

Red-Green Flare System:
- Barium nitrate
- Strontium nitrate 13
- Potassium perchlorate
- Magnesium
- Dechlorane
- Polyvinyl acetate resin

Signal flares are smaller and faster burning than illuminating flares. Various metals are added these compositions to control the color of the flame.

Colored and White Smoke The pyrotechnic generation of smoke is almost exclusively a military device for screening and signaling. Screening smokes are generally white because black smokes are rarely sufficiently dense. Signal smokes, on the other hand, are colored so as to assure contrast and be distinct in the presence of clouds and ordinary smoke.

Venturi thermal generator type. The smoke producing material and the pyrotechnic fuel block required to volatilize the smoke material are in separate compartments. The smoke producing material is atomized and vaporized in the venturi nozzle by the hot gases formed by the burning of the fuel block.

Burning type. Burning type smoke compositions are intimate mixtures of chemicals. Smoke is produced from these mixtures by either of two methods. In the first method, a product of combustion forms the smoke or the product reacts with constituents of the atmosphere to form a smoke. In the second method, the heat of combustion of the pyrotechnic serves to volatilize a component of the mixture which then condenses to form the smoke. White phosphorus, either in bulk or in solution, is one example of the burning type of smoke generator.

Explosive dissemination type. The smoke producing material is pulverized or atomized and then vaporized, or a preground solid is dispersed by the explosion of a bursting charge. The explosive dissemination smoke generator may contain metallic chlorides which upon dispersal, hydrolyze in air. Examples are titanium, silicon, and stannic tetrachloride.

Smoke Agent Mixtures:
- White phosphorus
- Sulfur trioxide
- FS agent

- HC mixture
- FM agent
- Crude oil

The preferred method of dispersing colored smokes involves the vaporization and condensation of a colored organic volatile dye. These dyes are mixed to the extent of about 50 percent with a fuel such as lactose (20 percent) and an oxidizer (30 percent) for which potassium chlorate is preferred.

Tracers and Fumers The principal small arms application of military pyrotechnics is in tracer munitions where they serve as incendiaries, spotters, and as fire control. Two types of tracers are used. The difference between the two types is the method of tracking. The more frequently used tracer uses the light produced by the burning tracer composition for tracking. Smoke tracers leave a trail of colored smoke for tracking. Red is the flame color most often employed in tracers.

Igniter and Tracer Compositions
- Strontium peroxide
- Magnesium
- 1-136 Igniter
- Calcium resinate
- Barium peroxide
- Zinc stearate
- Toluidine red (identifier)
- Strontium nitrate
- Strontium oxalate
- Potassium perchlorate
- Polyvinyl chloride

Incendiaries Two types of incendiaries are commonly used. The traditional type is a bomb containing a flammable material. These materials include thermite (a mixture of aluminum and rust), phosphorus, and napalm. In addition, the case of the bomb may be constructed of a material such as magnesium that will burn at a high temperature once ignited.Depleted uranium is used extensively in pyrotechnics which have armor piercing capabilities.

Depleted uranium deficient in the more radioactive isotope U235, is the waste product of the uranium enrichment process. The depleted uranium is formed into projectiles that can penetrate armor because of their high density and mechanical properties. The impact of the projectile causes the uranium to form many pyrophoric fragments which can ignite fuel and munition items.

Pyrophoric Metals

U	Uranium
Th	Thorium
Zr	Zirconium
Hf	Hafnium
Ce	Cerium
La	Lanthanum

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Pr Praseodymium
Nd Neodymium
Sm Samarium
Y Yttrium
Ti Titanium

Delays and Fuses Delay compositions are mixtures of oxidants and powdered metals which produce very little gas during combustion.

Photoflash Compositions Photoflash compositions are the single most hazardous class of pyrotechnic mixtures. The particle size of the ingredients is so small that burning resembles an explosion. The various photoflash devices are similar, differing principally in size and the amount of delay.

Colored smokes:
Yellow: Auramine hydrochloride
Green: 1,4-Di-p-toluidinoanthraquinone with auramine hydrochloride
Red: 1-Methylanthraquinone
Blue: Not suitable for signaling because of excessive light scatter.

Currently used dyes:
Orange: 1-(4-Phenylazo)-2-naphthol
Yellow: N, N-Dimethyl-p-phenylazoaniline
Blue: 1,4-Diamylaminoanthraqdinone

Black Powders Used in Pyrotechnics
Potassium nitrate
Sodium nitrate
Charcoal
Coal (semibituminous)
Sulfur

Ignition Mixtures Components
Aluminum (powdered)
Ammonium dichromate
Asphaltum
Barium chromate
Barium peroxide
Boron (amorphous)
Calcium resinate
Charcoal
Diatomaceous earth (See also superfloss)
Specular Hematite / Barshot (Fe203) (Red) CAS 14808-60-7 / 14464-46-1
Magnetite/Black Iron Oxide (Fe304) Powder from READE (Black)
Potassium nitrate
Potassium perchlorate
Laminac
Magnesium (powdered)

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Sodium nitrate
Nitrocellulose
Parlon (chlorinated rubber)
Pb02 -
Paleo Bond Adhesive Pb304
Sr peroxide
Sugar
Superfloss
Titanium
Toluidine red toner
Vegetable oil
Vistanex (polyisobutylene)
Zinc Stearate
Zirconium

Referances:

1) Handbook on the Management of Ordnance and Explosives at Closed, Transferring, and Transferred Ranges and Other Sites; December 2001 www.epa.gov/fedfac/pdf/IFUXOCTTHandbook.pdf

US EPA 2002: Handbook on the Management of Ordnance and Explosives at Closed, Transferring, and Transferred Ranges and Other Sites

Chemicals Found in Pyrotechnics
Aluminum
Barium
Chromium
Hexachlorobenzene
Hexachloroethane
Iron
Magnesium
Manganese
Titanium
Tungsten
Zirconium
Boron
Carbon
Silicon
Sulfur
White Phosphorus
Zinc
Chlorates
Chromates
Dichromates
Halocarbons
Iodates
Nitrates
Oxides
Perchlorates

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Privatization of Superfund Cleanup
Fort Ord, California

Pyrotechnic Devices

These Munitions are widely used in the training of US Military troops, quite possibly the single most widely used munitions in training

Constituents Not being Looked For In areas of Residential Development

Constituents not found in EPA Testing models Table 2

Fort Ord Community Advisory Group
October 2008

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Table 2: Military Munitions UXO/OEW Contaminates of Concern (COC's) Potential Soil Contaminats Fort Ord, California

Compound	CAS No.	Recognized/Suspected Human Health Hazards
1) Lead Azide	13424-46-9	Suspected: Carcinogen P65
2) Mercury Fulminate	628-86-4	Recognized: Developmental Toxicant P65-MC
3) Diazodinitrophenol (DDNP)	87-31-0	No Health data found
4) Lead Styphnate	15245-44-0	No Health data found
5) Tetracene (hydrocarbon)?	92-24-0	Suspected: Carcinogen CCRIS
6) Potassium Dinitrobenzofuroxane (KDNBF)	29287-75-2	No Health data found
7) Lead Mononitroresorcinate (LMNR)	51317-24-9	No Health data found
8) Antimony sulfide	1315-04-4	No Health data found
9) Zirconium	7440-67-7	No Health data found
10) Lead dioxide	1309-60-0	Recognized: Carcinogen P65-MC, Developmental Toxicant P65-MC, Reproductive Toxicant P65-MC
11) Gum Arabic	no match	No Health data found
12) Potassium chlorate	3811-04-9	HAZMAP: Methemoglobinemia, Anemia.
13) Lead mononitroresorcinate	51317-24-9	HAZMAP: Neurotoxin, Hepatotoxin, Nephrotoxin, Reproductive Toxin
14) Nitrocellulose (BK2-W)	9004-70-0	HAZMAP: Neurotoxin,
15) Lead thiocyanate	592-87-0	HAZMAP: Neurotoxin, Hepatotoxin, Nephrotoxin, Reproductive Toxin
16) Nitrostarch	?	No Health data found
17) 1,2,4-Butanetriol Trinitrate (BTN)	6659-60-5	HAZMAP DOT listed Hazardous Materials
18) Diethyleneglycol Dinitrate (DEGN)	693-21-0	HAZMAP DOT listed Hazardous Materials, Suspected: Neurotoxicant RTECS, Respiratory Toxicant RTECS
19) Triethylene Glycoldinitrate (TEGN)	111-22-8	No Health data found
20) 1,1,1 Trimethylolethane Trinitrate (TMETN)	3032-55-1	No Health data found
21) Ethylenediamine Dinitrate (EDDN)	20829-66-7	No Health data found
22) Ethylenedinitramine (Haleite)	505-71-5	No Health data found
23) Nitroguanidine (NQ)	556-88-7	Suspected: Respiratory Toxicant RTECS
24) 2,4,6Trinitrophenylmethylnitramine (Tetryl)	479-45-8	Suspected: Immunotoxicant HAZMAP, Neurotoxicant DAN RTECS, Respiratory Toxicant HAZMAP, Skin or Sense Organ Toxicant HAZMAP RTECS
25) Ammonium Picrate	131-74-8	HAZMAP: Skin Sensitizer, Hepatotoxin
26) Hexamethylene	110-82-7	Suspected: Neurotoxicant DAN HAZMAP RTECS
27) Dechlorane	2385-85-5	Recognized: Carcinogen P65, Suspected: Endocrine Toxicant BKH EPA-SDWA IL-EPA JNIHS KEIT RTECS,Gastrointestinal or Liver Toxicant ATSDR RTECS, Kidney Toxicant MERCK
28) Sulfur trioxide	7446-11-9	Suspected: Respiratory Toxicant RTECS, Skin or Sense Organ Toxicant RTECS
29) Calcium resinate	9007-13-0	No Health data found
30) Barium peroxide	1304-29-6	New Jersey Haz. Sub. Fact Sheet: http://nj.gov/health/eoh/rtkweb/documents/fs/0190.pdf

Fort Ord Community Advisory Group 2008 / Residential and commercial Development of Former Military Training Areas

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Table 2: Military Munitions UXO/OEW Contaminates of Concern (COC's) Potential Soil Contaminats Fort Ord, California

31) Zinc stearate	557-05-1	Skin, eye, and respiratory tract irritant CAMEO
32) Toluidine red	2425-85-6	No Health data found
33) Strontium nitrate	10042-76-9	NJ-HSFS: Repeated exposure may damage the lungs, heart, liver, and kidneys and affect the nervous system.
34) Strontium oxalate	814-95-9	No Health data found
35) Auramine hydrochloride (yellow)	2465-27-2	Suspected: Carcinogen CPDB, Gastrointestinal or Liver Toxicant RTECS
36) 1,4-Di-p-toluidinoanthraquinone (green)	128-80-3	No Health data found
37) 1-Methylanthraquinone (red)	954-07-4	HAZMAP: Possible Carcinogen, Hepatotoxin, Skin Sensitizer
38) 1-(4-Phenylazo)-2-naphthol (orange dye)	?	No Health data found
39) N,N-Dimethyl-p-phenylazoaniline (yel dye)	60-11-7	IARC: Possible Carcinogen, HAZMAP: Hepatotoxin, Skin Sensitizer
40) 1,4-Diamylaminoanthraqdinone (blue dye)	2648-15-3	No Health data found
41) Ammonium dichromate	7789-09-5	Recognized: Carcinogen P65-MC, Suspected: Cardiovascular or Blood Toxicant RTECS, Gastrointestinal or Liver Toxicant RTECS, Immunotoxicant EEC SNCI, Kidney Toxicant RTECS, Skin or Sense Organ Toxicant EEC
42) Asphaltum	8052-42-4	Recognized: Carcinogen P65
43) Barium chromate	10294-40-3	Recognized: Carcinogen P65-MC
44) Boron	7440-42-8	Suspected: Cardiovascular or Blood Toxicant KLAA, Developmental Toxicant ATSDR, Neurotoxicant LU, Respiratory Toxicant LU
45) Potassium nitrate	7757-79-1	HAZMAP: Methemoglobinemia
46) Laminac	?	No Health data found
47) Sodium nitrate	7631-99-4	Suspected: Cardiovascular or Blood Toxicant RTECS, Respiratory Toxicant RTECS
48) Parlon (Chlorinated rubber)	9006-03-5	EPA Pesticide Inert Ingredient
49) Superfloss	7631-86-9	No Health data found
50) Vistanex (polyisobutylene)	9003-27-4	No Health data found
51) Thorium Tu	7440-29-1	Recognized: Carcinogen P65-MC
52) Zirconium Zr	7440-67-7	Suspected: Respiratory Toxicant NEMF
53) Hafnium Hf	7440-58-6	No Health data found
54) Cerium Ce	7440-45-1	Suspected: Respiratory Toxicant NFMF, Dermatotoxin HAZMAP
55) Lanthanum La	7439-91-0	No Health data found
56) Praseodymium Pr	7440-10-0	No Health data found
57) Neodymium Nd	7440-00-8	No Health data found
58) Samarium Sm	7440-19-9	HAZMAP: Internal Toxicity: High
59) Yttrium Y	7440-65-5	HAZMAP: Hepatotoxin, Fibrogenic
60) Rubidium Nitrate	13126-12-0	No Health data found
61) Cesium Nitrate	7789-18-6	Substance may be toxic to blood central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.
62) Specular Hematite	14808-60-7	No Health data found
63) Magnetite	1309-38-2	No Health data found

Constituents compiled from: Chapter 10 Pyrotechnic Devices: Military Explosives (Chemistry) 30 September 1984

Fort Ord Community Advisory Group 2008 / Residential and commercial Development of Former Military Training Areas

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Calderon, Vanessa A. x5186

From: Doug and Susan Kasunich [sandkas@netpipe.com]
Sent: Monday, February 02, 2009 3:53 PM
To: ceqacomments
Subject: Public comment GPU 5 sent: 02/02/2009

Monterey County
Planning and Building
Inspection Administration

FEB 17 2009

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Rec'd as CEQA Comments 2/2/09 3:53PM

February 2, 2009

My name is Doug Kasunich. I am a resident within the North Monterey County Planning Area. Following are brief comments regarding issues in the North Monterey County Planning Area discussed in the DEIR for the Monterey County 1982 General Plan Update.

The DEIR recommends no further subdivision of lands in the North Monterey County planning area. This policy will most likely fuel lawsuits by individuals wishing to split or subdivide within this area. Succesful litigation opposing this policy would result in further growth in this resource poor area despite General Plan language. Litigation would also incur costs to Monterey County residents and developers alike, funds that would be better used providing housing for our work force. Language spelling out conditions for subdivision would be more beneficial to existing residents than the proposed ban. GPU 5 should restrict subdivision of lands in this area to only properties served by a community large water system and sanitary sewers that return flow to the existing Regional Water Reclamation facility near Marina. At the present time these utilities do not exist in the planning area, a situation that would essentially have the same result as the proposed language in GPU 5. 1

North County water wells are fast succumbing to excessive overdraft and septic system related nitrate loading, two of the main reasons GPU 5 entertains a no growth policy for this area. The problematic groundwater situation already negatively affects a large number of existing parcels, as many as 1 in 4 in the Granite Ridge area (per MCWRA data). Correcting this situation will financially tax local residents, creating hardship for many. A sanitary sewer and water distribution policy could facilitate movement on efforts to provide infrastructure in this area as well as provide additional sources of funding for those improvements. The people involved in the development industry tend to be the members of our society who get things done. Unfortunately, because subdivision of lands has been allowed to proceed regardless of resource shortfalls, the movers and shakers among our citizenry have not applied their skills towards solving North County resource problems. Approvals for projects that increase the hardened water demand in this water short area despite data documenting the lack of a long term water supply actually impedes progress on correcting the resource deficiencies. If the ability to subdivide was predicated on the construction of community water and sanitary sewerage facilities, North County residents would be more likely to receive timely relief from groundwater quantity and quality problems. Sanitary sewers would allow rezoning to take place by eliminating the minimum 1 acre lot size mandated for septic disposal. If water and sewer improvements first followed existing traffic corridors, higher density in fill could facilitate construction of affordable housing on existing vacant land and additional auxiliary units on lots already built out. 2

The FEIR for the Monterey County General Plan Update should adopt as a goal and /or prerequisite, sanitary sewer and community large water distribution systems for further growth to occur in the North Monterey County Planning Area. 3

The vague language and numerous amendments gracing the 1982 Monterey County General Plan resulted in litigation surrounding almost every new subdivision proposed for North Monterey County. 4

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GPU 5 must have concise, clear language along with some mechanism to limit General Plan Ammendments or policies proposed will continue to generate litigation at our citizens expense. Mandating sanitary sewers and community large water systems as a condition for subdividing existing lots of record in the North Monterey County Planning Area would eliminate the "anything goes" policies that, as a result of variances, exceptions and amendments, are now the 1982 General Plan. 4

Thank you, Doug Kasunich, Prunedale

02/02/2009

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-----Original Message-----
From: Gowin, Henry M.
Sent: Monday, October 13, 2008 2:51 PM
To: Holm, Carl P. x5103; Knaster, Alana x5322; Novo, Mike x5192
Cc: 105-Clerk to the Board Everyone
Subject: FW: GPU 5

For the GPU-5 comment files.

-----Original Message-----
From: Kathryn Knauf [mailto:knauf@mbay.net]
Sent: Sunday, October 12, 2008 11:11 AM
To: 100-District 2 (831) 755-5022
Subject: GPU 5

Dear Supervisor Calcagno,
Please consider my strong concerns about hillside and steep slope ordinances that encourage projects in Monterey County's scenic foothills. I would like you to know that I want Monterey County farms, open space and valuable resources protected from developer
sprawl. We won't have a society if we destroy the
environment. Please vote for the environment because everything else is temporary. Sincerely, Don Knauf Leafwood Drive, Elkhorn 1

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Monterey County
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Inspection Administration

FEB 02 2009

I-12

RECEIVED

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February 2, 2009

Carl P. Holm, AICP
Monterey County Planning Department
168 West Alisal Street, 2nd Floor
Salinas, California 93901

HAND DELIVERED

Re: 2007 General Plan Draft EIR

Dear Mr. Holm:

The following comments are submitted on behalf on L & W Land Company, Inc., and Sakata Ranches, Inc., which own land in the Pajaro area of Monterey County. My clients appreciate the opportunity to comment on the 2007 General Plan Draft EIR. We believe that these comments reflect concerns shared by many landowners and residents of the Pajaro community.

1. The text on page 4.2-11, and Table 4.2-9 (Change in Net Important Farmland Designation) contain flawed analysis. The text and the table assert that 2,571 acres of Important Farmlands will be "removed from Important Farmlands designation" through buildout of the 2007 General Plan. Neither of the sources cited for this assertion (the California Department of Conservation website and the 2007 General Plan) provides any factual basis for the asserted conclusion, or any basis to show how the number of 2,571 was derived. 1

2. At page 4.3-15, the DEIR asserts that flood events in the Pajaro area have " displaced thousands of persons." No authority is cited for this statement which appears to be grossly exaggerated. Either delete the statement or provide citation to reliable authority for the statement. 2

3. The DEIR describes and assesses impacts for two time periods: the 2030 planning horizon (the life of the 2007 General Plan), and buildout of all land designated for development, which is estimated to be 84 years (2092). The "project" is defined as a general plan intended to guide growth and development through 2030, not 2092. It is inappropriate to speculate what development might 3

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Page 2

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occur beyond the planning horizon because assessing potential impacts 84 years in the future is simply far too speculative to have any substance or relevance to the County decision-makers. In fact, it is more likely to confuse and mislead decision-makers in their analysis of the project before them- the 2007 General Plan. Any discussion of potential impacts beyond the planning horizon of the 2007 General Plan must be removed from the DEIR. 3

4. Tables 3-7. 3-8 and 3-9 are illustrative of the confusion caused by attempting to speculate about a planning horizon beyond the life of the 2007 General Plan. The text of the DEIR on page 3-12 states that these tables are intended to reflect development projected to occur over the 2030 planning horizon and eventual buildout of the county in 2092. While the baseline (Table 3-7) is shown exclusively in acres, "new" uses (Tables 3-8 and 3-9) mix acres and units, so that a comparison is impossible. The two columns of 2030 acres ("New Commercial by 2030" and "New Industrial by 2030") in Table 3-8 add up to 310 acres, while the Total Area column shows only a total of 256 acres in the entire area. The two columns assumed to represent 2092 buildout ("New Buildout Commercial" and "New Buildout Industrial") in Table 3-8 appear to indicate an additional 160 acres (for which there is no supporting data or analysis), which would apparently bring the Total Area to 470 acres. Similar problems exist with respect to Table 3-9. It appears that the "factual" basis for impact analysis in the Pajaro area is off by a factor of around 46%, which is unacceptable. 4

5. The Water section of the DEIR contains extensive discussion regarding water constraints- both quantity and quality- in the Pajaro area, and predicts that conditions are expected to get worse before they get better. The DEIR also projects that water projects intended to resolve these constraints are sufficiently uncertain that they cannot be analyzed in the DEIR. If these forecasts are accurate, the likelihood that the intensely-irrigated farmland in the Pajaro area can or will stay in active row crop production is remote. The DEIR should assess the impacts of significant areas of row croplands being removed from production due to water constraints[1], and analyze possible alternative land uses for these lands.[2] 5

We look forward to the County's good faith, reasoned analysis in response to these comments.

[1] Compare the San Joaquin Valley where significant amounts of farmland have been taken out of production due to the unavailability of irrigation water.

[2] Such an alternative analysis is also justified by Policy LU-2.24 of the 2007 General Plan that designates the Pajaro Community Area as the "highest priority" for the preparation of a Community Plan, which "may include recommendations for Community Area boundary changes."

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Page 3 February 2, 2009

Very truly yours,

Brian Finegan

Brian Finegan

cc: L & W Land Company, Inc.
Sakata Ranches, Inc.

I-13

To: Monterey County Board of Supervisors 30 Jan 2009
Attn: C. Holms, Asst Dir Planning Dept
HolmCP@co.monterey.ca.us
Salinas CA

From: Mr. Eddie Mitchell
70 Carlsen Road
Prunedale CA 93907

Subject: Public input to the 2007 GPU5 DEIR, PLN #3000196

A. 12 Guiding Principals

A1: Why are the Board of Supervisor (BOS) approved 12 GPU Guiding Principals missing from the DEIR?

A2: Why is the DEIR environmental analysis not correlated to the BOS approved 12 Guiding principals so the BOS and the public can assess the environmental impacts in relation to the 12 Guiding Principals?[1] 1

B. General scale impacts

B1: Page 1-1 declares that project impacts are analyzed on a general scale. Given this approach for providing environmental impact analysis, why are the following "general scale" considerations **not** addressed?

- **B1a:** A table showing where the new sources of water are needed to support new build-out?
- **B1b:** A capitalization infrastructure financing plan that supports development and delivery of new sources of water so the public and BOS can understand the magnitude of environmental impact of any new water distribution networks? 2
- **B1c:** The potential environmental impacts of housing build-out without new sources of water, should a 2.5 year or 5 year drought occur during the 20-year life of the General Plan?
- **B1d:** The potential environmental impacts of build-out should some percentage of new sources of water fail to materialize?

B2: In numerous places in the DEIR (such as page 4.3-17) there are comments about current water sources having suspect sustainability or significant overdraft. So why does the DEIR present no probability analysis/assessment on the risks of depending upon unproven new sources of water to meet development demand? 3

B4: Why does the DEIR fail to present any assessment of the risks to the public should a 2-year or 5-year drought occur in the County while allowing build-out prior to required water projects (those needed to provide sustainable water) being built? 4

C. Inadequate Environmental Analysis of the Impacts Related to Water

1

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C1: Why does this DEIR fail to address the potential environmental impacts to coastal cities and other community areas, by the General Plan establishing a public policy of **allowing** years of housing build-out before "new sources" of water are built? 5

C2: Why does this DEIR knowingly allow growth without sustainable water for years, inconsistent with the GPU5 policy to "restrains development without a proven sustainable water supply..."?[2]

C3: The primary mitigation to overcome higher water usage are "regional and coastal water projects".[5] Why doesn't this DEIR reveal the current Castroville Seawater Intrusion Project (CSIP water injection) has failed to halt seawater intrusion? Why does this DEIR fail to provide any empirical data to substantiate the claim that the CISP has "slowed seawater intrusion in the area"?[6] 6

C2: Why does this DEIR claim that "regional and coastal water project" mitigations will be beneficial when at page 4.3-25 it states: "There are no documented instances of fully restoring groundwater basins to pre-intrusion levels." 7

C4: Regarding water supply impacts, Paragraph 1.4.2 admits, "future initiatives are not well enough known to determine that they would avoid this impact." So why doesn't this DEIR address the potential environmental impact of increased saltwater intrusion caused by additional build-out if "regional and coastal water projects" have marginal or zero impact upon slowing saltwater intrusion? 8

C5: Paragraph 1.4 claims that significant water resource impacts are unavoidable. This unavoidable condition is only unavoidable if development build-out is allowed prior to the establishment of reliable new sources of water or prior to proof that "regional and coastal water project" mitigations are working. So **why doesn't** this DEIR provide a mitigation to not allow development until new water sources are established or until the MCWRA can provide empirical proof that mitigations WR-1 and WR-2 are in fact reducing saltwater intrusion near coastal cities? 9

C6: Why does this DEIR fail to provide any empirical engineering evidence of **when** sustainable water benefit will accrue to any city, community area or rural centers because of the Salinas Valley Water Project? 10

C7: Why does this DEIR claim a mitigation benefit from "regional and coastal water projects" without sizing the current and increased water draw down/demand and then **compare it** to the amount of new sources of water from those projects in each of the three watersheds? 11

2

County of Monterey Resource Management
Agency, Planning Department

Comment Letters
Individuals

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C8: What is the empirical data that substantiates the SVWP can provide the amount of new water demand summarized in table 4.3-9 (over 49,000 AFY). 12

C9: What is the empirical data that substantiates the claim on page 4.3-130 that "In the Salinas Valley the SVWP will provide sufficient supply to reverse existing overdraft and seawater intrusion problems and provide water for **new** development"? This claim anoints the SVWP as the solution for all water problems in all portions of the valley through 2030. What data shows that ***such a broad reaching claim*** is even remotely possible to supply sustainable water to sites over a hundred miles away, to place up gradient like North County, and while overcoming over fifty years of the over drafting of coastal aquifers? 13

C10: What documented instances, from anywhere in the North American Continent or Europe, provide evidence that a project like the SVWP, has re-balanced a water basin of similar sized as the Salinas Valley near an ocean and supplied benefit to far flung water demand sites? 14

C11: What empirical engineering evidence substantiates **how** new water sources from "regional and coastal water projects" such as the Salinas Valley Water Project, will ever **reach** the **multiple** new development areas in the Salinas Valley where demand is anticipated per table 4.3-9? 15

C12: The DEIR on page 4.3-136 reveals that the only new pipe distribution network from the SVWP it to the CISP. None goes to North County and none goes to any other location in the 155 mile long Salinas Valley. Therefore, what empirical data substantiates how the new source of water reach and reach vertical and up-gradient locations such as North County and mid-valley cities while passing through identified aquitards sitting between the SVWP source water and the demand site? 16

C13: At page 4.3-136 the DEIR reports that the SVWP would supply 9,700 AFY for irrigation. Why doesn't the DEIR reveal that 9,700 AFY merely matches the average annual irrigation usage of 9,700 AFY providing no new source of water for new development? Why doesn't the DEIR reveal that this action does nothing to overcome existing overdraft, it only reduces further mining of the coastal aquifer, and does not supplying any benefit to new development in the Salinas Valley out to the year 2030? 17

C14: Why does the DEIR fail to reveal that allowing build-out in the Salinas Valley prior to needed "new sources" of water being built and distributed, draws down the water basin four times more than the 9,700 AFY that the SVWP Phase-1 is injecting into the basin, thus significantly adding to saltwater intrusion and endangering the viability of coastal farms and cities? 18

3

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C15: Table 4.3-8 shows multiple water sources polluted with pesticides and other pollutants, including the Salinas River, the old Salinas River estuary, as well as the Salinas Reclamation Canal. So why does this DEIR fail to reveal the environmental and engineering difficulties that "regional and coastal water projects" (such as the SVWP) will have with removing pesticides so adequate quantities of potable water can be supplied to new development demand sites? 19

C16: Why does this DEIR fail to reveal the degree pesticide removal from water flowing past the Marina landfill will or does impact the SVWP and the CISP? 20

C17: Table 4.3-7 addresses past data on aquifer over drafting in North County. Why does this DEIR not provide an environmental analysis of the impact of expected new development on the overdraft condition? Why does the table exclude the new development impacts to overdrafting? 21

C18: The DEIR identifies a number of possible unfunded projects for generating new sources of water and/or distributing new sources of water. Why does this DEIR fail to provide a risk analysis showing optimistic, most-likely, and pessimistic estimates for when these multiple projects would come on line? Such analysis is a common tool used by decision makers to assess risk of complex projects. 22

C19: As structured the DEIR is following an unstated assumption that all projects for generating or distributing new sources of water will come online **early** in the life of the general plan. Why was this assumption not stated in Section 3.3.1 nor evaluated for risk in the EIR analysis. 23

C20: The 1995 FUGRO report estimated that North County would run out of water in 20 years (~2015). Since the release of that report, numerous families are without water in North County and nitrate/arsenic poisoning in North County is significantly worse in still working wells (as shown in this DEIR). So why doesn't this DEIR reveal that empirical and on-site data substantiates that the North County aquifers are failing just as the FUGRO report predicted? Given this failing-aquifer/basin problem, why doesn't this DEIR report the risk to North County areas and to coastal cities caused by allowing continued build-out in the north Salinas valley area before "new sources" of water are available to North County and nearby coastal cities? 24

C21: Why does this DEIR ignore the 1995 FUGRO report that sustainable water conditions in North County could only be achieved by limiting development to one residence per ten acres? 25

C22: At page 4.3-121 why does this DEIR fail to state that the winery yearly water demand **may not** include water that is currently being 26

4

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used and may be above and beyond current usage? Why does this section of the DEIR not assess the possible environmental impacts if conversion of Williamson land does not convert as assumed? 26

D. Wine Corridor Effects

D1: It is well known in California that Napa Valley's wine corridor stimulated a road congesting increase in traffic. Why does this DEIR fail to address the environmental impacts (green house gases, traffic congestion, and safety) from a growth in traffic in the County stimulated by the development of a Salinas Valley wine corridor?[3] 27

D2: Why does this DEIR fail to address the cumulative environmental impact of "10 full scale and 40 artisan wineries" in the wine corridor?[4] 28

E. Alternative Plans

E1: Why does this DEIR fail to point out that significant impacts to water could easily be avoided by first developing new sources of water along with distribution networks **prior** to allowing development. Another mitigation the DEIR fails to offer is sequencing development after a new water source or new water distribution networks are funded and under construction. Since both of these sequencing mitigations are clearly feasible why were they not presented to BOS decision makers and the public? 29

H. Comment Summary:

The above described weaknesses in this DEIR show that this analysis/report is clearly inadequate and fails to inform the BOS and the public of significant environmental effects in regards to potable water supply. Specifically:

This DEIR identifies possible benefits from many unfunded proposed water projects, without revealing the risk of allowing building before any of these projects come online and before any of these projects demonstrate blockage of saltwater intrusion or adequate quantities of potable water. 30

This DEIR presents a public policy of build houses first while hoping future water sources will come on line and future distribution networks will ever reach the new housing – without revealing the risks of such an approach.

This DEIR fails to reveal that the water sources for coastal cities are placed at risk of severe saltwater poisoning by a build first public policy.

Additionally, in regards to water supply impacts, this DEIR does not comply with the CEQA requirement (listed in paragraph 2.1.1) to "identify ways that environmental damage can be avoided or 31

5

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significantly reduced". For example, this DEIR fails to identify or analyze any of the below listed alternatives to avoid significant impacts to water:

Alternative 1: Allow build-out to occur once a "new source" of water for the building area has been funded.
Alternative 2: Allow build-out to occur once a "new source" of water for the building area are under construction.
Alternative 3: Allow build-out to occur once a "new source" of water for the building area are generating potable water.
Alternative 4: Allowing build-out south of Soledad now while delaying build-out in north Salinas Valley until "new sources" of water are on-line generating potable water. 31

Since all of these sequencing mitigations are clearly feasible why were they not presented to BOS decision makers and to the public?

Eddie Mitchell
Prunedale Resident

Footnotes:
1. Pg 1-3 declares 10 GPU Objectives but fails to identify the BOS approved GPU 12 Guiding Objectives. 1

2. Pg 1-3 Table 1-1, restrains development without a proven sustainable water supply 5

3. Pg 1-4 para 1.2.1 Establish the agriculture wine corridor plan to facilitate wineries along a corridor in the central and southern Salinas Valley... 27

4. Pg 1-3 Table 1-1, Agriculture Wine Corridor Plan 28

5. Pg 1-6 Table 1-2 Mitigatiions, Mitigations para 4.3 Water 6

6. Pg 4.3-116

6

I-14 40

Monterey County
Planning and Building
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FEB 12 2009
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February 2, 2009

Carl P. Holm, AICP
Monterey County Planning Department
168 West Alisal Street, 2nd Floor
Salinas, California 93901

HAND DELIVERED

Re: 2007 General Plan Draft EIR

Dear Mr. Holm:

The following comments are submitted on behalf on the Phelps Family and Omni Resources, LLC, owners of commercially-zoned land at the intersection of Highway 68 and Corral de Tierra Road in the Toro Area of Monterey County. My client's property is the subject of a long-pending application for the removal of the B-8 zoning overlay (PC980074), and the approval of a combined development permit for the Corral de Tierra Village Center to serve the Toro Area community (PLN020344).

1. **Use of 2092 Time Horizon.** The DEIR describes and assesses impacts for two time periods: the 2030 planning horizon (the life of the 2007 General Plan), and buildout of all land designated for development, which is estimated to be 84 years (2092). The "project" is defined as a general plan intended to guide growth and development through 2030, not 2092. It is inappropriate to speculate what development might occur beyond the planning horizon because; assessing potential impacts 84 years in the future is simply far too speculative to have any substance or relevance to the County decision-makers. In fact, it is more likely to confuse and mislead decision-makers in their analysis of the project before them- the 2007 General Plan. Any discussion of potential impacts beyond the planning horizon of the 2007 General Plan must be removed from the DEIR. 1

2. **Toro Water Studies.** The Water chapter of the DEIR contains two discussions of groundwater conditions in the Toro area (El Toro Creek Subwatershed on page 9, and El Toro Creek Groundwater Sub-Basin on page 35). Both require comment and correction. 2

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November 2, 2009

The only groundwater study cited in the DEIR is Geosyntec Consultants. (2007). El Toro Groundwater Study. To give an accurate analysis of groundwater conditions, in the Toro Area, the DEIR should also cite other studies commissioned by the County of Monterey[1] which reach different conclusions:[2]

- Anderson-Nichols & Co., Inc. (1981) Final Report – El Toro Area Groundwater Study. This report concluded that in the Lower Corral de Tierra sub-basin (in which the Phelps/Omni property is located) there is 89,400 acre feet of groundwater storage, annual inflows of 2,323 acre feet per year, and a demand at "saturation" buildout of 738 acre feet per year, with a surplus of 1,585 acre feet per year. The conclusions of the report included the following:
  - "The overall quantity and quality of the existing groundwater supply in the El Toro area are sufficient to meet the demands of both the current population and the population projected for saturated development."
  - "The continuation of the existing moratorium on subdivision within the El Toro area is not warranted by existing or projected groundwater conditions."
- Fugro West, Inc. (1996) Additional Hydrogeologic Update – El Toro Area. "As a starting point, it is suggested that the sub areas north of the trace of the Chupines fault be aggregated into a single unit…Analysis suggests that water supply for the area is likely adequate to meet build-out demand… [T]he current B-8 regulation be revised to apply only to the area south of the Chupines fault."[3]
- Fugro West, Inc. (February 4, 1998) Letter Report to California Public Utility Commission: "The political response to the 1991 [Stahl, Gardner & Dune, Inc.] report was to place a temporary "B-8" zoning restriction (moratorium on subdivisions) on the area, although this action was explicitly not recommended…The [1996 Fugro] report concludes that there is sufficient water in the combined northern subareas and recommends that the moratorium be lifted in the subareas north of the [Chupines] fault. The Ambler Park Water Company service area is entirely north of the fault, and there is no factual reason for the PUC to impose a moratorium on connections in this area."[4]

2

[1] All of which are in the possession and control of the County of Monterey.
[2] Where there is disagreement among experts, the EIR should summarize the main points of disagreement among the experts (Guidelines Section 15151).

[3] The Phelps/Omni property is in the area north of the Chupines fault, recommended to be eliminated from the B-8 restriction.

[4] The Ambler Park Water Company has now been acquired by Cal American Water Company. The Phelps/Omni property is within the service area of this water company, has a can-and-will serve letter from the company, and currently receives and pays for service from Cal Am for the three existing fire hydrants on the Phelps/Omni property.

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The DEIR incorrectly states: "A 2007 groundwater study [the Geosyntec report] recommended expansion of the B-8 zoning to cover the entire extent of the El Toro Primary Aquifer System.) DEIR p.4.3-35.) In fact, the Geosyntec report says something quite different:

> "*Expansion of the B-8 zoning is recommended for areas with negligible and poor potential for groundwater production.*" (p. 36; emphasis added.)

The significance of this mis-statement for the Phelps/Omni property is obvious: Figure 4-14 of the Geosyntec report identifies the Phelps/Omni property as within an area containing the highest level of estimated saturated thickness (801 – 1000 feet), and the highest level of potential for groundwater production.

It is important to note that the Geosyntec report has never been the subject of a public hearing to review its accuracy or validity. And has never been subjected to peer review. However, the firm of Luhdorff & Scalmanini Consultants, (consulting hydrogeologists with more than thirty years of professional experience in the investigation, development, use, protection and management of ground-water resources) reviewed the Geosyntec report on behalf of Phelps/Omni. Their September 18, 2007 report identifies significant defects in the analysis and conclusions of the Geosyntec report, including the following:

- The groundwater level trend line analysis was misapplied due to inaccurate application of trend lines and resulting interpretation. The analysis and accompanying report table (Table 4-4) and trend lines overlain on groundwater elevation hydrographs presented in Appendix D are misleading and result in inaccurate evaluations of groundwater trends, which presumably led to the Report's conclusions of overdraft conditions.
- The trend lines appeared to be arbitrarily located on many hydrographs which led to an interpretation of negative sloping hydrographs. More representative trend lines…would have led some hydrographs to have relatively flat or positive slopes rather than negative slopes.
- The extrapolation of groundwater level changes over the 1960 to 2005 time period from hydrographs with limited historical data…is misleading and leads to inaccurate reporting of total groundwater elevation changes as shown in Table 4-4.
- [A] water budget or balance of the El Toro area was not presented in the Report, consequently, the Section 6 heading "Water Balance" and Figure

2

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Page 4

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6-1 are misleading. The title for Table 6-2 is misleading as it does not contain estimated annual water use; rather, it presents water use factors by selected land use categories. The total areas served by the selected land use categories are not presented; therefore, any calculation of total water use, return flow, and pumping by land use category is not possible, nor are they presented in the Report. The omission of these data prevents any comparison between recharge and other water budget components estimates and calculated change in storage.

- Table 6-5 presents "current" (1995) demand and recharge by subarea; overall, the results show a long term average surplus. The Report does not explain how there can be historical declining groundwater elevations under conditions in which there is a surplus in recharge (with the exception of the Calera Canyon subarea).
- Based on the review of the Report's analysis and interpretations, the conclusion that overdraft exists in the El Toro area is not fully supported by the findings presented in the Report…The Report's findings of overdraft, primarily on the author's interpretations of long-term historical groundwater elevation declines conflict with estimates of average recharge that are greater than historical demand.

2

The EIR should be revised to address these comments. We look forward to the County's good faith, reasoned responses to the foregoing comments.

Very truly yours,

Brian Finegan

Brian Finegan

cc: Eric Phelps

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I-15

From: Nancy Pratt <nancycoast@earthlink.net>
Date: February 2, 2009 4:11:13 PM PST
Subject: Fwd: GP5 Grade no more than 30%

General Plan Comment Re: grade revision of more than 30%

Before making any changes in the General Plan's Grade limitations, or allowing exceptions to the plan in certain cases, please do the research on what such a decision cost Marin County in the 1990's. When the Planning Commission and Board of Supervisors allowed a variance, even though their own geologist reports from @30 years previous, made it clear a particular property should not be graded, the elected officials ignored staff. Having a world famous architect (I.M. Pei), and an extremely wealthy foundation (The Beryl Buck), and a hopefully, world renowned research facility on aging, in the county was to much to say no to. After construction of the facility, the hill slid and caused damage to numerous homes, including displacing several families.

1

Please be prudent now, and save Monterey taxpayers from foreseeable lawsuits from bad decisions.

Questions I would like answers to when considering slope grading at 30% or more are:
(1) What is the baseline for grading?;
(2) Is this grade determined at a particular point of the slope or is it an overall average?;
(3) Does landfill mitigate the grading and how would it mitigate potential land movement? (I am thinking here of not only the Novato example stated above, but also the Sand City Ecoresort with a sand dune that does not want to stay fenced in.)

2

Thank you for consideration of this point in GP5.

Nancy Pratt
179 Del Mesa Carmel
Carmel CA 93923

nancycoast@earthlink.net

36

I-16

To: Carl Holm, Assistant Director, Monterey County Planning DEpartment
Fax: (831) 757-9516
From: Margaret Robbins
Subject: DEIR for GPU 5

Attached are my comments (18 pages) on the DEIR for GPU 5. The sections covered are: Culteral Resources, Population and Housing, Hazards and Hazardous Materials, Transportation, Carmel Valley Master Plan Supplemental Policies, and Executive Summary.

Margaret Robbins, CVA Board Member
January 31, 2009

Please e-mail me at margaretmike@aol.com so I know that you have received this fax.

Total pages including this cover page: 18

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I-16

Cultural Resources 4.10, Abstract 4.10.1

Paragraphs two and three. Please explain in detail why all potential impacts from development and land use activities comptemplated by the 2007 General Plan and all potential cultural resource impacts for implementation of the proposed Agricultural Winery Corridor Plan would be less than significant and not require mitigation. For example, Exhibit 4.10.2 Archaeological Sensitivity shows Carmel Valley Village to rate high in sensitivity, yet The 2007 General Plan proposes that Gardner Tennis Ranch along side the Carmel River be designated as a "special treatment area". Please define in detail what a "special treatment area" is and exactly how it will be handled by the Planning and Building Department. 1

In addition, page 4.10.6 , Esselen. This paragraph lists two Esselen tribtets: Excelen (Carmel Valley) and Tucutnut (Carmel River) where the 2007 General plan lists Rancho Canada Village with being developed under a specific plan. Please list the records used and the souces consulted with that allow a sweeping statement such as the one in the first sentence. 2

Public Service Element, page 4.10-2. By reference PS-12.2 and PS-12.4 by please how encouraging, but not requiring, private property owners to submit applications for appropriate properties to either the state or nation register will ensure awareness of existing historic resources and their locations. 3

The various policies referenced in the balance of page 4.10.12: Please explain exactly who will be responsible for ensuring that these policies will be met and explain how the words "encourage" and "promote" will accomplish compliance. 4

Please explain in detail why Gardner's Tennis Ranch, a "special treatment area" in Carmel Valley is not defined and outlined the same way as "Paraiso Hot Spings on Page 4.10.15. 5

Page 4.10.16 Please explain why no mitigation measures beyond CUL-1 are needed to preserve historic resources when the policies referenced above are not enforceable. 6

Page 4.10.17. Open Space and conservation easement Element, last paragraph: Who is responsible for "establishing procedures, educating the public" to identify sensitive areas? When will the County adopt a uniform set of guidelines for data recovery programs and who is responsible for monitoring these guidelines and who is responsible for providing the funding needed? Please explain in detail. 7

Page 4.10.20 Significance Determination. Relating to buildout and the preservation of archeaological resources. "Assuming these (the rather toothless policies in the General Plan) or more stringent requirement remain in place" ...archeaological resources would not be significantly impacted. The writer 8

(1)

seems to assume that more stringent requirements will not be put in place. Please explain in detail why no mitigation measures beyond CUL-1 is needed. 8

Paleontological Reources, page 4.10.21 Please explain in detail where the funding will be secured to establish procedures, identify and map resources? Who is responsible for monitoring the polocoes? 9

Page 4.10-25 Policy OS-8.5. When will a Native Californian Advisory Panel be formed and in place, a who will fund this efort, and who will be responsible for seeing that this panels recommendations are adopted and followed? 10

(Note: See CV-3.13 for a really good policy. None of the policies I've referenced have any backbone)

(2)

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4.15 POPULATION AND HOUSING

Table 4.15.1, Table 4.15.2 and Table 4.15-3 Do these figures include or exclude the coastal zone? For each figure that excludes the coastal zone, please show the figure that is attributable to the coastal zone. Additonally for each figure that includes the coastal zone, please state the quantity that is attributable to the coastal zone. Please exaplain why the coastal zone was excluded from the DEIR analysis and explain exactly how the additional consideration of the coastal zone affects the impact analysis. Also, for each figure that excludes the coastal zone, please identify who instructed the EIR preparer to exclude the coastal zone and for what reason. 11

Page 4.15-1 Carmel Valley is listed as one of the County's five largest unincorporated areas. Please provide the population attributed to Carmel Valley and identify the area included and identify the source of this information. Does the area include exactly what is in the Carmel Valley Master Plan? If not, please explain in detail why not? 12

Page 4.15-2. In the first paragraph, please explain in detail why there is a discrepancy in the numbers shown? 13

Table 4.15-4. Please explain why only the population of Carmel Valley Village is included, identify who instructed the Elr preparer to do this and for what reason. 14

Page 4.15-7. Please explain how the county's housing strategy for 2008 will shift from "encouraging" to "producing" actual housing units of the right type in the right place to serve identified needs when the lack of produced units says otherwise. Please identify in detail the survey or facts that were gathered to indicate what the right kind of housing is and what is the right place. I am a member of the Housing Advisory Committee who volunteered to serve on a sub-committee to work with the ag and tourism employers to produce affordable housing for these two key industries. This sub-committee was appointed by the HAC in November of 2006 and has not had one meeting! 15

Page 4.15-7. Please define in detail "ability to accomodate growth" and "above market". Page 4.15-9 Please explain why "The Commons at Rogge Road" still includes 171 units when only the 46 rental units can be called affordable. The other 125 for sale units no longer have deed restrictions that were to keep them affordable for a period of time and basically these units can be sold at market rate whatever that figure may be. 16

Page 4.15.10 Please explain in detail what progress the County has made in meeting dwelling unit allocation targets. Please include the number of units actually built. 17

Page 4.15-16 Please state the facts that underly the assumptions made in the 18

(3)

second paragraph and indicate exactly how many units would be actually needed to house 1,140 workers. 18

Please explain why there is an affordable housing overlay on 13 acres in Mid Carmel Valley and how the water to support 148 new units will be supplied. Please explain this sentence and the math used: "If developed at full potential (30 units per acre), the Mid-Valley AHO would accomodate 149 residential units on approximately 13 acres." Please explain how the "nitrate overloading" in the Mid-Valley area will not be made much worse by the AHO? 19

④

Section 4.13.1 Hazards and Hazardous Materials

Exhibit 4.13.1 Please identify the area of the Monterey Peninsula. Monterey, Carmel and a good portion of Carmel Valley are listed as "very high"! 20

Please explin in detail the thinking behind this statement: " All potential hazards and hazardous materials impacts from development and land use activities associated with the implementation of the 2007 General Plan would be less than significant and would not require mitigation." 21

Please explain why the Carmel Valley Emergency Response Plan 2004 wasw not included in this section. It lists numberous pages of hazardous material location in the Carmal Valley and notes throughout this report that emergency evcation in Carmel Valley is "seriously challenging". 22

Please explain in detail the thinking behind this statement: The evacuation routes are designated and maintained to ensure the safe and efficient movement of people, belongings and emergency personnel including their support services during times of declared emergencies when there are only to escape routes out of Carmel Valley --Carmel Valley Road, a rural road consisting of mostly two lanes and the very narrow and windy Laureles Grade a 2-lave road. It is physically imposible to evcuate Carmel Valley when an emergency is declared. 23

Please detail the evacuation routes for the AHO at Mid-Valley. the "special treatment areas" --Rancho Canad Village, Gardner's Tennis Ranch, etc. Additionally explain in detail how buildout of these projects will not subject children, the infirm and elderly with diesal fumes, silicousis, and acetelene poisoning. 24

Please explain what facts were used to suuport this statement: This analysis assumes that the trend will remain constant and future regulatory sheme will be at least as stringent as those in place now." 25

Please explain what facts were used to support this statement: "These outreach programs would decrease potential wildfires through education and cooperation". 26

Who is responsible for periodically updating the detailed scientific analysis of fire hazards and define periodically – annually or what? 27

Policy S-14.11. Please explainn in detail who are the repsonsible parties. 28

Policy s-4.13. Who oversees the requirement that all new development will have adequate water available for fire suppression. 29

⑤

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Policies S-4.24.and .25. What are the County prescribed standards and who is responsible? 30

Policy S-4.29 Why is the meeting between the project applicant, planning staff, and fire officials only optional. Why not make it mandatory --explain the thinking behind this policy. 31

Policy S-4.28 Who is responsible for checking that fire retardant plants are not removed and other plants substituted after the certificate of occupany is obtained? Explain the process in detail. 32

Cachagua Area Plan. please explain why this only encourages the formation and does not demand the formation. 33

When will the development fees schedule be established so that new development pays its fair share for the infrastructure needed to provide fire suppression. Who will be responsible for collecting these fees and making sure that the infrastructure is actually built concurrent with development? 34

Please explain in detail how the following policies will operate or function in Carmel Valley withy it's limited evacuation routes: S-5.9, 5.10. 5.11, 5.14, etc with the additon of the AHO at Mid-Valley and the special tratment areas listed previously. 35

Please descrive in detail the location pf the emergency road connections required by CV-4.4 And explain exactly what is meant by periodic updating. 36

Please explain detail 4.13.6 which states that all hazards and harardous materialss impacts would be less than significant and would not require mitigation in relation to the constraints in Carmel Valley. 37

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Traffic

Could you please add to the fine policy that Tim has drafted the following or something like it. Before the annual traffic study is presented to the Board of Supervisors in January, it must be reviewed and approved by the Carmel Valley Blue Ribbon traffic Committee. 38

Please indicate the exact date that the AM/PM peak hour traffic study was done for the Carmel Valley Traffic Improvement Program. If this study was done in July 2007 as indicated, the results are correct since school is out of session in July. 39

There still has been no explanation of was makes up the figure of 1188 housing units. Please supply a complete explanation and describe the method used to make this determination. 40

Please explain the method used in the General Plan analysis to determine that Carmel Rancho Boulevard and Rio Road are significantly impacted. Since my home office full length windows overlooks not only the intersection of these two roads but segments on both sides of that intersection, I do not see any significant impact or delay from 7am to 7pm on any weekday. If these two roads were significantly impacted I would be unable to leave my home for hours at a time. this statement in the General Plan analysis is ***not true!!!*** 41

Before he retired as head of Public Works, Ron Lundquist assured the Carmel Valley Blue Ribbon Road Committee that since the Rio Road Extension is no longer needed or necessary (see Carmel Valley Traffic Improvement DEIR), the original plan line would be abandoned by the County just as soon as GPU5 was approved. However,I see no indication that this plan line will be formally abandoned, why not? The only reason to keep the plan line would be to use the Rio Road Extension is if Carmel Rancho Boulevard is significantly impacted. 42

Significance Determination. Please explain in detail what are the mitigation measures that will improve the impacts (on three segments of Carmel Valley Road) to a degree of less than significant. 43

Please explain the discrepancy between CV-2.10 (d) and (e) and CV-2.19 and CV-2.16 as to the improvements listed for the area ending at Ford Road. The first policy extends the work required from Ford to Pilot and then goes on to require additional work east of Esquelne while the second two policies do not. Please explain in detail the exact location of the improvements and what benefit they will have. 44

Only two passing lane were recommended by the Carmel Valley Blue Ribbon Road Committee when it was originally formed. One was on the south side of Carmel Valley Road in front of September Ranch. The other was on the north side of Carmel Valley Road in front of Garland Park. (After the re-constituted September Ranch project was presented to the Road Committee, it twice voted down the passing lane on north side of Carmel Valley Road from Brookdale to the stoplight at Rancho San Carlos Road.) Please explain the justification for, the need, the benefit, and the exact location of the two passing lanes -- 1/4 mile long-- between Schutle Road and Robinson Canyon 45

Tuesday, December 02, 2008 America Online: Margaretmike

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Road and Rancho San Carlos Road and Schulte Road. Please explain in detail how the passing lanes could possibly work on these sections where there is an almost continuous left-hand turn lane along both these sections. 46

CV-2.18 and 2.19. Please explain how it is physically possible to make these improvements to Carmel Valley Road--shoulder widening, passing lanes, left-hand turn lanes, etc. Hillsides must be cut into. Water and utility lines will have to be moved and reburied. The financial cost will be such that no one project or projects in the future could provide through road impact fees. Please explain in detail why this is not just another way to 4-lane the Road from the mouth to the Village. 47

The Blue Ribbon Traffic Committee has been very vocal about opposing a stoplight at Brookdale and suggested more than once that the entrance be closer to the Red Barn where no stop light would be needed. Please explain in detail why Developers wishes should warrant traffic lights. 48

Please explain in detail the benefits of a traffic light at the Grade and Carmel Valley Road. Please explain why a 4-way stop sign would not provide the same benefit until a grade separation and run-away truck lane can be constructed. In addition, please explain in detail how heavy vehicles can be discouraged from using the Grade. The CHP has told the Road Committee that this cannot be legally done. 49

Please indicated for each road improvement whether is it safety/congestion management or capacity increasing. Please explain precisely the location of the "eastern terminus of Rio Road" and explain why the terminology has been changed from Carmel Rancho to Highway One on Rio. 50

In regard to the proposed climbing lane on Laureles Grade, please indicate exactly where the County now has easements and exactly where new easements would be needed. 51

Please have Public Works comment in detail on the new plan submitted to Neal Thompson, Public Works Traffic Engineer, at the Road Committe meeting of 1/15/09 for a run-away truck lane provided by realining the bottom section of Laureles Grade. This includes: using the present south bound lane left as the run-away truck lane, making the present north bound lane into a new south bound lane, and adding a new north bound on the right side of the grade. 52

Please explain in detail why this alternative would not be superior to a 4-way stop signor a traffic light in preventing potential deaths from a run-away truck of any size. Please exapplin in detail why this alternative would not be quicker and easier to complete rather than a grade separation to be built at some unknown and future date. 53

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Comments: Carmel Valley Master Plan Spplemental Policies

While the writing in this plan is tigher and the plan itself better organized, we would like a detailed explanation of why many sections of the 1996 plan were omitted. Please respond with a detailed explanation of why each item listed below was deleted from the Supplemental Policies. For policies that have been modified or are found elsewhere, please indicate where these can be found and the reason for the modification. 54

1. The first six pages and page number 7 that lists Carmel Valley Master Plan Goals.

2. Page 8, 1.13 (CV), 2.3.2.1(CV), 3.1.1.1 (CV)

3. Page 9, 3.1.1.3 (CV), 3.1.4 (CV), 3.1.6 (CV), 3.1.7 (CV), 3.1.9 (CV)

4. Page 10, 3.1.15 (CV), 3.2.3.1 (CV), 4.2.2 (CV)

5. Page 11, 4.2.4 (CV) and 4.2.5 (CV)

6. Page 12, 7.1.5

7. Page 13, 7.2.2.2 (CV). Is there no recent pamphlet to replace the old one?

8. Page 14, 11.1.1.1 and 11.1.1.2 (CV)

9. Page 15and 16 --Environmentally Sensitive areas. The majority of these policies have been replaced by a much less stringent and less detailed policy. Please explain why!

10. Page 16,17, and 18. Environmental Constraints. Almost 20 policies appear to have been eliminated. Please explain why --in detail.

11. Page 18 and 19. The Air and Water Quality policies appear to have been eliminated. Please explain why -- in detail.

12 Page 19 and 20. General Land Use. Policies 26.1.9.1(CV), 26.1.2.1 (CV) (replaced by CV-1.1 which is much weaker!) 26.1.22 (CV), 26.1.23 replaced by the much weaker (CV-1.3), 26.1.24 (CV), 29.1.29 (CV).

Page 21. 26.1.31 (CV), 26.1.32 (CV), 26.1.33 (CV) 26.1.34 (CV)

Page 21 and 22. Please explain why all the policies relating to the Carmel Valley Airport have been eliminated in detail.

Page 22. Residential Land Use. 27.3.6 (CV) and 27.3.7

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Page 23. Commercial Land Use. 28.1.6 (CV),8.1.7 (CV), 28.1.11 (CV), 28.1.12

Page 24. 28.1.17 (CV) and 28.1.20A

Page 25. Carmel Valley Village -- 28.1.22 (CV), 28.1.23 (CV), 28.1.24 (CV)

Page 25. Visitor Accomodations -- 28.1.26 (CV) and 28.1.27 (CV)

Page 26. Public/Quasi Public -- 31.1.4 (CV)

Page 27. Open Space--34.1.7 (CV) and 34.1.8 (CV)

Page 27,28, and 29. Transportation--37.4.1 (CV), 37.4.2 (CV), 39.2.2.3 (CV), 39.2.2.5 (CV), 39.2.5.2 (CV),
39.2.7 (CV), 39.2.8 (CV), 39.3.1.4 (CV), 39.1.5 (CV)

Pages 32,33, and 34. Public Services. 51.2.7 (CV), 51.2.8 (CV), 51.2.9 (CV), 51.2.10 (CV), 51.2.12 (CV), 51.2.13 (CV), 51.2.15 (CV)

Specific Comments on Carmel Valley Master Plan Supplemental Policies

Throughout the Supplemental Policies the word "shall" is used rather than the word "must". This includes but is not limited to the following policies: CV-1.3, CV-1.15, CV-2.1, CV-2.3, CV-2.4,CV-2.5, CV-2.6, CV-2.7, CV-2.9, CV-2.10 -a-b-c-d-e-f, CV-2.11, CV-2.13, CV-2.14, CV-2.15, CV-2.17, CV-3.2, CV-3.3 CV-3.4, CV-3.5, CV-3.7 CV-3.8, CV-3.9, CV-3.10, CV-3.11, CV-2.12, CV-3.13, CV-3.14, CV-3.17, CV-3.18, CV-4.19, CV-4.4 CV-5.3, CV-5.4, CV-5.6, CV-5.7, CV-6.1, CV-6.4. "Shall" is a request; "must" is a demand. If the objective is to make GPU 5 as clear as possible please explain why the word "must" is not substituted for "shall" in the Carmel Valley Supplemtal policies.

In the same vein, in order to be very clear, the words "must be encouraged" should replace the words "should be encouraged" in policies CV-1.17, CV-1.19, CV-1.20, and CV-1.21. Please explain why this was not done in the Supplemental Policies. Also, please explain why the words "may be required" were used rather than "must be required" in Policy CV-3.19.

CV-1.1 Please explain in detail why the words "are intended to retain a rural character" have been substituted for the goal statement in the present CVMP "to preserve the rural character" .

CV-1.2. Please define "the most appropriate portion of the property."

CV-1-5. We find the new map vary hard to read. Please explain in detail any changes between the map in the present CVMP and the new map in GPU 5.

55

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CV-1.5. I do not understand the second sentence. Please explain in detail.

CV-1.6. It is essential that this policy start with a well-defined base to avoid future confusion. See Exhibit A . We request that this table be completed as part of the response to our comments on the Supplemental Policies.

CV-1.10 There wil be no ordinance proposed by Housing and Redevolment for Work Force Housing until the present oversupply of units are absorbed. We suggest that the words "work force housing be eliminated until sucj an ordinance is passed by the Coard of Supervisors. In our opinion, this will eliminate confusion. Please comment in detail.

CV-1.22. Please supply along with your responses to our comments, the complete "Amended Carmel Valley Ranch Specific Plan, dated 11/3/76" and all updates. Please identify specifically what the future development increments are or may be sought. During the last expansion of this project, the attorney stated that no futher subdivision or deveolment was planned. Please explain in detail the thinking behind this new policy.

CV-1.25. Along with your responses to our comments, please supply all documents referred to in this policy. Please explain in detail why Rancho San Carlos is now designated as a special treatment area and please explain in detail any original conditions of this permit that are anticipated to be amended--focusing speifically on the 41 units of employee housing that were required as condition of approval or any potential changes in this condition.

CV-1.27. Rancho Canada Village . Please explain in detail why this is now being designated as a special treatment area. The application was presented with a specific plan. In addition, see our comment under CV-1.10 in regard to work force housing. The words work force housing should be deleted from this policy until a work force housing ordinance is approved by the Board of Supervisors.

CV-3.11. Previous reiterations of this policy have provided problems. We think a strict definition should be made between "god-planted" or "developer planted" trees. Trees planted by Developers in Subdivisions have with time created problems that are expensive to cure--roads, walkways, garages, patios, and homes disrupted by roots. Please explain why this distinction cannot be made and why it can not be made easier to remove "developer planted" trees when they become invasive.

CV-4.3. Along with your responses to our comments, please supply a copy of the Master Drainage Plan for Carmel Valley. To our knowledge such a plan does not exist. Please explain in detail, if the plan does exist, when such a fee wil be imposed, who will monitor it, and who will implement it. And provide a time line for the development of the maintenance program.

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CV-4.4. In the present CVMp, emergency road connections are identified. Please explain why these present connections are not listed here. If new connections are needed, please explain exactly when they will be identified, who is responsible for maintenance, and how will this maintenance be paid for. Complete detail is required.

55

We will appreciate clear, cogent, and detailed reponses.

13

I-16

Questions/Comments Regarding 266 Cap – Exhibit A

We support the proposed 266 cap. It is our understanding that the cap was developed by subtracting approved and unbuilt subdivisions, built and unbuilt single family dwelling and adjunct units, and vacant lots of record from the CVMP cap of 1,310 units and existing lots (p. 9 CVMP). We would like to confirm that the 266 cap is consistent with the overall cap of 1,310 and includes both units and existing lots.

To avoid confusion after GPU5 is adopted, the specific projects and dwelling units that constitute approved and unbuild subdivisions, residential and adjunct units should be identified in a table similar to the following:

Category	Units	Source
Approved Subdivisions Unbuilt - 1987 to 1998 • Project 1 • Project 2 • Etc.		
Approved Subdivisions Unbuilt - 1998 to 2006 • Project 1 • Project 2 • Etc.		
Approved SFDS/Adjunct built - 1987 to 1998 • Project 1 • Project 2 • Etc.		
Approved SFDS/Adjunct unbuilt - 1999 to 2005 • Project 1 • Project 2 • Etc.		
Approved SFDS/Adjunct built and unbuilt - 2006 to 2008		
Vacant lots of record		
Other, if any		
Total		
Cap	1310.0	
Remaining	266.0	

56

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Excutive Summary Section 1, Table 1-2 (page 1-5) compared to Table 6-2 (page 6-27) in Sectio6

1. LU-2, Executive Summary states that no conflict would result from the implementation of the 2007 General Plan with the land use policies of an adopted land use plan. The Carmel Valley Master Plan has adopted Land use policies which are gutted and subverted by GPU 5. Please explain why this is less than significant in 2030 and at Buildout. 56

2. AG-2, Excutive Summary indicates that the level of significance is less than significant after 2030 and buildout. However, on page 1-39 of the Executive Summary it states that more than 7,000 acres of Williamson Act Farmland would be coverted to non-agricultural use. Please explaiin why this is not a signifcant and unavoidable impact. 57

3. CUM-1 Agricultural Resources. Please explain in detail what is meant by Cumulative considerable. Exactly what level of significance does this indicate? 58

4. Water Resoures. We cannot find any policy requiring post-development run-off to be limited to pre-development run-off. Please explain how this will not impact water quality and please explain why this is not flagged as a significant and unavoidable impact. See WR-1, page 1-6 Executive summary. 59

5. On page 1-6, Executive Summary, WR-1 and-2 are shown as less than significant at 2030 and at Build out. However, on Table 6-2, page 37 they are listed as significant unavoidable impact on 2030 and at Build out. Please explain this decrepancy in detail. Also list exactly what "portions of the county" are impacted. On page 1-8, Excutive Summary, these two items are listed as significant and unavoidable. Please explain why the change in detail. 60

6. Page 6-27, Bio 2.3, please explain exactly what adding "considerations means" . Also under 4.9 please explain in detail how the mitigation measures listed, which do not go into effect and take no action until 2030 can be considered mitigation measures. The DEIR also finds that Mitigation Measure BIO-2.1 would reduce erosion impacts to lesws than significant. This deferred mitigation measure does not meet CEQA requirements since it does not include specifin performance standards. Please explaiin why increased erosion should not be found to be significant and unavoidable. 61

7. Executive Summary, page 1-8, WR-8 is found to be less than significant in 2030 and at Build Out. However, WR-8 is omitted from table 6-2. Please explain why. Please provide the same explanation for WR-9, WR-R-10, and WR-11 -- all of which are omitted from Tabe 6-2. 62

(14)

I-16

8. Executive Summary, page 1-9. WR-12, WR-13, and WR-14. Please define in detail a "flood hazard area". Does this mean in the 100-year flood plain? The 200-year flood plain? Does it mean the floodway where County regulations allow no building? Please explain why until 2030 building in "flood hazard areas" is found to be less than significant. Does this there will be no floods or just little floods until 2030? In both the Executive Summary and on Table 6-2 for WR-12, WR-13, and WR-14 at Build Out it is found that no mitigation is feasible since the extent and locations of future impoact are unknown. Does this mean that no mitigation will ever be required or does it mean that some mitigation may be required. Please provide insight into this reasoning. 63

9. Executive Summary, page 1-9 and-10. CUM -2 is found to be "less than" and then on the following page 'cumulatively considerable". Please select either one finding or the other. 64

10. 4.6 Transportation. Please explain why TRAN-1A appears iin the Executive Summary and does not appear on Table 6-2. 65

11. Table 6-2 TRAN-1B-a states " the standard for acceptable level of service is to be achieved by 2026". While the Executive Summary states for TRAN-1B "development would create traffic increases which would cause the LOS to exceed the LOS standard". This is found to be significant and unavoidable 2030. How can a standard fpr acceptable level of service be achieved by 2026 when it if found to be significant and unavoidable in 2030? 66

12. Explain why TRAN 1-D and -E and -F are omitted from Table 6-2 but included in the Executive Summary. 67

(15)

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13.

Transportation: TRAN1-B, TRAN1-E, TRAN3-E, TRAN3-B, TRAN4-B, TRAN4-E. In Chapter 6 but not in the Executive Summary: TRAN1B-a and TRAN 1B-b 68

The DEIR finds that project-specific impacts on county roadways would not fall below LOS D because of Circulation Element Polities. Because Policy C-1.1 allows County roads and intersections to degrade below D through the Community Plan process, GPU5 should be found to have significant and unavoidable impacts from project-specific impacts on county roadways. 69

The DEIR addresses project-specific impacts of development under "2030 cumulative plus project conditions" which is defined as GPU5 2030 buildout plus growth in cities to 2030. It finds the impact on roads to be less than significant based on GPU5 policies. Since GPU5 policies allow for a fair-share contribution to roadway improvements rather than requiring improvements concurrent with projects, the conclusion is not supportable. Further, GPU5 policies do not affect city projects which could contribute to cumulative impacts. GPU5 should be found to have significant and unavoidable impacts from project-specific impacts on county roadways . "2030 cumulative plus project conditions". 70

Air Quality: AQ-3 only. However, AQ-1 listed in Chapter 6 as significant and unavoidable but in the Exec Summary it's listed as less than significant. 71

Because GPU5 is inconsistent with the 2008 AQMP, it should be found to have a significant and unavoidable impact on regional air quality. 72

(10)

I-16

14. Changes to Carmel Valley Road and other Roads within the Carmel Valley Master Plan are listed in the Executive Summary and Table 6-2 under mitigation measures. However no level is significance after mitigation is found in either document. Why not? Please explain in detail. Also explain in detail the source for these mitigation measures and supply in detail the rational for making these detailed changes. In addition, provide a specific time line for the construction of these changes, detail the costs of construction in today's dollars. Further, please explain how the Carmel Valley Traffic Improvement Plan works together with the General Plan Undate 5 and explain why the responses to comments made on the CVTIP have not yet been answered after 18 months. 73

15. Please explain why the following are omitted from Table 6-2:TRAN-2C,D,F and TRAN-3A, 3C, 3D, and TRAN 4A, 4C, 4F,5A,5B are omitted from Table 6-2. Provide the same detailed explanation for the ommission of AQ2,4, and 5. The same information is requested for the complete omission of Cultural Resources and PSU-1 through -7, and 4.2, 4.3. 74

The DEIR notes that cultivation on uncultivated steep slopes allowed under GPU5 could have a significant impact on biological resources. It, however, concludes (p. 4.9-76) that conversion of uncultivated agricultural lands to new farmland would not have a significant impact based on a conversion rate of 450 acres per year (1982-2006) and the assumption that cultivation would be dispersed.. Because these activities would be excluded under the proposed mitigation measures, they should be found to have a significant and unavoidable impact on biological resources. 75

The analysis does not address the 40 artisan wineries, 200 dwelling units, tasting rooms and other facilities that would be allowed in the AWCP. Because these facilities would be exempt from CEQA under GPU5 and therefore from proposed mitigation measures, they should be found to have a significant and unavoidable impact on biological resources 76

(11)

I-17

-----Original Message-----
From: Richard H Rosenthal [mailto:rrosenthal62@sbcglobal.net]
Sent: Monday, October 20, 2008 12:28 PM
To: Holm, Carl P. x5103
Subject: Fw: Consent Item: Interim Ordinance 5080, 5085, 5090

Richard H. Rosenthal
Law Offices Richard H. Rosenthal
A Professional Corporation

--- On **Mon, 10/20/08, Richard H Rosenthal** ***<rrosenthal62@sbcglobal.net>*** wrote:
From: Richard H Rosenthal <rrosenthal62@sbcglobal.net>
Subject: Consent Item: Interim Ordinance 5080, 5085, 5090
To: "Richard H. Rosenthal" <rrosenthal62@sbcglobal.net>
Cc: "Mike Novo" <novom@co.monterey.ca.us>, "Mike Stamp" <stamp@stamplaw.us>, "Jan Mitchell" <janmitchell77@hughes.net>
Date: Monday, October 20, 2008, 12:27 PM

Dear Mike: I have reviewed the staff report on this matter and find it out of touch with the realities of what is happening on the ground.

The County does not have any water, traffic is at grid lock, and the General Plan update process is ready to break wide open. Anybody that is betting that a General Plan that includes special land use designations for certain properties, the removal of traffic triggering mechanisms in Carmel Valley, and the notion that traffic should now be measured on a 24 hour cycle, instead of peak times doesn't understand what the voters have told County officials over the last 8 years. The new General Plan also provides meaningless and ambiguous policies dealing with traffic infrastructure and build out. My reading of the General Plan is vacant of any attempt to correlate the land use element with the circulation element. Why does the County continue to give residents a deaf ear. 1

The Interim ordinance should be renewed and the general plan modified to take into the concerns of the citizens of the County. 2

THank you,

RHE

Regards,

RHR

Richard H. Rosenthal
Law Offices Richard H. Rosenthal
A Professional Corporation

51

I-18

Timothy D. Sanders
25075 Pine Hills Dr.
Carmel, CA 93923
February 1, 2009

Monterey County
Planning and Building
Inspection Administration
FEB 0 2 2009
RECEIVED

Rec'd as CEQA Comments 2/2/09 11:13 am
faxed 2/2/09 11:30 AM

Carl Holm, Assistant Director
Monterey County Planning Department
168 W. Alisal St., 2nd Floor
Salinas, CA 93901
Fax: 831.757.9516
ceqacomments@co.monterey.ca.us.

Re: Comments on the DEIR for the 2007 General Plan (GPU5)
Section 4.6, Mitigation Measure TRAN-2B

Dear Mr. Holm

Mitigation Measure TRAN-2B in the DEIR (pages 4.6-69 through 4.6-73) for the 2007 General Plan does not meet CEQA guidelines provisions, and therefore is inadequate under CEQA. Furthermore, since it consists entirely of *policies* to be substituted for policies already part of the 2007 General Plan (GPU5), the constituent policies of Mitigation Measure TRAN-2B (MMT2B)

- require separate environmental review themselves, which the DEIR fails to provide, and
- should meet the standards of the California General Plan Guidelines, including the requirement for internal consistency, which they fail to do.

For example,

- MMT2B's proposed substitute policies CV-2.18 and CV-2.19 (pages 4.6-71, 72 and 73 of the DEIR) both make specific reference to CVTIP, which is an existing planning document for which a DSEIR has been released but for which no FEIR has been released to the public, nor has been certified or approved, and therefore Mitigation Measure TRAN-2B is inadequate under CEQA; an EIR covering these policies would have to conclude that they are inadequate (the attempt to *redefine* as being identical with MMT2B's CV-2.19 notwithstanding, since CVTIP already exists as a separate document that is acknowledged and referred to elsewhere in the DEIR) 1
- Carmel Valley Master Plan Supplemental Policy CV-1.1 states that "Policies relative to the Carmel Valley Area are intended to retain the rural character", but substitute policy CV-2.18 of MMT2B threatens that character and is inconsistent with CV-1.1.

The comments below are restricted to Policy CV-2.18 as it appears in MMT2B and to its predecessor policies, Policy CV-2.18 in the Carmel Valley Master Plan Supplemental Policies of GPU5, and Policy 39.3.2.1 in the Carmel Valley Master Plan (December 16, 1986, amended as of November 3, 1996) (CVMP) and supplemented by the Superior

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Court Order by Judge Silver of May 4, 1987. The effect of the latter Court Order is not reflected in either the GPU5 or CVMP (amended to 1996), although it should have been.

In GPU5, Policy CV-2.18 is identical with Policy 39.3.2.1 in CVMP, and part d. of the policy is ambiguous, allowing several different interpretations. Magnifying the ambiguity is an error that renders part of the policy undecipherable (next-to-last sentence in part d.). Judge Silver's 1987 clarification of the erroneous sentence removed the outright error, but did not remedy all of the other ambiguities. This has produced a complex history for the policy's implementation, the record for which consists largely of annual reports called the "CVMP Annual Evaluation of Traffic Volume" (CVMPAETV). These are tables of average daily traffic (ADT) for a number of segments of Carmel Valley Road. For many years these reports have been based on criteria called "thresholds" for the road segments, and Policy 39.3.2.1, as clarified by the Court, states that "LOS C is the traffic standard adopted by the COUNTY in the Carmel Valley Master Plan." As a result it has been widely assumed that the stated "thresholds" have represented the upper limit of LOS C for these segments. No clarification of the meaning of "thresholds" has accompanied the CVMPAETV until the 2008 report, recently released. The "thresholds", it turns out, are not in fact the upper limits of LOS C for all segments, but are upper limits for LOS E (1 segment), LOS D (5 segments) and LOS C (5 segments), with no threshold defined for one segment. Even now it is unclear how the LOS criteria are assigned for the various segments, and the threshold that is LOS E clearly is highly misleading because it purportedly uses a two-lane standard on a four-lane road segment. 1

There are still more problems with the monitoring and evaluation of traffic on Carmel Valley Road, but the comments above are sufficient to indicate that any substitute for GPU5 Policy CV-2.18 needs to be crystal clear and firmly restrictive against worsening traffic on, and adjacent to, Carmel Valley Road. Any increase over the considerable existing excess of traffic over the Court- and Plan-specified standard for Carmel Valley constitutes a serious threat to the Objectives of CVMP (CVMP, page 1) and to Policy CV-1.1 of GPU5. Therefore, in order to be consistent with the rest of GPU5,the General Plan policies related to Carmel Valley traffic must fully incorporate the clear *intent* of CVMP Policy 39.3.2.1 to *prevent* "worsening of traffic conditions compared with the present condition", a phrase that appears in CVMP 39.3.2.1, Judge Silver's 1987 order, and in GPU5 CV-2.18.

Inadequacies

MMT2B's CV-2.18 is inadequate as a mitigation because it

- provides an ambiguous "measure" of traffic volume, namely "peak hour" without specification of the type of measurement (metric) to be used (whether PTSF, average hourly traffic, etc.)
- fails to evaluate, as part of the DEIR, the impacts of the changes in change standards that it makes from GPU5's Policy CV-2.18 and CVMP's Policy 39.3.2.1
- leaves open the possibility that a weaker traffic standard (that is, specifying a higher LOS rating for a given level of traffic volume) can be adopted than has been used in the past (ADT, with specified segment criteria)

2

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- explicitly lowers the existing "standard" from LOS C to LOS D on the critical segments 3, 4, 5, 6, 7 of Carmel Valley Road and thereby increases tolerance of greater impacts wherever LOS E has not yet been reached
- fails to specify, on every segment listed in item (a.), the type of measure to be used in defining LOS ratings and fails to provide quantitative criteria for LOS ratings, thereby leaving open the possibility of lowering traffic standards
- does not provide a basis for calibration of LOS ratings for the proposed "standards" against the existing ADT values and thresholds, that is, it fails to provide a basis for comparing the proposed standards with the present and past standards actually used in the CVMPAETV
- specifies "acceptable" LOS ratings for intersections, without defining the measures (metrics) or criteria to be used
- provides no data and no studies to support the choices made for "acceptable" LOS ratings for intersections
- relies heavily on CVTIP, in its description of approval conditions in part (d.), which is not permissible (for reasons indicated above concerning the current status of CVTIP) under CEQA
- allows, through the parenthetical use of "e.g.", the expression "prior to project-generated traffic" to be an example rather than a re-statement of intent; to mean the latter, "i.e." should be used in place of "e.g."
- is virtually certain, because of the factors listed above, to *exacerbate rather than mitigate* traffic impacts in Carmel Valley. 1

Policy objectives

The objectives of any substitution for GPU5 CV-2.18, under CEQA and the General Plan Guidelines, should be to

- be fully and clearly consistent with GPU5's CV-1.1 and
- establish provision for traffic monitoring, that is well-defined in terms of location and timing, on specific road segments of Carmel Valley Road and of relevant adjacent roads
- specify, as clearly and unambiguously as possible, the measurement parameters (metrics) and quantitative criteria to be used in monitoring and evaluating traffic and in reporting the results
- avoid the ambiguities inherent in the various definitions and interpretations of LOS ratings
- avoid the vulnerability of LOS ratings, like other discrete classifications, to radical changes in the standard when classification boundaries are crossed (e.g., on Carmel Valley Road, increases of as much as 100% when a single boundary is crossed, and as much as 300% when two boundaries are crossed)
- use metrics and criteria that are related in a transparent way to the relevant quantitative historical data, and are easily compared with it
- base the traffic standards on historic and currently observed data-on-the-ground

3

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- include criteria to provide early warning against potential permanent traffic increases, which would trigger suitable actions such as public hearings, and that are based on observed roadway performance on each road segment
- provide firm protections against worsening traffic conditions resulting from foreseeable consequences of development
- provide protection for the construction of first single-family residences on existing legal lots of record.

The policy statement that follows has been developed to meet these criteria.

YOUR CAREFUL REVIEW AND ADOPTION OF THE POLICY PROPOSAL BELOW IS STRONGLY URGED.

Policy recommended to *REPLACE* MMT2B's CV-2.18 (and therefore replace GPU5's CV-2.18 and CVMP 39.3.2.1):

To implement traffic standards that will provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following:

a) Public Works shall twice yearly (in June and October, at times when schools are in session) monitor and record average daily traffic (ADT) for the following 12 road segments:

Carmel Valley Road
1. East of Holman Road
2. Holman Road to Esquiline Road
3. Esquiline Road to Ford Road
4. Ford Road to Laureles Grade
5. Laureles Grade to Robinson Canyon Road
6. Robinson Canyon Road to Schulte Road
7. Schulte Road to Rancho San Carlos Road
8. Rancho San Carlos Road to Rio Road
9. Rio Road to Carmel Rancho Boulevard
10. Carmel Rancho Boulevard to SR1

Other Locations
11. Carmel Rancho Boulevard between Carmel Valley Road and Rio Road
12. Rio Road between its eastern terminus and SR1

b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments. For each of the these 12 segments in (a) above, the report shall evaluate the values of ADT obtained in this monitoring and shall report values of V/S, where V is equal to ADT and S is equal to the relevant road segment standard, as defined below under item (d).

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c) Public hearings shall be held in January immediately following a December report in (b) above in which ADT exceeds the trigger volume (T), as defined in item (d) below, for any of the 12 segments described in (a) above.

d) The traffic volume standards and trigger volumes, for the segments of Carmel Valley Road defined in (a) above, measured in ADT, shall be as follows:

segment	Volume Standard S	*Trigger Increment*	Trigger Volume T	*Trigger Ratio T/S*
1	3,554	158	3,713	1.045
2	3,880	168	4,048	1.043
3	8,956	206	9,162	1.023
4	11,338	259	11,597	1.023
5	11,879	301	12,180	1.025
6	14,614	209	14,824	1.014
7	16,308	416	16,724	1.026
8	20,393	501	20,895	1.025
9	24,735	359	25,093	1.015
10	24,158	809	24,967	1.033
11	11,295	692	11,988	1.061
12	13,984	733	14,717	1.052

e) During review of development applications that require a discretionary permit, a traffic analysis shall be conducted for the proposed project. If the traffic analysis indicates that the project would result in traffic conditions that would violate the standard (S) described above in (d), an Environmental Impact Report shall be prepared for the project. In order for the project to be approved, additional roadway improvements must be sufficient for the affected roadway segments to meet the standard in (d) upon completion of the project. A project that, according to its EIR, would result in traffic exceeding the trigger value T as described in (d) above, shall not be approved. This policy does not apply to the first single-family residence on a legal lot of record.

Notes:
1. The standards in (d) are based on the actual measurements provided in CVMP monitoring reports for the ten years from 1999 through 2008. The standard S is the average ADT during that period, and the trigger T is the average plus 0.70 standard deviation; this provides that random fluctuations in traffic probably would fall below the trigger level about 74% of the time. The trigger ratio, T/S, reflects the sensitivity of the road segments to changes in traffic.
2. The purpose of the trigger and the related hearing mandate is to provide early warning of potential trends that would worsen traffic conditions significantly on Carmel Valley Road; it corresponds roughly to the kinds of conditions that would produce a hearing under the existing CVMP.
3. The use of conventional LOS ratings is inappropriate for conditions on and near Carmel Valley Road because the increments between LOS grade levels is far too great to provide stable standards that reflect the existing physical constraints and particular emergency access

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needs of the Valley. The LOS letter scheme has not served Carmel Valley well for more than 20 years, and the presumed LOS C level has been violated, often by wide margins, on much of the road since the time when CVMP was adopted. Note that LOS C has been the *County* standard during that entire period, but has been violated consistently on several segments of Carmel Valley Road.

4. The policy recommended here is intended to effect the same stability in traffic conditions in Carmel Valley that were sought in the present CVMP (1982 plus 1987 Superior Court ruling), but now using an inventory of historic traffic data on Carmel Valley Road that was not available when the earlier Plan provisions were formulated.
5. According to the DEIR for the 2007 General Plan (p. 4.6-69):

   Many of the mitigations for roadways segments are likely infeasible due to physical, topographical, and environmental constraints, as well the social and economic impacts related to the acquisition of commercial and residential property, or loss of access, and lack of community consensus for roadway capacity-enhancing projects. This construction would result in impacts to other resources, such as biological resources, air quality, noise, aesthetics and agricultural lands.

   This reflects conditions present in Carmel Valley and makes clear the need for policies, like the one we propose here, that are better adapted, than is the General Plan (1982 or 2007) or CVMP Policy 39.3.2.1 (plus the Superior Court ruling) or the "mitigations" labeled CV 2.18 and 2.19 in the DEIR for the 20087 General Plan, to conditions as they exist on the ground.

1

Please respond fully to these comments. Please explain, in particular why Policy CV-2.18 of MMT2B is not is formulated in such a way that it fails to meet the **policy objectives** listed above.

Your careful attention to this matter is much appreciated.

Yours sincerely,

Timothy D. Sanders

6

I-18

Calderon, Vanessa A. x5186

From: Tim Sanders [tds@oxy.edu]
Sent: Monday, February 02, 2009 11:13 AM
To: ceqacomments
Subject: Fw: Commets on the DEIR for GPU5

Dear Mr. Holm:

Please accept the attached comments on the DEIR for GPU5. A signed copy of these comments is also being sent to you by fax.

Your attention to the comments is very much appreciated.

Sincerely,

Tim Sanders

02/02/2009

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Monterey County
Planning and Building
Inspection Administration

FEB 2 2009

RECEIVED

rec'd e-mail
2/1/09 10:24pm

February 2, 2009

Carl Holm, Assistant Director
County of Monterey Resource Management Agency
Planning Department
168 West Alisal Street, 2nd Floor
Salinas, California 93901

Email: HolmCP@co.monterey.ca.us

SENT VIA EMAIL

SUBJECT: COMMENTS ON THE DRAFT EIR FOR THE 2007 MONTEREY COUNTY GENERAL PLAN

Dear Mr. Holm:

The following comments are respectfully submitted on the subject DEIR.

INTRODUCTION

As a general comment, I find it very odd that the Draft EIR for the 2007 General Plan for Monterey County, a county so reliant on water, and with so many significant issues with respect to water, would fail to *even reference* the report titled *Final Report, Hydrostratigraphic Analysis of the Northern Salinas Valley*, prepared in 2004, and commissioned by the Monterey County Water Resources Agency. Hydrostratigraphy takes hydrogeologic analysis using standard methods to a higher level, using techniques used in the oil industry for years. The DEIR does reference a host of other hydrogeologic reports for the county written up to several decades ago, why not reference this recent report? Could it be that the data produced and evaluated in this report does not necessarily support the proclamation that the Salinas Valley Water Project will simultaneously halt saltwater intrusion and over-drafting of aquifers throughout the Salinas Valley Basin, even as far north as North County? 1

Despite the severe problems of overdraft and seawater intrusion, which have been recognized in the county for over 60 years, the problems are not only persisting, they are getting even more critical. The DEIR 2

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I-19a

continually refers to projects in the "further analysis required", in the planning stage, a pilot test is being conducted, - type phrases as the solutions to these extremely significant problems, and cites them for mitigation of existing problems, as well as for mitigation of what would otherwise surely be a worsening of these problems as population grows, and development increases, over the next 30 years and more. These projects cited as "mitigations" at this point in time have absolutely no guarantee of ever coming to fruition, let alone actually mitigating the problems at hand. At this point in time these supposed mitigations are producing nothing but "paper water". If halting overdraft and seawater intrusion were as easy as portrayed in this DEIR, they would have been mitigated a long time ago. 2

My specific comments follow.

4.3 Water Resources

1. P. 4.3-15 With respect to Pajaro, the DEIR states "Existing land uses within the flood zone remain at risk until flood control improvements are made. Future growth in the Pajaro community would increase the exposure of persons and property to flood hazards". Development of additional land within the Pajaro River watershed, which also includes large areas of Santa Clara and San Benito Counties, will increase the amount of runoff and increase the risk of flooding, absent serious improvements. How can such a location be designated a Community Area, and what will be done to decrease the threat to persons and property from flooding? 3

On-site septic system usage in North County is stated to exacerbate the poor water quality in North County by contributing to nitrate contamination. Many other contaminants – coliform bacteria, viruses, pharmaceuticals, endocrine disrupters, should also be included as degrading water quality as a result of septic system, and more importantly, septic pit usage.

2. 4.3-16 The DEIR's description of the North County aquifers appears to have some errors in more than one paragraph on this page, as well as on page 4.3-19, under Groundwater Quality. 4

3. P. 4.3-25 The DEIR states that "Any significant pumping of groundwater between Salinas and the coast causes seawater intrusion". Does this mean that pumping of groundwater beneath or east of Salinas does not contribute to seawater intrusion? If not, why not? If seawater intrusion is halted by raising water levels by the coast, will water levels beneath and east of Salinas rise? By what mechanism and by how much will they rise? 5

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4. P. 4.3-25 The DEIR states "The MCWRA formulated long-term plans to construct and operate facilities to ***alleviate*** (emphasis added) the seawater intrusion problem with implementation of the Salinas River Basin Management Plan. Alleviate is defined as "to reduce or decrease". It is stated elsewhere in the DEIR that the SVWP will ***halt*** seawater intrusion. If it won't halt seawater intrusion, how much will it reduce or decrease it? As this project was sold to the public on the basis that halting seawater intrusion was the main goal of the project, if it doesn't halt it, what more would it take to achieve this goal? What about the also touted benefit of halting the overdrafting of all aquifers in the Salinas Valley watershed? If it doesn't halt overdraft and just decreases it, isn't it still overdraft? What tangible benefit(s) will the citizen's of North County see? How much can they anticipate North County water levels rising? 6

5. P. 4.3-26 With respect to Salinas River Watershed, the DEIR states "The intrusion of seawater has forced all water supply wells in the affected area of the 180-foot aquifer to be re-drilled into the 400-foot aquifer". It continues that in areas where the 400-foot aquifer has also been impacted by seawater intrusion, the Deep Zone aquifer has become a major source of water. What depth are these Deep Zone wells pumping from, and how much additional energy does it require to do this? As the deep zone water is reportedly 30,000 years old, it is stated that this water is "mined"? Isn't it true that whenever water is pumped at rates faster than it is replaced on a continuing basis that it is also considered to be mined? What is the age of the 180-foot aquifer water? What is the age of the 400-foot aquifer water? What is the age of the water held in the fractures of the granite beneath North County's Granite Ridge area? How does the age of the water correlate with the amount of time it will take for the water to be replaced via natural recharge processes? 7

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6. P. 4.3-27 The DEIR states, "The North County groundwater subbasins are shown in Exhibit 4.3.7". "Subbasins" should be replaced with "subareas", and the referenced exhibit is 4.3.7, not 4.3.8. 8

7. P. 4.3-28 The DEIR states "High levels of arsenic that approach and exceed SDWA levels occur naturally in certain hardrock or bedrock aquifer materials in parts of Monterey County, especially in North County and along the SR68 corridor". Is it the rock that exceeds SDWA levels or the water extracted from its pores and/or fractures? The DEIR continues, "This problem is compounded by the fact that the Environmental Protection Agency (EPA) has recently lowered the standard for drinking water form 0.050 parts per million (50 parts per billion) to 10 parts per billion to protect consumers served by public water systems from the effects of long-term or chronic exposure to arsenic...Individual private and certain small water systems may not be able to achieve these standards – even with treatment – either administratively or technically". Does this mean that people who cannot, or are not required to and don't, remove the arsenic to less than 10 ppb are destined to have increased likelihoods of related problems such as cancer until a new water source/system with acceptable levels is in place? Is further development in areas prone to this problem going to be allowed, even if there is a legal lot of record? What happens to residents whose private wells, or community water systems, cannot meet the new arsenic levels? 9

8. P. 4.3-40 The DEIR states "Multiple small groundwater aquifers provide potable water supply to the North County planning area properties". What is the source of this information, and is there a map showing the location of these "small aquifers"? 10

9. P. 4.3-40 In regards to North County watersheds, the DEIR states, "Due to demand exceeding supply, the area has been in a state of chronic overdraft since the 1950s. Groundwater extractions are estimated to be twice the average annual recharge. Resultant water supply and water quality problems include falling water levels, seawater intrusion, and extensive areas with nitrate contamination...In addition, intensive agriculture and non-sewered residents have resulted in excessive nitrogen loading that has rendered groundwater non-potable in many areas. Continued overdraft of the aquifer will continue to lower water levels and draw seawater into the basin, reducing more of the storage capacity. Continued nitrogen loading will increase nitrate ion concentrations, degrading the potability of additional domestic water supplies". 11

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This characterization of the state of the groundwater in North County should alarm the County government and the MCWRA and move them to immediate action, as it sounds like a description of a third world country's water situation rather than one for the gateway to Monterey County, California, USA. Instead, residents in one of the hardest hit areas of the county, Granite Ridge, are forced to reach deep into their pockets to construct and maintain what seems like a ramshackle system, that to date has had some serious legal issues raised concerning it. Is North County going to be totally on its own in solving its water problems? We've been told repeatedly that the SVWP will raise water levels in the Salinas Valley Basin and North County will benefit (we're even paying for the SVWP), and at some time in the future wells may be drilled, and a 12
distribution system built, to bring water to North County. Yet there is no mention of this North County water "project" in the currently proposed General Plan, which one would think should discuss any significant problems and proposed solutions if they are to take place within the next 20 years. We've repeatedly asked for hydrogeologic cross-sections from the Salinas Valley up into North County to show water levels pre- and post- SVWP implementation, being very doubtful of there being an actual benefit to North County. We've asked multiple times and never got an answer as to where these "theoretical" wells might be located. This DEIR should address these environmental issues and the project we only seem to hear about (supposed mitigation of the problem), but never see in print, namely a source of potable water for North County. What exactly are the plan and the associated schedule?

10. P. 4.3-41 The DEIR states, the PVWM Basin Management Plan estimated that total groundwater pumping will increase to 78,000 AFY by 2040 (Pajaro Valley Water Management Agency, 2002). This exceeds 13
sustainable yield by approximately 54,000 AFY. What is the proposed source of affordable potable water for development of Pajaro as a Community Area?

11. P. 4.3-20 In discussing common sources of contaminants to groundwater, dry cleaners are not listed. This is a serious problem 14
elsewhere in California and in the country, and it is expected that it would also be in Monterey County.

Respectfully submitted,

William G. Theyskens, P.G., C.E.G., C.Hg.
17721 Berta Canyon Road
Prunedale, CA 93907
(831) 663-1302

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I-19b

Monterey County
Planning and Building
Inspection Administration
FEB 03 2009
RECEIVED
rec'd e-mailed
2/2/09
10:30 pm

February 2, 2009

Carl Holm, Assistant Director
County of Monterey Resource Management Agency
Planning Department
168 West Alisal Street, 2nd Floor
Salinas, California 93901

Email: HolmCP@co.monterey.ca.us

SENT VIA EMAIL

SUBJECT: ADDENDUM TO PREVIOUSLY EMAILED COMMENTS ON THE DRAFT EIR FOR THE 2007 MONTEREY COUNTY GENERAL PLAN

Dear Mr. Holm:

The following comments are respectfully submitted as an addendum to the comments emailed on 2/1/09 on the subject DEIR.

4.3 Water Resources (cont.)

12. P. 4.3-15 What impacts do the findings of the Hydrostratigraphic Analysis of the Northern Salinas Valley (Kennedy/Jenks Consultants, 2004) regarding seawater intrusion have on the expected effectiveness of the Salinas River Basin Management Plan? More specifically, what impacts result from the finding that there is transfer of seawater-impacted groundwater from the 180-foot aquifer to the 400-foot aquifer? As a result there will likely be seawater impact landward of the mapped front in the 400-foot aquifer, due to a thin or missing aquitard, which 1
typically separates the 180- and 400-foot aquifers. According to Kennedy/Jenks, it is more likely that in the City of Salinas this aquifer and its production wells will be impacted by inter-aquifer flow from the Pressure 180-foot aquifer to the Pressure 400-foot aquifer similar to that observed in the Fort Ord area". Kennedy/Jenks also states "We predict that seawater in the Pressure 180-foot aquifer will impact production wells in the City of Salinas in about 14 to 16 years (assuming water elevations in the 180-foot aquifer are maintained and a downward

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hydraulic gradient with the lower aquifers does not change appreciably. (Note that since the Kennedy/Jenks report was written 5 years ago (in 2004), the time frame for impact of City of Salinas wells is only 9 to 11 years away.) As the data in Kennedy/Jenks report is so crucial to the water supply of Monterey County's largest City, why was this information not presented and discussed in the General Plan or in its DEIR? Surely this scenario is a potential significant environmental impact that has not been addressed in the DEIR. The DEIR should be amended or an addendum prepared to more accurately present and assess the hydrogeology of the North Salinas Basin. 1

13. 4.3-16 The DEIR states, *"As illustrated by the overdraft conditions, current demand exceeds supply in the major supply areas of the county, an issue also present at the time of the existing 1982 General Plan. Goals, objectives, and policies in that plan addressed the need to 'promote adequate, replenishable water supplies of suitable quality; to eliminate groundwater overdrafting; and to implement a program to prevent further seawater intrusion by developing supplemental sources of water for North County". These issues are the subject of exhaustive groundwater studies and basin groundwater management plans undertaken by the respective water management agencies and the County since the existing 1982 General Plan. While progress has been made by MCWRA, MPWMD, and PVWMA in halting the rate of groundwater level decline and seawater intrusion, these issues remain a significant challenge to sustainable growth based on the goal of a sustainable groundwater supply."* Are we to understand that the SVWP is the culmination of 27 years of exhaustive groundwater studies and basin groundwater management plans undertaken by the respective water management agencies and the County since the 1982 General Plan, since it is being touted as being capable of halting seawater intrusion and Salinas Valley basin overdraft? Is the SVWP really expected to result in the cessation of overdraft conditions in the East Side Subarea, thus also benefiting this subarea, and North County, with rising water levels? Is this still anticipated in spite of the hydrogeologic features identified by Kennedy/Jenks (2004) that indicate the presence of a "transition zone" and an order of magnitude lower hydraulic conductivity in the East Side Subarea as compared to the Pressure Sub Area? 2

Respectfully submitted,

William G. Theyskens, P.G., C.E.G., C.Hg.
17721 Berta Canyon Road
Prunedale, CA 93907
(831) 663-1302

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55

Planning and Building Inspection Administration

FEB 2 2009

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Faxed 2/2/09 2:09 am

RMA Planning
Mr. Carl Holm
168 W. Alisal Street
Salinas, CA 93901
Email: cegacomments@co.monterey.ca.us
Fax: 831-~~755-5487~~ 757-9516

Response to DEIR for the Monterey County General Plan

February 2, 2009

Dear Mr. Holm,

Following are some concerns and observations about the DEIR for the proposed Monterey County General Plan. Can you please see that these get addressed in the Final EIR?

1) AWCP Agricultural Winery Corridor Plan
There is no mention of the California Alcoholic Beverage Control Agency being advised of this plan. The sale, serving, and consumption of alcoholic beverages are allowed under a number of different permit types. These permits have numbers and descriptions. The Alcoholic Beverage Control Agency for the Tri-County Area is located in the City of Salinas. They have a staff of approximately eight. These eight people are responsible for taking applications, processing applications, issuing new permits, renewing permits, monitoring the onsite and off site establishments that sell and/or serve alcohol, and also are responsible for enforcement. It is a very big task.
When asked, "How can your office visit the bars, liquor stores, restaurants, quick stops, grocery stores, clubs, sports venues, and other areas selling and serving alcohol in the Tri-County area?"
The answer is, "We can't!"
Enforcement is often a procedure after reports of problems occur. 1

There are numerous wineries of differing sizes being considered, with on site sales of bottled wine and on site consumption, in addition to events. The Monterey County Sheriff's Department will necessarily be the one called upon when there are law enforcement issues because the wineries are in unincorporated parts of Monterey County. Given the budget constraints, how will the Sheriff's Department handle the additional duties?
What safety aspects may these wineries have on the residents of these Wine Corridors and surrounding areas? Roadways have curves. Tourists are unfamiliar with the roadways. Add visits to several wineries and wine tastings There will be issues.

2) Scenic Highways: The stretch of State Highway 68 between the Salinas River and the City of Salinas South Main Street boundary has been eligible for 2

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Page 2

inclusion into the Scenic Highway status the remainder of Highway 68 has enjoyed since September 20, 1966. Why? | 2

3) Historical Resources appears incomplete. Possibly due to misplaced or lost files? | 3

4) Fort Ord: Unexploded buried ordnance and contaminated groundwater that is migrating. Shouldn't these known and suspected sites in addition to known migrating contaminated groundwater maps be included in the County General Plan? Especially since it involves the neighboring City of Marina and the California State University of Monterey Bay. | 4

5) The Fort Ord Master Plan Land Use Map is contingent upon proper clean up and clearance by the United States Environmental Protection Agency, the California Department of Toxic Substances Control, California State Water Quality Control Agency, and the United States Department of the Army. Costs of clean up can be estimated, however ultimate costs are unknown. The taxpayers are picking up the tab for clean up. Please note the Parker Flats Cemetery and adjacent Hotel and Golf Course Opportunity Parcels are prior aerial bombing training areas during World War 2. | 5

6) The Fort Ord Map fails to show the adopted County Plan Lines for the Corral de Tierra Bypass. | 6

7) The Fort Ord Open Space Recreation Map (green areas) doesn't show or mention Wolf Hill, one of the most contaminated of Unexploded Ordnance Sites. Does "recreation" allow trailers to be leveled or tent sites (with stakes)? | 7

8) Highway 68 Plan Lines through Fort Ord, known as the South-West Alternative, or Highway 68 Bypass. Has the Tier 1 Environmental Document been completed by CalTrans yet? | 8

9) Toro Area Land Use map appears to have a mapping error by possibly including the residential #12 Corral de Tierra Road in the red Commercial designation? | 9

10) Please clarify proposed adopted Level of Service D Countywide, except for Carmel Valley. How can there be two different Levels of service Standards in unincorporated areas of the same County? Shouldn't it all be LOS C for consistency? | 10

11) Alternatively, please clarify that level of Service "D" is D and not a range of D that may go to D- or D- - , or anything just short of F+. | 11

12) Regarding water, please explain how supporting a "regional solution" | 12

I-20

Page 3

WR-1 won't lead to approval of water uses in areas where there is no water. Drawing down the water tables in areas where there may some water and transporting it to areas where there is no water for new uses will only result in the eventuality of no one having any water. | 12

Thank you for the opportunity to express some of my concerns regarding the DEIR for the Monterey County General Plan.

Sincerely,

Mike Weaver
831-484-6659

59

I-21

Calderon, Vanessa A. x5186

Monterey County
Planning and Building
Inspection Center

FEB 02 2009

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Read as CEQA
Comments 2/2/09
3:38 pm

From: jacqui@messengerlawfirm.com
Sent: Monday, February 02, 2009 3:38 PM
To: ceqacomments
Cc: Knaster, Alana x5322; HolmC@co.monterey.ca.us; Novo, Mike x5192
Subject: Comments to General Plan and General Plan EIR

Dear Mr. Holm:

The language of proposed Policy CV-2.18 is confusing and therefore may be subject to interpretation challenges. We interpret Policy CV-2.18 as essentially providing that the Board maintains its discretion to adopt a statement of overriding considerations in the event an EIR is prepared for a project but traffic impacts resulting from a project cannot be fully mitigated to a level of insignificance. Also, for projects that exceed certain thresholds (which are defined in CV-2.18), the County will defer approval of that project until an EIR is prepared.

We request that the General Plan EIR confirm the meaning and intent behind Policy CV-2.18, and that the language of Policy CV-2.18 be revised for clarification purposes. For example, the sentence in Policy CV-2.18 that reads "as for those road segments which are at LOS C, D and E, this would, at a minimum, occur when the LOS F, this would occur when it would cause" does not make sense. 1

Our understanding is that the County will work on fee ordinances to address future infrastructure needs so that any future development can contribute its fair share towards those future improvements.

Thank you for your consideration.

Jacqueline Zischke

cc: Mike Novo (via email novom@co.monterey.ca.us)
Alana Knaster (via email knastera@co.monterey.ca.us)
Carl Holm (via email holmc@co.monterey.ca.us)

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Email: jacqui@messengerlawfirm.com

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Comment Letters
Late Letters

O-5c

Carmel Valley Association
P.O. Box 157, Carmel Valley, California 93924
www.carmelvalleyassociation.org

Since 1949

February 24, 2009

Monterey County Planning Commission
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901

Re: DEIR for GPU5, Section 4.6, "Mitigation Measure TRAN-2B," especially Carmel Valley Master Plan, item CV-2.18

Dear Chair and Members of the Planning Commission:

Established in 1949, CVA is the oldest and largest resident and homeowners association in Carmel Valley. Indeed, we are the largest civic association of any kind in Carmel Valley.

Please accept the following information, comments and request concerning "mitigations" proposed in the Transportation section of the DEIR for GPU5:

In section 4.6 (Transportation) of the DEIR for GPU5, "Mitigation Measure TRAN-2B" is environmentally inadequate and inappropriate. It is based on inadequate and substantially flawed information and would exacerbate environmental impacts rather than mitigate them.

We urge the Commission to reject Mitigation Measure TRAN-2B in its entirety because

- it lacks substantial evidence to support it, and
- it would worsen rather than mitigate environmental impacts

of traffic in Carmel Valley under the Plan.

This request reflects problems with "Mitigation Measure TRAN-2B" that include the following:

1

O-5c

Missing data

Fourteen road segments have been *omitted* from Tables A, B, C of Appendix C, but appear in Tables D and E. (Tables D and E are of limited relevance because they are "buildout" tables based on 2092 projections.) (See Figure 1 below.) The omitted segments are Carmel Valley Road, between the southeast end of Carmel Valley Village and State Highway 1 (11 segments), and State Route 1 between Riley Ranch Road (two intersections south of Carmel Valley Road) and Carpenter Street (two intersections north of Carmel Valley Road) – three segments. The former are critical elements of the Carmel Valley Master Plan and the latter represent a part of Highway 1 that is the principal access to Carmel Valley Road and is widely known and documented to operate at substandard levels of service. These omissions render the DEIR's environmental assessment of traffic on and adjacent to Carmel Valley Road defective and inadequate. (Any claim that the CVTIP DEIR of mid-2007 is an adequate substitute for the missing data simply does not meet elementary standards of reasonableness and adequacy. For example the standards of significance are different for the two studies and in both cases are ambiguous. One result is that the contents of Table 4.6-21, *existing* LOS column, in the GPU5 DEIR differ substantially from the corresponding data in Tables 3.7-4,5 of the CVTIP DEIR. Besides, the CVTIP FEIR, including public comments, has never been released to the public and cannot serve as suitable or reliable reference. Also, the CVTIP DEIR does not contain an evaluation of the omitted Highway 1 traffic.)

Inadequate environmental evaluation of "mitigations"

- In the DEIR there is *no* quantitative evaluation of the environmental impacts of the "mitigations" in "Mitigation Measure TRAN-2B" and therefore there is *no* justification for the assertion (p. 4.6-73) that "These mitigation measures result in impacts to Carmel Valley Road being less than significant …." Substantial evidence, as required by CEQA, is absent.
- No study of intersections is included in the DEIR, so under CEQA the "mitigation's" provisions concerning intersections entirely lack substantial evidence to support them and are inadequate.

Misleading rationale for adopting different traffic standards on Carmel Valley Road

- It is asserted on p. 4.6-64 of the DEIR that "roadway level of service analysis for the Carmel Valley Master Plan (CVMP) area is based on peak hour … information" is not true. The CVMP standard is explicitly expressed in ADT.
- On the same page it is asserted that "peak hour … analysis … is a more project-specific … method" yet on p. 4.6-33 the DEIR states, "project-specific impacts …

2

O-5c

would have a less than significant impact and no mitigation is required" and therefore this feature of the "peak hour" approach is irrelevant.

- The assertion in the same sentence that "the peak-hour … analysis .. is … a … more accurate method" is meaningless because the "standards" being used are ambiguous and do not specify what it is that would be "more accurately" measured. For example, the DEIR's effective definition of environmental impact of traffic is incorrect in that it is a measure of the number of sites (number of roadway segments) of impacts and not of impacts themselves (e.g. V/C on a segment) and there is no basis for establishing rational criteria for "accuracy" of impact, LOS or significance (all of which are implicated) under these conditions
- The further assertion that "peak hour operational analysis [would] … overcome the inaccuracies and impact over-estimation characteristic of the V/C Ratio analysis" is not supported by any evidence in the DEIR. What is meant here by "over-estimation"? What criteria are used in the DEIR to establish when an estimation is "accurate"?

"Peak hour" not a well-define traffic standard

- In some cases peak-hour simply is taken to be a specified fraction of average daily traffic (ADT) (8% to 11% for each peak hour, AM or PM, appear to be typical). Thus "peak hour" is not necessarily distinct from ADT.
- Percentage of time spent following (PTSF) standards have the advantage of being independent of roadway capacity (for 2-lane roads) but have the disadvantage of depending on speed and vehicle spacing. Thus, for impacts that depend on numbers of vehicles passing a given point per unit time (e.g., residents, local businesses, drivers trying to get on or off a road segment), PSFT is not a well-defined or desirable basis for a standard.
- The meanings of LOS ratings are quite different for PTSF and ADT. However, if there is an approximate equivalence of the two on specified road segments, a calibration of ADT with respect to PTSF is possible. This is the case on Carmel Valley Road, based on the data in the CVTIP DEIR. (See Figure 3 below.) The calibration shows that the use of PTSF very substantially relaxes LOS ratings on Carmel Valley Road, raising the ADT standard by more than 15% above the existing "thresholds" on the most heavily traveled segments and by much more on other segments. (See Figure 2 below.)

"Mitigation CV-2.18" would not mitigate, but would *exacerbate* environmental impact on Carmel Valley Road and on nearby Highway 1

- Calibration of ADT against PTSF shows conclusively that the proposed "mitigation" would lower the traffic standard on Carmel Valley Road and would severely reduce control over roadway adequacy. It would be permissive

3

Feb 24 09 03:41p Sanders, T & J 831-625-4370 p.3

O-5c

of development that the current Plan provision was intended to restrict and therefore would violate the existing Plan.

- The proposed "mitigation" would violate Goals 1 and 6 of the current Plan, and Policy CV-1.1 of GPU5.
- Traffic on already-substandard segments and at already-substandard intersections of Highway 1 inevitably would be increased by the "mitigation" and therefore would cause greater impacts than would retention of current policies and related practices.
- The "standard" for unsignalized intersections, which constitute the vast majority of intersections on Carmel Valley Road and throughout the Valley, is LOS F – that is, no standard at all – in the "mitigation". This clearly removes any control over intersection levels of service.

"Mitigation CV-2.19" entirely lacks environmental analysis in the DEIR to support it

- No quantitative data is provided in the DEIR to demonstrate the specific need nor the effectiveness of the provision as a "mitigation"; substantial evidence that it would reduce environmental impact is absent.
- A CVTIP DEIR, evaluating the environmental impacts of almost all the content of this provision, was released more than a year and a half ago, but the FEIR including public comments and responses still has not been released; these relevant and critical facts were not revealed in the GPU5 DEIR and therefore it is inadequate as an environmental analysis.

In general, none of the proposed mitigations has received adequate environmental review, and all should be given a full and public evaluation before being considered for adoption. Clearly, in our judgment, they should be rejected in their present form. (See Carmel Valley Association's comments on the DEIR for GPU5.)

Your careful attention to this is much appreciated.

Sincerely,

Timothy D. Sanders,
Vice President

Attached: Three figures and descriptions.

4

Feb 24 09 03:41p Sanders, T & J 831-625-4370 p.4

O-5c

Attached figures (See following pages)

Figure 1. Missing Data. At the lower right-hand corner of this graph are 14 data points with a V/C value of zero. These represent segments of Carmel Valley Road and of State Highway 1, which were omitted from Tables A and C of Appendix C. The value zero on the vertical axis results from the lack of data, obviously not from an evaluation of V/C for these segments.

Figure 2. Reduction of traffic standards by "Mitigation CV-2.18." This graph shows what the "mitigation" would do to Carmel Valley traffic standards on seven segments of Carmel Valley Road. The top curve shows the effective standard that would result from adopting the "mitigation", the blue curve shows the stated LOS C standard of the CVMP, and the red curve shows the actual traffic (10-yr. average, CVMP annual traffic evaluations). Clearly the "mitigation" changes the roadway "standard" in a way that would permit greater environmental impacts on segments of the road that already are rated at LOS D, E and F, by one or another study.

Figure 3. Calibration of ADT against PTSF (peak hour). The curve represents ADT as a function of PTSF, with the PTSF criteria for LOS ratings shown on the horizontal axis, and with corresponding ADT values shown on the curve. The curve was obtained by quadratic regression of ADT against PTSF data from the CVTIP DEIR, which shows very high correlation between the curve and the data.

5

Feb 24 09 03:42p Sanders, T & J 831-625-4370 p.5

O-5c

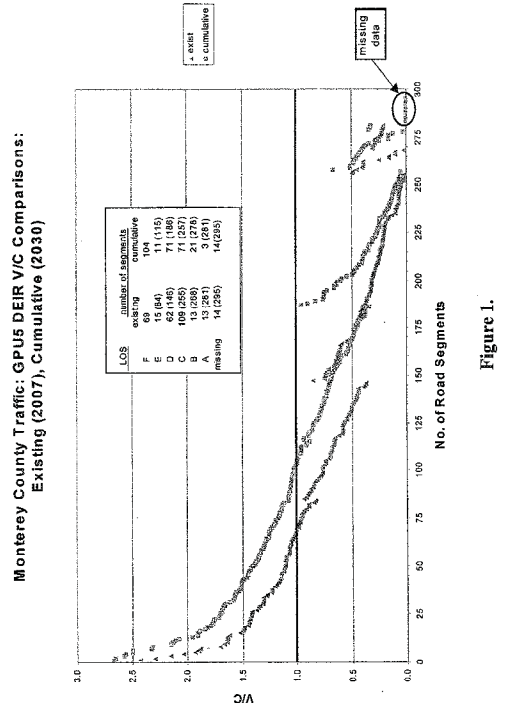

Figure 1.

Feb 24 09 03:42p Sanders, T & J 831-625-4370 p.6

O-5c

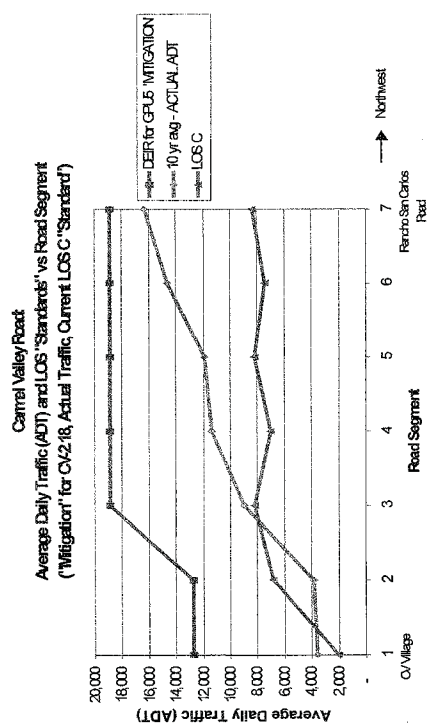

Figure 2.

O-5c

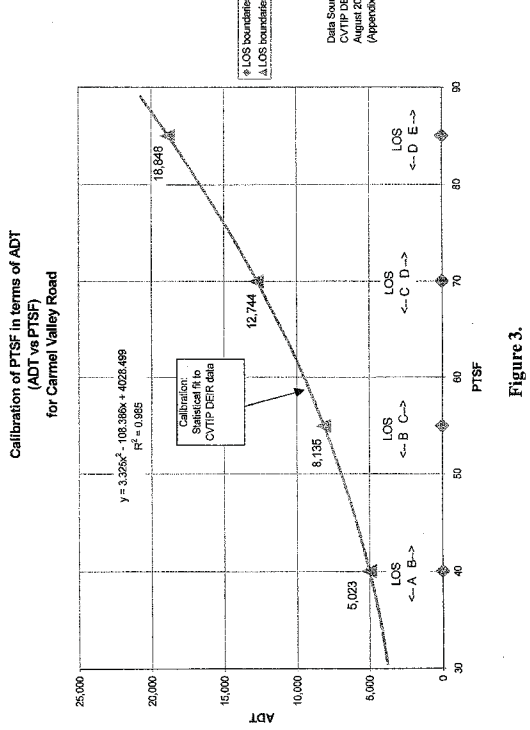

Figure 3.

Feb 24 09 03:37p Sanders, T & J 831-625-4370 p.1

MEMORANDUM

To: **Monterey County Planning Commission**
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901

From: Timothy D. Sanders (25075 Pine Hills Dr., Carmel, CA 93923)

Date: February 23, 2009

Subject: RMA-Planning Department Recommendations for the Planning Commission Meeting of February 25, 2009 – Tabling of consideration and public hearing on matters arising from the DEIR for GPU5

I respectfully request that consideration by the Planning Commission, including public hearing, of any and *all* policies and policy changes recommended or suggested in the DEIR for GPU5 be *tabled* or not opened until after the FEIR is complete and has been released to the public.

Policies and policy changes proposed as "mitigations" in the DEIR should be considered formally by the Planning Commission, and subject to hearings, *only* in the context of public comments on the DEIR and responses those comments. Comments and responses are an integral part of the CEQA environmental review process and constitute part of the evidence on environmental matters required by CEQA.

Formal consideration and hearings in the absence of the information brought forward by public comments amounts to short-circuiting the environmental review process and assuming the DEIR to be accurate and adequate. Public comments often challenge that assumption, and should be among the evidence before the Commission when the DEIR's contents, including all mitigations and proposed policies, are taken under consideration.

Thus I request that action on Staff Recommendation 1) be restricted to changes proposed in the errata, with "and mitigation measures" omitted; that testimony in Recommendation 2) be restricted to changes proposed in errata; that the matters referred to in Recommendation 3) likewise be restricted to subject matter predating and not arising from the DEIR; and that the effect of Recommendation 4) be modified to (a) continue, as may be necessary, the public hearing on matters not arising from the DEIR, and (b) to propose that public hearings on DEIR-related issues not occur before a future "date uncertain until FEIR is" released to the public..

Your attention to this request, which is an appeal that the intent of the CEQA process be respected and followed, is greatly appreciated.

T. D. Sanders

O-10d

Bringing you HOPE -
Helping Our Peninsula's Environment
Box 1495, Carmel, CA 93921 Info7 at 1hope.org
831/ 624-6500 www.1hope.org

Monterey County Planning Commissioners **February 23, 2009**

"Why do we always have time to do it over – but never have time to do it right?"

-John Tolson, MPC Professor Emeritus

You Aren't Paying Attention

How can anyone take the General Plan and its EIR seriously -- when the documents don't take our laws or the world's best available environmental science seriously? [1]

We're Serious

Just to give you context – though the Herald never reported it, HOPE sued to overturn the last General Plan you approved. HOPE does not take on lawsuits lightly and we usually win.

If the "new" General Plan remains in its current massively legally inadequate condition, you will be forcing us all to court again, handing us a highly probable victory and delaying the General Plan for yet another two years -- or more.

HOPE has provided you with more than 1,000 pages of the best available environmental science on impacts, alternatives and mitigations with our comments on the previous General Plan revision and EIR. California law, CEQA, adopted by the Legislature and signed by our Governor requires you to use that –

Yet – County staff has ignored essentially all of it. [2]

Not New Requests

Half a dozen public interest groups [3] **have respectfully requested the following items for some 10 years – at almost every opportunity during the several GP update revisions and some since even before the beginning of the update process.**

[1] While Monterey County's Supervisors have the legal authority to adopt the most giant development allowing General Plan they want -- they are also required by law (CEQA) to adopt every feasible mitigation for each environmental impact that the growth forcing General Plan causes, and to provide the public with an objective evaluation of a reasonable range of feasible alternatives to that Plan.

[2] HOPE's comments apparently have their own volume for the last GPU revision. We challenge you to pick *any one* of our substantive comments from that volume and try to find a **meaningful** response.

O-10d

Yet the new General Plan and its DEIR --

- ***Still base everything on Bogus*** [i] ***and Harmful AMBAG Population Projections*** [4]
  The General Plan needs to include an Alternative and Mitigation that determines a Carrying Capacity based on real Physical Constraints – Not on AMBAG's famously bogus forecasts. [ii]

  While few of us would agree on our area's Carrying Capacity, the General Plan needs to set a process in motion to determine such a limit – for this General Plan – and for the subsequent GP updates.

- **Still Contains No Protection for Monterey pine forests outside the Coastal Zone,**
  even though the General Plan is **required to address all locally relevant issues** [5]

- **Still Provides No Recognition of Short Term Noise Impacts**[6] **or Mitigation for them**

- **Still Provides No Meaningful Light Pollution Avoidance and Mitigation** [7]
  even though ***light pollution was the November 2008 National Geographic cover story***

- **Still have No Meaningful Chemical (including Pesticide) Pollution Impact Recognition or Mitigation**

- **Still Ignores our Peninsula's 10-year long *physical* Water Supply Emergency – allowing more unsupportable growth.**

- **Still Ignores our growing Gridlock - allowing more unsupportable growth and congestion.**

- **Still provides ONLY "alternatives" which use AMBAG's bogus Population "forecast,"**
  even though a General Plan is Required to address a "reasonable ***range*** of feasible alternatives"[8]
  This makes the "range" of alternatives provided - **Zero** – contrary to CEQA's mandate.

---

[3] **Carmel Valley Women's Network, Pacific Grove Neighbors, Save Our Peninsula Committee, VISION - Vision Inspiring Sanctity and Integrity of Nature, Responsible Consumers of our Monterey Peninsula,** and HOPE - Helping Our Peninsula's Environment. Letter to County Planning Commission, dated Thursday, August 19, 2004. (None of these groups were provided a seat at the "Refinement Group" table.)

[4] AMBAG's 1997 Adopted Population Forecast (page 179). See Endnotes 1 & 2.

[5] Gov Code 65301(c). **Monterey pines** are used proudly in government logos across Monterey County. They are highly protected as ESHA when in the Coastal Zone – yet wholly unprotected when merely across the street from the Coastal Zone. **Monterey pine forest was declared an Endangered species by the United Nations in 1986 and independently by the California Native Plant Society in 1992.**

[6] Impulse Noise examples -- Firing Ranges, Leaf Blowers, Barking Dogs, Chainsaws, Car Alarms, etc.

[7] Light Pollution – So un-professionally addressed and mitigated it requires an Overriding Consideration vote, when in-expensive off-the-shelf mitigation and simple laws can easily reduce this to "no significant impacts." Light Pollution is perhaps the only pollution that **saves governments millions of dollars by its reduction**, has a staggering array of money-saving off-the-shelf technologies and is widely accepted in all political climates. -- See www.**DarkSky.org**

[8] "Range of reasonable alternatives" standard from CEQAs Guidelines, applied by the Court in Citizens of Goleta Valley v. Bd. of Supervisors County of Santa Barbara (1990) 52 Cal.3d 553 ("Goleta II"). ***Examining a***

O-10d

Examining a lower set of population numbers for at least one Alternative would result in lower environmental impacts all around and is wholly reasonable, and feasible as the only cost involved would be County General Plan staff and Environmental Impact Report consultant time.

- **Still refuses to set up a process to establish our area's Carrying Capacity as mitigation.** [9]

If you take these reasonable concerns seriously – we will have nothing to litigate,

David Dilworth, Executive Director

---

[i] **AMBAG 1997 Population Forecast (pg 179) --**
"The AMBAG Population Forecast process and the Draft Forecast have ignored:

1) Historic trends. (Forecasts are notably higher than trends)
2) Historic mistakes. (30% overestimate for Marina in 1994)
3) Alternate methodologies. (Genuine Trend extrapolation and Bottom-up forecasts)
4) Concerns and comments from Forecast Technical Advisory Committee members.
(e.g. Constraints ignored)

5) **All data which conflicts with pre-determined results.**
6) Large discrepancies (more than 10%) between US and State data sources.
7) Making data meaningful by using graphs.
8) Huge, additive, cumulative Margins of Error.
(Variance exceeding 150,000 for life of forecast for Monterey County alone)

9) The Self-Fulfilling Prophesy principle of forecasts unconstrained by resources such as water and roads.
10) Cumulative Environmental impacts ***caused*** and induced by the forecasts.
11) Analyzing the limits to population growth by existing infrastructure!
12) Analysis of the Carrying Capacity of the Region, Counties Communities and cities."

[ii] **What's wrong with current AMBAG's Forecasts ?**

US Census Counts of 1990 and 2000 Show --

- **All Peninsula Cities Populations *Dropping* –**

- **But AMBAG's 2003/4 Forecasts have All Peninsula Cities Populations *Increasing* !**

---

lower set of population numbers for at least one Alternative is wholly reasonable, painlessly feasible and would result in lower environmental impacts all around.

[9] Carrying Capacity --
a. The maximum population of humans which will not irreversibly harm the environment of a defined area.
b. The maximum population of a non-human species that can exist within the limits of the resources available (e.g. land area, water, food).

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Action Pajaro Valley

Monterey County Planning Commissioners
RMA-Planning Salinas Permit Center
168 W. Alisal Street, 2nd floor
Salinas, CA 93901
Via email: RothamelL@co.monterey.ca.us
RE: General Plan Update – PLN 070525

February 24, 2009

www.actionpajarovalley.org

Dear Chairman Vandevere and Planning Commissioners,

Action Pajaro Valley (APV), focused on land-use issues in the Pajaro Valley, formed in 1998 initiated by a wide variety of community interests including business, government, agriculture, labor, education, health and environmental stakeholders. Representatives from these diverse interests came together as APV conducted a visioning and growth management strategy process. APV facilitated community outreach activities that were wide reaching and bilingual in nature throughout the Pajaro Valley.

The outcome of the process was a Growth Management Strategy for the Pajaro Valley that includes designated communities, growth policies, design principles and recommendations for implementation. One of the designated communities is the town of Pajaro. In APV's Growth Management Strategy document it recommends the following; "In conjunction with the Monterey County General Plan update process, the town of Pajaro shall pursue housing infill, redevelopment and expansion opportunities with a range of product types." APV's Growth Management Strategy was endorsed by a wide-range of stakeholders and is the basis for the continued success of our work as an organization facilitating long-range land use planning in the Pajaro Valley.

APV's broad-based Pajaro Subcommittee, who is evaluating the option of initiating a Pajaro Community Plan process, supports the Monterey County General Plan designation of Pajaro as a "Priority Community Plan Area." We are proud to have been a part of the work the Redevelopment Area Citizens Advisory Committee and we acknowledge the great work that has been done by the County to improve Pajaro and help plan for its future.

We recognize that flood protection and infrastructure improvements are important issues facing the entire Pajaro Valley. Action Pajaro Valley's Pajaro River Task Force is working diligently on finding a consensus solution to the Pajaro River Levee Reconstruction Project. We consider the Task Force's work as yet another way that Action Pajaro Valley is assisting with solutions toward a better future for Pajaro.

Again, on behalf of our Pajaro Subcommittee of our Growth Management Strategy Committee; we support the classification of Pajaro as a Priority Community Plan Area and look forward to working with the County in the future. If you need to contact me, you can reach me at 831 786 8536 ext. 103.

Sincerely,

Lisa Dobbins
Executive Director

Cc: Monterey County Board of Supervisors- via Clerk of the Board
Wayne Tanda and Alana Knaster, Resource Management Agency
Mike Novo and Carl Holm, RMA-Planning Agency
Jim Cook and Jerry Hernandez, Redevelopment & Housing Agency
Curtis Weeks, General Manager, Monterey County Water Resource Agency

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February 23, 2009

Mr. Carl Holm
RMA-Planning Salinas Permit Center
168 W. Alisal St.
2nd Floor
Salinas CA 93901
[ceqacomments@co.monterey.ca.us]

Dear Mr. Holm,

As a Director of the CPOA, I strongly support the 2/2/09 letter Michael Caplin authored on behalf of the Big Sur Community re: The General Plan's DEIR does not apply to the Coastal Zone.

Surely this was the intention of the new General Plan, as adopted January 3, 2007, which was designed to avoid conflicts with the County's four local coastal land use plans.

DEIR pages 4.1-19 and 20 state "The four adopted local coastal land use plans contained in the existing 1982 Monterey County General Plan **will not be amended as part of the 2007 General Plan.** The 2007 General Plan's goals and policies have been developed with the LCPs in mind and **do not contain any provisions that would conflict** with the four adopted local coastal plans."

The Plan expressly states the intent to not change coastal plans.
2007 General Plan, Introduction, section 1.5.d., pages vi and viii. "The County is **not amending** the Local Coastal Program as part of this 2006 General Plan. The County will review the LCP after adoption of the 2007 General Plan Update."
(emphasis added.)

2007 General Plan, Introduction, section 1.5.d., page viii states that
"In accordance with the state Coastal Act, this approach recognizes that the coastal zone is a distinct and valuable natural resource **which requires unique planning considerations and may require different standards and policies**" and must be free to vary from other portions of the Plan."
(emphasis added.)

I-22

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We respectfully request that the specific language (below), proposed on page 4 of the Caplin letter, be incorporated into the EIR.

> "This policy shall not apply within Monterey County's coastal zone. This policy was recommended as a mitigation measure to address environmental impacts caused by the 2007 General Plan (as adopted January 3, 2007). The 2007 General Plan does not change Monterey County's Local Coastal Program, and environmental impacts in Monterey County's coastal zone were not analyzed as part of the 2007 General Plan environmental review."
>
> "Further, maps in the DEIR must be changed to exclude coastal areas as these areas are not part of the project and are not properly included in the DEIR CEQA analysis."

Sincerely,

Via email

Robert M. Carver

County of Monterey Resource Management
Agency, Planning Department

Comment Letters
Late Letters

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Technical Supporting Data

Air Quality EMFAC and Caline4 Model Runs

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.636	0.712	0.768	2.266	3.833	2.778	0.771

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	10.338	13.510	11.894	25.647	22.739	25.336	12.511

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	1.061	1.584	2.156	15.783	18.779	1.205	2.097

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	442.151	509.155	708.177	1511.386	2025.789	131.828	539.950

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.007	0.008	0.013	0.120	0.157	0.003	0.014

Pollutant Name: PM2.5 Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.019	0.027	0.032	0.840	0.248	0.028	0.064

Pollutant Name: PM2.5 - Tire Wear Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.002	0.002	0.002	0.005	0.002	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.005	0.005	0.005	0.008	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	19.309	16.518	11.976	10.284	10.484	49.048	17.733

Pollutant Name: Diesel - mi/gal Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	27.201	28.679	18.288	5.755	3.387	0.000	12.639

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.305	0.297	0.609	2.145	0.537	1.678	0.483
10	0.469	0.460	0.879	2.487	0.947	1.689	0.670
20	0.776	0.764	1.384	3.162	1.703	1.749	1.023
30	1.052	1.038	1.842	3.823	2.375	1.863	1.345
40	1.297	1.282	2.254	4.470	2.963	2.031	1.637
50	1.513	1.495	2.619	5.104	3.467	2.251	1.899
60	1.684	1.666	2.904	5.543	3.876	2.357	2.102
120	1.965	1.930	3.232	5.900	4.283	2.387	2.386
180	2.004	1.980	3.397	6.324	4.548	2.588	2.472
240	2.121	2.095	3.598	6.741	4.805	2.793	2.621
300	2.235	2.208	3.794	7.151	5.054	2.997	2.766
360	2.345	2.317	3.985	7.553	5.295	3.200	2.907
420	2.453	2.423	4.170	7.949	5.529	3.403	3.044
480	2.557	2.526	4.351	8.338	5.754	3.606	3.178
540	2.657	2.626	4.525	8.720	5.971	3.808	3.308
600	2.755	2.722	4.695	9.095	6.180	4.010	3.435
660	2.849	2.816	4.859	9.463	6.381	4.211	3.558
720	2.940	2.906	5.018	9.824	6.574	4.412	3.677

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	2.667	2.899	6.390	24.174	7.240	6.493	4.810
10	4.127	4.587	9.539	27.178	13.320	5.918	6.620
20	6.876	7.766	15.471	33.038	24.720	4.919	10.047
30	9.399	10.681	20.918	38.701	35.102	4.123	13.215
40	11.695	13.333	25.879	44.168	44.467	3.530	16.122
50	13.765	15.720	30.354	49.438	52.816	3.139	18.770
60	15.609	17.843	34.344	54.512	60.148	2.951	21.159
120	20.495	22.996	42.056	70.680	70.953	5.880	27.282

180	20.130	22.821	43.585	79.636	73.322	8.326	27.909
240	21.093	23.879	45.757	87.879	75.726	10.561	29.597
300	22.022	24.902	47.849	95.410	78.165	12.539	31.193
360	22.917	25.891	49.862	102.227	80.639	14.259	32.695
420	23.778	26.844	51.795	108.331	83.148	15.721	34.105
480	24.605	27.763	53.648	113.723	85.692	16.926	35.422
540	25.398	28.648	55.423	118.402	88.270	17.873	36.646
600	26.157	29.498	57.117	122.367	90.884	18.562	37.777
660	26.883	30.313	58.732	125.620	93.533	18.994	38.816
720	27.574	31.094	60.268	128.160	96.216	19.168	39.761

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.321	0.424	0.833	1.396	1.630	0.242	0.489
10	0.438	0.574	1.218	1.992	2.451	0.265	0.680
20	0.643	0.839	1.895	3.042	3.892	0.308	1.017
30	0.811	1.056	2.448	3.899	5.067	0.344	1.292
40	0.941	1.224	2.875	4.564	5.975	0.375	1.505
50	1.034	1.345	3.178	5.036	6.616	0.399	1.657
60	1.090	1.417	3.356	5.317	6.991	0.418	1.748
120	1.103	1.436	3.381	5.353	7.036	0.421	1.766
180	1.102	1.435	3.370	5.324	7.010	0.412	1.761
240	1.093	1.425	3.349	5.283	6.970	0.399	1.748
300	1.082	1.411	3.320	5.228	6.916	0.383	1.731
360	1.068	1.393	3.285	5.161	6.849	0.364	1.710
420	1.051	1.372	3.242	5.080	6.767	0.342	1.684
480	1.031	1.346	3.191	4.987	6.672	0.317	1.653
540	1.008	1.318	3.134	4.881	6.563	0.289	1.618
600	0.983	1.285	3.069	4.761	6.441	0.257	1.579
660	0.954	1.249	2.998	4.629	6.305	0.223	1.536
720	0.923	1.209	2.918	4.484	6.154	0.185	1.488

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	10.532	11.748	18.491	35.546	5.886	29.503	13.770
10	15.029	16.610	26.581	41.737	9.995	32.161	18.861
20	24.017	26.367	42.644	53.898	18.138	37.327	29.019
30	32.995	36.168	58.547	65.768	26.181	42.293	39.149
40	41.964	46.013	74.293	77.345	34.123	47.058	49.250
50	50.923	55.901	89.880	88.630	41.964	51.622	59.322
60	59.873	65.833	105.309	99.622	49.705	55.986	69.364
120	102.689	114.949	175.007	148.879	83.310	76.409	117.288
180	118.549	132.718	201.772	161.433	97.560	77.042	134.505
240	133.584	149.608	227.027	173.249	110.969	77.642	150.825

300	147.794	165.621	250.773	184.327	123.537	78.208	166.246
360	161.180	180.755	273.009	194.669	135.265	78.739	180.770
420	173.740	195.012	293.735	204.273	146.152	79.237	194.396
480	185.476	208.390	312.952	213.140	156.197	79.701	207.124
540	196.387	220.890	330.659	221.270	165.402	80.130	218.954
600	206.473	232.511	346.857	228.663	173.766	80.526	229.886
660	215.734	243.255	361.545	235.319	181.290	80.887	239.921
720	224.171	253.121	374.723	241.237	187.972	81.215	249.057

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.001	0.000	0.001	0.000
10	0.000	0.000	0.001	0.001	0.000	0.001	0.000
20	0.001	0.001	0.001	0.002	0.001	0.001	0.001
30	0.001	0.001	0.001	0.002	0.001	0.001	0.001
40	0.001	0.001	0.002	0.002	0.002	0.001	0.001
50	0.001	0.001	0.002	0.003	0.002	0.001	0.001
60	0.001	0.001	0.002	0.003	0.002	0.001	0.002
120	0.002	0.002	0.004	0.004	0.003	0.001	0.002
180	0.002	0.002	0.004	0.004	0.003	0.001	0.003
240	0.002	0.003	0.004	0.005	0.003	0.001	0.003
300	0.003	0.003	0.005	0.005	0.004	0.002	0.003
360	0.003	0.003	0.005	0.005	0.004	0.002	0.003
420	0.003	0.003	0.005	0.006	0.004	0.002	0.004
480	0.003	0.004	0.006	0.006	0.004	0.002	0.004
540	0.003	0.004	0.006	0.006	0.005	0.002	0.004
600	0.004	0.004	0.006	0.006	0.005	0.002	0.004
660	0.004	0.004	0.007	0.007	0.005	0.002	0.004
720	0.004	0.004	0.007	0.007	0.005	0.002	0.005

Pollutant Name: PM2.5 Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.002	0.002	0.002	0.001	0.014	0.002
10	0.002	0.003	0.003	0.003	0.001	0.012	0.002
20	0.004	0.005	0.005	0.003	0.003	0.009	0.004
30	0.005	0.007	0.007	0.004	0.004	0.007	0.006
40	0.006	0.009	0.008	0.004	0.005	0.005	0.007
50	0.008	0.010	0.010	0.005	0.006	0.004	0.009
60	0.009	0.012	0.011	0.006	0.007	0.003	0.010
120	0.012	0.016	0.016	0.008	0.009	0.009	0.014
180	0.013	0.017	0.016	0.009	0.009	0.014	0.014
240	0.013	0.018	0.017	0.010	0.010	0.018	0.015
300	0.014	0.018	0.017	0.010	0.010	0.022	0.015
360	0.014	0.019	0.018	0.011	0.010	0.026	0.016

420	0.015	0.020	0.019	0.012	0.011	0.029	0.017
480	0.015	0.020	0.019	0.012	0.011	0.031	0.017
540	0.016	0.021	0.020	0.013	0.011	0.033	0.018
600	0.016	0.022	0.021	0.013	0.012	0.034	0.018
660	0.016	0.022	0.021	0.013	0.012	0.035	0.019
720	0.017	0.023	0.022	0.014	0.012	0.035	0.019

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.119	0.108	0.073	0.052	0.079	0.356	0.107
10	0.220	0.200	0.135	0.096	0.146	0.657	0.197
20	0.377	0.343	0.232	0.164	0.250	1.120	0.338
30	0.486	0.443	0.301	0.210	0.321	1.438	0.437
40	0.528	0.482	0.328	0.228	0.348	1.555	0.475

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.237	0.220	0.132	0.015	0.005	0.390	0.220

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.019	0.017	0.011	0.001	0.002	0.026	0.017

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.092	0.087	0.049	0.007	0.002	0.166	0.086

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.007	0.007	0.004	0.000	0.001	0.011	0.007

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.494	0.384	0.067	0.050	0.002	0.005	1.000
%TRIP	0.481	0.338	0.097	0.078	0.000	0.005	1.000
%VEH	0.525	0.366	0.058	0.031	0.000	0.018	1.000

Title : 2000 PM 2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.114	0.322	0.212	0.217	0.375	0.472	0.208
2	0.122	0.191	0.128	0.138	0.216	0.496	0.152
3	0.129	0.150	0.102	0.115	0.163	0.508	0.136
4	0.133	0.130	0.090	0.103	0.137	0.516	0.130
5	0.136	0.119	0.083	0.096	0.122	0.523	0.126
10	0.142	0.103	0.075	0.084	0.095	0.546	0.121
15	0.143	0.104	0.079	0.079	0.090	0.558	0.123
20	0.144	0.108	0.084	0.076	0.089	0.568	0.125
25	0.144	0.111	0.088	0.074	0.088	0.577	0.126
30	0.141	0.107	0.085	0.073	0.086	0.564	0.123
35	0.137	0.103	0.082	0.071	0.083	0.552	0.119
40	0.134	0.100	0.079	0.069	0.081	0.540	0.116
45	0.131	0.096	0.076	0.068	0.078	0.529	0.113
50	0.125	0.092	0.073	0.066	0.076	0.507	0.108

55	0.117	0.089	0.071	0.064	0.073	0.481	0.102
60	0.111	0.085	0.068	0.063	0.071	0.459	0.097

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.636	0.712	0.768	2.266	3.833	2.778	0.771

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	10.338	13.510	11.894	25.647	22.739	25.336	12.511

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	1.061	1.584	2.156	15.783	18.779	1.205	2.097

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

23 442.151 509.155 708.177 1511.386 2025.789 131.828 539.950

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.007	0.008	0.013	0.120	0.157	0.003	0.014

Pollutant Name: PM10 Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.020	0.029	0.034	0.913	0.270	0.037	0.070

Pollutant Name: PM10 - Tire Wear Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.008	0.008	0.009	0.021	0.010	0.004	0.009

Pollutant Name: PM10 - Brake Wear Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.013	0.013	0.013	0.019	0.013	0.006	0.013

Pollutant Name: Gasoline - mi/gal Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	19.309	16.518	11.976	10.284	10.484	49.048	17.733

Pollutant Name: Diesel - mi/gal Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

23	27.201	28.679	18.288	5.755	3.387	0.000	12.639

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.305	0.297	0.609	2.145	0.537	1.678	0.483
10	0.469	0.460	0.879	2.487	0.947	1.689	0.670
20	0.776	0.764	1.384	3.162	1.703	1.749	1.023
30	1.052	1.038	1.842	3.823	2.375	1.863	1.345
40	1.297	1.282	2.254	4.470	2.963	2.031	1.637
50	1.513	1.495	2.619	5.104	3.467	2.251	1.899
60	1.684	1.666	2.904	5.543	3.876	2.357	2.102
120	1.965	1.930	3.232	5.900	4.283	2.387	2.386
180	2.004	1.980	3.397	6.324	4.548	2.588	2.472
240	2.121	2.095	3.598	6.741	4.805	2.793	2.621
300	2.235	2.208	3.794	7.151	5.054	2.997	2.766
360	2.345	2.317	3.985	7.553	5.295	3.200	2.907
420	2.453	2.423	4.170	7.949	5.529	3.403	3.044
480	2.557	2.526	4.351	8.338	5.754	3.606	3.178
540	2.657	2.626	4.525	8.720	5.971	3.808	3.308
600	2.755	2.722	4.695	9.095	6.180	4.010	3.435
660	2.849	2.816	4.859	9.463	6.381	4.211	3.558
720	2.940	2.906	5.018	9.824	6.574	4.412	3.677

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	2.667	2.899	6.390	24.174	7.240	6.493	4.810
10	4.127	4.587	9.539	27.178	13.320	5.918	6.620
20	6.876	7.766	15.471	33.038	24.720	4.919	10.047
30	9.399	10.681	20.918	38.701	35.102	4.123	13.215
40	11.695	13.333	25.879	44.168	44.467	3.530	16.122
50	13.765	15.720	30.354	49.438	52.816	3.139	18.770
60	15.609	17.843	34.344	54.512	60.148	2.951	21.159
120	20.495	22.996	42.056	70.680	70.953	5.880	27.282
180	20.130	22.821	43.585	79.636	73.322	8.326	27.909
240	21.093	23.879	45.757	87.879	75.726	10.561	29.597
300	22.022	24.902	47.849	95.410	78.165	12.539	31.193
360	22.917	25.891	49.862	102.227	80.639	14.259	32.695
420	23.778	26.844	51.795	108.331	83.148	15.721	34.105
480	24.605	27.763	53.648	113.723	85.692	16.926	35.422
540	25.398	28.648	55.423	118.402	88.270	17.873	36.646
600	26.157	29.498	57.117	122.367	90.884	18.562	37.777
660	26.883	30.313	58.732	125.620	93.533	18.994	38.816
720	27.574	31.094	60.268	128.160	96.216	19.168	39.761

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.321	0.424	0.833	1.396	1.630	0.242	0.489
10	0.438	0.574	1.218	1.992	2.451	0.265	0.680
20	0.643	0.839	1.895	3.042	3.892	0.308	1.017
30	0.811	1.056	2.448	3.899	5.067	0.344	1.292
40	0.941	1.224	2.875	4.564	5.975	0.375	1.505
50	1.034	1.345	3.178	5.036	6.616	0.399	1.657
60	1.090	1.417	3.356	5.317	6.991	0.418	1.748
120	1.103	1.436	3.381	5.353	7.036	0.421	1.766
180	1.102	1.435	3.370	5.324	7.010	0.412	1.761
240	1.093	1.425	3.349	5.283	6.970	0.399	1.748
300	1.082	1.411	3.320	5.228	6.916	0.383	1.731
360	1.068	1.393	3.285	5.161	6.849	0.364	1.710
420	1.051	1.372	3.242	5.080	6.767	0.342	1.684
480	1.031	1.346	3.191	4.987	6.672	0.317	1.653
540	1.008	1.318	3.134	4.881	6.563	0.289	1.618
600	0.983	1.285	3.069	4.761	6.441	0.257	1.579
660	0.954	1.249	2.998	4.629	6.305	0.223	1.536
720	0.923	1.209	2.918	4.484	6.154	0.185	1.488

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	10.532	11.748	18.491	35.546	5.886	29.503	13.770
10	15.029	16.610	26.581	41.737	9.995	32.161	18.861

20	24.017	26.367	42.644	53.898	18.138	37.327	29.019
30	32.995	36.168	58.547	65.768	26.181	42.293	39.149
40	41.964	46.013	74.293	77.345	34.123	47.058	49.250
50	50.923	55.901	89.880	88.630	41.964	51.622	59.322
60	59.873	65.833	105.309	99.622	49.705	55.986	69.364
120	102.689	114.949	175.007	148.879	83.310	76.409	117.288
180	118.549	132.718	201.772	161.433	97.560	77.042	134.505
240	133.584	149.608	227.027	173.249	110.969	77.642	150.825
300	147.794	165.621	250.773	184.327	123.537	78.208	166.246
360	161.180	180.755	273.009	194.669	135.265	78.739	180.770
420	173.740	195.012	293.735	204.273	146.152	79.237	194.396
480	185.476	208.390	312.952	213.140	156.197	79.701	207.124
540	196.387	220.890	330.659	221.270	165.402	80.130	218.954
600	206.473	232.511	346.857	228.663	173.766	80.526	229.886
660	215.734	243.255	361.545	235.319	181.290	80.887	239.921
720	224.171	253.121	374.723	241.237	187.972	81.215	249.057

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.001	0.000	0.001	0.000
10	0.000	0.000	0.001	0.001	0.000	0.001	0.000
20	0.001	0.001	0.001	0.002	0.001	0.001	0.001
30	0.001	0.001	0.001	0.002	0.001	0.001	0.001
40	0.001	0.001	0.002	0.002	0.002	0.001	0.001
50	0.001	0.001	0.002	0.003	0.002	0.001	0.001
60	0.001	0.001	0.002	0.003	0.002	0.001	0.002
120	0.002	0.002	0.004	0.004	0.003	0.001	0.002
180	0.002	0.002	0.004	0.004	0.003	0.001	0.003
240	0.002	0.003	0.004	0.005	0.003	0.001	0.003
300	0.003	0.003	0.005	0.005	0.004	0.002	0.003
360	0.003	0.003	0.005	0.005	0.004	0.002	0.003
420	0.003	0.003	0.005	0.006	0.004	0.002	0.004
480	0.003	0.004	0.006	0.006	0.004	0.002	0.004
540	0.003	0.004	0.006	0.006	0.005	0.002	0.004
600	0.004	0.004	0.006	0.006	0.005	0.002	0.004
660	0.004	0.004	0.007	0.007	0.005	0.002	0.004
720	0.004	0.004	0.007	0.007	0.005	0.002	0.005

Pollutant Name: PM10 Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.002	0.002	0.003	0.001	0.018	0.002
10	0.002	0.003	0.003	0.003	0.002	0.016	0.003
20	0.004	0.005	0.005	0.004	0.003	0.012	0.005
30	0.006	0.008	0.007	0.004	0.004	0.009	0.006

40	0.007	0.009	0.009	0.005	0.005	0.007	0.008
50	0.008	0.011	0.011	0.006	0.006	0.005	0.009
60	0.009	0.013	0.012	0.006	0.007	0.004	0.010
120	0.013	0.018	0.017	0.009	0.010	0.012	0.015
180	0.014	0.018	0.018	0.010	0.010	0.018	0.015
240	0.014	0.019	0.018	0.011	0.010	0.024	0.016
300	0.015	0.020	0.019	0.012	0.011	0.030	0.017
360	0.015	0.021	0.020	0.013	0.011	0.034	0.017
420	0.016	0.021	0.020	0.013	0.011	0.038	0.018
480	0.016	0.022	0.021	0.014	0.012	0.041	0.019
540	0.017	0.023	0.022	0.014	0.012	0.043	0.019
600	0.017	0.023	0.022	0.015	0.012	0.045	0.020
660	0.018	0.024	0.023	0.015	0.013	0.046	0.020
720	0.018	0.025	0.024	0.016	0.013	0.046	0.021

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.119	0.108	0.073	0.052	0.079	0.356	0.107
10	0.220	0.200	0.135	0.096	0.146	0.657	0.197
20	0.377	0.343	0.232	0.164	0.250	1.120	0.338
30	0.486	0.443	0.301	0.210	0.321	1.438	0.437
40	0.528	0.482	0.328	0.228	0.348	1.555	0.475

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.237	0.220	0.132	0.015	0.005	0.390	0.220

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.019	0.017	0.011	0.001	0.002	0.026	0.017

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.092	0.087	0.049	0.007	0.002	0.166	0.086

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.007	0.007	0.004	0.000	0.001	0.011	0.007

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.494	0.384	0.067	0.050	0.002	0.005	1.000
%TRIP	0.481	0.338	0.097	0.078	0.000	0.005	1.000
%VEH	0.525	0.366	0.058	0.031	0.000	0.018	1.000

Title : 2000 PM 10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:27:47
Scen Year: 2000 -- All model years in the range 1965 to 2000 selected
Season : Summer
Area : Monterey
****

Year: 2000 -- Model Years 1965 to 2000 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.114	0.322	0.212	0.217	0.375	0.472	0.208
2	0.122	0.191	0.128	0.138	0.216	0.496	0.152
3	0.129	0.150	0.102	0.115	0.163	0.508	0.136
4	0.133	0.130	0.090	0.103	0.137	0.516	0.130
5	0.136	0.119	0.083	0.096	0.122	0.523	0.126
10	0.142	0.103	0.075	0.084	0.095	0.546	0.121

15	0.143	0.104	0.079	0.079	0.090	0.558	0.123
20	0.144	0.108	0.084	0.076	0.089	0.568	0.125
25	0.144	0.111	0.088	0.074	0.088	0.577	0.126
30	0.141	0.107	0.085	0.073	0.086	0.564	0.123
35	0.137	0.103	0.082	0.071	0.083	0.552	0.119
40	0.134	0.100	0.079	0.069	0.081	0.540	0.116
45	0.131	0.096	0.076	0.068	0.078	0.529	0.113
50	0.125	0.092	0.073	0.066	0.076	0.507	0.108
55	0.117	0.089	0.071	0.064	0.073	0.481	0.102
60	0.111	0.085	0.068	0.063	0.071	0.459	0.097

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.017	0.036	0.043	0.282	1.057	2.121	0.065

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.788	1.498	1.617	2.192	13.169	14.771	1.385

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.062	0.148	0.242	2.366	6.039	1.114	0.259

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	401.161	511.595	698.856	1606.810	1611.961	158.978	541.363

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.004	0.005	0.007	0.015	0.016	0.002	0.005

Pollutant Name: PM2.5 Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.017	0.033	0.039	0.144	0.049	0.012	0.032

Pollutant Name: PM2.5 - Tire Wear Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.002	0.002	0.002	0.005	0.002	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.005	0.005	0.005	0.008	0.005	0.003	0.005

Pollutant Name: Gasoline - mi/gal Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	22.017	17.225	12.428	11.730	11.098	46.842	19.234

Pollutant Name: Diesel - mi/gal Temperature: 71F Relative Humidity: 30%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	29.156	29.156	19.479	5.872	4.297	0.000	8.035

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.007	0.013	0.033	0.081	0.451	0.638	0.025
10	0.013	0.026	0.066	0.157	0.879	0.789	0.045
20	0.026	0.049	0.128	0.298	1.666	1.079	0.082
30	0.038	0.071	0.188	0.422	2.362	1.352	0.116
40	0.048	0.091	0.244	0.530	2.966	1.609	0.147
50	0.058	0.110	0.297	0.621	3.479	1.850	0.175
60	0.066	0.126	0.347	0.696	3.900	2.026	0.200
120	0.099	0.188	0.571	0.796	4.458	2.312	0.283
180	0.099	0.188	0.576	0.845	4.730	2.365	0.288
240	0.105	0.199	0.612	0.892	4.994	2.515	0.305
300	0.110	0.211	0.649	0.937	5.249	2.661	0.323
360	0.116	0.222	0.685	0.981	5.495	2.803	0.339
420	0.122	0.233	0.720	1.024	5.733	2.943	0.356
480	0.128	0.244	0.756	1.064	5.962	3.080	0.373
540	0.133	0.255	0.791	1.104	6.182	3.214	0.389
600	0.139	0.265	0.826	1.142	6.394	3.344	0.405
660	0.144	0.276	0.861	1.178	6.597	3.472	0.420
720	0.150	0.286	0.896	1.213	6.791	3.596	0.436

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.100	0.189	0.420	1.092	5.577	2.977	0.286
10	0.198	0.372	0.830	2.140	10.928	3.579	0.541
20	0.386	0.723	1.621	4.102	20.949	4.732	1.026
30	0.563	1.053	2.373	5.887	30.064	5.817	1.480
40	0.729	1.363	3.086	7.494	38.273	6.836	1.902
50	0.884	1.652	3.760	8.923	45.575	7.788	2.292
60	1.029	1.919	4.395	10.176	51.971	8.672	2.651
120	1.600	2.938	6.989	12.271	62.671	12.340	3.859

180	1.553	2.856	6.891	12.630	64.504	12.241	3.821
240	1.675	3.073	7.491	13.000	66.396	13.259	4.083
300	1.784	3.266	8.019	13.383	68.349	14.202	4.320
360	1.879	3.436	8.476	13.777	70.362	15.068	4.532
420	1.961	3.582	8.862	14.183	72.436	15.857	4.718
480	2.029	3.706	9.176	14.601	74.570	16.570	4.879
540	2.083	3.806	9.419	15.030	76.764	17.206	5.014
600	2.124	3.882	9.590	15.472	79.019	17.766	5.124
660	2.151	3.936	9.690	15.925	81.334	18.250	5.208
720	2.165	3.966	9.719	16.390	83.709	18.657	5.267

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.052	0.122	0.656	0.309	2.327	0.155	0.199
10	0.056	0.132	0.687	0.465	3.506	0.195	0.222
20	0.064	0.149	0.745	0.740	5.577	0.265	0.261
30	0.070	0.163	0.795	0.964	7.265	0.323	0.295
40	0.075	0.175	0.838	1.137	8.569	0.369	0.321
50	0.079	0.184	0.873	1.259	9.490	0.403	0.341
60	0.081	0.191	0.900	1.330	10.027	0.424	0.355
120	0.088	0.205	0.982	1.339	10.092	0.426	0.377
180	0.088	0.206	0.982	1.334	10.055	0.423	0.377
240	0.087	0.204	0.974	1.326	9.998	0.416	0.374
300	0.086	0.202	0.962	1.316	9.922	0.408	0.370
360	0.085	0.199	0.944	1.304	9.826	0.398	0.364
420	0.083	0.194	0.922	1.288	9.711	0.387	0.357
480	0.081	0.189	0.895	1.270	9.576	0.373	0.348
540	0.078	0.183	0.863	1.250	9.421	0.358	0.338
600	0.075	0.176	0.826	1.227	9.247	0.342	0.326
660	0.072	0.168	0.785	1.201	9.053	0.323	0.313
720	0.068	0.159	0.738	1.173	8.840	0.303	0.298

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	11.948	15.057	21.481	2.866	4.388	13.286	13.932
10	13.423	16.990	24.260	5.717	8.753	15.484	15.886
20	16.862	21.466	30.690	11.370	17.408	19.799	20.344
30	20.952	26.756	38.280	16.959	25.967	24.007	25.533
40	25.694	32.862	47.031	22.485	34.428	28.107	31.454
50	31.088	39.782	56.942	27.948	42.792	32.101	38.106
60	37.134	47.518	68.013	33.347	51.059	35.986	45.490
120	86.449	110.006	157.265	56.718	86.843	53.440	103.678
180	98.137	124.957	178.663	67.008	102.598	57.674	117.908
240	109.805	139.864	199.992	76.691	117.424	61.659	132.055

300	121.452	154.727	221.253	85.766	131.319	65.396	146.120
360	133.078	169.545	242.446	94.234	144.285	68.885	160.103
420	144.683	184.320	263.570	102.095	156.321	72.125	174.005
480	156.267	199.050	284.625	109.349	167.426	75.117	187.824
540	167.830	213.737	305.612	115.995	177.602	77.860	201.561
600	179.372	228.379	326.531	122.033	186.848	80.354	215.217
660	190.893	242.977	347.381	127.465	195.164	82.600	228.790
720	202.393	257.531	368.163	132.289	202.550	84.598	242.281

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.001	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.001	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.002	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.001
360	0.001	0.002	0.002	0.001	0.003	0.001	0.002
420	0.001	0.002	0.003	0.001	0.003	0.001	0.002
480	0.002	0.002	0.003	0.001	0.003	0.001	0.002
540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.002	0.003	0.001	0.002

Pollutant Name: PM2.5 Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.001	0.005	0.002
20	0.002	0.004	0.004	0.002	0.003	0.004	0.003
30	0.003	0.006	0.006	0.002	0.004	0.003	0.005
40	0.004	0.008	0.008	0.003	0.005	0.003	0.006
50	0.005	0.010	0.009	0.003	0.006	0.002	0.007
60	0.006	0.011	0.011	0.004	0.007	0.002	0.009
120	0.010	0.019	0.018	0.005	0.009	0.005	0.014
180	0.012	0.021	0.020	0.006	0.010	0.007	0.015
240	0.013	0.023	0.022	0.006	0.010	0.008	0.017
300	0.014	0.024	0.024	0.006	0.010	0.010	0.018
360	0.014	0.026	0.025	0.006	0.011	0.011	0.019

420	0.015	0.027	0.026	0.006	0.011	0.012	0.020
480	0.016	0.028	0.027	0.006	0.011	0.013	0.021
540	0.016	0.029	0.028	0.007	0.012	0.014	0.021
600	0.016	0.029	0.028	0.007	0.012	0.014	0.022
660	0.016	0.029	0.029	0.007	0.012	0.015	0.022
720	0.016	0.029	0.029	0.007	0.013	0.015	0.022

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.025	0.042	0.028	0.003	0.036	0.087	0.030
10	0.046	0.077	0.052	0.006	0.066	0.162	0.055
20	0.079	0.132	0.089	0.010	0.112	0.280	0.094
30	0.101	0.169	0.114	0.013	0.144	0.364	0.121
40	0.110	0.183	0.124	0.014	0.155	0.396	0.131

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.029	0.062	0.055	0.001	0.003	0.246	0.050

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.002	0.005	0.004	0.000	0.001	0.023	0.004

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.017	0.039	0.040	0.001	0.001	0.090	0.030

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.001	0.003	0.003	0.000	0.000	0.009	0.002

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer

Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.454	0.360	0.120	0.055	0.001	0.011	1.000
%TRIP	0.427	0.316	0.173	0.073	0.000	0.010	1.000
%VEH	0.468	0.354	0.115	0.028	0.000	0.034	1.000

Title : 2030 PM2.5
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.258	0.217	0.049	0.613	0.004	0.127
2	0.008	0.130	0.110	0.025	0.305	0.036	0.066
3	0.009	0.090	0.077	0.018	0.204	0.052	0.047
4	0.010	0.071	0.062	0.014	0.155	0.061	0.039
5	0.012	0.060	0.053	0.012	0.125	0.067	0.035
10	0.014	0.039	0.036	0.008	0.069	0.075	0.026
15	0.014	0.032	0.030	0.007	0.052	0.075	0.023
20	0.014	0.029	0.028	0.006	0.044	0.073	0.022
25	0.014	0.028	0.027	0.006	0.041	0.070	0.021
30	0.014	0.027	0.026	0.005	0.038	0.066	0.020
35	0.013	0.026	0.025	0.005	0.037	0.063	0.019
40	0.013	0.025	0.024	0.005	0.035	0.060	0.019
45	0.012	0.024	0.024	0.005	0.033	0.056	0.018
50	0.012	0.023	0.023	0.005	0.031	0.053	0.017

55	0.012	0.022	0.022	0.005	0.030	0.050	0.017
60	0.011	0.021	0.021	0.005	0.028	0.048	0.016

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.017	0.036	0.043	0.282	1.057	2.121	0.065

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.788	1.498	1.617	2.192	13.169	14.771	1.385

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.062	0.148	0.242	2.366	6.039	1.114	0.259

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

23 401.161 511.595 698.856 1606.810 1611.961 158.978 541.363

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.004	0.005	0.007	0.015	0.016	0.002	0.005

Pollutant Name: PM10 Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.018	0.036	0.042	0.156	0.053	0.016	0.035

Pollutant Name: PM10 - Tire Wear Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.008	0.008	0.009	0.021	0.010	0.004	0.009

Pollutant Name: PM10 - Brake Wear Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	0.013	0.013	0.013	0.018	0.013	0.006	0.013

Pollutant Name: Gasoline - mi/gal Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
23	22.017	17.225	12.428	11.730	11.098	46.842	19.234

Pollutant Name: Diesel - mi/gal Temperature: 71F Relative Humidity: 30%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

23	29.156	29.156	19.479	5.872	4.297	0.000	8.035

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.007	0.013	0.033	0.081	0.451	0.638	0.025
10	0.013	0.026	0.066	0.157	0.879	0.789	0.045
20	0.026	0.049	0.128	0.298	1.666	1.079	0.082
30	0.038	0.071	0.188	0.422	2.362	1.352	0.116
40	0.048	0.091	0.244	0.530	2.966	1.609	0.147
50	0.058	0.110	0.297	0.621	3.479	1.850	0.175
60	0.066	0.126	0.347	0.696	3.900	2.026	0.200
120	0.099	0.188	0.571	0.796	4.458	2.312	0.283
180	0.099	0.188	0.576	0.845	4.730	2.365	0.288
240	0.105	0.199	0.612	0.892	4.994	2.515	0.305
300	0.110	0.211	0.649	0.937	5.249	2.661	0.323
360	0.116	0.222	0.685	0.981	5.495	2.803	0.339
420	0.122	0.233	0.720	1.024	5.733	2.943	0.356
480	0.128	0.244	0.756	1.064	5.962	3.080	0.373
540	0.133	0.255	0.791	1.104	6.182	3.214	0.389
600	0.139	0.265	0.826	1.142	6.394	3.344	0.405
660	0.144	0.276	0.861	1.178	6.597	3.472	0.420
720	0.150	0.286	0.896	1.213	6.791	3.596	0.436

Pollutant Name: Carbon Monoxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	0.100	0.189	0.420	1.092	5.577	2.977	0.286
10	0.198	0.372	0.830	2.140	10.928	3.579	0.541
20	0.386	0.723	1.621	4.102	20.949	4.732	1.026
30	0.563	1.053	2.373	5.887	30.064	5.817	1.480
40	0.729	1.363	3.086	7.494	38.273	6.836	1.902
50	0.884	1.652	3.760	8.923	45.575	7.788	2.292
60	1.029	1.919	4.395	10.176	51.971	8.672	2.651
120	1.600	2.938	6.989	12.271	62.671	12.340	3.859
180	1.553	2.856	6.891	12.630	64.504	12.241	3.821
240	1.675	3.073	7.491	13.000	66.396	13.259	4.083
300	1.784	3.266	8.019	13.383	68.349	14.202	4.320
360	1.879	3.436	8.476	13.777	70.362	15.068	4.532
420	1.961	3.582	8.862	14.183	72.436	15.857	4.718
480	2.029	3.706	9.176	14.601	74.570	16.570	4.879
540	2.083	3.806	9.419	15.030	76.764	17.206	5.014
600	2.124	3.882	9.590	15.472	79.019	17.766	5.124
660	2.151	3.936	9.690	15.925	81.334	18.250	5.208
720	2.165	3.966	9.719	16.390	83.709	18.657	5.267

Pollutant Name: Oxides of Nitrogen Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.052	0.122	0.656	0.309	2.327	0.155	0.199
10	0.056	0.132	0.687	0.465	3.506	0.195	0.222
20	0.064	0.149	0.745	0.740	5.577	0.265	0.261
30	0.070	0.163	0.795	0.964	7.265	0.323	0.295
40	0.075	0.175	0.838	1.137	8.569	0.369	0.321
50	0.079	0.184	0.873	1.259	9.490	0.403	0.341
60	0.081	0.191	0.900	1.330	10.027	0.424	0.355
120	0.088	0.205	0.982	1.339	10.092	0.426	0.377
180	0.088	0.206	0.982	1.334	10.055	0.423	0.377
240	0.087	0.204	0.974	1.326	9.998	0.416	0.374
300	0.086	0.202	0.962	1.316	9.922	0.408	0.370
360	0.085	0.199	0.944	1.304	9.826	0.398	0.364
420	0.083	0.194	0.922	1.288	9.711	0.387	0.357
480	0.081	0.189	0.895	1.270	9.576	0.373	0.348
540	0.078	0.183	0.863	1.250	9.421	0.358	0.338
600	0.075	0.176	0.826	1.227	9.247	0.342	0.326
660	0.072	0.168	0.785	1.201	9.053	0.323	0.313
720	0.068	0.159	0.738	1.173	8.840	0.303	0.298

Pollutant Name: Carbon Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	11.948	15.057	21.481	2.866	4.388	13.286	13.932
10	13.423	16.990	24.260	5.717	8.753	15.484	15.886

20	16.862	21.466	30.690	11.370	17.408	19.799	20.344
30	20.952	26.756	38.280	16.959	25.967	24.007	25.533
40	25.694	32.862	47.031	22.485	34.428	28.107	31.454
50	31.088	39.782	56.942	27.948	42.792	32.101	38.106
60	37.134	47.518	68.013	33.347	51.059	35.986	45.490
120	86.449	110.006	157.265	56.718	86.843	53.440	103.678
180	98.137	124.957	178.663	67.008	102.598	57.674	117.908
240	109.805	139.864	199.992	76.691	117.424	61.659	132.055
300	121.452	154.727	221.253	85.766	131.319	65.396	146.120
360	133.078	169.545	242.446	94.234	144.285	68.885	160.103
420	144.683	184.320	263.570	102.095	156.321	72.125	174.005
480	156.267	199.050	284.625	109.349	167.426	75.117	187.824
540	167.830	213.737	305.612	115.995	177.602	77.860	201.561
600	179.372	228.379	326.531	122.033	186.848	80.354	215.217
660	190.893	242.977	347.381	127.465	195.164	82.600	228.790
720	202.393	257.531	368.163	132.289	202.550	84.598	242.281

Pollutant Name: Sulfur Dioxide Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.001	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.001	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.002	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.001
360	0.001	0.002	0.002	0.001	0.003	0.001	0.002
420	0.001	0.002	0.003	0.001	0.003	0.001	0.002
480	0.002	0.002	0.003	0.001	0.003	0.001	0.002
540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.002	0.003	0.001	0.002

Pollutant Name: PM10 Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.000	0.001	0.007	0.001
10	0.001	0.002	0.002	0.001	0.002	0.006	0.002
20	0.002	0.004	0.004	0.002	0.003	0.005	0.003
30	0.004	0.007	0.006	0.002	0.004	0.004	0.005

40	0.005	0.009	0.008	0.003	0.005	0.003	0.006
50	0.006	0.010	0.010	0.004	0.006	0.003	0.008
60	0.007	0.012	0.012	0.004	0.007	0.003	0.009
120	0.011	0.020	0.020	0.006	0.010	0.006	0.015
180	0.012	0.022	0.022	0.006	0.010	0.008	0.017
240	0.014	0.024	0.024	0.006	0.011	0.011	0.018
300	0.015	0.026	0.026	0.006	0.011	0.013	0.020
360	0.015	0.028	0.027	0.007	0.011	0.014	0.021
420	0.016	0.029	0.028	0.007	0.012	0.016	0.022
480	0.017	0.030	0.029	0.007	0.012	0.017	0.022
540	0.017	0.031	0.030	0.007	0.012	0.018	0.023
600	0.017	0.031	0.031	0.007	0.013	0.019	0.023
660	0.018	0.032	0.031	0.008	0.013	0.019	0.024
720	0.018	0.032	0.031	0.008	0.014	0.019	0.024

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.025	0.042	0.028	0.003	0.036	0.087	0.030
10	0.046	0.077	0.052	0.006	0.066	0.162	0.055
20	0.079	0.132	0.089	0.010	0.112	0.280	0.094
30	0.101	0.169	0.114	0.013	0.144	0.364	0.121
40	0.110	0.183	0.124	0.014	0.155	0.396	0.131

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.029	0.062	0.055	0.001	0.003	0.246	0.050

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.002	0.005	0.004	0.000	0.001	0.023	0.004

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.017	0.039	0.040	0.001	0.001	0.090	0.030

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
71	0.001	0.003	0.003	0.000	0.000	0.009	0.002

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.454	0.360	0.120	0.055	0.001	0.011	1.000
%TRIP	0.427	0.316	0.173	0.073	0.000	0.010	1.000
%VEH	0.468	0.354	0.115	0.028	0.000	0.034	1.000

Title : 2030 PM10
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2008/08/01 09:29:00
Scen Year: 2030 -- All model years in the range 1986 to 2030 selected
Season : Summer
Area : Monterey
****

Year: 2030 -- Model Years 1986 to 2030 Inclusive -- Summer
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Monterey County Average

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 71F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.258	0.217	0.049	0.613	0.004	0.127
2	0.008	0.130	0.110	0.025	0.305	0.036	0.066
3	0.009	0.090	0.077	0.018	0.204	0.052	0.047
4	0.010	0.071	0.062	0.014	0.155	0.061	0.039
5	0.012	0.060	0.053	0.012	0.125	0.067	0.035
10	0.014	0.039	0.036	0.008	0.069	0.075	0.026

15	0.014	0.032	0.030	0.007	0.052	0.075	0.023
20	0.014	0.029	0.028	0.006	0.044	0.073	0.022
25	0.014	0.028	0.027	0.006	0.041	0.070	0.021
30	0.014	0.027	0.026	0.005	0.038	0.066	0.020
35	0.013	0.026	0.025	0.005	0.037	0.063	0.019
40	0.013	0.025	0.024	0.005	0.035	0.060	0.019
45	0.012	0.024	0.024	0.005	0.033	0.056	0.018
50	0.012	0.023	0.023	0.005	0.031	0.053	0.017
55	0.012	0.022	0.022	0.005	0.030	0.050	0.017
60	0.011	0.021	0.021	0.005	0.028	0.048	0.016

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Monterey GP Update 2008
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 6.1 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link A	*	0	0	300	0	* AG	21950	14.0	.0	13.2
B. Link B	*	0	-1584	300	-1584	* AG	24400	14.0	.0	13.2
C. Link C	*	0	-3168	300	-3168	* AG	27500	14.0	.0	13.2

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	75	15	1.8
2. Recpt 2	*	150	15	1.8
3. Recpt 3	*	225	15	1.8
4. Recpt 4	*	75	-15	1.8
5. Recpt 5	*	150	-15	1.8
6. Recpt 6	*	225	-15	1.8
7. Recpt 7	*	75	-1569	1.8
8. Recpt 8	*	150	-1569	1.8
9. Recpt 9	*	225	-1569	1.8
10. Recpt 10	*	75	-1599	1.8
11. Recpt 11	*	150	-1599	1.8
12. Recpt 12	*	225	-1599	1.8
13. Recpt 13	*	75	-3153	1.8
14. Recpt 14	*	150	-3153	1.8

15. Recpt 15 * 225 -3153 1.8
16. Recpt 16 * 75 -3183 1.8
17. Recpt 17 * 150 -3183 1.8
18. Recpt 18 * 225 -3183 1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Monterey GP Update 2008
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG * (DEG)	* PRED * CONC * (PPM)	CONC/LINK (PPM) A	B	C
1. Recpt 1	99.	19.3	19.3	.0	.0
2. Recpt 2	102.	18.5	18.5	.0	.0
3. Recpt 3	261.	19.3	19.3	.0	.0
4. Recpt 4	81.	19.3	19.3	.0	.0
5. Recpt 5	78.	18.5	18.5	.0	.0
6. Recpt 6	279.	19.3	19.3	.0	.0
7. Recpt 7	99.	21.4	.0	21.4	.0
8. Recpt 8	102.	20.5	.0	20.5	.0
9. Recpt 9	261.	21.4	.0	21.4	.0
10. Recpt 10	81.	21.4	.0	21.4	.0
11. Recpt 11	78.	20.5	.0	20.5	.0
12. Recpt 12	279.	21.4	.0	21.4	.0
13. Recpt 13	99.	24.1	.0	.0	24.1
14. Recpt 14	102.	23.1	.0	.0	23.1
15. Recpt 15	261.	24.1	.0	.0	24.1
16. Recpt 16	81.	24.1	.0	.0	24.1
17. Recpt 17	78.	23.1	.0	.0	23.1
18. Recpt 18	279.	24.1	.0	.0	24.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Monterey GP Update 2030 WP
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 6.1 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link A	*	0	0	300	0	* AG	19000	2.4	.0	13.2
B. Link B	*	0	-1584	300	-1584	* AG	24400	2.4	.0	13.2
C. Link C	*	0	-3168	300	-3168	* AG	26900	2.4	.0	13.2

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	75	15	1.8
2. Recpt 2	*	150	15	1.8
3. Recpt 3	*	225	15	1.8
4. Recpt 4	*	75	-15	1.8
5. Recpt 5	*	150	-15	1.8
6. Recpt 6	*	225	-15	1.8
7. Recpt 7	*	75	-1569	1.8
8. Recpt 8	*	150	-1569	1.8
9. Recpt 9	*	225	-1569	1.8
10. Recpt 10	*	75	-1599	1.8
11. Recpt 11	*	150	-1599	1.8
12. Recpt 12	*	225	-1599	1.8
13. Recpt 13	*	75	-3153	1.8
14. Recpt 14	*	150	-3153	1.8

15. Recpt 15 * 225 -3153 1.8
16. Recpt 16 * 75 -3183 1.8
17. Recpt 17 * 150 -3183 1.8
18. Recpt 18 * 225 -3183 1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Monterey GP Update 2030 WP
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG * (DEG)	* PRED * CONC * (PPM)	CONC/LINK (PPM) A	B	C
1. Recpt 1	99.	2.9	2.9	.0	.0
2. Recpt 2	102.	2.7	2.7	.0	.0
3. Recpt 3	261.	2.9	2.9	.0	.0
4. Recpt 4	81.	2.9	2.9	.0	.0
5. Recpt 5	78.	2.7	2.7	.0	.0
6. Recpt 6	279.	2.9	2.9	.0	.0
7. Recpt 7	99.	3.7	.0	3.7	.0
8. Recpt 8	102.	3.5	.0	3.5	.0
9. Recpt 9	261.	3.7	.0	3.7	.0
10. Recpt 10	81.	3.7	.0	3.7	.0
11. Recpt 11	78.	3.5	.0	3.5	.0
12. Recpt 12	279.	3.7	.0	3.7	.0
13. Recpt 13	99.	4.0	.0	.0	4.0
14. Recpt 14	102.	3.9	.0	.0	3.9
15. Recpt 15	261.	4.0	.0	.0	4.0
16. Recpt 16	81.	4.0	.0	.0	4.0
17. Recpt 17	78.	3.9	.0	.0	3.9
18. Recpt 18	279.	4.0	.0	.0	4.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Monterey GP Update 2030 Cumulative
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 6.1 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link A	*	0	0	300	0	* AG	37600	2.4	.0	13.2
B. Link B	*	0	-1584	300	-1584	* AG	32000	2.4	.0	13.2
C. Link C	*	0	-3168	300	-3168	* AG	31800	2.4	.0	13.2

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	75	15	1.8
2. Recpt 2	*	150	15	1.8
3. Recpt 3	*	225	15	1.8
4. Recpt 4	*	75	-15	1.8
5. Recpt 5	*	150	-15	1.8
6. Recpt 6	*	225	-15	1.8
7. Recpt 7	*	75	-1569	1.8
8. Recpt 8	*	150	-1569	1.8
9. Recpt 9	*	225	-1569	1.8
10. Recpt 10	*	75	-1599	1.8
11. Recpt 11	*	150	-1599	1.8
12. Recpt 12	*	225	-1599	1.8
13. Recpt 13	*	75	-3153	1.8
14. Recpt 14	*	150	-3153	1.8

15. Recpt 15 * 225 -3153 1.8
16. Recpt 16 * 75 -3183 1.8
17. Recpt 17 * 150 -3183 1.8
18. Recpt 18 * 225 -3183 1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Monterey GP Update 2030 Cumulative
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* CONC/LINK (PPM) A	B	C
1. Recpt 1	99.	5.7	5.7	.0	.0
2. Recpt 2	102.	5.4	5.4	.0	.0
3. Recpt 3	261.	5.7	5.7	.0	.0
4. Recpt 4	81.	5.7	5.7	.0	.0
5. Recpt 5	78.	5.4	5.4	.0	.0
6. Recpt 6	279.	5.7	5.7	.0	.0
7. Recpt 7	99.	4.8	.0	4.8	.0
8. Recpt 8	102.	4.6	.0	4.6	.0
9. Recpt 9	261.	4.8	.0	4.8	.0
10. Recpt 10	81.	4.8	.0	4.8	.0
11. Recpt 11	78.	4.6	.0	4.6	.0
12. Recpt 12	279.	4.8	.0	4.8	.0
13. Recpt 13	99.	4.8	.0	.0	4.8
14. Recpt 14	102.	4.6	.0	.0	4.6
15. Recpt 15	261.	4.8	.0	.0	4.8
16. Recpt 16	81.	4.8	.0	.0	4.8
17. Recpt 17	78.	4.6	.0	.0	4.6
18. Recpt 18	279.	4.8	.0	.0	4.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Monterey GP Update Buildout
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 6.1 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link A	*	0	0	300	0	* AG	43300	2.4	.0	13.2
B. Link B	*	0	-1584	300	-1584	* AG	40100	2.4	.0	13.2
C. Link C	*	0	-3168	300	-3168	* AG	39900	2.4	.0	13.2

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Recpt 1	*	75	15	1.8
2. Recpt 2	*	150	15	1.8
3. Recpt 3	*	225	15	1.8
4. Recpt 4	*	75	-15	1.8
5. Recpt 5	*	150	-15	1.8
6. Recpt 6	*	225	-15	1.8
7. Recpt 7	*	75	-1569	1.8
8. Recpt 8	*	150	-1569	1.8
9. Recpt 9	*	225	-1569	1.8
10. Recpt 10	*	75	-1599	1.8
11. Recpt 11	*	150	-1599	1.8
12. Recpt 12	*	225	-1599	1.8
13. Recpt 13	*	75	-3153	1.8
14. Recpt 14	*	150	-3153	1.8

15. Recpt 15 * 225 -3153 1.8
16. Recpt 16 * 75 -3183 1.8
17. Recpt 17 * 150 -3183 1.8
18. Recpt 18 * 225 -3183 1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Monterey GP Update Buildout
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG * (DEG)	* PRED * CONC/LINK (PPM) *	A	B	C
1. Recpt 1	99.	6.5	6.5	.0	.0
2. Recpt 2	102.	6.2	6.2	.0	.0
3. Recpt 3	261.	6.5	6.5	.0	.0
4. Recpt 4	81.	6.5	6.5	.0	.0
5. Recpt 5	78.	6.2	6.2	.0	.0
6. Recpt 6	279.	6.5	6.5	.0	.0
7. Recpt 7	99.	6.0	.0	6.0	.0
8. Recpt 8	102.	5.8	.0	5.8	.0
9. Recpt 9	261.	6.0	.0	6.0	.0
10. Recpt 10	81.	6.0	.0	6.0	.0
11. Recpt 11	78.	5.8	.0	5.8	.0
12. Recpt 12	279.	6.0	.0	6.0	.0
13. Recpt 13	99.	6.0	.0	.0	6.0
14. Recpt 14	102.	5.8	.0	.0	5.8
15. Recpt 15	261.	6.0	.0	.0	6.0
16. Recpt 16	81.	6.0	.0	.0	6.0
17. Recpt 17	78.	5.8	.0	.0	5.8
18. Recpt 18	279.	6.0	.0	.0	6.0

Greenhouse Gas Calculation Spreadsheets

Table GHG-1: Monterey County Greenhouse Gas Emissions Estimate, 2006			
Source	**GHG Emissions (MT CO2e)**	**% of Total**	**Notes**
Vehicle Emissions	647,175	45%	Includes miles on County roads and 25% of state highway miles
Natural Gas Consumption	190,848	13%	Residential, commercial, and industrial consumption from PG&E
Electricity Consumption	209,103	15%	Residential, commercial, and industrial consumption from PG&E
Industrial Processes	201,290	14%	Based on MBUAPCD inventory data
Landfill Emissions	32,829	2%	Based on CIWMB data.
Offroad Equipment Use	152,114	11%	Based on OFFROAD model with apportionment
Fugitive Methane from Nat. Gas Pipelines	5,417	0%	Based on California per capita average
Total	**1,438,776**	100%	
Source: See Tables GHG-4 through GHG-11			

Table GHG-2: Monterey County Greenhouse Gas Increase in Emissions, 2020 and 2030			
Source	**GHG Emissions (MT CO2e)**	**% of Total**	**Notes**
Business as Usual Conditions			
Vehicle Emissions	73,093	27%	Based on growth in VMT (2030 factors)
Natural Gas Consumption	26,000	10%	Residential, commercial, and industrial consumption
Electricity Consumption	24,935	9%	Residential, commercial, and industrial consumption
Industrial processes	51,230	19%	Based on growth in industrial employmen
Landfill Emissions	8,988	3%	Based on growth in population
Offroad Equipment Use	49,899	18%	Based on OFFROAD model with apportionment
Fugitive Methane from Nat. Gas Pipelines	1,483	1%	Based on growth in population
AWCP Wineries and Ancillary Uses	5,327	2%	Building energy only (transportation included above). Assumes all built by 203(
Coastal Water Project	2,890	0%	Apportioned emissions to County based on population served
Annualized Stock/Sequestration Loss	26,046	10%	Includes loss in sequestration and average stock loss (2006 - 2030
Total from New Development 203(	**269,891**	100%	
Total from New Development 202(	**157,436**		Scaled based on years (+14 years to 2020/+24 years to 2030)
Total from Existing Developmen	1,438,776		Assumed no change since 2006
Total for 2020	**1,596,212**		
Percent Change relative to 2006		*11%*	
Total for 2030	**1,708,667**		
With AB 1493 vehicle emissions standards and SB 1078, SB 107 RPS requirement of 20% renewable energy			
Vehicle Emissions	67,654	26%	Adjusted for Pavely 1
Natural Gas Consumption	26,000	10%	Not adjusted
Electricity Consumption	22,941	9%	Adjusted for SB 1078/SB 107 (8 percent)
Industrial processes	51,230	20%	Not adjusted for potential improvements in process efficiency
Landfill Emissions	8,988	3%	Not adjusted for potential improvements in landfill capture
Offroad Equipment Use	49,899	19%	Not adjusted for equipment efficiency improvemen
Fugitive Methane from Nat. Gas Pipelines	1,483	1%	Not adjusted
AWCP Wineries and Ancillary Uses	4,901	2%	Adjusted for SB 1078/SB 107 (8 percent)
Coastal Water Project	2,659	0%	Adjusted for SB 1078/SB 107 (8 percent)
Annualized Stock/Sequestration Loss	26,046	10%	Not adjusted
Total from New Development 203(	**261,799**	100%	
Total from New Development 202(	**152,716**		Scaled based on years (+14 years to 2020/+24 years to 2030)
Total from Existing Developmen	1,350,859		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development (due to Pavely 1 and SB 1078/SB 107)
Total for 2020	**1,503,575**		
Percent Change relative to 2006		*5%*	
Percent of 2020 BAU		*94%*	
Total for 2030	**1,612,658**		

Table GHG-2: Monterey County Greenhouse Gas Increase in Emissions, 2020 and 2030, continued			
With Pavley II vehicle emissions standards, Governor's Low Carbon Fuel Standard and Draft Scoping Plan RPS goal of 33% renewable energy			
Vehicle Emissions	49,522	22%	Adjusted for AB-32 measures (Pavley 1/2, LCFS, efficiency measures, and HD/MD measures) resulting in 26.8% reduction for transportation emission
Natural Gas Consumption	23,530	10%	Adjusted for AB-32 measures (Title 24/ Other State Energy Efficiency Improvements) resulting in 9.5% reduction for natural gas sector
Electricity Consumption	15,485	7%	Adjusted for AB-32 measures (RPS goal of 33%, Title 24/Other State Energy Efficiency Improvements, million solar roofs) resulting in total of 32.5% reduction from electricity sector.
Industrial processes	51,230	22%	Not adjusted for potential improvements in process efficiency
Landfill Emissions	7,819	3%	Adjusted for state measure on landfills (13%
Offroad Equipment Use	46,306	20%	Adjusted for LCFS (7.2%)
Fugitive Methane from Nat. Gas Pipelines	1,483	1%	Not adjusted
AWCP Wineries and Ancillary Uses	3,899	2%	Adjusted for AB-32 electricity and natural gas measures (26.8%
Coastal Water Project	2,448	1%	Adjusted for RPS (15.3%)
Annualized Stock/Sequestration Loss	26,046	11%	Not adjusted
Total from New Development 203(	**227,769**	100%	
Total from New Development 202(	**132,865**		Scaled based on years (+14 years to 2020/+24 years to 2030)
Total from Existing Developmen	1,188,613		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development due to AB-32 measure
Total for 2020	**1,321,478**		
Percent Change relative to 2006		*-8%*	
Percent of 2020 BAU		*83%*	
Total for 2030	**1,416,381**		
Source: See Tables GHG-4 through GHG-11			

Table GHG-3: Monterey County Greenhouse Gas Increase in Emissions, Buildout			
Source	**GHG Emissions (MT CO2e)**	**% of Total**	**Notes**
Business as Usual Conditions			
Vehicle Emissions	331,419	34%	Based on growth in VMT (2040 factors)
Natural Gas Consumption	95,289	10%	Residential, commercial, and industrial consumption
Electricity Consumption	91,040	9%	Residential, commercial, and industrial consumption
Industrial processes	194,226	20%	Based on growth in industrial employmen
Landfill Emissions	32,242	3%	Based on growth in population
Offroad Equipment Use	178,805	18%	Scaled from 2030 estimate based on growth in populatio
Fugitive Methane from Nat. Gas Pipelines	5,321	1%	Based on growth in population
AWCP Wineries and Ancillary Uses	5,327	1%	
Coastal Water Project	2,890	0%	
Annualized Stock/Sequestration Loss	31,882	3%	Includes loss in sequestration and average stock loss (2006 - 2092
Total from New Developmen	**968,441**	100%	
Total from Existing Developmen	1,438,776		Assumed no change since 2006
Total	**2,407,217**		
Percent Change relative to 2006		*67%*	
With Pavley II vehicle emissions standards, Governor's Low Carbon Fuel Standard and Draft Scoping Plan RPS goal of 33% renewable energy			
Vehicle Emissions	242,599	30%	Adjusted for AB-32 measures (Pavley 1/2, LCFS, efficiency measures, and HD/MD measures) resulting in 26.8% reduction for transportation emissions
Natural Gas Consumption	86,237	10%	Adjusted for AB-32 measures (Title 24/ Other State Energy Efficiency Improvements) resulting in 9.5% reduction for natural gas sector
Electricity Consumption	61,452	7%	Adjusted for AB-32 measures (RPS goal of 33%, Title 24/Other State Energy Efficiency Improvements, million solar roofs) resulting in total of 32.5% reduction from electricity sector.
Industrial processes	194,226	24%	Not adjusted for potential improvements in process efficiency
Landfill Emissions	28,051	3%	Adjusted for state measure on landfills (13%
Offroad Equipment Use	165,931	20%	Adjusted for LCFS (7.2%)
Fugitive Methane from Nat. Gas Pipelines	5,321	1%	Not adjusted
AWCP Wineries and Ancillary Uses	3,899	0%	Adjusted for AB-32 electricity and natural gas measures (26.8%
Coastal Water Project	2,448	0%	Adjusted for RPS (15.3%)
Annualized Stock/Sequestration Loss	31,882	4%	Not adjusted
Total from New Developmen	**822,045**	100%	
Total from Existing Developmen	1,194,030		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development for Pavely 2, LCFS and RPS goal of 33%
Total	**2,016,075**		
Percent Change relative to 2006		*40%*	
Source: See Tables GHG-4 through GHG-11			

Table GHG-4 Traffic Calculations Monterey Unincorporated 2006

2006 HPMS Data, Monterey

unincorporated	1,714,260	DVMT
highway	5,817,920	DVMT
all	9,913,340	DVMT

**25% of highway miles traveled added to unincorporated DVMT for calculation

2006 DVMT for Monterey County Unincorporated (including highway miles)

3,168,740	DVMT

EMFAC Emission Factors

0.066	grams/mile CH4
558.168	grams/mile CO2

Annual Miles Traveled

1,156,590,100	VMT/yr

Annual GHG Emissions 2006

76.3	metric tons CH4
645,571.6	metric tons CO2
647,174.6	***metric tons CO2e***

Traffic Calculations Monterey Unincorporated 2030

2030 VMT Data, Monterey

unincorporated	369,679	DVMT

EMFAC Emission Factors

0.016	grams/mile	CH4
541.363	grams/mile CO2	

Annual Miles Traveled

134,932,835	VMT/yr

			Gas/Diesel/Elec			Annual VMT	CO2 EF (g/mile)	CH4 EF (g/mile)
45.35%	45.35%	LD1	167,657		45.4%	61,194,693	401.161	0.01
36.02%	36.02%	LD2	133,175		36.0%	48,608,885	511.595	0.018
17.56%	17.56%	MD HD	64,911			23,692,579		
1.06%	1.06%	MCY	3,936			1,436,679		
		TOTAL	**369,679**	DVMT		134,932,835		

Annual increase in GHG Emissions 2030

2.2	metric tons CH4
73,047.6	metric tons CO2
73,093.0	***metric tons CO2e***

Pavley 1 (11% reduction in emissions from passenger vehicles)

61,194,692.8	VMT from LDA		
48,608,884.8	VMT from LDT		
24,561.8	metric tons of CO2e from LDA		
24,886.4	metric tons of CO2e from LDT		
49,448.2	metric tons of CO2e from LDA and LDT		
23,644.8	metric tons of CO2e from other traffic		

reduced to....
44,008.9 metric tons of CO2e from passenger vehicles with Pavley I
67,653.7 metric tons of CO2e total in 2030 with Pavley I reductions

NET INCREASE with Pavley I

67,653.7	metric tons of CO2e increased over 2006 emissions levels with Pavley I

Traffic Calculations Monterey Unincorporated Buildout

Buildout VMT Data, Monterey

unincorporated	1,683,918	New DVMT

EMFAC Emission Factors

0.013	grams/mile	CH4
538.944	grams/mile CO2	

Annual Miles Traveled

614,630,070

			Gas/Diesel/elec			Annual VMT	CO2 EF (g/mile)	CH4 EF (g/mile)	
45.41%	45.41%	LD 1	764,699		45.4%	279,115,012	399.935	0.008	
35.99%	35.99%	LD2	606,040		36.0%	221,204,435	511.533	0.013	
17.54%	17.54%	MD HD	295,339			107,798,634			
1.06%	1.06%	MCY	17,841			6,511,989			
		TOTAL	**1,683,918**	DVMT		614,630,070			

Annual GHG Emissions Buildout

8.0	metric tons CH4
331,251.2	metric tons CO2
331,419.0	metric tons CO2e

NET INCREASE BAU Buildout

331,419.0	***metric tons CO2e increased over 2006***

Table GHG-5: Natural Gas Calculations

2006 Natural Gas Monterey County Unincorp

	therm/yr	MMBTU/yr	metric tons CO2	metric tons CH4	metric tons N2O	metric tons CO2e
Res	15,991,626.0	1,599,162.6	84,868.9	8.0	0.2	85,086.4
Comm	19,462,577.0	1,946,257.7	103,289.6	9.7	0.2	103,554.2
Ind	415,484.0	41,548.4	2,205.0	0.0	0.0	2,207.2
TOTAL	**35,869,687.0**	**3,586,968.7**	**190,363.5**	**17.8**	**0.4**	**190,847.8**

PG&E 2006 CO2 Emission Factor	
11.7	lb/therm

The Climate Registry CH4 and N2O Emission Factors		
5	g CH4/MMBtu	commercial and
0.1	g N2O/MMBtu	residential

The Climate Registry CH4 and N2O Emission Factors		
industrial	1	g CH4/MMBtu
	0.1	g N2O/MMBtu

Conversion Factors	
2204.6	lb/metric ton

GWPs	
1	CO2
21	CH4
310	N2O

2030 and Buildout Natural Gas Monterey County Unincorp

2030 - URBEMIS - Natural Ga	26,000	0.90718474	ST/ MT adjustment
Buildout URBEMIS - Natural Gas	95,289		

Table GHG-6: Electricity Calculations

2006 Electricity Monterey County Unincorp

	sq ft or units	kWh/unit or sq. ft	kwh/yr	metric tons CO2	metric tons CH4	metric tons N2O	metric tons CO2e
Res	38,655.0	7,287.1	281,683,455.0	58,263.5	0.9	0.5	58,428.0
Comm	232,000,560.0	3.0	706,244,834.0	146,079.9	2.1	1.2	146,492.4
Ind	217,860,984.0	0.023	4,939,200.0	1,021.6	0.0	0.0	1,024.5
Direct Access	N/A	N/A	15,223,422.0	3,148.8	0.0	0.0	3,157.7
TOTAL			**1,008,090,911.0**	**208,513.8**	**3.1**	**1.7**	**209,102.6**

PG&E 2006 CO2 Emission Factor			
0.456			lb/kWh

CCAR CH4 and N2O Emission Factors				
0.0067			lb/MWh	CH4
0.0037			lb/MWh	N2O

Conversion Factors			
2204.6			lb/metric ton

GWPs			
1			CO2
21			CH4
310			N2O

2030 New Electricity Monterey County Unincorp

	NEW sq ft or units	NEW kWh/unit or sq. ft	kwh/yr	metric tons CO2	metric tons CH4	metric tons N2O	metric tons CO2e
Res	10,015.0	7,287.1	72,980,463.1	15,095.3	0.2	0.1	15,137.9
Comm	3,455,216.0	13.6	47,094,594.1	9,741.1	0.1	0.1	9,768.6
Ind	6,159,160.0	0.023	139,636.4	28.9	0.0	0.0	29.0
Direct Access	N/A	N/A		0.0	0.0	0.0	0.0
TOTAL				**24,865.2**	**0.4**	**0.2**	**24,935.5**

PG&E 2006 CO2 Emission Factor			
0.456			lb/kWh

CCAR CH4 and N2O Emission Factors				
0.0067			lb/MWh	CH4
0.0037			lb/MWh	N2O

Conversion Factors			
2204.6			lb/metric ton

GWPs			
1			CO2
21			CH4
310			N2O

Buildout New Electricity Monterey County Unincorp

	NEW sq ft or units	NEW kWh/unit or sq. ft	kwh/yr	metric tons CO2	metric tons CH4	metric tons N2O	metric tons CO2e
Res	37,081.0	7,287.1	270,213,535.0	55,891.0	0.8	0.5	56,048.9
Comm	12,340,059.0	13.6	168,195,004.2	34,789.5	0.5	0.3	34,887.7
Ind	21,997,000.0	0.023	498,701.4	103.2	0.0	0.0	103.4
Direct Access	N/A	N/A		0.0	0.0	0.0	0.0
TOTAL				**90,783.7**	**1.3**	**0.7**	**91,040.0**

PG&E 2006 CO2 Emission Factor			
0.456			lb/kWh

CCAR CH4 and N2O Emission Factors				
0.0067			lb/MWh	CH4
0.0037			lb/MWh	N2O

Conversion Factors			
2204.6			lb/metric ton

GWPs			
1			CO2
21			CH4
310			N2O

Table GHG-7: Landfill Emission Calculations

crazy horse	29,880
johnson canyon	19,030
monterey peninsula	85,509
	134,420

138428	tons waste

% waste by volume	
21.0%	paper
14.6%	food
36.5%	plant
12.0%	wood

ICLEI emission factors	
2.138	tons/ton paper
1.21	food
0.686	plant
0.605	wood

total waste by type		**CO2e**	75% methane recovery		
29069.88	paper	62,151		15,538	
20210.488	food	24,455		6,114	
50526.22	plant	34,661		8,665	
16611.36	wood	10,050		2,512	
		131,317		32,829	
	2006	106,279		Increase> 2006	**Landfill GHG**
pop growth	2030	135,375		27%	8,988
pop growth	buildout	210,659		98%	32,242

Table GHG-8a: Offroad Emissions, Monterey County (all County, short tons)							
	All County				Unincorporated County		
	2006	**2030**	**Change**	Apportion	**2006**	**2030**	**2092**
Category	Total	Total		Percent			
Agricultural	87,448	86,725	-724	100%	87,448	86,725	84,855
Airport Ground Support	1,367	2,108	741	100%	1,367	2,108	4,021
Construction and Mining	50,927	71,198	20,271	100%	50,927	71,198	123,564
Entertainment Equipment	257	256	0	100%	257	256	255
Industrial Equipment	10,542	12,235	1,693	population	2,552	2,748	3,254
Lawn and Garden	6,657	7,460	803	population	1,612	1,676	1,841
Light Commercial	14,137	16,476	2,339	population	3,423	3,700	4,418
Military Tactical Equipment	92	92	0	Excluded			0
Recreational (incl. pleasure. craft)	39,625	88,488	48,863	population	9,593	19,875	46,435
Railyard Operations	3	3	0	100%	3	3	3
Transportation Refrigeration Units	10,495	34,393	23,898	100%	10,495	34,393	96,130
	221,550	**319,434**	**97,884**		167,677	222,682	364,776
						55,004	**197,098**

Table GHG-8b: Offroad Emissions, Monterey County (all County, metric tons)							
	All County				Unincorporated County		
	2006	**2030**	**Change**	Apportion	**2006**	**2030**	**2092**
Category	Total	Total		Percent			
Agricultural	79,332	78,675	-656	100%	79,332	78,675	76,979
Airport Ground Support	1,240	1,912	672	100%	1,240	1,912	3,648
Construction and Mining	46,200	64,589	18,390	100%	46,200	64,589	112,096
Entertainment Equipment	233	233	0	100%	233	233	231
Industrial Equipment	9,563	11,099	1,536	population	2,315	2,493	2,952
Lawn and Garden	6,039	6,768	729	population	1,462	1,520	1,670
Light Commercial	12,825	14,946	2,122	population	3,105	3,357	4,008
Military Tactical Equipment	84	84	0	Excluded			0
Recreational (incl. pleasure. craft)	35,947	80,275	44,328	population	8,703	18,030	42,125
Railyard Operations	3	3	0	100%	3	3	3
Transportation Refrigeration Units	9,521	31,201	21,680	100%	9,521	31,201	87,207
	200,987	**289,786**	**88,799**		152,114	202,013	330,919
						49,899	**178,805**
Source: CARB, OFFROAD 2007							

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	2-Wheel Tractors	5	Agricultural Equipment	1.48E-02	2.19E-05	2.03E-05
2006	Annual	2-Wheel Tractors	15	Agricultural Equipment	7.14E-02	7.81E-05	6.68E-05
2006	Annual	2-Wheel Tractors	25	Agricultural Equipment	3.83E-03	2.90E-06	3.71E-06
2006	Annual	Agricultural Tractors	120	Agricultural Equipment	7.83E-01	2.31E-04	2.00E-04
2006	Annual	Agricultural Tractors	175	Agricultural Equipment	1.59E-01	4.21E-05	1.84E-05
2006	Annual	Combines	120	Agricultural Equipment	6.69E-02	1.56E-05	1.13E-05
2006	Annual	Combines	175	Agricultural Equipment	5.75E-02	1.17E-05	5.72E-06
2006	Annual	Combines	250	Agricultural Equipment	1.22E-02	2.16E-06	1.09E-06
2006	Annual	Balers	50	Agricultural Equipment	1.35E-01	4.98E-05	3.35E-05
2006	Annual	Balers	120	Agricultural Equipment	1.25E-01	4.30E-05	2.13E-05
2006	Annual	Agricultural Mowers	15	Agricultural Equipment	2.68E-02	2.94E-05	4.08E-05
2006	Annual	Agricultural Mowers	25	Agricultural Equipment	4.93E-02	3.46E-05	6.82E-05
2006	Annual	Sprayers	5	Agricultural Equipment	2.88E-02	4.63E-05	4.22E-05
2006	Annual	Sprayers	15	Agricultural Equipment	1.57E-02	1.75E-05	2.61E-05
2006	Annual	Sprayers	25	Agricultural Equipment	9.85E-02	6.81E-05	1.46E-04
2006	Annual	Sprayers	50	Agricultural Equipment	2.57E-02	1.02E-05	6.43E-06
2006	Annual	Sprayers	120	Agricultural Equipment	8.83E-02	3.08E-05	1.52E-05
2006	Annual	Sprayers	175	Agricultural Equipment	3.98E-02	1.07E-05	4.06E-06
2006	Annual	Tillers	15	Agricultural Equipment	1.76E+00	1.67E-03	2.68E-03
2006	Annual	Swathers	120	Agricultural Equipment	4.56E-01	1.39E-04	7.96E-05
2006	Annual	Swathers	175	Agricultural Equipment	4.98E-01	1.37E-04	5.09E-05
2006	Annual	Hydro Power Units	5	Agricultural Equipment	4.34E-03	6.11E-06	6.01E-06
2006	Annual	Hydro Power Units	15	Agricultural Equipment	3.67E-02	4.32E-05	3.32E-05
2006	Annual	Hydro Power Units	25	Agricultural Equipment	2.98E-02	2.36E-05	2.84E-05
2006	Annual	Hydro Power Units	50	Agricultural Equipment	9.29E-03	2.69E-06	1.90E-06
2006	Annual	Hydro Power Units	120	Agricultural Equipment	1.99E-03	3.69E-07	1.09E-07
2006	Annual	Other Agricultural Equipment	5	Agricultural Equipment	1.97E-03	3.06E-06	2.65E-06
2006	Annual	Other Agricultural Equipment	15	Agricultural Equipment	4.30E-03	3.91E-06	6.98E-06
2006	Annual	Other Agricultural Equipment	25	Agricultural Equipment	2.74E-03	1.51E-06	3.99E-06
2006	Annual	Other Agricultural Equipment	50	Agricultural Equipment	6.36E-03	2.68E-06	1.75E-06
2006	Annual	Other Agricultural Equipment	120	Agricultural Equipment	8.41E-02	2.97E-05	1.60E-05
2006	Annual	Other Agricultural Equipment	175	Agricultural Equipment	1.89E-02	5.19E-06	2.10E-06
2006	Annual	Other Agricultural Equipment	250	Agricultural Equipment	1.24E-02	2.42E-06	1.23E-06
2006	Annual	Agricultural Tractors	15	Agricultural Equipment	2.96E+00	0.00E+00	3.38E-04
2006	Annual	Agricultural Tractors	25	Agricultural Equipment	6.99E+00	0.00E+00	9.54E-04
2006	Annual	Agricultural Tractors	50	Agricultural Equipment	2.47E+01	0.00E+00	1.15E-02
2006	Annual	Agricultural Tractors	120	Agricultural Equipment	6.07E+01	0.00E+00	1.30E-02
2006	Annual	Agricultural Tractors	175	Agricultural Equipment	5.85E+01	0.00E+00	8.24E-03
2006	Annual	Agricultural Tractors	250	Agricultural Equipment	5.40E+01	0.00E+00	5.47E-03
2006	Annual	Agricultural Tractors	500	Agricultural Equipment	1.75E+01	0.00E+00	1.59E-03
2006	Annual	Combines	120	Agricultural Equipment	5.27E-01	0.00E+00	9.75E-05
2006	Annual	Combines	175	Agricultural Equipment	1.03E+00	0.00E+00	1.24E-04
2006	Annual	Combines	250	Agricultural Equipment	1.55E+00	0.00E+00	1.32E-04
2006	Annual	Combines	500	Agricultural Equipment	8.50E-02	0.00E+00	6.67E-06
2006	Annual	Balers	50	Agricultural Equipment	2.42E-04	0.00E+00	7.64E-08
2006	Annual	Balers	120	Agricultural Equipment	2.56E-01	0.00E+00	4.61E-05
2006	Annual	Agricultural Mowers	120	Agricultural Equipment	2.94E-02	0.00E+00	6.01E-06
2006	Annual	Sprayers	25	Agricultural Equipment	1.42E-02	0.00E+00	3.65E-06
2006	Annual	Sprayers	50	Agricultural Equipment	4.98E-03	0.00E+00	1.56E-06
2006	Annual	Sprayers	120	Agricultural Equipment	1.21E-01	0.00E+00	2.17E-05
2006	Annual	Sprayers	175	Agricultural Equipment	8.42E-02	0.00E+00	9.88E-06
2006	Annual	Sprayers	250	Agricultural Equipment	8.63E-02	0.00E+00	7.13E-06
2006	Annual	Sprayers	500	Agricultural Equipment	1.61E-02	0.00E+00	1.22E-06
2006	Annual	Tillers	15	Agricultural Equipment	4.42E-04	0.00E+00	5.50E-08
2006	Annual	Tillers	250	Agricultural Equipment	1.44E-03	0.00E+00	1.25E-07
2006	Annual	Tillers	500	Agricultural Equipment	7.73E-03	0.00E+00	6.13E-07
2006	Annual	Swathers	120	Agricultural Equipment	1.58E+00	0.00E+00	2.87E-04
2006	Annual	Swathers	175	Agricultural Equipment	2.71E-02	0.00E+00	3.21E-06
2006	Annual	Hydro Power Units	15	Agricultural Equipment	9.95E-03	0.00E+00	1.14E-06
2006	Annual	Hydro Power Units	25	Agricultural Equipment	5.71E-02	0.00E+00	7.80E-06
2006	Annual	Hydro Power Units	50	Agricultural Equipment	1.14E-01	0.00E+00	6.49E-05
2006	Annual	Hydro Power Units	120	Agricultural Equipment	2.10E-02	0.00E+00	4.95E-06
2006	Annual	Other Agricultural Equipment	15	Agricultural Equipment	2.54E-02	0.00E+00	3.18E-06
2006	Annual	Other Agricultural Equipment	25	Agricultural Equipment	1.30E-01	0.00E+00	2.86E-05
2006	Annual	Other Agricultural Equipment	50	Agricultural Equipment	1.76E-01	0.00E+00	7.59E-05
2006	Annual	Other Agricultural Equipment	120	Agricultural Equipment	1.19E+00	0.00E+00	2.45E-04
2006	Annual	Other Agricultural Equipment	175	Agricultural Equipment	1.79E-01	0.00E+00	2.43E-05
2006	Annual	Other Agricultural Equipment	250	Agricultural Equipment	2.60E-01	0.00E+00	2.52E-05
2006	Annual	Other Agricultural Equipment	500	Agricultural Equipment	9.02E-02	0.00E+00	7.89E-06
2006	Annual	Cargo Tractor	120	Airport Ground Support Equipment	4.54E-01	1.23E-04	1.27E-04
2006	Annual	A/C Tug Narrow Body	175	Airport Ground Support Equipment	4.60E-02	1.01E-05	5.05E-06

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	A/C Tug Wide Body	500	Airport Ground Support Equipment	4.02E-02	3.79E-06	2.97E-06
2006	Annual	Air Conditioner	175	Airport Ground Support Equipment	4.12E-05	8.61E-09	3.51E-09
2006	Annual	Air Start Unit	175	Airport Ground Support Equipment	3.90E-03	7.51E-07	3.38E-07
2006	Annual	Baggage Tug	120	Airport Ground Support Equipment	4.06E-01	8.58E-05	5.42E-05
2006	Annual	Belt Loader	120	Airport Ground Support Equipment	9.69E-02	2.88E-05	1.49E-05
2006	Annual	Bobtail	120	Airport Ground Support Equipment	6.53E-02	1.38E-05	8.71E-06
2006	Annual	Cargo Loader	120	Airport Ground Support Equipment	2.67E-02	7.72E-06	4.46E-06
2006	Annual	Cart	15	Airport Ground Support Equipment	1.81E-04	1.73E-07	1.75E-07
2006	Annual	Deicer	120	Airport Ground Support Equipment	1.00E-03	2.07E-07	1.38E-07
2006	Annual	Forklift	50	Airport Ground Support Equipment	1.11E-02	3.81E-06	2.20E-06
2006	Annual	Fuel Truck	175	Airport Ground Support Equipment	4.32E-04	1.55E-07	3.86E-08
2006	Annual	Ground Power Unit	175	Airport Ground Support Equipment	6.88E-02	9.91E-06	3.99E-06
2006	Annual	Lav Cart	15	Airport Ground Support Equipment	1.56E-05	1.50E-08	1.51E-08
2006	Annual	Lav Truck	175	Airport Ground Support Equipment	3.70E-02	1.25E-05	3.65E-06
2006	Annual	Lift	120	Airport Ground Support Equipment	3.31E-02	9.25E-06	6.62E-06
2006	Annual	Maint. Truck	175	Airport Ground Support Equipment	3.51E-02	8.97E-06	3.31E-06
2006	Annual	Other GSE	50	Airport Ground Support Equipment	8.46E-03	2.67E-06	2.09E-06
2006	Annual	Passenger Stand	175	Airport Ground Support Equipment	1.13E-02	2.80E-06	1.06E-06
2006	Annual	Sweeper	120	Airport Ground Support Equipment	7.99E-04	2.96E-07	1.57E-07
2006	Annual	Generator	120	Airport Ground Support Equipment	3.81E-03	8.60E-07	1.09E-06
2006	Annual	Service Truck	250	Airport Ground Support Equipment	1.02E-01	3.80E-05	1.19E-05
2006	Annual	Catering Truck	250	Airport Ground Support Equipment	7.31E-02	1.66E-05	8.84E-06
2006	Annual	Water Truck	175	Airport Ground Support Equipment	2.83E-03	1.07E-06	2.75E-07
2006	Annual	Hydrant truck	175	Airport Ground Support Equipment	7.61E-02	1.91E-05	1.01E-05
2006	Annual	Cargo Tractor	175	Airport Ground Support Equipment	8.10E-03	0.00E+00	9.61E-06
2006	Annual	Air Conditioner	175	Airport Ground Support Equipment	2.22E-04	0.00E+00	2.51E-07
2006	Annual	Baggage Tug	120	Airport Ground Support Equipment	6.68E-02	0.00E+00	1.72E-04
2006	Annual	Belt Loader	120	Airport Ground Support Equipment	6.44E-03	0.00E+00	1.38E-05
2006	Annual	Bobtail	120	Airport Ground Support Equipment	1.61E-03	0.00E+00	2.07E-06
2006	Annual	Cargo Loader	120	Airport Ground Support Equipment	5.67E-03	0.00E+00	1.65E-05
2006	Annual	Forklift	50	Airport Ground Support Equipment	2.23E-02	0.00E+00	2.44E-05
2006	Annual	Fuel Truck	175	Airport Ground Support Equipment	1.36E-03	0.00E+00	1.82E-06
2006	Annual	Lav Truck	175	Airport Ground Support Equipment	7.73E-04	0.00E+00	9.85E-07
2006	Annual	Lift	120	Airport Ground Support Equipment	9.81E-04	0.00E+00	1.77E-06
2006	Annual	Other	50	Airport Ground Support Equipment	7.65E-03	0.00E+00	1.98E-05
2006	Annual	Passenger Stand	175	Airport Ground Support Equipment	3.10E-05	0.00E+00	3.51E-08
2006	Annual	Sweeper	50	Airport Ground Support Equipment	1.69E-04	0.00E+00	2.41E-07
2006	Annual	Service Truck	250	Airport Ground Support Equipment	1.42E-02	0.00E+00	1.93E-05
2006	Annual	Catering Truck	250	Airport Ground Support Equipment	5.60E-03	0.00E+00	7.27E-06
2006	Annual	Cargo Tractor	120	Airport Ground Support Equipment	2.39E-02	0.00E+00	5.77E-06
2006	Annual	A/C Tug Narrow Body	250	Airport Ground Support Equipment	1.85E-01	0.00E+00	2.76E-05
2006	Annual	A/C Tug Wide Body	500	Airport Ground Support Equipment	1.04E-01	0.00E+00	1.39E-05
2006	Annual	Air Conditioner	175	Airport Ground Support Equipment	3.11E-02	0.00E+00	3.51E-06
2006	Annual	Air Conditioner	250	Airport Ground Support Equipment	3.50E-03	0.00E+00	2.24E-07
2006	Annual	Air Conditioner	500	Airport Ground Support Equipment	4.67E-03	0.00E+00	2.52E-07
2006	Annual	Air Start Unit	175	Airport Ground Support Equipment	3.52E-04	0.00E+00	4.35E-08
2006	Annual	Air Start Unit	250	Airport Ground Support Equipment	1.51E-03	0.00E+00	1.32E-07
2006	Annual	Air Start Unit	500	Airport Ground Support Equipment	1.19E-01	0.00E+00	9.26E-06
2006	Annual	Air Start Unit	750	Airport Ground Support Equipment	2.56E-02	0.00E+00	2.07E-06
2006	Annual	Baggage Tug	120	Airport Ground Support Equipment	2.27E-01	0.00E+00	6.16E-05
2006	Annual	Belt Loader	120	Airport Ground Support Equipment	5.33E-02	0.00E+00	1.35E-05
2006	Annual	Bobtail	120	Airport Ground Support Equipment	6.28E-03	0.00E+00	1.51E-06
2006	Annual	Cargo Loader	120	Airport Ground Support Equipment	1.12E-01	0.00E+00	2.63E-05
2006	Annual	Forklift	175	Airport Ground Support Equipment	1.18E-02	0.00E+00	1.69E-06
2006	Annual	Fuel Truck	250	Airport Ground Support Equipment	5.40E-03	0.00E+00	5.35E-07
2006	Annual	Ground Power Unit	175	Airport Ground Support Equipment	3.24E-01	0.00E+00	4.74E-05
2006	Annual	Lav Truck	175	Airport Ground Support Equipment	2.39E-03	0.00E+00	3.75E-07
2006	Annual	Lift	120	Airport Ground Support Equipment	2.07E-02	0.00E+00	4.54E-06
2006	Annual	Other GSE	175	Airport Ground Support Equipment	5.26E-02	0.00E+00	8.78E-06
2006	Annual	Passenger Stand	120	Airport Ground Support Equipment	2.89E-04	0.00E+00	4.88E-08
2006	Annual	Sweeper	120	Airport Ground Support Equipment	1.52E-03	0.00E+00	2.55E-07
2006	Annual	Generator	120	Airport Ground Support Equipment	1.40E-02	0.00E+00	3.40E-06
2006	Annual	Generator	175	Airport Ground Support Equipment	1.44E-01	0.00E+00	2.32E-05
2006	Annual	Generator	250	Airport Ground Support Equipment	2.16E-01	0.00E+00	2.45E-05
2006	Annual	Generator	500	Airport Ground Support Equipment	3.63E-02	0.00E+00	3.66E-06
2006	Annual	Generator	750	Airport Ground Support Equipment	7.80E-02	0.00E+00	7.98E-06
2006	Annual	Service Truck	175	Airport Ground Support Equipment	5.05E-03	0.00E+00	6.69E-07
2006	Annual	Catering Truck	250	Airport Ground Support Equipment	3.23E-03	0.00E+00	2.21E-07
2006	Annual	Hydrant Truck	175	Airport Ground Support Equipment	1.07E-02	0.00E+00	1.51E-06
2006	Annual	Compressor (GSE)	120	Airport Ground Support Equipment	1.62E-03	0.00E+00	3.58E-07
2006	Annual	Compressor (GSE)	250	Airport Ground Support Equipment	6.61E-04	0.00E+00	6.91E-08

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Compressor (GSE)	500	Airport Ground Support Equipment	5.45E-03	0.00E+00	5.02E-07
2006	Annual	Compressor (GSE)	750	Airport Ground Support Equipment	2.62E-02	0.00E+00	2.47E-06
2006	Annual	Tampers/Rammers	15	Construction and Mining Equipment	1.11E-02	1.62E-05	9.40E-06
2006	Annual	Plate Compactors	15	Construction and Mining Equipment	1.07E-03	1.59E-06	8.51E-07
2006	Annual	Asphalt Pavers	15	Construction and Mining Equipment	1.42E-03	1.44E-06	1.25E-06
2006	Annual	Asphalt Pavers	25	Construction and Mining Equipment	5.92E-03	3.81E-06	5.51E-06
2006	Annual	Asphalt Pavers	50	Construction and Mining Equipment	8.82E-03	3.26E-06	2.94E-06
2006	Annual	Asphalt Pavers	120	Construction and Mining Equipment	9.13E-03	3.07E-06	2.11E-06
2006	Annual	Tampers/Rammers	15	Construction and Mining Equipment	1.15E-03	1.13E-06	1.65E-06
2006	Annual	Plate Compactors	5	Construction and Mining Equipment	1.85E-02	2.93E-05	2.58E-05
2006	Annual	Plate Compactors	15	Construction and Mining Equipment	4.50E-02	4.77E-05	6.06E-05
2006	Annual	Rollers	5	Construction and Mining Equipment	1.34E-03	1.70E-06	1.70E-06
2006	Annual	Rollers	15	Construction and Mining Equipment	1.46E-02	1.50E-05	1.36E-05
2006	Annual	Rollers	25	Construction and Mining Equipment	2.08E-02	1.45E-05	2.00E-05
2006	Annual	Rollers	50	Construction and Mining Equipment	1.07E-02	3.75E-06	4.13E-06
2006	Annual	Rollers	120	Construction and Mining Equipment	4.03E-02	1.24E-05	1.08E-05
2006	Annual	Paving Equipment	5	Construction and Mining Equipment	2.63E-02	4.00E-05	3.62E-05
2006	Annual	Paving Equipment	15	Construction and Mining Equipment	1.31E-01	1.21E-04	1.76E-04
2006	Annual	Paving Equipment	25	Construction and Mining Equipment	6.39E-03	3.84E-06	8.02E-06
2006	Annual	Paving Equipment	50	Construction and Mining Equipment	1.11E-02	3.98E-06	3.08E-06
2006	Annual	Paving Equipment	120	Construction and Mining Equipment	5.06E-03	1.71E-06	9.67E-07
2006	Annual	Surfacing Equipment	5	Construction and Mining Equipment	5.89E-03	8.92E-06	8.31E-06
2006	Annual	Surfacing Equipment	15	Construction and Mining Equipment	7.04E-02	8.79E-05	6.85E-05
2006	Annual	Surfacing Equipment	25	Construction and Mining Equipment	2.29E-03	1.82E-06	2.31E-06
2006	Annual	Signal Boards	5	Construction and Mining Equipment	7.33E-05	8.67E-08	9.57E-08
2006	Annual	Signal Boards	15	Construction and Mining Equipment	1.82E-03	1.80E-06	1.69E-06
2006	Annual	Trenchers	15	Construction and Mining Equipment	2.80E-02	2.73E-05	2.50E-05
2006	Annual	Trenchers	25	Construction and Mining Equipment	4.55E-02	3.01E-05	4.29E-05
2006	Annual	Trenchers	50	Construction and Mining Equipment	5.44E-02	2.02E-05	1.80E-05
2006	Annual	Trenchers	120	Construction and Mining Equipment	3.92E-02	1.23E-05	8.98E-06
2006	Annual	Bore/Drill Rigs	15	Construction and Mining Equipment	2.74E-04	2.12E-07	3.86E-07
2006	Annual	Bore/Drill Rigs	25	Construction and Mining Equipment	2.45E-03	1.35E-06	3.17E-06
2006	Annual	Bore/Drill Rigs	50	Construction and Mining Equipment	8.93E-04	2.90E-07	2.30E-07
2006	Annual	Bore/Drill Rigs	120	Construction and Mining Equipment	1.11E-02	2.79E-06	1.97E-06
2006	Annual	Bore/Drill Rigs	175	Construction and Mining Equipment	3.84E-03	8.79E-07	3.94E-07
2006	Annual	Concrete/Industrial Saws	5	Construction and Mining Equipment	2.08E-03	2.69E-06	2.71E-06
2006	Annual	Concrete/Industrial Saws	15	Construction and Mining Equipment	5.01E-02	4.64E-05	4.67E-05
2006	Annual	Concrete/Industrial Saws	25	Construction and Mining Equipment	2.96E-02	1.95E-05	2.85E-05
2006	Annual	Concrete/Industrial Saws	50	Construction and Mining Equipment	2.05E-02	3.54E-06	1.58E-06
2006	Annual	Concrete/Industrial Saws	120	Construction and Mining Equipment	2.19E-02	3.03E-06	7.21E-07
2006	Annual	Cement and Mortar Mixers	5	Construction and Mining Equipment	2.52E-02	3.32E-05	3.29E-05
2006	Annual	Cement and Mortar Mixers	15	Construction and Mining Equipment	6.84E-02	6.57E-05	1.17E-04
2006	Annual	Cement and Mortar Mixers	25	Construction and Mining Equipment	9.00E-04	4.74E-07	1.37E-06
2006	Annual	Cranes	50	Construction and Mining Equipment	2.71E-03	1.07E-06	9.06E-07
2006	Annual	Cranes	120	Construction and Mining Equipment	1.07E-02	3.75E-06	2.47E-06
2006	Annual	Cranes	175	Construction and Mining Equipment	7.04E-04	2.10E-07	7.87E-08
2006	Annual	Crushing/Proc. Equipment	15	Construction and Mining Equipment	5.60E-04	4.96E-07	5.18E-07
2006	Annual	Crushing/Proc. Equipment	25	Construction and Mining Equipment	6.52E-04	4.23E-07	6.24E-07
2006	Annual	Crushing/Proc. Equipment	120	Construction and Mining Equipment	8.46E-03	1.97E-06	1.70E-06
2006	Annual	Rough Terrain Forklifts	50	Construction and Mining Equipment	1.84E-03	5.65E-07	6.13E-07
2006	Annual	Rough Terrain Forklifts	120	Construction and Mining Equipment	4.66E-02	1.33E-05	1.08E-05
2006	Annual	Rough Terrain Forklifts	175	Construction and Mining Equipment	2.67E-03	6.54E-07	2.98E-07
2006	Annual	Rubber Tired Loaders	50	Construction and Mining Equipment	4.15E-03	1.51E-06	1.49E-06
2006	Annual	Rubber Tired Loaders	120	Construction and Mining Equipment	4.90E-02	1.66E-05	1.22E-05
2006	Annual	Tractors/Loaders/Backhoes	120	Construction and Mining Equipment	3.44E-02	1.30E-05	9.55E-06
2006	Annual	Skid Steer Loaders	15	Construction and Mining Equipment	1.29E-03	1.10E-06	1.33E-06
2006	Annual	Skid Steer Loaders	25	Construction and Mining Equipment	1.17E-01	8.28E-05	1.21E-04
2006	Annual	Skid Steer Loaders	50	Construction and Mining Equipment	5.89E-02	2.01E-05	1.40E-05
2006	Annual	Skid Steer Loaders	120	Construction and Mining Equipment	8.71E-02	2.35E-05	1.39E-05
2006	Annual	Dumpers/Tenders	5	Construction and Mining Equipment	1.16E-03	2.11E-06	1.66E-06
2006	Annual	Dumpers/Tenders	15	Construction and Mining Equipment	5.57E-03	6.07E-06	9.83E-06
2006	Annual	Dumpers/Tenders	25	Construction and Mining Equipment	2.18E-03	1.56E-06	3.41E-06
2006	Annual	Dumpers/Tenders	120	Construction and Mining Equipment	9.18E-04	3.57E-07	1.66E-07
2006	Annual	Other Construction Equipment	175	Construction and Mining Equipment	2.27E-02	5.52E-06	1.85E-06
2006	Annual	Pavers	25	Construction and Mining Equipment	2.22E-03	0.00E+00	4.42E-07
2006	Annual	Pavers	50	Construction and Mining Equipment	1.98E-01	0.00E+00	1.25E-04
2006	Annual	Pavers	120	Construction and Mining Equipment	5.77E-01	0.00E+00	1.52E-04
2006	Annual	Pavers	175	Construction and Mining Equipment	6.65E-01	0.00E+00	1.16E-04
2006	Annual	Pavers	250	Construction and Mining Equipment	1.21E-01	0.00E+00	1.70E-05
2006	Annual	Pavers	500	Construction and Mining Equipment	1.49E-01	0.00E+00	1.85E-05
2006	Annual	Plate Compactors	15	Construction and Mining Equipment	8.06E-03	0.00E+00	9.55E-07

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Rollers	15	Construction and Mining Equipment	2.57E-02	0.00E+00	2.94E-06
2006	Annual	Rollers	25	Construction and Mining Equipment	2.27E-02	0.00E+00	3.04E-06
2006	Annual	Rollers	50	Construction and Mining Equipment	1.39E-01	0.00E+00	7.69E-05
2006	Annual	Rollers	120	Construction and Mining Equipment	1.69E+00	0.00E+00	3.97E-04
2006	Annual	Rollers	175	Construction and Mining Equipment	1.25E+00	0.00E+00	1.92E-04
2006	Annual	Rollers	250	Construction and Mining Equipment	2.50E-01	0.00E+00	2.95E-05
2006	Annual	Rollers	500	Construction and Mining Equipment	2.51E-01	0.00E+00	2.62E-05
2006	Annual	Scrapers	120	Construction and Mining Equipment	3.97E-02	0.00E+00	1.06E-05
2006	Annual	Scrapers	175	Construction and Mining Equipment	5.73E-01	0.00E+00	1.01E-04
2006	Annual	Scrapers	250	Construction and Mining Equipment	7.90E-01	0.00E+00	1.10E-04
2006	Annual	Scrapers	500	Construction and Mining Equipment	3.34E+00	0.00E+00	4.11E-04
2006	Annual	Scrapers	750	Construction and Mining Equipment	2.88E-01	0.00E+00	3.58E-05
2006	Annual	Paving Equipment	25	Construction and Mining Equipment	2.63E-03	0.00E+00	3.53E-07
2006	Annual	Paving Equipment	50	Construction and Mining Equipment	4.27E-03	0.00E+00	2.67E-06
2006	Annual	Paving Equipment	120	Construction and Mining Equipment	1.40E-01	0.00E+00	3.65E-05
2006	Annual	Paving Equipment	175	Construction and Mining Equipment	1.22E-01	0.00E+00	2.11E-05
2006	Annual	Paving Equipment	250	Construction and Mining Equipment	4.17E-02	0.00E+00	5.78E-06
2006	Annual	Surfacing Equipment	50	Construction and Mining Equipment	1.24E-03	0.00E+00	5.92E-07
2006	Annual	Surfacing Equipment	120	Construction and Mining Equipment	1.12E-03	0.00E+00	2.45E-07
2006	Annual	Surfacing Equipment	175	Construction and Mining Equipment	1.13E-03	0.00E+00	1.62E-07
2006	Annual	Surfacing Equipment	250	Construction and Mining Equipment	3.56E-03	0.00E+00	3.88E-07
2006	Annual	Surfacing Equipment	500	Construction and Mining Equipment	4.86E-02	0.00E+00	4.72E-06
2006	Annual	Surfacing Equipment	750	Construction and Mining Equipment	1.40E-02	0.00E+00	1.38E-06
2006	Annual	Signal Boards	15	Construction and Mining Equipment	1.26E-01	0.00E+00	1.36E-05
2006	Annual	Signal Boards	50	Construction and Mining Equipment	2.62E-03	0.00E+00	1.19E-06
2006	Annual	Signal Boards	120	Construction and Mining Equipment	9.50E-02	0.00E+00	1.99E-05
2006	Annual	Signal Boards	175	Construction and Mining Equipment	1.14E-01	0.00E+00	1.56E-05
2006	Annual	Signal Boards	250	Construction and Mining Equipment	3.96E-02	0.00E+00	3.76E-06
2006	Annual	Trenchers	15	Construction and Mining Equipment	3.79E-03	0.00E+00	4.09E-07
2006	Annual	Trenchers	25	Construction and Mining Equipment	1.55E-02	0.00E+00	1.94E-06
2006	Annual	Trenchers	50	Construction and Mining Equipment	6.09E-01	0.00E+00	3.66E-04
2006	Annual	Trenchers	120	Construction and Mining Equipment	1.63E+00	0.00E+00	4.19E-04
2006	Annual	Trenchers	175	Construction and Mining Equipment	3.95E-01	0.00E+00	6.76E-05
2006	Annual	Trenchers	250	Construction and Mining Equipment	5.48E-02	0.00E+00	7.62E-06
2006	Annual	Trenchers	500	Construction and Mining Equipment	9.76E-02	0.00E+00	1.20E-05
2006	Annual	Trenchers	750	Construction and Mining Equipment	6.61E-03	0.00E+00	8.21E-07
2006	Annual	Bore/Drill Rigs	15	Construction and Mining Equipment	8.11E-04	0.00E+00	9.27E-08
2006	Annual	Bore/Drill Rigs	25	Construction and Mining Equipment	3.76E-03	0.00E+00	5.04E-07
2006	Annual	Bore/Drill Rigs	50	Construction and Mining Equipment	3.34E-02	0.00E+00	1.11E-05
2006	Annual	Bore/Drill Rigs	120	Construction and Mining Equipment	2.55E-01	0.00E+00	4.14E-05
2006	Annual	Bore/Drill Rigs	175	Construction and Mining Equipment	1.08E-01	0.00E+00	1.10E-05
2006	Annual	Bore/Drill Rigs	250	Construction and Mining Equipment	1.24E-01	0.00E+00	7.18E-06
2006	Annual	Bore/Drill Rigs	500	Construction and Mining Equipment	4.55E-01	0.00E+00	2.25E-05
2006	Annual	Bore/Drill Rigs	750	Construction and Mining Equipment	1.43E-01	0.00E+00	7.49E-06
2006	Annual	Bore/Drill Rigs	1000	Construction and Mining Equipment	3.62E-01	0.00E+00	2.77E-05
2006	Annual	Excavators	25	Construction and Mining Equipment	8.21E-03	0.00E+00	9.58E-07
2006	Annual	Excavators	50	Construction and Mining Equipment	4.78E-01	0.00E+00	2.81E-04
2006	Annual	Excavators	120	Construction and Mining Equipment	3.82E+00	0.00E+00	8.97E-04
2006	Annual	Excavators	175	Construction and Mining Equipment	1.12E+01	0.00E+00	1.73E-03
2006	Annual	Excavators	250	Construction and Mining Equipment	6.46E+00	0.00E+00	6.80E-04
2006	Annual	Excavators	500	Construction and Mining Equipment	6.87E+00	0.00E+00	6.45E-04
2006	Annual	Excavators	750	Construction and Mining Equipment	7.63E-02	0.00E+00	7.26E-06
2006	Annual	Concrete/Industrial Saws	25	Construction and Mining Equipment	3.77E-04	0.00E+00	4.70E-08
2006	Annual	Concrete/Industrial Saws	50	Construction and Mining Equipment	5.93E-03	0.00E+00	2.84E-06
2006	Annual	Concrete/Industrial Saws	120	Construction and Mining Equipment	2.54E-02	0.00E+00	5.42E-06
2006	Annual	Concrete/Industrial Saws	175	Construction and Mining Equipment	1.80E-03	0.00E+00	2.52E-07
2006	Annual	Cement and Mortar Mixers	15	Construction and Mining Equipment	9.37E-03	0.00E+00	1.32E-06
2006	Annual	Cement and Mortar Mixers	25	Construction and Mining Equipment	2.34E-03	0.00E+00	5.46E-07
2006	Annual	Cranes	50	Construction and Mining Equipment	9.76E-03	0.00E+00	6.21E-06
2006	Annual	Cranes	120	Construction and Mining Equipment	2.32E-01	0.00E+00	5.88E-05
2006	Annual	Cranes	175	Construction and Mining Equipment	3.71E-01	0.00E+00	6.22E-05
2006	Annual	Cranes	250	Construction and Mining Equipment	1.00E+00	0.00E+00	1.27E-04
2006	Annual	Cranes	500	Construction and Mining Equipment	5.91E-01	0.00E+00	6.65E-05
2006	Annual	Cranes	750	Construction and Mining Equipment	2.23E-01	0.00E+00	2.54E-05
2006	Annual	Cranes	9999	Construction and Mining Equipment	8.97E-01	0.00E+00	1.13E-04
2006	Annual	Graders	50	Construction and Mining Equipment	3.58E-03	0.00E+00	2.15E-06
2006	Annual	Graders	120	Construction and Mining Equipment	6.50E-01	0.00E+00	1.58E-04
2006	Annual	Graders	175	Construction and Mining Equipment	3.67E+00	0.00E+00	5.87E-04
2006	Annual	Graders	250	Construction and Mining Equipment	3.16E+00	0.00E+00	3.70E-04
2006	Annual	Graders	500	Construction and Mining Equipment	1.19E-01	0.00E+00	1.24E-05
2006	Annual	Graders	750	Construction and Mining Equipment	4.13E-03	0.00E+00	4.34E-07

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Off-Highway Trucks	175	Construction and Mining Equipment	1.56E-01	0.00E+00	2.51E-05
2006	Annual	Off-Highway Trucks	250	Construction and Mining Equipment	1.53E+00	0.00E+00	1.71E-04
2006	Annual	Off-Highway Trucks	500	Construction and Mining Equipment	3.53E+00	0.00E+00	3.55E-04
2006	Annual	Off-Highway Trucks	750	Construction and Mining Equipment	1.63E+00	0.00E+00	1.65E-04
2006	Annual	Off-Highway Trucks	1000	Construction and Mining Equipment	1.08E+00	0.00E+00	1.25E-04
2006	Annual	Crushing/Proc. Equipment	50	Construction and Mining Equipment	6.50E-02	0.00E+00	3.63E-05
2006	Annual	Crushing/Proc. Equipment	120	Construction and Mining Equipment	3.46E-01	0.00E+00	8.05E-05
2006	Annual	Crushing/Proc. Equipment	175	Construction and Mining Equipment	2.95E-01	0.00E+00	4.51E-05
2006	Annual	Crushing/Proc. Equipment	250	Construction and Mining Equipment	4.29E-02	0.00E+00	4.53E-06
2006	Annual	Crushing/Proc. Equipment	500	Construction and Mining Equipment	3.69E-01	0.00E+00	3.44E-05
2006	Annual	Crushing/Proc. Equipment	750	Construction and Mining Equipment	8.29E-03	0.00E+00	7.81E-07
2006	Annual	Crushing/Proc. Equipment	9999	Construction and Mining Equipment	1.84E-02	0.00E+00	2.15E-06
2006	Annual	Rough Terrain Forklifts	50	Construction and Mining Equipment	4.12E-02	0.00E+00	2.36E-05
2006	Annual	Rough Terrain Forklifts	120	Construction and Mining Equipment	3.64E+00	0.00E+00	8.44E-04
2006	Annual	Rough Terrain Forklifts	175	Construction and Mining Equipment	9.32E-01	0.00E+00	1.42E-04
2006	Annual	Rough Terrain Forklifts	250	Construction and Mining Equipment	7.11E-02	0.00E+00	7.63E-06
2006	Annual	Rough Terrain Forklifts	500	Construction and Mining Equipment	7.03E-02	0.00E+00	6.68E-06
2006	Annual	Rubber Tired Loaders	25	Construction and Mining Equipment	2.19E-03	0.00E+00	2.73E-07
2006	Annual	Rubber Tired Loaders	50	Construction and Mining Equipment	8.02E-02	0.00E+00	4.77E-05
2006	Annual	Rubber Tired Loaders	120	Construction and Mining Equipment	4.12E+00	0.00E+00	9.92E-04
2006	Annual	Rubber Tired Loaders	175	Construction and Mining Equipment	4.19E+00	0.00E+00	6.64E-04
2006	Annual	Rubber Tired Loaders	250	Construction and Mining Equipment	5.84E+00	0.00E+00	6.74E-04
2006	Annual	Rubber Tired Loaders	500	Construction and Mining Equipment	3.87E+00	0.00E+00	3.95E-04
2006	Annual	Rubber Tired Loaders	750	Construction and Mining Equipment	1.70E-01	0.00E+00	1.76E-05
2006	Annual	Rubber Tired Loaders	1000	Construction and Mining Equipment	2.23E-02	0.00E+00	2.64E-06
2006	Annual	Rubber Tired Dozers	175	Construction and Mining Equipment	2.06E-02	0.00E+00	4.05E-06
2006	Annual	Rubber Tired Dozers	250	Construction and Mining Equipment	7.15E-01	0.00E+00	1.15E-04
2006	Annual	Rubber Tired Dozers	500	Construction and Mining Equipment	1.59E+00	0.00E+00	2.28E-04
2006	Annual	Rubber Tired Dozers	750	Construction and Mining Equipment	2.57E-01	0.00E+00	3.71E-05
2006	Annual	Rubber Tired Dozers	1000	Construction and Mining Equipment	2.58E-02	0.00E+00	3.94E-06
2006	Annual	Tractors/Loaders/Backhoes	25	Construction and Mining Equipment	4.07E-02	0.00E+00	6.72E-06
2006	Annual	Tractors/Loaders/Backhoes	50	Construction and Mining Equipment	4.76E-01	0.00E+00	2.58E-04
2006	Annual	Tractors/Loaders/Backhoes	120	Construction and Mining Equipment	1.09E+01	0.00E+00	2.40E-03
2006	Annual	Tractors/Loaders/Backhoes	175	Construction and Mining Equipment	1.59E+00	0.00E+00	2.30E-04
2006	Annual	Tractors/Loaders/Backhoes	250	Construction and Mining Equipment	8.70E-01	0.00E+00	8.46E-05
2006	Annual	Tractors/Loaders/Backhoes	500	Construction and Mining Equipment	2.82E+00	0.00E+00	2.42E-04
2006	Annual	Tractors/Loaders/Backhoes	750	Construction and Mining Equipment	8.90E-01	0.00E+00	7.80E-05
2006	Annual	Crawler Tractors	50	Construction and Mining Equipment	3.57E-03	0.00E+00	2.35E-06
2006	Annual	Crawler Tractors	120	Construction and Mining Equipment	5.36E+00	0.00E+00	1.42E-03
2006	Annual	Crawler Tractors	175	Construction and Mining Equipment	3.34E+00	0.00E+00	5.89E-04
2006	Annual	Crawler Tractors	250	Construction and Mining Equipment	3.93E+00	0.00E+00	5.39E-04
2006	Annual	Crawler Tractors	500	Construction and Mining Equipment	4.20E+00	0.00E+00	5.12E-04
2006	Annual	Crawler Tractors	750	Construction and Mining Equipment	1.16E-01	0.00E+00	1.43E-05
2006	Annual	Crawler Tractors	1000	Construction and Mining Equipment	1.64E-01	0.00E+00	2.22E-05
2006	Annual	Skid Steer Loaders	25	Construction and Mining Equipment	2.14E-01	0.00E+00	4.75E-05
2006	Annual	Skid Steer Loaders	50	Construction and Mining Equipment	3.68E+00	0.00E+00	1.61E-03
2006	Annual	Skid Steer Loaders	120	Construction and Mining Equipment	3.23E+00	0.00E+00	6.27E-04
2006	Annual	Off-Highway Tractors	120	Construction and Mining Equipment	1.02E-03	0.00E+00	2.90E-07
2006	Annual	Off-Highway Tractors	175	Construction and Mining Equipment	1.74E+00	0.00E+00	3.31E-04
2006	Annual	Off-Highway Tractors	250	Construction and Mining Equipment	1.64E+00	0.00E+00	2.56E-04
2006	Annual	Off-Highway Tractors	750	Construction and Mining Equipment	9.48E-01	0.00E+00	1.32E-04
2006	Annual	Off-Highway Tractors	1000	Construction and Mining Equipment	1.43E-01	0.00E+00	2.13E-05
2006	Annual	Dumpers/Tenders	25	Construction and Mining Equipment	1.17E-03	0.00E+00	2.15E-07
2006	Annual	Other Construction Equipment	15	Construction and Mining Equipment	2.23E-02	0.00E+00	2.55E-06
2006	Annual	Other Construction Equipment	25	Construction and Mining Equipment	4.94E-03	0.00E+00	6.61E-07
2006	Annual	Other Construction Equipment	50	Construction and Mining Equipment	1.64E-02	0.00E+00	7.71E-06
2006	Annual	Other Construction Equipment	120	Construction and Mining Equipment	7.80E-02	0.00E+00	1.61E-05
2006	Annual	Other Construction Equipment	175	Construction and Mining Equipment	1.42E-01	0.00E+00	1.90E-05
2006	Annual	Other Construction Equipment	500	Construction and Mining Equipment	7.86E-01	0.00E+00	6.33E-05
2006	Annual	Compressor (Dredging)	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressor (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressor (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressor (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressor (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressor (Dredging)	1000	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Crane (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Deck/door engine	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Dredger	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Dredger	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Dredger	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Dredger	9999	Dredging	0.00E+00	0.00E+00	0.00E+00

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Hoist/swing/winch	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Hoist/swing/winch	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Dredging)	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Dredging)	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Entertainment)	50	Entertainment Equipment	9.98E-04	0.00E+00	4.11E-07
2006	Annual	Generator (Entertainment)	120	Entertainment Equipment	4.99E-02	0.00E+00	1.01E-05
2006	Annual	Generator (Entertainment)	175	Entertainment Equipment	6.92E-02	0.00E+00	9.17E-06
2006	Annual	Generator (Entertainment)	250	Entertainment Equipment	1.41E-01	0.00E+00	1.39E-05
2006	Annual	Generator (Entertainment)	500	Entertainment Equipment	3.07E-01	0.00E+00	2.74E-05
2006	Annual	Generator (Entertainment)	750	Entertainment Equipment	1.06E-01	0.00E+00	9.65E-06
2006	Annual	Generator (Entertainment)	9999	Entertainment Equipment	2.76E-02	0.00E+00	3.08E-06
2006	Annual	Compressor (Entertainment)	120	Entertainment Equipment	4.82E-04	0.00E+00	1.14E-07
2006	Annual	Other General Industrial Equipmen	15	Industrial Equipment	8.72E-04	9.64E-07	6.78E-07
2006	Annual	Aerial Lifts	15	Industrial Equipment	2.33E-04	2.36E-07	2.04E-07
2006	Annual	Aerial Lifts	25	Industrial Equipment	1.45E-02	1.15E-05	1.52E-05
2006	Annual	Aerial Lifts	50	Industrial Equipment	5.42E-02	2.08E-05	1.39E-05
2006	Annual	Aerial Lifts	120	Industrial Equipment	1.09E-01	3.64E-05	1.88E-05
2006	Annual	Forklifts	25	Industrial Equipment	6.46E-04	6.00E-07	6.24E-07
2006	Annual	Forklifts	50	Industrial Equipment	7.30E-01	3.30E-04	2.68E-04
2006	Annual	Forklifts	120	Industrial Equipment	4.33E+00	1.66E-03	1.04E-03
2006	Annual	Forklifts	175	Industrial Equipment	3.21E-01	9.08E-05	3.18E-05
2006	Annual	Sweepers/Scrubbers	15	Industrial Equipment	4.63E-03	4.68E-06	3.88E-06
2006	Annual	Sweepers/Scrubbers	25	Industrial Equipment	1.02E-02	6.83E-06	9.34E-06
2006	Annual	Sweepers/Scrubbers	50	Industrial Equipment	1.18E-01	3.16E-05	2.20E-05
2006	Annual	Sweepers/Scrubbers	120	Industrial Equipment	1.89E-01	4.21E-05	2.21E-05
2006	Annual	Sweepers/Scrubbers	175	Industrial Equipment	2.20E-03	3.68E-07	1.45E-07
2006	Annual	Other General Industrial Equipmen	15	Industrial Equipment	9.68E-03	1.14E-05	8.46E-06
2006	Annual	Other General Industrial Equipmen	25	Industrial Equipment	8.18E-03	6.40E-06	7.84E-06
2006	Annual	Other General Industrial Equipmen	50	Industrial Equipment	3.65E-02	1.29E-05	8.66E-06
2006	Annual	Other General Industrial Equipmen	120	Industrial Equipment	3.12E-02	8.00E-06	4.80E-06
2006	Annual	Other General Industrial Equipmen	175	Industrial Equipment	6.47E-03	1.21E-06	5.08E-07
2006	Annual	Other Material Handling Equipment	50	Industrial Equipment	3.74E-04	1.32E-07	1.17E-07
2006	Annual	Other Material Handling Equipment	120	Industrial Equipment	2.16E-02	8.08E-06	4.62E-06
2006	Annual	Aerial Lifts	15	Industrial Equipment	4.10E-04	0.00E+00	1.43E-06
2006	Annual	Aerial Lifts	25	Industrial Equipment	2.57E-02	0.00E+00	1.38E-04
2006	Annual	Forklifts	25	Industrial Equipment	6.63E-04	0.00E+00	6.74E-06
2006	Annual	Forklifts	50	Industrial Equipment	1.15E+00	0.00E+00	2.43E-03
2006	Annual	Forklifts	120	Industrial Equipment	6.91E+00	0.00E+00	1.58E-02
2006	Annual	Forklifts	175	Industrial Equipment	5.27E-01	0.00E+00	6.42E-04
2006	Annual	Aerial Lifts	15	Industrial Equipment	9.36E-03	0.00E+00	1.25E-06
2006	Annual	Aerial Lifts	25	Industrial Equipment	1.94E-02	0.00E+00	4.56E-06
2006	Annual	Aerial Lifts	50	Industrial Equipment	1.22E-01	0.00E+00	5.02E-05
2006	Annual	Aerial Lifts	120	Industrial Equipment	2.10E-01	0.00E+00	4.23E-05
2006	Annual	Aerial Lifts	500	Industrial Equipment	1.50E-01	0.00E+00	1.24E-05
2006	Annual	Aerial Lifts	750	Industrial Equipment	2.18E-02	0.00E+00	1.85E-06
2006	Annual	Forklifts	50	Industrial Equipment	1.30E-01	0.00E+00	7.97E-05
2006	Annual	Forklifts	120	Industrial Equipment	4.32E-01	0.00E+00	1.05E-04
2006	Annual	Forklifts	175	Industrial Equipment	7.80E-01	0.00E+00	1.25E-04
2006	Annual	Forklifts	250	Industrial Equipment	1.07E+00	0.00E+00	1.04E-04
2006	Annual	Forklifts	500	Industrial Equipment	6.56E-01	0.00E+00	5.71E-05
2006	Annual	Sweepers/Scrubbers	15	Industrial Equipment	2.79E-03	0.00E+00	2.73E-07

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Sweepers/Scrubbers	25	Industrial Equipment	4.59E-03	0.00E+00	5.45E-07
2006	Annual	Sweepers/Scrubbers	50	Industrial Equipment	2.70E-01	0.00E+00	1.60E-04
2006	Annual	Sweepers/Scrubbers	120	Industrial Equipment	1.06E+00	0.00E+00	2.53E-04
2006	Annual	Sweepers/Scrubbers	175	Industrial Equipment	9.06E-01	0.00E+00	1.42E-04
2006	Annual	Sweepers/Scrubbers	250	Industrial Equipment	1.69E-01	0.00E+00	1.69E-05
2006	Annual	Other General Industrial Equipmen	15	Industrial Equipment	8.61E-03	0.00E+00	8.42E-07
2006	Annual	Other General Industrial Equipmen	25	Industrial Equipment	2.77E-02	0.00E+00	3.21E-06
2006	Annual	Other General Industrial Equipmen	50	Industrial Equipment	4.86E-02	0.00E+00	3.06E-05
2006	Annual	Other General Industrial Equipmen	120	Industrial Equipment	5.54E-01	0.00E+00	1.39E-04
2006	Annual	Other General Industrial Equipmen	175	Industrial Equipment	8.60E-01	0.00E+00	1.43E-04
2006	Annual	Other General Industrial Equipmen	250	Industrial Equipment	1.21E+00	0.00E+00	1.38E-04
2006	Annual	Other General Industrial Equipmen	500	Industrial Equipment	2.37E+00	0.00E+00	2.39E-04
2006	Annual	Other General Industrial Equipmen	750	Industrial Equipment	9.74E-01	0.00E+00	9.99E-05
2006	Annual	Other General Industrial Equipmen	1000	Industrial Equipment	7.58E-01	0.00E+00	9.27E-05
2006	Annual	Other Material Handling Equipment	50	Industrial Equipment	1.80E-03	0.00E+00	1.12E-06
2006	Annual	Other Material Handling Equipment	120	Industrial Equipment	2.16E-02	0.00E+00	5.37E-06
2006	Annual	Other Material Handling Equipment	175	Industrial Equipment	4.65E-02	0.00E+00	7.64E-06
2006	Annual	Other Material Handling Equipment	250	Industrial Equipment	1.31E-01	0.00E+00	1.49E-05
2006	Annual	Other Material Handling Equipment	500	Industrial Equipment	3.25E-02	0.00E+00	3.26E-06
2006	Annual	Other Material Handling Equipment	9999	Industrial Equipment	3.77E-02	0.00E+00	4.59E-06
2006	Annual	Lawn Mowers	15	Lawn and Garden Equipment	1.60E-01	3.06E-04	2.20E-04
2006	Annual	Lawn Mowers	15	Lawn and Garden Equipment	8.14E-02	1.02E-04	6.78E-04
2006	Annual	Chainsaws	2	Lawn and Garden Equipment	1.30E-01	2.15E-04	1.65E-03
2006	Annual	Chainsaws	2	Lawn and Garden Equipment	2.47E-02	3.94E-05	3.66E-04
2006	Annual	Chainsaws	15	Lawn and Garden Equipment	2.21E-01	2.42E-04	2.80E-03
2006	Annual	Chainsaws	15	Lawn and Garden Equipment	4.20E-02	4.30E-05	5.12E-04
2006	Annual	Chainsaws Preempt	15	Lawn and Garden Equipment	2.75E-01	3.02E-04	3.49E-03
2006	Annual	Chainsaws Preempt	15	Lawn and Garden Equipment	5.23E-02	4.69E-05	8.11E-04
2006	Annual	Trimmers/Edgers/Brush Cutters	2	Lawn and Garden Equipment	1.55E-01	2.73E-04	1.08E-03
2006	Annual	Trimmers/Edgers/Brush Cutters	2	Lawn and Garden Equipment	3.06E-01	6.01E-04	2.25E-03
2006	Annual	Leaf Blowers/Vacuums	2	Lawn and Garden Equipment	4.16E-01	6.99E-04	4.02E-03
2006	Annual	Leaf Blowers/Vacuums	2	Lawn and Garden Equipment	2.62E-02	4.24E-05	3.89E-04
2006	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Shredders	15	Lawn and Garden Equipment	1.39E-02	1.36E-05	9.40E-06
2006	Annual	Shredders	15	Lawn and Garden Equipment	3.29E-03	2.12E-06	3.46E-05
2006	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	4.08E-02	4.39E-05	3.36E-05
2006	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	4.26E-02	3.09E-05	3.63E-05
2006	Annual	Other Lawn & Garden Equipment	2	Lawn and Garden Equipment	1.91E-04	3.07E-07	1.20E-06
2006	Annual	Other Lawn & Garden Equipment	2	Lawn and Garden Equipment	3.66E-04	5.53E-07	5.43E-06
2006	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	4.15E-04	3.15E-07	2.62E-06
2006	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	7.98E-04	5.50E-07	9.68E-06
2006	Annual	Lawn Mowers	5	Lawn and Garden Equipment	9.46E-01	1.81E-03	1.30E-03
2006	Annual	Lawn Mowers	5	Lawn and Garden Equipment	1.02E+00	1.56E-03	2.07E-03
2006	Annual	Tillers	5	Lawn and Garden Equipment	2.67E-02	4.46E-05	3.49E-05
2006	Annual	Tillers	5	Lawn and Garden Equipment	3.34E-02	4.87E-05	7.41E-05
2006	Annual	Trimmers/Edgers/Brush Cutters	5	Lawn and Garden Equipment	2.56E-02	9.17E-05	3.39E-05
2006	Annual	Trimmers/Edgers/Brush Cutters	5	Lawn and Garden Equipment	1.89E-02	5.44E-05	5.87E-05
2006	Annual	Leaf Blowers/Vacuums	5	Lawn and Garden Equipment	5.98E-03	1.40E-05	6.55E-06
2006	Annual	Leaf Blowers/Vacuums	5	Lawn and Garden Equipment	3.97E-04	7.75E-07	8.03E-07
2006	Annual	Snowblowers	5	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	5	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Rear Engine Riding Mowers	15	Lawn and Garden Equipment	1.46E+00	1.80E-03	1.13E-03
2006	Annual	Rear Engine Riding Mowers	15	Lawn and Garden Equipment	1.33E-01	1.43E-04	1.28E-04
2006	Annual	Rear Engine Riding Mowers	25	Lawn and Garden Equipment	1.26E-02	1.11E-05	1.03E-05
2006	Annual	Rear Engine Riding Mowers	25	Lawn and Garden Equipment	1.13E-03	8.47E-07	1.03E-06
2006	Annual	Front Mowers	15	Lawn and Garden Equipment	1.07E-01	1.06E-04	8.28E-05
2006	Annual	Front Mowers	15	Lawn and Garden Equipment	3.59E-01	3.11E-04	3.46E-04
2006	Annual	Front Mowers	25	Lawn and Garden Equipment	1.09E-01	9.16E-05	8.96E-05
2006	Annual	Front Mowers	25	Lawn and Garden Equipment	3.68E-01	2.63E-04	3.36E-04
2006	Annual	Shredders	5	Lawn and Garden Equipment	2.46E-02	3.17E-05	3.25E-05
2006	Annual	Shredders	5	Lawn and Garden Equipment	6.07E-03	5.78E-06	1.19E-05
2006	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	2.45E-01	2.05E-04	1.64E-04
2006	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	1.81E-01	1.41E-04	1.44E-04
2006	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.49E-01	9.78E-05	1.06E-04

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.10E-01	6.56E-05	8.57E-05
2006	Annual	Lawn & Garden Tractors	50	Lawn and Garden Equipment	4.69E-03	1.88E-06	1.07E-06
2006	Annual	Wood Splitters	5	Lawn and Garden Equipment	4.30E-02	5.31E-05	5.60E-05
2006	Annual	Wood Splitters	5	Lawn and Garden Equipment	9.19E-03	8.51E-06	1.57E-05
2006	Annual	Chippers/Stump Grinders	15	Lawn and Garden Equipment	1.48E-02	1.29E-05	1.35E-05
2006	Annual	Chippers/Stump Grinders	15	Lawn and Garden Equipment	3.45E-04	2.45E-07	3.81E-07
2006	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	1.37E-01	9.17E-05	1.33E-04
2006	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	3.20E-03	1.71E-06	3.31E-06
2006	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	4.49E-01	4.78E-04	4.43E-04
2006	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	3.82E-01	3.01E-04	3.89E-04
2006	Annual	Commercial Turf Equipment	50	Lawn and Garden Equipment	3.80E-01	1.63E-04	1.37E-04
2006	Annual	Commercial Turf Equipment	120	Lawn and Garden Equipment	4.70E-03	9.71E-07	2.12E-07
2006	Annual	Other Lawn & Garden Equipment	5	Lawn and Garden Equipment	1.43E-02	2.02E-05	1.73E-05
2006	Annual	Other Lawn & Garden Equipment	5	Lawn and Garden Equipment	2.74E-02	3.09E-05	5.43E-05
2006	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	1.27E-02	1.25E-05	8.69E-06
2006	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	2.44E-02	2.23E-05	1.94E-05
2006	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	5.69E-04	3.80E-07	4.10E-07
2006	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	1.10E-03	6.71E-07	8.58E-07
2006	Annual	Other Lawn & Garden Equipment	50	Lawn and Garden Equipment	1.42E-04	4.92E-08	3.20E-08
2006	Annual	Other Lawn & Garden Equipment	120	Lawn and Garden Equipment	9.53E-04	2.48E-07	1.47E-07
2006	Annual	Leaf Blowers/Vacuums	15	Lawn and Garden Equipment	3.72E-05	0.00E+00	4.56E-09
2006	Annual	Leaf Blowers/Vacuums	120	Lawn and Garden Equipment	5.26E-04	0.00E+00	9.35E-08
2006	Annual	Leaf Blowers/Vacuums	250	Lawn and Garden Equipment	3.10E-04	0.00E+00	2.57E-08
2006	Annual	Snowblowers	175	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	250	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowblowers	500	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	1.26E+00	0.00E+00	1.61E-04
2006	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.51E+00	0.00E+00	1.89E-04
2006	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	1.09E-03	0.00E+00	1.36E-07
2006	Annual	Chippers/Stump Grinders	120	Lawn and Garden Equipment	1.13E-01	0.00E+00	2.33E-05
2006	Annual	Chippers/Stump Grinders	175	Lawn and Garden Equipment	1.34E-02	0.00E+00	1.81E-06
2006	Annual	Chippers/Stump Grinders	250	Lawn and Garden Equipment	5.33E-03	0.00E+00	5.25E-07
2006	Annual	Chippers/Stump Grinders	500	Lawn and Garden Equipment	5.47E-02	0.00E+00	4.84E-06
2006	Annual	Chippers/Stump Grinders	750	Lawn and Garden Equipment	1.50E-01	0.00E+00	1.36E-05
2006	Annual	Chippers/Stump Grinders	1000	Lawn and Garden Equipment	4.05E-01	0.00E+00	4.41E-05
2006	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	6.45E-02	0.00E+00	7.25E-06
2006	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	1.82E+00	0.00E+00	2.11E-04
2006	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	4.77E-04	0.00E+00	5.63E-08
2006	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	9.09E-05	0.00E+00	1.08E-08
2006	Annual	Generator Sets	2	Light Commercial Equipment	3.24E-03	7.41E-06	2.67E-05
2006	Annual	Generator Sets	2	Light Commercial Equipment	1.71E-03	3.75E-06	1.71E-05
2006	Annual	Generator Sets	15	Light Commercial Equipment	2.94E-04	2.40E-07	7.36E-07
2006	Annual	Generator Sets	15	Light Commercial Equipment	1.51E-04	1.07E-07	9.21E-07
2006	Annual	Pumps	2	Light Commercial Equipment	2.51E-02	6.40E-05	8.96E-05
2006	Annual	Pumps	2	Light Commercial Equipment	1.32E-02	3.08E-05	9.59E-05
2006	Annual	Pumps	15	Light Commercial Equipment	5.41E-02	4.83E-05	1.08E-04
2006	Annual	Pumps	15	Light Commercial Equipment	2.86E-02	2.33E-05	1.18E-04
2006	Annual	Pumps	25	Light Commercial Equipment	1.39E-03	8.69E-07	1.34E-06
2006	Annual	Pumps	25	Light Commercial Equipment	7.27E-04	4.12E-07	1.92E-06
2006	Annual	Generator Sets	5	Light Commercial Equipment	1.70E-01	2.13E-04	5.71E-04
2006	Annual	Generator Sets	5	Light Commercial Equipment	8.98E-02	1.10E-04	3.20E-04
2006	Annual	Generator Sets	15	Light Commercial Equipment	1.05E+00	9.17E-04	1.60E-03
2006	Annual	Generator Sets	15	Light Commercial Equipment	5.55E-01	4.74E-04	9.24E-04
2006	Annual	Generator Sets	25	Light Commercial Equipment	1.19E+00	6.85E-04	1.64E-03
2006	Annual	Generator Sets	25	Light Commercial Equipment	6.29E-01	3.56E-04	9.35E-04
2006	Annual	Generator Sets	50	Light Commercial Equipment	1.04E+00	3.60E-04	2.53E-04
2006	Annual	Generator Sets	120	Light Commercial Equipment	5.16E-01	1.39E-04	8.60E-05
2006	Annual	Generator Sets	175	Light Commercial Equipment	8.34E-02	1.86E-05	8.12E-06
2006	Annual	Pumps	5	Light Commercial Equipment	8.81E-02	1.35E-04	2.43E-04
2006	Annual	Pumps	5	Light Commercial Equipment	4.65E-02	6.57E-05	1.77E-04
2006	Annual	Pumps	15	Light Commercial Equipment	2.55E-01	2.43E-04	3.71E-04
2006	Annual	Pumps	15	Light Commercial Equipment	1.35E-01	1.23E-04	2.22E-04
2006	Annual	Pumps	25	Light Commercial Equipment	1.39E-01	9.11E-05	1.62E-04
2006	Annual	Pumps	25	Light Commercial Equipment	7.32E-02	4.49E-05	1.01E-04
2006	Annual	Pumps	50	Light Commercial Equipment	1.57E-01	5.69E-05	4.52E-05
2006	Annual	Pumps	120	Light Commercial Equipment	5.92E-01	1.58E-04	1.18E-04
2006	Annual	Pumps	175	Light Commercial Equipment	2.69E-02	6.34E-06	2.92E-06
2006	Annual	Air Compressors	5	Light Commercial Equipment	9.43E-02	1.39E-04	1.43E-04
2006	Annual	Air Compressors	5	Light Commercial Equipment	4.98E-02	7.36E-05	7.53E-05
2006	Annual	Air Compressors	15	Light Commercial Equipment	6.68E-02	8.34E-05	6.50E-05
2006	Annual	Air Compressors	15	Light Commercial Equipment	3.53E-02	4.28E-05	3.68E-05

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Air Compressors	25	Light Commercial Equipment	2.19E-02	1.73E-05	2.20E-05
2006	Annual	Air Compressors	25	Light Commercial Equipment	1.16E-02	8.48E-06	1.37E-05
2006	Annual	Air Compressors	50	Light Commercial Equipment	1.20E-01	4.60E-05	4.35E-05
2006	Annual	Air Compressors	120	Light Commercial Equipment	7.70E-01	2.62E-04	1.94E-04
2006	Annual	Air Compressors	175	Light Commercial Equipment	9.64E-02	2.65E-05	1.13E-05
2006	Annual	Welders	15	Light Commercial Equipment	1.36E-01	1.24E-04	2.35E-04
2006	Annual	Welders	25	Light Commercial Equipment	7.59E-01	5.35E-04	1.09E-03
2006	Annual	Welders	50	Light Commercial Equipment	3.16E-01	1.11E-04	9.15E-05
2006	Annual	Welders	120	Light Commercial Equipment	4.96E-01	1.75E-04	9.96E-05
2006	Annual	Welders	175	Light Commercial Equipment	6.17E-02	1.77E-05	6.72E-06
2006	Annual	Pressure Washers	5	Light Commercial Equipment	7.13E-02	7.62E-05	1.94E-04
2006	Annual	Pressure Washers	5	Light Commercial Equipment	3.77E-02	3.77E-05	1.30E-04
2006	Annual	Pressure Washers	15	Light Commercial Equipment	8.91E-02	7.88E-05	1.36E-04
2006	Annual	Pressure Washers	15	Light Commercial Equipment	4.71E-02	4.08E-05	7.83E-05
2006	Annual	Pressure Washers	25	Light Commercial Equipment	4.30E-02	2.32E-05	5.67E-05
2006	Annual	Pressure Washers	25	Light Commercial Equipment	2.27E-02	1.18E-05	3.36E-05
2006	Annual	Pressure Washers	50	Light Commercial Equipment	1.06E-02	3.55E-06	2.77E-06
2006	Annual	Generator Sets	120	Light Commercial Equipment	3.35E-02	0.00E+00	5.09E-05
2006	Annual	Generator Sets	175	Light Commercial Equipment	4.88E-02	0.00E+00	6.01E-05
2006	Annual	Gas Compressors	50	Light Commercial Equipment	2.15E-01	0.00E+00	2.38E-04
2006	Annual	Gas Compressors	120	Light Commercial Equipment	1.21E+00	0.00E+00	1.34E-03
2006	Annual	Gas Compressors	175	Light Commercial Equipment	3.15E-01	0.00E+00	3.61E-04
2006	Annual	Gas Compressors	250	Light Commercial Equipment	3.25E-01	0.00E+00	4.16E-04
2006	Annual	Gas Compressors	500	Light Commercial Equipment	4.57E-01	0.00E+00	5.86E-04
2006	Annual	Generator Sets	15	Light Commercial Equipment	3.13E-01	0.00E+00	5.75E-05
2006	Annual	Generator Sets	25	Light Commercial Equipment	3.96E-01	0.00E+00	7.46E-05
2006	Annual	Generator Sets	50	Light Commercial Equipment	8.40E-01	0.00E+00	3.33E-04
2006	Annual	Generator Sets	120	Light Commercial Equipment	3.25E+00	0.00E+00	6.44E-04
2006	Annual	Generator Sets	175	Light Commercial Equipment	3.50E-01	0.00E+00	4.53E-05
2006	Annual	Generator Sets	250	Light Commercial Equipment	2.93E-01	0.00E+00	2.63E-05
2006	Annual	Generator Sets	500	Light Commercial Equipment	1.03E+00	0.00E+00	8.34E-05
2006	Annual	Generator Sets	750	Light Commercial Equipment	1.03E+00	0.00E+00	8.61E-05
2006	Annual	Generator Sets	9999	Light Commercial Equipment	5.19E-01	0.00E+00	5.63E-05
2006	Annual	Pumps	15	Light Commercial Equipment	2.04E-01	0.00E+00	4.34E-05
2006	Annual	Pumps	25	Light Commercial Equipment	1.60E-01	0.00E+00	3.94E-05
2006	Annual	Pumps	50	Light Commercial Equipment	4.92E-01	0.00E+00	2.07E-04
2006	Annual	Pumps	120	Light Commercial Equipment	2.19E+00	0.00E+00	4.46E-04
2006	Annual	Pumps	175	Light Commercial Equipment	4.26E-01	0.00E+00	5.67E-05
2006	Annual	Pumps	250	Light Commercial Equipment	4.41E-01	0.00E+00	4.09E-05
2006	Annual	Pumps	500	Light Commercial Equipment	1.49E-02	0.00E+00	1.24E-06
2006	Annual	Pumps	750	Light Commercial Equipment	4.11E-03	0.00E+00	3.51E-07
2006	Annual	Pumps	9999	Light Commercial Equipment	2.15E-01	0.00E+00	2.36E-05
2006	Annual	Air Compressors	15	Light Commercial Equipment	5.47E-03	0.00E+00	1.16E-06
2006	Annual	Air Compressors	25	Light Commercial Equipment	2.17E-02	0.00E+00	5.33E-06
2006	Annual	Air Compressors	50	Light Commercial Equipment	3.03E-01	0.00E+00	1.65E-04
2006	Annual	Air Compressors	120	Light Commercial Equipment	4.26E+00	0.00E+00	9.84E-04
2006	Annual	Air Compressors	175	Light Commercial Equipment	3.04E-01	0.00E+00	4.62E-05
2006	Annual	Air Compressors	250	Light Commercial Equipment	6.34E-01	0.00E+00	6.74E-05
2006	Annual	Air Compressors	500	Light Commercial Equipment	1.46E+00	0.00E+00	1.38E-04
2006	Annual	Air Compressors	750	Light Commercial Equipment	8.45E-01	0.00E+00	8.12E-05
2006	Annual	Air Compressors	1000	Light Commercial Equipment	2.83E-02	0.00E+00	3.32E-06
2006	Annual	Welders	15	Light Commercial Equipment	1.23E-01	0.00E+00	2.62E-05
2006	Annual	Welders	25	Light Commercial Equipment	1.97E-01	0.00E+00	4.85E-05
2006	Annual	Welders	50	Light Commercial Equipment	1.39E+00	0.00E+00	6.97E-04
2006	Annual	Welders	120	Light Commercial Equipment	1.65E+00	0.00E+00	3.65E-04
2006	Annual	Welders	175	Light Commercial Equipment	2.03E-02	0.00E+00	2.95E-06
2006	Annual	Welders	250	Light Commercial Equipment	5.47E-03	0.00E+00	5.57E-07
2006	Annual	Welders	500	Light Commercial Equipment	1.92E-02	0.00E+00	1.74E-06
2006	Annual	Pressure Washers	15	Light Commercial Equipment	2.99E-03	0.00E+00	5.48E-07
2006	Annual	Pressure Washers	25	Light Commercial Equipment	1.02E-03	0.00E+00	1.92E-07
2006	Annual	Pressure Washers	50	Light Commercial Equipment	4.04E-03	0.00E+00	1.31E-06
2006	Annual	Pressure Washers	120	Light Commercial Equipment	2.81E-03	0.00E+00	5.11E-07
2006	Annual	Chainsaws	15	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Shredders	15	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Shredders	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Skidders	120	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Skidders	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Skidders	250	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Skidders	500	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Fellers/Bunchers	120	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Fellers/Bunchers	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Fellers/Bunchers	250	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Fellers/Bunchers	500	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Fellers/Bunchers	750	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	A/C unit	120	Military Tactical Support Equip	9.02E-03	0.00E+00	1.79E-06
2006	Annual	A/C unit	250	Military Tactical Support Equip	7.75E-03	0.00E+00	7.49E-07
2006	Annual	A/C unit	500	Military Tactical Support Equip	4.64E-03	0.00E+00	4.07E-07
2006	Annual	Aircraft Support	120	Military Tactical Support Equip	1.65E-03	0.00E+00	3.28E-07
2006	Annual	Aircraft Support	175	Military Tactical Support Equip	4.85E-03	0.00E+00	6.32E-07
2006	Annual	Cart	120	Military Tactical Support Equip	8.42E-04	0.00E+00	1.67E-07
2006	Annual	Cart	175	Military Tactical Support Equip	3.98E-04	0.00E+00	5.18E-08
2006	Annual	Cart	250	Military Tactical Support Equip	1.71E-03	0.00E+00	1.65E-07
2006	Annual	Communications	50	Military Tactical Support Equip	1.39E-04	0.00E+00	5.50E-08
2006	Annual	Communications	120	Military Tactical Support Equip	4.16E-04	0.00E+00	8.27E-08
2006	Annual	Compressor (Military)	50	Military Tactical Support Equip	1.70E-04	0.00E+00	6.74E-08
2006	Annual	Compressor (Military)	120	Military Tactical Support Equip	9.29E-03	0.00E+00	1.85E-06
2006	Annual	Compressor (Military)	175	Military Tactical Support Equip	5.79E-04	0.00E+00	7.53E-08
2006	Annual	Compressor (Military)	250	Military Tactical Support Equip	1.55E-03	0.00E+00	1.49E-07
2006	Annual	Compressor (Military)	500	Military Tactical Support Equip	9.05E-03	0.00E+00	7.94E-07
2006	Annual	Crane	120	Military Tactical Support Equip	1.46E-03	0.00E+00	2.35E-07
2006	Annual	Crane	175	Military Tactical Support Equip	3.67E-04	0.00E+00	3.74E-08
2006	Annual	Crane	250	Military Tactical Support Equip	3.71E-04	0.00E+00	2.13E-08
2006	Annual	Deicer	120	Military Tactical Support Equip	3.81E-04	0.00E+00	7.58E-08
2006	Annual	Generator (Military)	50	Military Tactical Support Equip	8.89E-04	0.00E+00	3.53E-07
2006	Annual	Generator (Military)	120	Military Tactical Support Equip	4.83E-02	0.00E+00	9.61E-06
2006	Annual	Generator (Military)	175	Military Tactical Support Equip	6.89E-02	0.00E+00	8.97E-06
2006	Annual	Generator (Military)	250	Military Tactical Support Equip	2.76E-02	0.00E+00	2.67E-06
2006	Annual	Generator (Military)	500	Military Tactical Support Equip	1.75E-02	0.00E+00	1.53E-06
2006	Annual	Generator (Military)	750	Military Tactical Support Equip	9.25E-04	0.00E+00	8.32E-08
2006	Annual	Hydraulic unit	120	Military Tactical Support Equip	5.52E-03	0.00E+00	1.10E-06
2006	Annual	Lift (Military)	120	Military Tactical Support Equip	1.65E-04	0.00E+00	3.27E-08
2006	Annual	Light	50	Military Tactical Support Equip	2.17E-04	0.00E+00	8.60E-08
2006	Annual	Pressure Washers	175	Military Tactical Support Equip	3.95E-04	0.00E+00	5.14E-08
2006	Annual	Pump (Military)	50	Military Tactical Support Equip	1.96E-03	0.00E+00	7.78E-07
2006	Annual	Pump (Military)	120	Military Tactical Support Equip	3.90E-03	0.00E+00	7.75E-07
2006	Annual	Start Cart	120	Military Tactical Support Equip	8.67E-05	0.00E+00	1.72E-08
2006	Annual	Start Cart	500	Military Tactical Support Equip	2.45E-04	0.00E+00	2.15E-08
2006	Annual	Test Stand	120	Military Tactical Support Equip	2.63E-03	0.00E+00	5.23E-07
2006	Annual	Test Stand	175	Military Tactical Support Equip	2.46E-04	0.00E+00	3.20E-08
2006	Annual	Test Stand	250	Military Tactical Support Equip	5.29E-03	0.00E+00	5.11E-07
2006	Annual	Test Stand	500	Military Tactical Support Equip	3.57E-03	0.00E+00	3.13E-07
2006	Annual	Welder	50	Military Tactical Support Equip	6.37E-04	0.00E+00	2.53E-07
2006	Annual	Welder	120	Military Tactical Support Equip	3.12E-03	0.00E+00	6.19E-07
2006	Annual	Other tactical support equipment	50	Military Tactical Support Equip	4.33E-05	0.00E+00	1.72E-08
2006	Annual	Other tactical support equipment	120	Military Tactical Support Equip	1.10E-03	0.00E+00	2.18E-07
2006	Annual	Other tactical support equipment	175	Military Tactical Support Equip	2.05E-03	0.00E+00	2.67E-07
2006	Annual	Other tactical support equipment	250	Military Tactical Support Equip	1.13E-03	0.00E+00	1.10E-07
2006	Annual	Other tactical support equipment	500	Military Tactical Support Equip	4.68E-04	0.00E+00	4.11E-08
2006	Annual	Other tactical support equipment	750	Military Tactical Support Equip	5.43E-04	0.00E+00	4.88E-08
2006	Annual	Compressors (Workover)	25	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Compressors (Workover)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Workover)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Workover)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Swivel	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Swivel	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Swivel	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Swivel	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snubbing	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Other Workover Equipment	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other Workover Equipment	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other Workover Equipment	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other Workover Equipment	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Other Workover Equipment	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lift (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lift (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lift (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lift (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Lift (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pump (Drilling)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Generator (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Drill Rig (Mobile)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Workover Rig (Mobile)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Pressure Washers	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	120	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	175	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	250	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	500	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	750	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Misc Portable Equipment	1000	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Vessels w/Outboard Engines	2	Pleasure Craft	4.99E-03	4.43E-06	1.03E-04
2006	Annual	Vessels w/Outboard Engines	15	Pleasure Craft	8.29E-01	9.81E-04	1.37E-02
2006	Annual	Vessels w/Outboard Engines	25	Pleasure Craft	7.51E-01	5.95E-04	8.13E-03
2006	Annual	Vessels w/Outboard Engines	50	Pleasure Craft	2.47E+00	9.20E-04	1.30E-02
2006	Annual	Vessels w/Outboard Engines	120	Pleasure Craft	4.59E+00	1.24E-03	2.23E-02
2006	Annual	Vessels w/Outboard Engines	175	Pleasure Craft	3.78E+00	7.21E-04	1.86E-02
2006	Annual	Vessels w/Outboard Engines	250	Pleasure Craft	1.43E+00	2.85E-04	7.02E-03
2006	Annual	Vessels w/Outboard Engines	500	Pleasure Craft	4.03E-01	2.87E-05	2.16E-03
2006	Annual	Sailboat Auxiliary Outboard Engin	15	Pleasure Craft	2.27E-03	2.59E-06	3.63E-05
2006	Annual	Sailboat Auxiliary Outboard Engin	25	Pleasure Craft	3.05E-03	2.59E-06	3.21E-05
2006	Annual	Sailboat Auxiliary Outboard Engin	50	Pleasure Craft	1.03E-02	4.03E-06	5.25E-05
2006	Annual	Personal Water Craft	9999	Pleasure Craft	1.03E+01	2.75E-03	4.70E-02
2006	Annual	Vessels w/Inboard Engines	250	Pleasure Craft	1.94E+01	4.58E-03	7.14E-03
2006	Annual	Vessels w/Outboard Engines	50	Pleasure Craft	5.11E-01	2.23E-04	2.39E-04
2006	Annual	Vessels w/Sterndrive Engines	250	Pleasure Craft	2.92E+01	7.82E-03	1.10E-02
2006	Annual	Sailboat Auxiliary Inboard Engine	15	Pleasure Craft	6.39E-03	4.88E-06	3.02E-06
2006	Annual	Vessels w/Inboard Jet Engines	500	Pleasure Craft	6.05E+00	1.30E-03	2.30E-03
2006	Annual	Vessels w/Inboard Engines	250	Pleasure Craft	1.55E+00	0.00E+00	7.71E-04
2006	Annual	Sailboat Auxiliary Inboard Engine	50	Pleasure Craft	1.61E-02	0.00E+00	7.99E-06
2006	Annual	Compressor (Railyard)	120	Railyard Operations	8.97E-04	0.00E+00	2.13E-07
2006	Annual	Crane (Rail-CHE)	120	Railyard Operations	7.44E-04	0.00E+00	1.76E-07
2006	Annual	Crane (Rail-CHE)	175	Railyard Operations	1.18E-03	0.00E+00	1.56E-07

Table GHG-8c: OFFROAD Model Output for Monterey County for 2006

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2006	Annual	Materials Handling (Rail-CHE)	120	Railyard Operations	8.16E-04	0.00E+00	1.93E-07
2006	Annual	Generator (Railyard)	175	Railyard Operations	7.96E-04	0.00E+00	1.05E-07
2006	Annual	Generator (Railyard)	9999	Railyard Operations	5.03E-03	0.00E+00	5.61E-07
2006	Annual	Off-Road Motorcycles Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	120	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowmobiles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowmobiles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Snowmobiles Inactive	120	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	All Terrain Vehicles (ATVs) Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2006	Annual	Off-Road Motorcycles Active	15	Recreational Equipment	8.93E-02	3.02E-05	1.67E-03
2006	Annual	Off-Road Motorcycles Active	25	Recreational Equipment	7.68E-02	2.60E-05	1.44E-03
2006	Annual	Off-Road Motorcycles Active	50	Recreational Equipment	6.26E-01	2.11E-04	1.17E-02
2006	Annual	Off-Road Motorcycles Active	120	Recreational Equipment	2.99E-01	1.01E-04	5.60E-03
2006	Annual	Snowmobiles Active	25	Recreational Equipment	1.62E-03	8.35E-07	3.59E-05
2006	Annual	Snowmobiles Active	50	Recreational Equipment	1.45E-02	5.54E-06	3.22E-04
2006	Annual	Snowmobiles Active	120	Recreational Equipment	4.51E-02	1.78E-05	7.32E-04
2006	Annual	All Terrain Vehicles (ATVs) Active	15	Recreational Equipment	9.73E-02	3.29E-05	1.82E-03
2006	Annual	All Terrain Vehicles (ATVs) Active	25	Recreational Equipment	6.34E-02	2.14E-05	1.18E-03
2006	Annual	All Terrain Vehicles (ATVs) Active	50	Recreational Equipment	8.34E-02	2.81E-05	1.56E-03
2006	Annual	Golf Carts	15	Recreational Equipment	4.05E+00	4.33E-03	4.65E-03
2006	Annual	Specialty Vehicles Carts	15	Recreational Equipment	5.45E-01	5.61E-04	3.51E-04
2006	Annual	Off-Road Motorcycles Active	15	Recreational Equipment	1.74E-01	4.69E-04	1.09E-04
2006	Annual	Off-Road Motorcycles Active	25	Recreational Equipment	2.81E-01	7.56E-04	1.75E-04
2006	Annual	Off-Road Motorcycles Active	50	Recreational Equipment	2.93E-01	7.88E-04	1.83E-04
2006	Annual	All Terrain Vehicles (ATVs) Active	15	Recreational Equipment	7.94E-02	2.44E-04	5.73E-05
2006	Annual	All Terrain Vehicles (ATVs) Active	25	Recreational Equipment	1.10E+00	3.40E-03	7.98E-04
2006	Annual	All Terrain Vehicles (ATVs) Active	50	Recreational Equipment	4.99E-02	1.53E-04	3.60E-05
2006	Annual	Minibikes	5	Recreational Equipment	4.78E-03	3.38E-05	3.13E-04
2006	Annual	Golf Carts	15	Recreational Equipment	3.17E+00	3.62E-03	4.12E-03
2006	Annual	Specialty Vehicles Carts	5	Recreational Equipment	1.20E-02	1.48E-05	1.33E-05
2006	Annual	Specialty Vehicles Carts	15	Recreational Equipment	2.29E-01	2.35E-04	1.47E-04
2006	Annual	Specialty Vehicles Carts	25	Recreational Equipment	3.41E-01	2.11E-04	2.32E-04
2006	Annual	Transport Refrigeration Units	15	Transport Refrigeration Units	3.73E-01	3.86E-04	3.41E-04
2006	Annual	Transport Refrigeration Units	15	Transport Refrigeration Units	8.17E-01	0.00E+00	1.07E-04
2006	Annual	Transport Refrigeration Units	25	Transport Refrigeration Units	5.35E-01	0.00E+00	6.89E-05
2006	Annual	Transport Refrigeration Units	50	Transport Refrigeration Units	2.67E+01	0.00E+00	1.09E-02
					5.81E+02	6.09E-02	3.42E-01
					212,034	6,895	2,621

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	2-Wheel Tractors	5	Agricultural Equipment	1.82E-02	2.70E-05	2.50E-05
2030	Annual	2-Wheel Tractors	15	Agricultural Equipment	8.80E-02	9.71E-05	7.72E-05
2030	Annual	2-Wheel Tractors	25	Agricultural Equipment	4.72E-03	3.62E-06	4.37E-06
2030	Annual	Agricultural Tractors	120	Agricultural Equipment	7.83E-01	9.13E-05	4.53E-05
2030	Annual	Agricultural Tractors	175	Agricultural Equipment	1.59E-01	1.58E-05	8.74E-06
2030	Annual	Combines	120	Agricultural Equipment	6.69E-02	4.28E-06	1.67E-06
2030	Annual	Combines	175	Agricultural Equipment	5.75E-02	3.17E-06	1.07E-06
2030	Annual	Combines	250	Agricultural Equipment	1.22E-02	1.07E-06	1.94E-07
2030	Annual	Balers	50	Agricultural Equipment	1.35E-01	2.26E-05	9.34E-06
2030	Annual	Balers	120	Agricultural Equipment	1.25E-01	1.21E-05	3.47E-06
2030	Annual	Agricultural Mowers	15	Agricultural Equipment	3.30E-02	4.09E-05	2.88E-05
2030	Annual	Agricultural Mowers	25	Agricultural Equipment	6.07E-02	4.95E-05	5.60E-05
2030	Annual	Sprayers	5	Agricultural Equipment	3.55E-02	5.76E-05	4.79E-05
2030	Annual	Sprayers	15	Agricultural Equipment	1.93E-02	2.49E-05	1.67E-05
2030	Annual	Sprayers	25	Agricultural Equipment	1.21E-01	9.90E-05	1.11E-04
2030	Annual	Sprayers	50	Agricultural Equipment	2.57E-02	4.64E-06	1.81E-06
2030	Annual	Sprayers	120	Agricultural Equipment	8.83E-02	8.79E-06	2.52E-06
2030	Annual	Sprayers	175	Agricultural Equipment	3.98E-02	3.03E-06	8.25E-07
2030	Annual	Tillers	15	Agricultural Equipment	2.17E+00	1.90E-03	1.28E-03
2030	Annual	Swathers	120	Agricultural Equipment	4.56E-01	4.01E-05	1.34E-05
2030	Annual	Swathers	175	Agricultural Equipment	4.98E-01	3.92E-05	1.09E-05
2030	Annual	Hydro Power Units	5	Agricultural Equipment	5.34E-03	7.52E-06	7.40E-06
2030	Annual	Hydro Power Units	15	Agricultural Equipment	4.52E-02	5.32E-05	4.08E-05
2030	Annual	Hydro Power Units	25	Agricultural Equipment	3.66E-02	2.91E-05	3.49E-05
2030	Annual	Hydro Power Units	50	Agricultural Equipment	9.29E-03	1.50E-06	7.03E-07
2030	Annual	Hydro Power Units	120	Agricultural Equipment	1.99E-03	1.85E-07	5.32E-08
2030	Annual	Other Agricultural Equipment	5	Agricultural Equipment	2.42E-03	3.76E-06	3.26E-06
2030	Annual	Other Agricultural Equipment	15	Agricultural Equipment	5.30E-03	5.53E-06	4.59E-06
2030	Annual	Other Agricultural Equipment	25	Agricultural Equipment	3.38E-03	2.21E-06	3.09E-06
2030	Annual	Other Agricultural Equipment	50	Agricultural Equipment	6.36E-03	1.14E-06	4.39E-07
2030	Annual	Other Agricultural Equipment	120	Agricultural Equipment	8.41E-02	7.80E-06	2.23E-06
2030	Annual	Other Agricultural Equipment	175	Agricultural Equipment	1.89E-02	1.34E-06	3.89E-07
2030	Annual	Other Agricultural Equipment	250	Agricultural Equipment	1.24E-02	1.12E-06	2.06E-07
2030	Annual	Agricultural Tractors	15	Agricultural Equipment	2.93E+00	0.00E+00	3.08E-04
2030	Annual	Agricultural Tractors	25	Agricultural Equipment	6.94E+00	0.00E+00	7.55E-04
2030	Annual	Agricultural Tractors	50	Agricultural Equipment	2.45E+01	0.00E+00	1.50E-03
2030	Annual	Agricultural Tractors	120	Agricultural Equipment	6.03E+01	0.00E+00	2.03E-03
2030	Annual	Agricultural Tractors	175	Agricultural Equipment	5.81E+01	0.00E+00	1.45E-03
2030	Annual	Agricultural Tractors	250	Agricultural Equipment	5.36E+01	0.00E+00	1.23E-03
2030	Annual	Agricultural Tractors	500	Agricultural Equipment	1.74E+01	0.00E+00	3.96E-04
2030	Annual	Combines	120	Agricultural Equipment	5.23E-01	0.00E+00	1.14E-05
2030	Annual	Combines	175	Agricultural Equipment	1.02E+00	0.00E+00	1.62E-05
2030	Annual	Combines	250	Agricultural Equipment	1.54E+00	0.00E+00	2.23E-05
2030	Annual	Combines	500	Agricultural Equipment	8.44E-02	0.00E+00	1.21E-06
2030	Annual	Balers	50	Agricultural Equipment	2.40E-04	0.00E+00	7.28E-09
2030	Annual	Balers	120	Agricultural Equipment	2.54E-01	0.00E+00	5.00E-06
2030	Annual	Agricultural Mowers	120	Agricultural Equipment	2.92E-02	0.00E+00	8.66E-07
2030	Annual	Sprayers	25	Agricultural Equipment	1.41E-02	0.00E+00	1.54E-06
2030	Annual	Sprayers	50	Agricultural Equipment	4.95E-03	0.00E+00	1.48E-07
2030	Annual	Sprayers	120	Agricultural Equipment	1.20E-01	0.00E+00	2.33E-06
2030	Annual	Sprayers	175	Agricultural Equipment	8.36E-02	0.00E+00	1.19E-06
2030	Annual	Sprayers	250	Agricultural Equipment	8.57E-02	0.00E+00	1.11E-06
2030	Annual	Sprayers	500	Agricultural Equipment	1.60E-02	0.00E+00	2.04E-07
2030	Annual	Tillers	15	Agricultural Equipment	4.38E-04	0.00E+00	4.10E-08
2030	Annual	Tillers	250	Agricultural Equipment	1.43E-03	0.00E+00	2.16E-08
2030	Annual	Tillers	500	Agricultural Equipment	7.67E-03	0.00E+00	1.14E-07
2030	Annual	Swathers	120	Agricultural Equipment	1.57E+00	0.00E+00	3.17E-05
2030	Annual	Swathers	175	Agricultural Equipment	2.69E-02	0.00E+00	3.97E-07
2030	Annual	Hydro Power Units	15	Agricultural Equipment	9.88E-03	0.00E+00	1.04E-06
2030	Annual	Hydro Power Units	25	Agricultural Equipment	5.67E-02	0.00E+00	6.17E-06
2030	Annual	Hydro Power Units	50	Agricultural Equipment	1.13E-01	0.00E+00	9.09E-06
2030	Annual	Hydro Power Units	120	Agricultural Equipment	2.08E-02	0.00E+00	8.77E-07
2030	Annual	Other Agricultural Equipment	15	Agricultural Equipment	2.52E-02	0.00E+00	2.65E-06
2030	Annual	Other Agricultural Equipment	25	Agricultural Equipment	1.29E-01	0.00E+00	1.40E-05
2030	Annual	Other Agricultural Equipment	50	Agricultural Equipment	1.75E-01	0.00E+00	9.48E-06
2030	Annual	Other Agricultural Equipment	120	Agricultural Equipment	1.18E+00	0.00E+00	3.58E-05
2030	Annual	Other Agricultural Equipment	175	Agricultural Equipment	1.78E-01	0.00E+00	3.99E-06
2030	Annual	Other Agricultural Equipment	250	Agricultural Equipment	2.58E-01	0.00E+00	5.29E-06
2030	Annual	Other Agricultural Equipment	500	Agricultural Equipment	8.96E-02	0.00E+00	1.82E-06
2030	Annual	Cargo Tractor	120	Airport Ground Support Equipment	7.12E-01	1.19E-04	3.94E-05
2030	Annual	A/C Tug Narrow Body	175	Airport Ground Support Equipment	7.22E-02	7.85E-06	2.47E-06
2030	Annual	A/C Tug Wide Body	500	Airport Ground Support Equipment	6.30E-02	3.50E-06	1.29E-06
2030	Annual	Air Conditioner	175	Airport Ground Support Equipment	6.47E-05	6.59E-09	9.39E-10
2030	Annual	Air Start Unit	175	Airport Ground Support Equipment	6.12E-03	5.77E-07	9.81E-08
2030	Annual	Baggage Tug	120	Airport Ground Support Equipment	6.37E-01	8.86E-05	2.17E-05
2030	Annual	Belt Loader	120	Airport Ground Support Equipment	1.52E-01	2.82E-05	5.28E-06
2030	Annual	Bobtail	120	Airport Ground Support Equipment	1.02E-01	1.42E-05	3.49E-06
2030	Annual	Cargo Loader	120	Airport Ground Support Equipment	4.19E-02	7.23E-06	1.45E-06
2030	Annual	Cart	15	Airport Ground Support Equipment	2.83E-04	2.26E-07	1.66E-07
2030	Annual	Deicer	120	Airport Ground Support Equipment	1.57E-03	1.56E-07	3.56E-08
2030	Annual	Forklift	50	Airport Ground Support Equipment	1.73E-02	4.31E-06	1.53E-06
2030	Annual	Fuel Truck	175	Airport Ground Support Equipment	6.77E-04	1.15E-07	9.79E-09

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Ground Power Unit	175	Airport Ground Support Equipment	1.08E-01	1.06E-05	2.27E-06
2030	Annual	Lav Cart	15	Airport Ground Support Equipment	2.45E-05	1.96E-08	1.43E-08
2030	Annual	Lav Truck	175	Airport Ground Support Equipment	5.81E-02	1.07E-05	1.88E-06
2030	Annual	Lift	120	Airport Ground Support Equipment	5.20E-02	7.61E-06	1.88E-06
2030	Annual	Maint. Truck	175	Airport Ground Support Equipment	5.51E-02	7.06E-06	1.28E-06
2030	Annual	Other GSE	50	Airport Ground Support Equipment	1.33E-02	2.38E-06	1.02E-06
2030	Annual	Passenger Stand	175	Airport Ground Support Equipment	1.78E-02	2.12E-06	3.40E-07
2030	Annual	Sweeper	120	Airport Ground Support Equipment	1.25E-03	2.43E-07	4.47E-08
2030	Annual	Generator	120	Airport Ground Support Equipment	5.98E-03	7.90E-07	3.37E-07
2030	Annual	Service Truck	250	Airport Ground Support Equipment	1.60E-01	2.98E-05	6.15E-06
2030	Annual	Catering Truck	250	Airport Ground Support Equipment	1.15E-01	1.32E-05	5.00E-06
2030	Annual	Water Truck	175	Airport Ground Support Equipment	4.44E-03	8.19E-07	1.00E-07
2030	Annual	Hydrant truck	175	Airport Ground Support Equipment	1.19E-01	1.56E-05	6.77E-06
2030	Annual	Cargo Tractor	175	Airport Ground Support Equipment	1.27E-02	0.00E+00	2.85E-06
2030	Annual	Air Conditioner	175	Airport Ground Support Equipment	3.48E-04	0.00E+00	5.97E-08
2030	Annual	Baggage Tug	120	Airport Ground Support Equipment	1.05E-01	0.00E+00	8.31E-05
2030	Annual	Belt Loader	120	Airport Ground Support Equipment	1.01E-02	0.00E+00	5.96E-06
2030	Annual	Bobtail	120	Airport Ground Support Equipment	2.52E-03	0.00E+00	1.12E-06
2030	Annual	Cargo Loader	120	Airport Ground Support Equipment	8.90E-03	0.00E+00	8.39E-06
2030	Annual	Forklift	50	Airport Ground Support Equipment	3.50E-02	0.00E+00	1.35E-05
2030	Annual	Fuel Truck	175	Airport Ground Support Equipment	2.13E-03	0.00E+00	8.16E-07
2030	Annual	Lav Truck	175	Airport Ground Support Equipment	1.21E-03	0.00E+00	3.81E-07
2030	Annual	Lift	120	Airport Ground Support Equipment	1.54E-03	0.00E+00	6.70E-07
2030	Annual	Other	50	Airport Ground Support Equipment	1.20E-02	0.00E+00	1.13E-05
2030	Annual	Passenger Stand	175	Airport Ground Support Equipment	4.86E-05	0.00E+00	8.16E-09
2030	Annual	Sweeper	50	Airport Ground Support Equipment	2.66E-04	0.00E+00	9.07E-08
2030	Annual	Service Truck	250	Airport Ground Support Equipment	2.23E-02	0.00E+00	1.12E-05
2030	Annual	Catering Truck	250	Airport Ground Support Equipment	8.78E-03	0.00E+00	2.98E-06
2030	Annual	Cargo Tractor	120	Airport Ground Support Equipment	3.75E-02	0.00E+00	1.87E-06
2030	Annual	A/C Tug Narrow Body	250	Airport Ground Support Equipment	2.90E-01	0.00E+00	1.48E-05
2030	Annual	A/C Tug Wide Body	500	Airport Ground Support Equipment	1.63E-01	0.00E+00	8.13E-06
2030	Annual	Air Conditioner	175	Airport Ground Support Equipment	4.87E-02	0.00E+00	9.45E-07
2030	Annual	Air Conditioner	250	Airport Ground Support Equipment	5.49E-03	0.00E+00	1.06E-07
2030	Annual	Air Conditioner	500	Airport Ground Support Equipment	7.33E-03	0.00E+00	1.41E-07
2030	Annual	Air Start Unit	175	Airport Ground Support Equipment	5.51E-04	0.00E+00	1.08E-08
2030	Annual	Air Start Unit	250	Airport Ground Support Equipment	2.36E-03	0.00E+00	4.32E-08
2030	Annual	Air Start Unit	500	Airport Ground Support Equipment	1.86E-01	0.00E+00	3.38E-06
2030	Annual	Air Start Unit	750	Airport Ground Support Equipment	4.02E-02	0.00E+00	7.31E-07
2030	Annual	Baggage Tug	120	Airport Ground Support Equipment	3.56E-01	0.00E+00	2.68E-05
2030	Annual	Belt Loader	120	Airport Ground Support Equipment	8.36E-02	0.00E+00	5.10E-06
2030	Annual	Bobtail	120	Airport Ground Support Equipment	9.85E-03	0.00E+00	5.54E-07
2030	Annual	Cargo Loader	120	Airport Ground Support Equipment	1.76E-01	0.00E+00	8.44E-06
2030	Annual	Forklift	175	Airport Ground Support Equipment	1.85E-02	0.00E+00	5.23E-07
2030	Annual	Fuel Truck	250	Airport Ground Support Equipment	8.47E-03	0.00E+00	2.08E-07
2030	Annual	Ground Power Unit	175	Airport Ground Support Equipment	5.08E-01	0.00E+00	1.49E-05
2030	Annual	Lav Truck	175	Airport Ground Support Equipment	3.74E-03	0.00E+00	1.26E-07
2030	Annual	Lift	120	Airport Ground Support Equipment	3.24E-02	0.00E+00	1.29E-06
2030	Annual	Other GSE	175	Airport Ground Support Equipment	8.24E-02	0.00E+00	3.71E-06
2030	Annual	Passenger Stand	120	Airport Ground Support Equipment	4.54E-04	0.00E+00	8.13E-09
2030	Annual	Sweeper	120	Airport Ground Support Equipment	2.38E-03	0.00E+00	4.90E-08
2030	Annual	Generator	120	Airport Ground Support Equipment	2.19E-02	0.00E+00	1.07E-06
2030	Annual	Generator	175	Airport Ground Support Equipment	2.26E-01	0.00E+00	7.94E-06
2030	Annual	Generator	250	Airport Ground Support Equipment	3.39E-01	0.00E+00	1.13E-05
2030	Annual	Generator	500	Airport Ground Support Equipment	5.69E-02	0.00E+00	1.89E-06
2030	Annual	Generator	750	Airport Ground Support Equipment	1.22E-01	0.00E+00	4.07E-06
2030	Annual	Service Truck	175	Airport Ground Support Equipment	7.92E-03	0.00E+00	1.89E-07
2030	Annual	Catering Truck	250	Airport Ground Support Equipment	5.06E-03	0.00E+00	8.02E-08
2030	Annual	Hydrant Truck	175	Airport Ground Support Equipment	1.67E-02	0.00E+00	4.84E-07
2030	Annual	Compressor (GSE)	120	Airport Ground Support Equipment	2.54E-03	0.00E+00	1.02E-07
2030	Annual	Compressor (GSE)	250	Airport Ground Support Equipment	1.04E-03	0.00E+00	2.84E-08
2030	Annual	Compressor (GSE)	500	Airport Ground Support Equipment	8.55E-03	0.00E+00	2.34E-07
2030	Annual	Compressor (GSE)	750	Airport Ground Support Equipment	4.11E-02	0.00E+00	1.12E-06
2030	Annual	Tampers/Rammers	15	Construction and Mining Equipment	1.32E-02	1.97E-05	9.98E-06
2030	Annual	Plate Compactors	15	Construction and Mining Equipment	1.28E-03	1.91E-06	9.68E-07
2030	Annual	Asphalt Pavers	15	Construction and Mining Equipment	1.69E-03	1.72E-06	1.49E-06
2030	Annual	Asphalt Pavers	25	Construction and Mining Equipment	7.06E-03	4.54E-06	6.56E-06
2030	Annual	Asphalt Pavers	50	Construction and Mining Equipment	8.82E-03	1.54E-06	8.65E-07
2030	Annual	Asphalt Pavers	120	Construction and Mining Equipment	9.13E-03	1.01E-06	3.63E-07
2030	Annual	Tampers/Rammers	15	Construction and Mining Equipment	1.37E-03	1.50E-06	1.19E-06
2030	Annual	Plate Compactors	5	Construction and Mining Equipment	2.21E-02	3.49E-05	3.07E-05
2030	Annual	Plate Compactors	15	Construction and Mining Equipment	5.36E-02	6.23E-05	4.67E-05
2030	Annual	Rollers	5	Construction and Mining Equipment	1.60E-03	2.03E-06	2.00E-06
2030	Annual	Rollers	15	Construction and Mining Equipment	1.74E-02	1.81E-05	1.52E-05
2030	Annual	Rollers	25	Construction and Mining Equipment	2.48E-02	1.75E-05	2.28E-05
2030	Annual	Rollers	50	Construction and Mining Equipment	1.07E-02	2.04E-06	1.51E-06
2030	Annual	Rollers	120	Construction and Mining Equipment	4.03E-02	5.07E-06	2.51E-06
2030	Annual	Paving Equipment	5	Construction and Mining Equipment	3.13E-02	4.77E-05	4.32E-05
2030	Annual	Paving Equipment	15	Construction and Mining Equipment	1.56E-01	1.58E-04	1.35E-04
2030	Annual	Paving Equipment	25	Construction and Mining Equipment	7.61E-03	5.12E-06	6.99E-06
2030	Annual	Paving Equipment	50	Construction and Mining Equipment	1.11E-02	1.75E-06	7.99E-07
2030	Annual	Paving Equipment	120	Construction and Mining Equipment	5.06E-03	4.68E-07	1.40E-07
2030	Annual	Surfacing Equipment	5	Construction and Mining Equipment	7.02E-03	1.06E-05	9.90E-06

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Surfacing Equipment	15	Construction and Mining Equipment	8.39E-02	1.06E-04	7.68E-05
2030	Annual	Surfacing Equipment	25	Construction and Mining Equipment	2.73E-03	2.20E-06	2.64E-06
2030	Annual	Signal Boards	5	Construction and Mining Equipment	8.73E-05	1.03E-07	1.14E-07
2030	Annual	Signal Boards	15	Construction and Mining Equipment	2.17E-03	2.17E-06	1.88E-06
2030	Annual	Trenchers	15	Construction and Mining Equipment	3.33E-02	3.25E-05	2.98E-05
2030	Annual	Trenchers	25	Construction and Mining Equipment	5.42E-02	3.59E-05	5.12E-05
2030	Annual	Trenchers	50	Construction and Mining Equipment	5.44E-02	1.03E-05	6.13E-06
2030	Annual	Trenchers	120	Construction and Mining Equipment	3.92E-02	4.51E-06	1.91E-06
2030	Annual	Bore/Drill Rigs	15	Construction and Mining Equipment	3.26E-04	2.83E-07	2.74E-07
2030	Annual	Bore/Drill Rigs	25	Construction and Mining Equipment	2.92E-03	1.84E-06	2.59E-06
2030	Annual	Bore/Drill Rigs	50	Construction and Mining Equipment	8.93E-04	1.34E-07	6.62E-08
2030	Annual	Bore/Drill Rigs	120	Construction and Mining Equipment	1.11E-02	8.18E-07	3.37E-07
2030	Annual	Bore/Drill Rigs	175	Construction and Mining Equipment	3.84E-03	2.54E-07	8.71E-08
2030	Annual	Concrete/Industrial Saws	5	Construction and Mining Equipment	2.48E-03	3.21E-06	3.23E-06
2030	Annual	Concrete/Industrial Saws	15	Construction and Mining Equipment	5.98E-02	5.59E-05	5.21E-05
2030	Annual	Concrete/Industrial Saws	25	Construction and Mining Equipment	3.53E-02	2.36E-05	3.25E-05
2030	Annual	Concrete/Industrial Saws	50	Construction and Mining Equipment	2.05E-02	2.88E-06	1.42E-06
2030	Annual	Concrete/Industrial Saws	120	Construction and Mining Equipment	2.19E-02	1.75E-06	5.85E-07
2030	Annual	Cement and Mortar Mixers	5	Construction and Mining Equipment	3.01E-02	3.97E-05	3.86E-05
2030	Annual	Cement and Mortar Mixers	15	Construction and Mining Equipment	8.16E-02	9.07E-05	6.96E-05
2030	Annual	Cement and Mortar Mixers	25	Construction and Mining Equipment	1.07E-03	6.72E-07	9.66E-07
2030	Annual	Cranes	50	Construction and Mining Equipment	2.71E-03	5.50E-07	3.10E-07
2030	Annual	Cranes	120	Construction and Mining Equipment	1.07E-02	1.38E-06	5.29E-07
2030	Annual	Cranes	175	Construction and Mining Equipment	7.04E-04	7.41E-08	3.17E-08
2030	Annual	Crushing/Proc. Equipment	15	Construction and Mining Equipment	6.67E-04	5.98E-07	5.79E-07
2030	Annual	Crushing/Proc. Equipment	25	Construction and Mining Equipment	7.77E-04	5.11E-07	7.12E-07
2030	Annual	Crushing/Proc. Equipment	120	Construction and Mining Equipment	8.46E-03	6.49E-07	3.26E-07
2030	Annual	Rough Terrain Forklifts	50	Construction and Mining Equipment	1.84E-03	2.90E-07	2.10E-07
2030	Annual	Rough Terrain Forklifts	120	Construction and Mining Equipment	4.66E-02	4.90E-06	2.30E-06
2030	Annual	Rough Terrain Forklifts	175	Construction and Mining Equipment	2.67E-03	2.30E-07	1.20E-07
2030	Annual	Rubber Tired Loaders	50	Construction and Mining Equipment	4.15E-03	7.65E-07	4.89E-07
2030	Annual	Rubber Tired Loaders	120	Construction and Mining Equipment	4.90E-02	6.09E-06	2.43E-06
2030	Annual	Tractors/Loaders/Backhoes	120	Construction and Mining Equipment	3.44E-02	4.93E-06	1.75E-06
2030	Annual	Skid Steer Loaders	15	Construction and Mining Equipment	1.54E-03	1.35E-06	1.36E-06
2030	Annual	Skid Steer Loaders	25	Construction and Mining Equipment	1.39E-01	1.02E-04	1.30E-04
2030	Annual	Skid Steer Loaders	50	Construction and Mining Equipment	5.89E-02	1.01E-05	4.37E-06
2030	Annual	Skid Steer Loaders	120	Construction and Mining Equipment	8.71E-02	7.59E-06	2.51E-06
2030	Annual	Dumpers/Tenders	5	Construction and Mining Equipment	1.38E-03	2.52E-06	1.94E-06
2030	Annual	Dumpers/Tenders	15	Construction and Mining Equipment	6.63E-03	8.42E-06	5.83E-06
2030	Annual	Dumpers/Tenders	25	Construction and Mining Equipment	2.60E-03	2.23E-06	2.41E-06
2030	Annual	Dumpers/Tenders	120	Construction and Mining Equipment	9.18E-04	1.07E-07	2.89E-08
2030	Annual	Other Construction Equipment	175	Construction and Mining Equipment	2.27E-02	1.86E-06	5.47E-07
2030	Annual	Pavers	25	Construction and Mining Equipment	3.16E-03	0.00E+00	3.44E-07
2030	Annual	Pavers	50	Construction and Mining Equipment	2.78E-01	0.00E+00	3.72E-05
2030	Annual	Pavers	120	Construction and Mining Equipment	8.10E-01	0.00E+00	5.24E-05
2030	Annual	Pavers	175	Construction and Mining Equipment	9.33E-01	0.00E+00	4.45E-05
2030	Annual	Pavers	250	Construction and Mining Equipment	1.70E-01	0.00E+00	7.03E-06
2030	Annual	Pavers	500	Construction and Mining Equipment	2.10E-01	0.00E+00	8.45E-06
2030	Annual	Plate Compactors	15	Construction and Mining Equipment	1.15E-02	0.00E+00	1.20E-06
2030	Annual	Rollers	15	Construction and Mining Equipment	3.65E-02	0.00E+00	3.84E-06
2030	Annual	Rollers	25	Construction and Mining Equipment	3.23E-02	0.00E+00	3.51E-06
2030	Annual	Rollers	50	Construction and Mining Equipment	1.96E-01	0.00E+00	1.83E-05
2030	Annual	Rollers	120	Construction and Mining Equipment	2.39E+00	0.00E+00	1.14E-04
2030	Annual	Rollers	175	Construction and Mining Equipment	1.76E+00	0.00E+00	6.26E-05
2030	Annual	Rollers	250	Construction and Mining Equipment	3.54E-01	0.00E+00	1.10E-05
2030	Annual	Rollers	500	Construction and Mining Equipment	3.56E-01	0.00E+00	1.09E-05
2030	Annual	Scrapers	120	Construction and Mining Equipment	5.56E-02	0.00E+00	3.62E-06
2030	Annual	Scrapers	175	Construction and Mining Equipment	8.02E-01	0.00E+00	3.84E-05
2030	Annual	Scrapers	250	Construction and Mining Equipment	1.11E+00	0.00E+00	4.65E-05
2030	Annual	Scrapers	500	Construction and Mining Equipment	4.67E+00	0.00E+00	1.92E-04
2030	Annual	Scrapers	750	Construction and Mining Equipment	4.04E-01	0.00E+00	1.66E-05
2030	Annual	Paving Equipment	25	Construction and Mining Equipment	3.74E-03	0.00E+00	4.07E-07
2030	Annual	Paving Equipment	50	Construction and Mining Equipment	6.03E-03	0.00E+00	7.68E-07
2030	Annual	Paving Equipment	120	Construction and Mining Equipment	1.98E-01	0.00E+00	1.23E-05
2030	Annual	Paving Equipment	175	Construction and Mining Equipment	1.72E-01	0.00E+00	7.95E-06
2030	Annual	Paving Equipment	250	Construction and Mining Equipment	5.88E-02	0.00E+00	2.34E-06
2030	Annual	Surfacing Equipment	50	Construction and Mining Equipment	1.74E-03	0.00E+00	1.43E-07
2030	Annual	Surfacing Equipment	120	Construction and Mining Equipment	1.58E-03	0.00E+00	6.62E-08
2030	Annual	Surfacing Equipment	175	Construction and Mining Equipment	1.59E-03	0.00E+00	4.98E-08
2030	Annual	Surfacing Equipment	250	Construction and Mining Equipment	5.00E-03	0.00E+00	1.37E-07
2030	Annual	Surfacing Equipment	500	Construction and Mining Equipment	6.84E-02	0.00E+00	1.84E-06
2030	Annual	Surfacing Equipment	750	Construction and Mining Equipment	1.96E-02	0.00E+00	5.29E-07
2030	Annual	Signal Boards	15	Construction and Mining Equipment	1.79E-01	0.00E+00	1.88E-05
2030	Annual	Signal Boards	50	Construction and Mining Equipment	3.73E-03	0.00E+00	2.33E-07
2030	Annual	Signal Boards	120	Construction and Mining Equipment	1.35E-01	0.00E+00	4.58E-06
2030	Annual	Signal Boards	175	Construction and Mining Equipment	1.61E-01	0.00E+00	4.03E-06
2030	Annual	Signal Boards	250	Construction and Mining Equipment	5.63E-02	0.00E+00	1.30E-06
2030	Annual	Trenchers	15	Construction and Mining Equipment	5.39E-03	0.00E+00	5.67E-07
2030	Annual	Trenchers	25	Construction and Mining Equipment	2.21E-02	0.00E+00	2.40E-06
2030	Annual	Trenchers	50	Construction and Mining Equipment	8.51E-01	0.00E+00	1.15E-04
2030	Annual	Trenchers	120	Construction and Mining Equipment	2.27E+00	0.00E+00	1.48E-04
2030	Annual	Trenchers	175	Construction and Mining Equipment	5.52E-01	0.00E+00	2.63E-05

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Trenchers	250	Construction and Mining Equipment	7.67E-02	0.00E+00	3.12E-06
2030	Annual	Trenchers	500	Construction and Mining Equipment	1.37E-01	0.00E+00	5.40E-06
2030	Annual	Trenchers	750	Construction and Mining Equipment	9.24E-03	0.00E+00	3.66E-07
2030	Annual	Bore/Drill Rigs	15	Construction and Mining Equipment	1.15E-03	0.00E+00	1.21E-07
2030	Annual	Bore/Drill Rigs	25	Construction and Mining Equipment	5.35E-03	0.00E+00	5.82E-07
2030	Annual	Bore/Drill Rigs	50	Construction and Mining Equipment	4.68E-02	0.00E+00	2.59E-06
2030	Annual	Bore/Drill Rigs	120	Construction and Mining Equipment	3.57E-01	0.00E+00	1.04E-05
2030	Annual	Bore/Drill Rigs	175	Construction and Mining Equipment	1.51E-01	0.00E+00	3.06E-06
2030	Annual	Bore/Drill Rigs	250	Construction and Mining Equipment	1.73E-01	0.00E+00	3.49E-06
2030	Annual	Bore/Drill Rigs	500	Construction and Mining Equipment	6.38E-01	0.00E+00	1.29E-05
2030	Annual	Bore/Drill Rigs	750	Construction and Mining Equipment	2.01E-01	0.00E+00	4.05E-06
2030	Annual	Bore/Drill Rigs	1000	Construction and Mining Equipment	5.08E-01	0.00E+00	1.03E-05
2030	Annual	Excavators	25	Construction and Mining Equipment	1.17E-02	0.00E+00	1.27E-06
2030	Annual	Excavators	50	Construction and Mining Equipment	6.76E-01	0.00E+00	6.46E-05
2030	Annual	Excavators	120	Construction and Mining Equipment	5.40E+00	0.00E+00	2.58E-04
2030	Annual	Excavators	175	Construction and Mining Equipment	1.59E+01	0.00E+00	5.40E-04
2030	Annual	Excavators	250	Construction and Mining Equipment	9.14E+00	0.00E+00	2.95E-04
2030	Annual	Excavators	500	Construction and Mining Equipment	9.71E+00	0.00E+00	3.12E-04
2030	Annual	Excavators	750	Construction and Mining Equipment	1.08E-01	0.00E+00	3.47E-06
2030	Annual	Concrete/Industrial Saws	25	Construction and Mining Equipment	5.36E-04	0.00E+00	5.84E-08
2030	Annual	Concrete/Industrial Saws	50	Construction and Mining Equipment	8.43E-03	0.00E+00	5.48E-07
2030	Annual	Concrete/Industrial Saws	120	Construction and Mining Equipment	3.61E-02	0.00E+00	1.27E-06
2030	Annual	Concrete/Industrial Saws	175	Construction and Mining Equipment	2.55E-03	0.00E+00	6.63E-08
2030	Annual	Cement and Mortar Mixers	15	Construction and Mining Equipment	1.33E-02	0.00E+00	1.40E-06
2030	Annual	Cement and Mortar Mixers	25	Construction and Mining Equipment	3.33E-03	0.00E+00	3.63E-07
2030	Annual	Cranes	50	Construction and Mining Equipment	1.38E-02	0.00E+00	1.50E-06
2030	Annual	Cranes	120	Construction and Mining Equipment	3.29E-01	0.00E+00	1.79E-05
2030	Annual	Cranes	175	Construction and Mining Equipment	5.26E-01	0.00E+00	2.12E-05
2030	Annual	Cranes	250	Construction and Mining Equipment	1.42E+00	0.00E+00	5.07E-05
2030	Annual	Cranes	500	Construction and Mining Equipment	8.38E-01	0.00E+00	2.96E-05
2030	Annual	Cranes	750	Construction and Mining Equipment	3.17E-01	0.00E+00	1.12E-05
2030	Annual	Cranes	9999	Construction and Mining Equipment	1.27E+00	0.00E+00	4.96E-05
2030	Annual	Graders	50	Construction and Mining Equipment	4.99E-03	0.00E+00	5.14E-07
2030	Annual	Graders	120	Construction and Mining Equipment	9.06E-01	0.00E+00	4.65E-05
2030	Annual	Graders	175	Construction and Mining Equipment	5.12E+00	0.00E+00	1.93E-04
2030	Annual	Graders	250	Construction and Mining Equipment	4.41E+00	0.00E+00	1.52E-04
2030	Annual	Graders	500	Construction and Mining Equipment	1.66E-01	0.00E+00	5.66E-06
2030	Annual	Graders	750	Construction and Mining Equipment	5.75E-03	0.00E+00	1.96E-07
2030	Annual	Off-Highway Trucks	175	Construction and Mining Equipment	2.21E-01	0.00E+00	8.06E-06
2030	Annual	Off-Highway Trucks	250	Construction and Mining Equipment	2.17E+00	0.00E+00	7.50E-05
2030	Annual	Off-Highway Trucks	500	Construction and Mining Equipment	5.00E+00	0.00E+00	1.72E-04
2030	Annual	Off-Highway Trucks	750	Construction and Mining Equipment	2.30E+00	0.00E+00	7.93E-05
2030	Annual	Off-Highway Trucks	1000	Construction and Mining Equipment	1.53E+00	0.00E+00	5.35E-05
2030	Annual	Crushing/Proc. Equipment	50	Construction and Mining Equipment	9.25E-02	0.00E+00	7.71E-06
2030	Annual	Crushing/Proc. Equipment	120	Construction and Mining Equipment	4.92E-01	0.00E+00	2.13E-05
2030	Annual	Crushing/Proc. Equipment	175	Construction and Mining Equipment	4.19E-01	0.00E+00	1.32E-05
2030	Annual	Crushing/Proc. Equipment	250	Construction and Mining Equipment	6.10E-02	0.00E+00	1.79E-06
2030	Annual	Crushing/Proc. Equipment	500	Construction and Mining Equipment	5.25E-01	0.00E+00	1.54E-05
2030	Annual	Crushing/Proc. Equipment	750	Construction and Mining Equipment	1.18E-02	0.00E+00	3.45E-07
2030	Annual	Crushing/Proc. Equipment	9999	Construction and Mining Equipment	2.62E-02	0.00E+00	8.17E-07
2030	Annual	Rough Terrain Forklifts	50	Construction and Mining Equipment	5.83E-02	0.00E+00	5.08E-06
2030	Annual	Rough Terrain Forklifts	120	Construction and Mining Equipment	5.15E+00	0.00E+00	2.29E-04
2030	Annual	Rough Terrain Forklifts	175	Construction and Mining Equipment	1.32E+00	0.00E+00	4.21E-05
2030	Annual	Rough Terrain Forklifts	250	Construction and Mining Equipment	1.01E-01	0.00E+00	3.06E-06
2030	Annual	Rough Terrain Forklifts	500	Construction and Mining Equipment	9.96E-02	0.00E+00	3.01E-06
2030	Annual	Rubber Tired Loaders	25	Construction and Mining Equipment	3.12E-03	0.00E+00	3.39E-07
2030	Annual	Rubber Tired Loaders	50	Construction and Mining Equipment	1.13E-01	0.00E+00	1.13E-05
2030	Annual	Rubber Tired Loaders	120	Construction and Mining Equipment	5.79E+00	0.00E+00	2.91E-04
2030	Annual	Rubber Tired Loaders	175	Construction and Mining Equipment	5.89E+00	0.00E+00	2.17E-04
2030	Annual	Rubber Tired Loaders	250	Construction and Mining Equipment	8.20E+00	0.00E+00	2.74E-04
2030	Annual	Rubber Tired Loaders	500	Construction and Mining Equipment	5.43E+00	0.00E+00	1.80E-04
2030	Annual	Rubber Tired Loaders	750	Construction and Mining Equipment	2.38E-01	0.00E+00	7.89E-06
2030	Annual	Rubber Tired Loaders	1000	Construction and Mining Equipment	3.13E-02	0.00E+00	1.07E-06
2030	Annual	Rubber Tired Dozers	175	Construction and Mining Equipment	2.87E-02	0.00E+00	1.81E-06
2030	Annual	Rubber Tired Dozers	250	Construction and Mining Equipment	9.96E-01	0.00E+00	5.30E-05
2030	Annual	Rubber Tired Dozers	500	Construction and Mining Equipment	2.21E+00	0.00E+00	1.13E-04
2030	Annual	Rubber Tired Dozers	750	Construction and Mining Equipment	3.59E-01	0.00E+00	1.84E-05
2030	Annual	Rubber Tired Dozers	1000	Construction and Mining Equipment	3.60E-02	0.00E+00	1.93E-06
2030	Annual	Tractors/Loaders/Backhoes	25	Construction and Mining Equipment	5.79E-02	0.00E+00	6.31E-06
2030	Annual	Tractors/Loaders/Backhoes	50	Construction and Mining Equipment	6.72E-01	0.00E+00	5.75E-05
2030	Annual	Tractors/Loaders/Backhoes	120	Construction and Mining Equipment	1.53E+01	0.00E+00	6.61E-04
2030	Annual	Tractors/Loaders/Backhoes	175	Construction and Mining Equipment	2.24E+00	0.00E+00	6.87E-05
2030	Annual	Tractors/Loaders/Backhoes	250	Construction and Mining Equipment	1.23E+00	0.00E+00	3.57E-05
2030	Annual	Tractors/Loaders/Backhoes	500	Construction and Mining Equipment	3.98E+00	0.00E+00	1.15E-04
2030	Annual	Tractors/Loaders/Backhoes	750	Construction and Mining Equipment	1.25E+00	0.00E+00	3.64E-05
2030	Annual	Crawler Tractors	50	Construction and Mining Equipment	4.94E-03	0.00E+00	6.53E-07
2030	Annual	Crawler Tractors	120	Construction and Mining Equipment	7.42E+00	0.00E+00	4.77E-04
2030	Annual	Crawler Tractors	175	Construction and Mining Equipment	4.62E+00	0.00E+00	2.18E-04
2030	Annual	Crawler Tractors	250	Construction and Mining Equipment	5.45E+00	0.00E+00	2.27E-04
2030	Annual	Crawler Tractors	500	Construction and Mining Equipment	5.83E+00	0.00E+00	2.38E-04
2030	Annual	Crawler Tractors	750	Construction and Mining Equipment	1.61E-01	0.00E+00	6.58E-06
2030	Annual	Crawler Tractors	1000	Construction and Mining Equipment	2.28E-01	0.00E+00	9.62E-06

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Skid Steer Loaders	25	Construction and Mining Equipment	3.04E-01	0.00E+00	3.31E-05
2030	Annual	Skid Steer Loaders	50	Construction and Mining Equipment	5.17E+00	0.00E+00	3.38E-04
2030	Annual	Skid Steer Loaders	120	Construction and Mining Equipment	4.54E+00	0.00E+00	1.54E-04
2030	Annual	Off-Highway Tractors	120	Construction and Mining Equipment	1.43E-03	0.00E+00	1.17E-07
2030	Annual	Off-Highway Tractors	175	Construction and Mining Equipment	2.42E+00	0.00E+00	1.44E-04
2030	Annual	Off-Highway Tractors	250	Construction and Mining Equipment	2.29E+00	0.00E+00	1.15E-04
2030	Annual	Off-Highway Tractors	750	Construction and Mining Equipment	1.32E+00	0.00E+00	6.39E-05
2030	Annual	Off-Highway Tractors	1000	Construction and Mining Equipment	2.00E-01	0.00E+00	1.01E-05
2030	Annual	Dumpers/Tenders	25	Construction and Mining Equipment	1.67E-03	0.00E+00	1.81E-07
2030	Annual	Other Construction Equipment	15	Construction and Mining Equipment	3.17E-02	0.00E+00	3.33E-06
2030	Annual	Other Construction Equipment	25	Construction and Mining Equipment	7.02E-03	0.00E+00	7.64E-07
2030	Annual	Other Construction Equipment	50	Construction and Mining Equipment	2.31E-02	0.00E+00	1.57E-06
2030	Annual	Other Construction Equipment	120	Construction and Mining Equipment	1.10E-01	0.00E+00	3.94E-06
2030	Annual	Other Construction Equipment	175	Construction and Mining Equipment	2.00E-01	0.00E+00	5.15E-06
2030	Annual	Other Construction Equipment	500	Construction and Mining Equipment	1.11E+00	0.00E+00	2.72E-05
2030	Annual	Compressor (Dredging)	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressor (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressor (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressor (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressor (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressor (Dredging)	1000	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Crane (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Deck/door engine	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Dredger	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Dredger	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Dredger	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Dredger	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Hoist/swing/winch	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Dredging)	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	50	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	750	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Dredging)	9999	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other (Dredging)	120	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other (Dredging)	175	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other (Dredging)	250	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other (Dredging)	500	Dredging	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Entertainment)	50	Entertainment Equipment	9.98E-04	0.00E+00	5.07E-08
2030	Annual	Generator (Entertainment)	120	Entertainment Equipment	4.99E-02	0.00E+00	1.44E-06
2030	Annual	Generator (Entertainment)	175	Entertainment Equipment	6.92E-02	0.00E+00	1.47E-06
2030	Annual	Generator (Entertainment)	250	Entertainment Equipment	1.41E-01	0.00E+00	2.75E-06
2030	Annual	Generator (Entertainment)	500	Entertainment Equipment	3.07E-01	0.00E+00	5.93E-06
2030	Annual	Generator (Entertainment)	750	Entertainment Equipment	1.06E-01	0.00E+00	2.04E-06
2030	Annual	Generator (Entertainment)	9999	Entertainment Equipment	2.76E-02	0.00E+00	5.77E-07
2030	Annual	Compressor (Entertainment)	120	Entertainment Equipment	4.82E-04	0.00E+00	2.05E-08
2030	Annual	Other General Industrial Equipmen	15	Industrial Equipment	1.04E-03	9.30E-07	5.59E-07
2030	Annual	Aerial Lifts	15	Industrial Equipment	2.78E-04	2.81E-07	2.43E-07
2030	Annual	Aerial Lifts	25	Industrial Equipment	1.73E-02	1.42E-05	1.63E-05
2030	Annual	Aerial Lifts	50	Industrial Equipment	6.46E-02	1.23E-05	5.13E-06
2030	Annual	Aerial Lifts	120	Industrial Equipment	1.30E-01	1.42E-05	4.04E-06
2030	Annual	Forklifts	25	Industrial Equipment	7.70E-04	6.25E-07	4.87E-07
2030	Annual	Forklifts	50	Industrial Equipment	8.70E-01	3.16E-04	1.27E-04
2030	Annual	Forklifts	120	Industrial Equipment	5.15E+00	1.28E-03	2.68E-04
2030	Annual	Forklifts	175	Industrial Equipment	3.82E-01	6.25E-05	1.40E-05
2030	Annual	Sweepers/Scrubbers	15	Industrial Equipment	5.51E-03	4.54E-06	3.25E-06
2030	Annual	Sweepers/Scrubbers	25	Industrial Equipment	1.21E-02	7.07E-06	7.21E-06
2030	Annual	Sweepers/Scrubbers	50	Industrial Equipment	1.41E-01	2.59E-05	1.12E-05
2030	Annual	Sweepers/Scrubbers	120	Industrial Equipment	2.25E-01	3.18E-05	6.51E-06
2030	Annual	Sweepers/Scrubbers	175	Industrial Equipment	2.62E-03	2.70E-07	5.04E-08
2030	Annual	Other General Industrial Equipmen	15	Industrial Equipment	1.15E-02	1.11E-05	7.13E-06
2030	Annual	Other General Industrial Equipmen	25	Industrial Equipment	9.75E-03	6.67E-06	6.06E-06
2030	Annual	Other General Industrial Equipmen	50	Industrial Equipment	4.35E-02	1.07E-05	4.01E-06
2030	Annual	Other General Industrial Equipmen	120	Industrial Equipment	3.72E-02	5.78E-06	1.24E-06
2030	Annual	Other General Industrial Equipmen	175	Industrial Equipment	7.71E-03	8.29E-07	1.74E-07
2030	Annual	Other Material Handling Equipment	50	Industrial Equipment	4.46E-04	9.95E-08	4.49E-08
2030	Annual	Other Material Handling Equipment	120	Industrial Equipment	2.57E-02	4.94E-06	9.73E-07
2030	Annual	Aerial Lifts	15	Industrial Equipment	4.88E-04	0.00E+00	1.71E-06
2030	Annual	Aerial Lifts	25	Industrial Equipment	3.06E-02	0.00E+00	1.65E-04

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Forklifts	25	Industrial Equipment	7.90E-04	0.00E+00	8.03E-06
2030	Annual	Forklifts	50	Industrial Equipment	1.37E+00	0.00E+00	1.12E-03
2030	Annual	Forklifts	120	Industrial Equipment	8.24E+00	0.00E+00	6.62E-03
2030	Annual	Forklifts	175	Industrial Equipment	6.29E-01	0.00E+00	3.04E-04
2030	Annual	Aerial Lifts	15	Industrial Equipment	1.10E-02	0.00E+00	1.15E-06
2030	Annual	Aerial Lifts	25	Industrial Equipment	2.27E-02	0.00E+00	2.47E-06
2030	Annual	Aerial Lifts	50	Industrial Equipment	1.43E-01	0.00E+00	7.65E-06
2030	Annual	Aerial Lifts	120	Industrial Equipment	2.46E-01	0.00E+00	7.32E-06
2030	Annual	Aerial Lifts	500	Industrial Equipment	1.76E-01	0.00E+00	3.52E-06
2030	Annual	Aerial Lifts	750	Industrial Equipment	2.56E-02	0.00E+00	5.13E-07
2030	Annual	Forklifts	50	Industrial Equipment	1.52E-01	0.00E+00	1.35E-05
2030	Annual	Forklifts	120	Industrial Equipment	5.07E-01	0.00E+00	2.26E-05
2030	Annual	Forklifts	175	Industrial Equipment	9.15E-01	0.00E+00	2.88E-05
2030	Annual	Forklifts	250	Industrial Equipment	1.25E+00	0.00E+00	3.85E-05
2030	Annual	Forklifts	500	Industrial Equipment	7.69E-01	0.00E+00	2.37E-05
2030	Annual	Sweepers/Scrubbers	15	Industrial Equipment	3.28E-03	0.00E+00	3.07E-07
2030	Annual	Sweepers/Scrubbers	25	Industrial Equipment	5.38E-03	0.00E+00	5.86E-07
2030	Annual	Sweepers/Scrubbers	50	Industrial Equipment	3.17E-01	0.00E+00	2.55E-05
2030	Annual	Sweepers/Scrubbers	120	Industrial Equipment	1.25E+00	0.00E+00	5.14E-05
2030	Annual	Sweepers/Scrubbers	175	Industrial Equipment	1.06E+00	0.00E+00	3.14E-05
2030	Annual	Sweepers/Scrubbers	250	Industrial Equipment	1.98E-01	0.00E+00	5.70E-06
2030	Annual	Other General Industrial Equipmen	15	Industrial Equipment	1.01E-02	0.00E+00	9.45E-07
2030	Annual	Other General Industrial Equipmen	25	Industrial Equipment	3.25E-02	0.00E+00	3.54E-06
2030	Annual	Other General Industrial Equipmen	50	Industrial Equipment	5.70E-02	0.00E+00	5.49E-06
2030	Annual	Other General Industrial Equipmen	120	Industrial Equipment	6.50E-01	0.00E+00	3.18E-05
2030	Annual	Other General Industrial Equipmen	175	Industrial Equipment	1.01E+00	0.00E+00	3.56E-05
2030	Annual	Other General Industrial Equipmen	250	Industrial Equipment	1.42E+00	0.00E+00	4.70E-05
2030	Annual	Other General Industrial Equipmen	500	Industrial Equipment	2.77E+00	0.00E+00	9.15E-05
2030	Annual	Other General Industrial Equipmen	750	Industrial Equipment	1.14E+00	0.00E+00	3.77E-05
2030	Annual	Other General Industrial Equipmen	1000	Industrial Equipment	8.89E-01	0.00E+00	2.99E-05
2030	Annual	Other Material Handling Equipment	50	Industrial Equipment	2.11E-03	0.00E+00	2.00E-07
2030	Annual	Other Material Handling Equipment	120	Industrial Equipment	2.53E-02	0.00E+00	1.22E-06
2030	Annual	Other Material Handling Equipment	175	Industrial Equipment	5.46E-02	0.00E+00	1.90E-06
2030	Annual	Other Material Handling Equipment	250	Industrial Equipment	1.54E-01	0.00E+00	5.03E-06
2030	Annual	Other Material Handling Equipment	500	Industrial Equipment	3.81E-02	0.00E+00	1.24E-06
2030	Annual	Other Material Handling Equipment	9999	Industrial Equipment	4.42E-02	0.00E+00	1.52E-06
2030	Annual	Lawn Mowers	15	Lawn and Garden Equipment	1.87E-01	2.42E-04	2.18E-04
2030	Annual	Lawn Mowers	15	Lawn and Garden Equipment	9.51E-02	1.08E-04	8.76E-05
2030	Annual	Chainsaws	2	Lawn and Garden Equipment	1.51E-01	2.51E-04	1.93E-03
2030	Annual	Chainsaws	2	Lawn and Garden Equipment	2.89E-02	4.80E-05	1.08E-04
2030	Annual	Chainsaws	15	Lawn and Garden Equipment	2.58E-01	2.83E-04	3.28E-03
2030	Annual	Chainsaws	15	Lawn and Garden Equipment	4.91E-02	5.41E-05	1.84E-04
2030	Annual	Chainsaws Preempt	15	Lawn and Garden Equipment	3.21E-01	3.52E-04	4.08E-03
2030	Annual	Chainsaws Preempt	15	Lawn and Garden Equipment	6.12E-02	6.71E-05	2.33E-04
2030	Annual	Trimmers/Edgers/Brush Cutters	2	Lawn and Garden Equipment	1.81E-01	3.20E-04	1.26E-03
2030	Annual	Trimmers/Edgers/Brush Cutters	2	Lawn and Garden Equipment	3.57E-01	6.31E-04	1.99E-03
2030	Annual	Leaf Blowers/Vacuums	2	Lawn and Garden Equipment	4.86E-01	8.17E-04	4.70E-03
2030	Annual	Leaf Blowers/Vacuums	2	Lawn and Garden Equipment	3.06E-02	5.16E-05	1.14E-04
2030	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Shredders	15	Lawn and Garden Equipment	1.63E-02	1.59E-05	1.10E-05
2030	Annual	Shredders	15	Lawn and Garden Equipment	3.85E-03	3.46E-06	2.22E-06
2030	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	4.77E-02	4.19E-05	2.57E-05
2030	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	4.97E-02	3.10E-05	2.66E-05
2030	Annual	Other Lawn & Garden Equipment	2	Lawn and Garden Equipment	2.23E-04	3.50E-07	1.39E-06
2030	Annual	Other Lawn & Garden Equipment	2	Lawn and Garden Equipment	4.28E-04	6.74E-07	1.52E-06
2030	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	4.85E-04	3.59E-07	3.02E-06
2030	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	9.33E-04	6.92E-07	3.30E-06
2030	Annual	Lawn Mowers	5	Lawn and Garden Equipment	1.11E+00	1.43E-03	1.29E-03
2030	Annual	Lawn Mowers	5	Lawn and Garden Equipment	1.19E+00	1.26E-03	9.95E-04
2030	Annual	Tillers	5	Lawn and Garden Equipment	3.12E-02	3.38E-05	2.93E-05
2030	Annual	Tillers	5	Lawn and Garden Equipment	3.90E-02	4.07E-05	3.44E-05
2030	Annual	Trimmers/Edgers/Brush Cutters	5	Lawn and Garden Equipment	3.00E-02	1.07E-04	3.96E-05
2030	Annual	Trimmers/Edgers/Brush Cutters	5	Lawn and Garden Equipment	2.21E-02	7.56E-05	2.69E-05
2030	Annual	Leaf Blowers/Vacuums	5	Lawn and Garden Equipment	6.99E-03	1.01E-05	5.67E-06
2030	Annual	Leaf Blowers/Vacuums	5	Lawn and Garden Equipment	4.64E-04	6.03E-07	3.09E-07
2030	Annual	Snowblowers	5	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	5	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	15	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	25	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Rear Engine Riding Mowers	15	Lawn and Garden Equipment	1.71E+00	1.70E-03	9.16E-04
2030	Annual	Rear Engine Riding Mowers	15	Lawn and Garden Equipment	1.56E-01	1.43E-04	7.11E-05
2030	Annual	Rear Engine Riding Mowers	25	Lawn and Garden Equipment	1.48E-02	1.10E-05	7.86E-06
2030	Annual	Rear Engine Riding Mowers	25	Lawn and Garden Equipment	1.32E-03	8.89E-07	6.14E-07
2030	Annual	Front Mowers	15	Lawn and Garden Equipment	1.25E-01	1.00E-04	6.70E-05
2030	Annual	Front Mowers	15	Lawn and Garden Equipment	4.20E-01	3.10E-04	1.92E-04
2030	Annual	Front Mowers	25	Lawn and Garden Equipment	1.28E-01	9.09E-05	6.82E-05
2030	Annual	Front Mowers	25	Lawn and Garden Equipment	4.30E-01	2.76E-04	2.00E-04

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Shredders	5	Lawn and Garden Equipment	2.88E-02	3.71E-05	3.80E-05
2030	Annual	Shredders	5	Lawn and Garden Equipment	7.09E-03	7.45E-06	6.37E-06
2030	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	2.86E-01	1.92E-04	1.29E-04
2030	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	2.11E-01	1.36E-04	8.74E-05
2030	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.74E-01	9.40E-05	7.97E-05
2030	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.29E-01	6.58E-05	5.49E-05
2030	Annual	Lawn & Garden Tractors	50	Lawn and Garden Equipment	5.48E-03	1.15E-06	3.66E-07
2030	Annual	Wood Splitters	5	Lawn and Garden Equipment	5.03E-02	4.11E-05	5.38E-05
2030	Annual	Wood Splitters	5	Lawn and Garden Equipment	1.07E-02	6.15E-06	6.15E-06
2030	Annual	Chippers/Stump Grinders	15	Lawn and Garden Equipment	1.73E-02	1.51E-05	1.58E-05
2030	Annual	Chippers/Stump Grinders	15	Lawn and Garden Equipment	4.04E-04	3.01E-07	2.76E-07
2030	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	1.61E-01	1.07E-04	1.55E-04
2030	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	3.74E-03	2.12E-06	2.70E-06
2030	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	5.25E-01	4.63E-04	3.43E-04
2030	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	4.47E-01	3.13E-04	2.83E-04
2030	Annual	Commercial Turf Equipment	50	Lawn and Garden Equipment	4.44E-01	1.36E-04	5.37E-05
2030	Annual	Commercial Turf Equipment	120	Lawn and Garden Equipment	5.50E-03	1.01E-06	1.51E-07
2030	Annual	Other Lawn & Garden Equipment	5	Lawn and Garden Equipment	1.67E-02	1.52E-05	1.56E-05
2030	Annual	Other Lawn & Garden Equipment	5	Lawn and Garden Equipment	3.21E-02	2.39E-05	2.10E-05
2030	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	1.48E-02	1.18E-05	6.74E-06
2030	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	2.85E-02	2.12E-05	1.13E-05
2030	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	6.66E-04	3.67E-07	3.07E-07
2030	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	1.29E-03	6.49E-07	5.33E-07
2030	Annual	Other Lawn & Garden Equipment	50	Lawn and Garden Equipment	1.66E-04	2.91E-08	1.07E-08
2030	Annual	Other Lawn & Garden Equipment	120	Lawn and Garden Equipment	1.11E-03	1.36E-07	2.72E-08
2030	Annual	Leaf Blowers/Vacuums	15	Lawn and Garden Equipment	4.35E-05	0.00E+00	4.07E-09
2030	Annual	Leaf Blowers/Vacuums	120	Lawn and Garden Equipment	6.15E-04	0.00E+00	1.25E-08
2030	Annual	Leaf Blowers/Vacuums	250	Lawn and Garden Equipment	3.62E-04	0.00E+00	4.92E-09
2030	Annual	Snowblowers	175	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	250	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowblowers	500	Lawn and Garden Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lawn & Garden Tractors	15	Lawn and Garden Equipment	1.47E+00	0.00E+00	1.37E-04
2030	Annual	Lawn & Garden Tractors	25	Lawn and Garden Equipment	1.77E+00	0.00E+00	1.92E-04
2030	Annual	Chippers/Stump Grinders	25	Lawn and Garden Equipment	1.27E-03	0.00E+00	1.38E-07
2030	Annual	Chippers/Stump Grinders	120	Lawn and Garden Equipment	1.32E-01	0.00E+00	4.30E-06
2030	Annual	Chippers/Stump Grinders	175	Lawn and Garden Equipment	1.57E-02	0.00E+00	3.77E-07
2030	Annual	Chippers/Stump Grinders	250	Lawn and Garden Equipment	6.23E-03	0.00E+00	1.38E-07
2030	Annual	Chippers/Stump Grinders	500	Lawn and Garden Equipment	6.40E-02	0.00E+00	1.41E-06
2030	Annual	Chippers/Stump Grinders	750	Lawn and Garden Equipment	1.75E-01	0.00E+00	3.87E-06
2030	Annual	Chippers/Stump Grinders	1000	Lawn and Garden Equipment	4.74E-01	0.00E+00	1.07E-05
2030	Annual	Commercial Turf Equipment	15	Lawn and Garden Equipment	7.54E-02	0.00E+00	7.06E-06
2030	Annual	Commercial Turf Equipment	25	Lawn and Garden Equipment	2.13E+00	0.00E+00	2.31E-04
2030	Annual	Other Lawn & Garden Equipment	15	Lawn and Garden Equipment	5.58E-04	0.00E+00	5.22E-08
2030	Annual	Other Lawn & Garden Equipment	25	Lawn and Garden Equipment	1.06E-04	0.00E+00	1.16E-08
2030	Annual	Generator Sets	2	Light Commercial Equipment	3.86E-03	7.55E-06	5.00E-06
2030	Annual	Generator Sets	2	Light Commercial Equipment	2.04E-03	3.97E-06	2.61E-06
2030	Annual	Generator Sets	15	Light Commercial Equipment	3.50E-04	2.63E-07	1.84E-07
2030	Annual	Generator Sets	15	Light Commercial Equipment	1.79E-04	1.35E-07	9.48E-08
2030	Annual	Pumps	2	Light Commercial Equipment	2.99E-02	5.87E-05	3.95E-05
2030	Annual	Pumps	2	Light Commercial Equipment	1.58E-02	3.08E-05	2.07E-05
2030	Annual	Pumps	15	Light Commercial Equipment	6.44E-02	6.33E-05	4.98E-05
2030	Annual	Pumps	15	Light Commercial Equipment	3.40E-02	3.33E-05	2.62E-05
2030	Annual	Pumps	25	Light Commercial Equipment	1.66E-03	1.10E-06	1.35E-06
2030	Annual	Pumps	25	Light Commercial Equipment	8.67E-04	5.72E-07	7.02E-07
2030	Annual	Generator Sets	5	Light Commercial Equipment	2.02E-01	2.07E-04	2.63E-04
2030	Annual	Generator Sets	5	Light Commercial Equipment	1.07E-01	1.09E-04	1.37E-04
2030	Annual	Generator Sets	15	Light Commercial Equipment	1.25E+00	1.01E-03	7.65E-04
2030	Annual	Generator Sets	15	Light Commercial Equipment	6.61E-01	5.36E-04	4.05E-04
2030	Annual	Generator Sets	25	Light Commercial Equipment	1.42E+00	8.25E-04	8.48E-04
2030	Annual	Generator Sets	25	Light Commercial Equipment	7.50E-01	4.35E-04	4.50E-04
2030	Annual	Generator Sets	50	Light Commercial Equipment	1.24E+00	2.26E-04	8.79E-05
2030	Annual	Generator Sets	120	Light Commercial Equipment	6.15E-01	7.85E-05	1.64E-05
2030	Annual	Generator Sets	175	Light Commercial Equipment	9.94E-02	1.02E-05	1.73E-06
2030	Annual	Pumps	5	Light Commercial Equipment	1.05E-01	1.78E-04	1.58E-04
2030	Annual	Pumps	5	Light Commercial Equipment	5.55E-02	9.36E-05	8.27E-05
2030	Annual	Pumps	15	Light Commercial Equipment	3.03E-01	3.21E-04	2.70E-04
2030	Annual	Pumps	15	Light Commercial Equipment	1.60E-01	1.69E-04	1.41E-04
2030	Annual	Pumps	25	Light Commercial Equipment	1.65E-01	1.17E-04	1.54E-04
2030	Annual	Pumps	25	Light Commercial Equipment	8.72E-02	6.17E-05	8.05E-05
2030	Annual	Pumps	50	Light Commercial Equipment	1.87E-01	3.05E-05	1.47E-05
2030	Annual	Pumps	120	Light Commercial Equipment	7.05E-01	5.45E-05	2.16E-05
2030	Annual	Pumps	175	Light Commercial Equipment	3.20E-02	2.13E-06	8.34E-07
2030	Annual	Air Compressors	5	Light Commercial Equipment	1.12E-01	1.66E-04	1.70E-04
2030	Annual	Air Compressors	5	Light Commercial Equipment	5.94E-02	8.78E-05	8.98E-05
2030	Annual	Air Compressors	15	Light Commercial Equipment	7.96E-02	1.00E-04	7.29E-05
2030	Annual	Air Compressors	15	Light Commercial Equipment	4.21E-02	5.24E-05	3.76E-05
2030	Annual	Air Compressors	25	Light Commercial Equipment	2.61E-02	2.08E-05	2.52E-05
2030	Annual	Air Compressors	25	Light Commercial Equipment	1.38E-02	1.09E-05	1.31E-05
2030	Annual	Air Compressors	50	Light Commercial Equipment	1.43E-01	2.76E-05	1.69E-05
2030	Annual	Air Compressors	120	Light Commercial Equipment	9.17E-01	1.13E-04	4.60E-05
2030	Annual	Air Compressors	175	Light Commercial Equipment	1.15E-01	1.09E-05	5.49E-06
2030	Annual	Welders	15	Light Commercial Equipment	1.62E-01	1.70E-04	1.44E-04

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Welders	25	Light Commercial Equipment	9.05E-01	7.42E-04	8.47E-04
2030	Annual	Welders	50	Light Commercial Equipment	3.76E-01	6.09E-05	3.17E-05
2030	Annual	Welders	120	Light Commercial Equipment	5.91E-01	6.32E-05	2.03E-05
2030	Annual	Welders	175	Light Commercial Equipment	7.35E-02	6.22E-06	2.11E-06
2030	Annual	Pressure Washers	5	Light Commercial Equipment	8.50E-02	7.00E-05	1.09E-04
2030	Annual	Pressure Washers	5	Light Commercial Equipment	4.49E-02	3.70E-05	5.71E-05
2030	Annual	Pressure Washers	15	Light Commercial Equipment	1.06E-01	8.71E-05	6.48E-05
2030	Annual	Pressure Washers	15	Light Commercial Equipment	5.61E-02	4.60E-05	3.43E-05
2030	Annual	Pressure Washers	25	Light Commercial Equipment	5.13E-02	2.75E-05	3.05E-05
2030	Annual	Pressure Washers	25	Light Commercial Equipment	2.71E-02	1.45E-05	1.61E-05
2030	Annual	Pressure Washers	50	Light Commercial Equipment	1.26E-02	1.84E-06	8.56E-07
2030	Annual	Generator Sets	120	Light Commercial Equipment	3.99E-02	0.00E+00	1.11E-05
2030	Annual	Generator Sets	175	Light Commercial Equipment	5.82E-02	0.00E+00	1.23E-05
2030	Annual	Gas Compressors	50	Light Commercial Equipment	2.57E-01	0.00E+00	1.78E-04
2030	Annual	Gas Compressors	120	Light Commercial Equipment	1.44E+00	0.00E+00	9.72E-04
2030	Annual	Gas Compressors	175	Light Commercial Equipment	3.75E-01	0.00E+00	2.71E-04
2030	Annual	Gas Compressors	250	Light Commercial Equipment	3.87E-01	0.00E+00	2.09E-04
2030	Annual	Gas Compressors	500	Light Commercial Equipment	5.45E-01	0.00E+00	2.94E-04
2030	Annual	Generator Sets	15	Light Commercial Equipment	3.68E-01	0.00E+00	3.46E-05
2030	Annual	Generator Sets	25	Light Commercial Equipment	4.64E-01	0.00E+00	5.06E-05
2030	Annual	Generator Sets	50	Light Commercial Equipment	9.85E-01	0.00E+00	4.90E-05
2030	Annual	Generator Sets	120	Light Commercial Equipment	3.81E+00	0.00E+00	1.07E-04
2030	Annual	Generator Sets	175	Light Commercial Equipment	4.10E-01	0.00E+00	8.46E-06
2030	Annual	Generator Sets	250	Light Commercial Equipment	3.43E-01	0.00E+00	6.51E-06
2030	Annual	Generator Sets	500	Light Commercial Equipment	1.21E+00	0.00E+00	2.28E-05
2030	Annual	Generator Sets	750	Light Commercial Equipment	1.21E+00	0.00E+00	2.29E-05
2030	Annual	Generator Sets	9999	Light Commercial Equipment	6.09E-01	0.00E+00	1.24E-05
2030	Annual	Pumps	15	Light Commercial Equipment	2.39E-01	0.00E+00	2.52E-05
2030	Annual	Pumps	25	Light Commercial Equipment	1.88E-01	0.00E+00	2.05E-05
2030	Annual	Pumps	50	Light Commercial Equipment	5.77E-01	0.00E+00	3.17E-05
2030	Annual	Pumps	120	Light Commercial Equipment	2.57E+00	0.00E+00	7.81E-05
2030	Annual	Pumps	175	Light Commercial Equipment	4.99E-01	0.00E+00	1.12E-05
2030	Annual	Pumps	250	Light Commercial Equipment	5.17E-01	0.00E+00	1.06E-05
2030	Annual	Pumps	500	Light Commercial Equipment	1.75E-02	0.00E+00	3.58E-07
2030	Annual	Pumps	750	Light Commercial Equipment	4.82E-03	0.00E+00	9.88E-08
2030	Annual	Pumps	9999	Light Commercial Equipment	2.52E-01	0.00E+00	5.53E-06
2030	Annual	Air Compressors	15	Light Commercial Equipment	6.41E-03	0.00E+00	6.76E-07
2030	Annual	Air Compressors	25	Light Commercial Equipment	2.54E-02	0.00E+00	2.77E-06
2030	Annual	Air Compressors	50	Light Commercial Equipment	3.56E-01	0.00E+00	2.86E-05
2030	Annual	Air Compressors	120	Light Commercial Equipment	5.00E+00	0.00E+00	2.09E-04
2030	Annual	Air Compressors	175	Light Commercial Equipment	3.57E-01	0.00E+00	1.09E-05
2030	Annual	Air Compressors	250	Light Commercial Equipment	7.44E-01	0.00E+00	2.11E-05
2030	Annual	Air Compressors	500	Light Commercial Equipment	1.71E+00	0.00E+00	4.85E-05
2030	Annual	Air Compressors	750	Light Commercial Equipment	9.91E-01	0.00E+00	2.81E-05
2030	Annual	Air Compressors	1000	Light Commercial Equipment	3.32E-02	0.00E+00	9.62E-07
2030	Annual	Welders	15	Light Commercial Equipment	1.44E-01	0.00E+00	1.52E-05
2030	Annual	Welders	25	Light Commercial Equipment	2.31E-01	0.00E+00	2.52E-05
2030	Annual	Welders	50	Light Commercial Equipment	1.64E+00	0.00E+00	1.16E-04
2030	Annual	Welders	120	Light Commercial Equipment	1.93E+00	0.00E+00	7.32E-05
2030	Annual	Welders	175	Light Commercial Equipment	2.38E-02	0.00E+00	6.63E-07
2030	Annual	Welders	250	Light Commercial Equipment	6.42E-03	0.00E+00	1.65E-07
2030	Annual	Welders	500	Light Commercial Equipment	2.26E-02	0.00E+00	5.79E-07
2030	Annual	Pressure Washers	15	Light Commercial Equipment	3.51E-03	0.00E+00	3.30E-07
2030	Annual	Pressure Washers	25	Light Commercial Equipment	1.19E-03	0.00E+00	1.30E-07
2030	Annual	Pressure Washers	50	Light Commercial Equipment	4.73E-03	0.00E+00	1.61E-07
2030	Annual	Pressure Washers	120	Light Commercial Equipment	3.29E-03	0.00E+00	6.96E-08
2030	Annual	Chainsaws	15	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Shredders	15	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Shredders	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Skidders	120	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Skidders	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Skidders	250	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Skidders	500	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Fellers/Bunchers	120	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Fellers/Bunchers	175	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Fellers/Bunchers	250	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Fellers/Bunchers	500	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Fellers/Bunchers	750	Logging Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	A/C unit	120	Military Tactical Support Equip	9.02E-03	0.00E+00	2.47E-07
2030	Annual	A/C unit	250	Military Tactical Support Equip	7.75E-03	0.00E+00	1.43E-07
2030	Annual	A/C unit	500	Military Tactical Support Equip	4.64E-03	0.00E+00	8.50E-08
2030	Annual	Aircraft Support	120	Military Tactical Support Equip	1.65E-03	0.00E+00	4.51E-08
2030	Annual	Aircraft Support	175	Military Tactical Support Equip	4.85E-03	0.00E+00	9.78E-08
2030	Annual	Cart	120	Military Tactical Support Equip	8.42E-04	0.00E+00	2.30E-08
2030	Annual	Cart	175	Military Tactical Support Equip	3.98E-04	0.00E+00	8.01E-09
2030	Annual	Cart	250	Military Tactical Support Equip	1.71E-03	0.00E+00	3.15E-08
2030	Annual	Communications	50	Military Tactical Support Equip	1.39E-04	0.00E+00	6.60E-09
2030	Annual	Communications	120	Military Tactical Support Equip	4.16E-04	0.00E+00	1.14E-08
2030	Annual	Compressor (Military)	50	Military Tactical Support Equip	1.70E-04	0.00E+00	8.09E-09
2030	Annual	Compressor (Military)	120	Military Tactical Support Equip	9.29E-03	0.00E+00	2.54E-07
2030	Annual	Compressor (Military)	175	Military Tactical Support Equip	5.79E-04	0.00E+00	1.17E-08
2030	Annual	Compressor (Military)	250	Military Tactical Support Equip	1.55E-03	0.00E+00	2.86E-08

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Compressor (Military)	500	Military Tactical Support Equip	9.05E-03	0.00E+00	1.66E-07
2030	Annual	Crane	120	Military Tactical Support Equip	1.46E-03	0.00E+00	2.78E-08
2030	Annual	Crane	175	Military Tactical Support Equip	3.67E-04	0.00E+00	4.92E-09
2030	Annual	Crane	250	Military Tactical Support Equip	3.71E-04	0.00E+00	4.96E-09
2030	Annual	Deicer	120	Military Tactical Support Equip	3.81E-04	0.00E+00	1.04E-08
2030	Annual	Generator (Military)	50	Military Tactical Support Equip	8.89E-04	0.00E+00	4.23E-08
2030	Annual	Generator (Military)	120	Military Tactical Support Equip	4.83E-02	0.00E+00	1.32E-06
2030	Annual	Generator (Military)	175	Military Tactical Support Equip	6.89E-02	0.00E+00	1.39E-06
2030	Annual	Generator (Military)	250	Military Tactical Support Equip	2.76E-02	0.00E+00	5.11E-07
2030	Annual	Generator (Military)	500	Military Tactical Support Equip	1.75E-02	0.00E+00	3.20E-07
2030	Annual	Generator (Military)	750	Military Tactical Support Equip	9.25E-04	0.00E+00	1.70E-08
2030	Annual	Hydraulic unit	120	Military Tactical Support Equip	5.52E-03	0.00E+00	1.51E-07
2030	Annual	Lift (Military)	120	Military Tactical Support Equip	1.65E-04	0.00E+00	4.51E-09
2030	Annual	Light	50	Military Tactical Support Equip	2.17E-04	0.00E+00	1.03E-08
2030	Annual	Pressure Washers	175	Military Tactical Support Equip	3.95E-04	0.00E+00	7.96E-09
2030	Annual	Pump (Military)	50	Military Tactical Support Equip	1.96E-03	0.00E+00	9.33E-08
2030	Annual	Pump (Military)	120	Military Tactical Support Equip	3.90E-03	0.00E+00	1.07E-07
2030	Annual	Start Cart	120	Military Tactical Support Equip	8.67E-05	0.00E+00	2.37E-09
2030	Annual	Start Cart	500	Military Tactical Support Equip	2.45E-04	0.00E+00	4.49E-09
2030	Annual	Test Stand	120	Military Tactical Support Equip	2.63E-03	0.00E+00	7.20E-08
2030	Annual	Test Stand	175	Military Tactical Support Equip	2.46E-04	0.00E+00	4.96E-09
2030	Annual	Test Stand	250	Military Tactical Support Equip	5.29E-03	0.00E+00	9.78E-08
2030	Annual	Test Stand	500	Military Tactical Support Equip	3.57E-03	0.00E+00	6.53E-08
2030	Annual	Welder	50	Military Tactical Support Equip	6.37E-04	0.00E+00	3.03E-08
2030	Annual	Welder	120	Military Tactical Support Equip	3.12E-03	0.00E+00	8.53E-08
2030	Annual	Other tactical support equipment	50	Military Tactical Support Equip	4.33E-05	0.00E+00	2.06E-09
2030	Annual	Other tactical support equipment	120	Military Tactical Support Equip	1.10E-03	0.00E+00	3.00E-08
2030	Annual	Other tactical support equipment	175	Military Tactical Support Equip	2.05E-03	0.00E+00	4.13E-08
2030	Annual	Other tactical support equipment	250	Military Tactical Support Equip	1.13E-03	0.00E+00	2.09E-08
2030	Annual	Other tactical support equipment	500	Military Tactical Support Equip	4.68E-04	0.00E+00	8.57E-09
2030	Annual	Other tactical support equipment	750	Military Tactical Support Equip	5.43E-04	0.00E+00	9.96E-09
2030	Annual	Compressors (Workover)	25	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Compressors (Workover)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Workover)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Workover)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Swivel	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Swivel	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Swivel	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Swivel	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snubbing	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other Workover Equipment	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other Workover Equipment	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other Workover Equipment	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other Workover Equipment	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Other Workover Equipment	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lift (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lift (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lift (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lift (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Lift (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pump (Drilling)	9999	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Generator (Drilling)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Drill Rig (Mobile)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Drill Rig (Mobile)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	50	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	120	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	175	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	500	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	750	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Workover Rig (Mobile)	1000	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Pressure Washers	250	Oil Drilling	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	120	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	175	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	250	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	500	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	750	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Misc Portable Equipment	1000	Other Portable Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Vessels w/Outboard Engines	2	Pleasure Craft	4.54E-03	2.01E-06	1.86E-05
2030	Annual	Vessels w/Outboard Engines	15	Pleasure Craft	7.54E-01	7.35E-04	2.82E-03
2030	Annual	Vessels w/Outboard Engines	25	Pleasure Craft	6.83E-01	4.01E-04	1.72E-03
2030	Annual	Vessels w/Outboard Engines	50	Pleasure Craft	2.25E+00	7.32E-04	2.56E-03
2030	Annual	Vessels w/Outboard Engines	120	Pleasure Craft	4.18E+00	9.84E-04	4.36E-03
2030	Annual	Vessels w/Outboard Engines	175	Pleasure Craft	3.44E+00	6.24E-04	3.56E-03
2030	Annual	Vessels w/Outboard Engines	250	Pleasure Craft	1.30E+00	2.55E-04	1.21E-03
2030	Annual	Vessels w/Outboard Engines	500	Pleasure Craft	3.66E-01	1.41E-05	4.71E-04
2030	Annual	Sailboat Auxiliary Outboard Engin	15	Pleasure Craft	1.65E-03	1.57E-06	6.18E-06
2030	Annual	Sailboat Auxiliary Outboard Engin	25	Pleasure Craft	2.22E-03	1.45E-06	5.61E-06
2030	Annual	Sailboat Auxiliary Outboard Engin	50	Pleasure Craft	7.51E-03	2.64E-06	8.52E-06
2030	Annual	Personal Water Craft	9999	Pleasure Craft	8.25E+01	1.68E-02	6.38E-02
2030	Annual	Vessels w/Inboard Engines	250	Pleasure Craft	4.04E+01	6.37E-03	7.56E-03
2030	Annual	Vessels w/Outboard Engines	50	Pleasure Craft	4.62E-01	2.09E-04	2.36E-04
2030	Annual	Vessels w/Sterndrive Engines	250	Pleasure Craft	5.12E+01	9.04E-03	9.10E-03
2030	Annual	Sailboat Auxiliary Inboard Engine	15	Pleasure Craft	4.64E-03	3.63E-06	2.33E-06
2030	Annual	Vessels w/Inboard Jet Engines	500	Pleasure Craft	7.30E+00	1.06E-03	1.35E-03
2030	Annual	Vessels w/Inboard Engines	250	Pleasure Craft	3.23E+00	0.00E+00	1.60E-03
2030	Annual	Sailboat Auxiliary Inboard Engine	50	Pleasure Craft	1.17E-02	0.00E+00	5.81E-06
2030	Annual	Compressor (Railyard)	120	Railyard Operations	8.97E-04	0.00E+00	3.83E-08
2030	Annual	Crane (Rail-CHE)	120	Railyard Operations	7.44E-04	0.00E+00	3.17E-08
2030	Annual	Crane (Rail-CHE)	175	Railyard Operations	1.18E-03	0.00E+00	2.49E-08
2030	Annual	Materials Handling (Rail-CHE)	120	Railyard Operations	8.16E-04	0.00E+00	3.48E-08
2030	Annual	Generator (Railyard)	175	Railyard Operations	7.96E-04	0.00E+00	1.69E-08
2030	Annual	Generator (Railyard)	9999	Railyard Operations	5.03E-03	0.00E+00	1.05E-07
2030	Annual	Off-Road Motorcycles Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	120	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowmobiles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowmobiles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Snowmobiles Inactive	120	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	15	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	25	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	All Terrain Vehicles (ATVs) Inactive	50	Recreational Equipment	0.00E+00	0.00E+00	0.00E+00
2030	Annual	Off-Road Motorcycles Active	15	Recreational Equipment	2.13E-01	7.19E-05	3.98E-03
2030	Annual	Off-Road Motorcycles Active	25	Recreational Equipment	1.83E-01	6.19E-05	3.43E-03
2030	Annual	Off-Road Motorcycles Active	50	Recreational Equipment	1.49E+00	5.04E-04	2.79E-02
2030	Annual	Off-Road Motorcycles Active	120	Recreational Equipment	7.13E-01	2.41E-04	1.34E-02
2030	Annual	Snowmobiles Active	25	Recreational Equipment	4.86E-03	4.85E-06	3.58E-05
2030	Annual	Snowmobiles Active	50	Recreational Equipment	4.35E-02	3.22E-05	3.21E-04
2030	Annual	Snowmobiles Active	120	Recreational Equipment	1.35E-01	7.80E-05	9.98E-04
2030	Annual	All Terrain Vehicles (ATVs) Active	15	Recreational Equipment	2.33E-01	7.88E-05	4.37E-03
2030	Annual	All Terrain Vehicles (ATVs) Active	25	Recreational Equipment	1.52E-01	5.13E-05	2.84E-03
2030	Annual	All Terrain Vehicles (ATVs) Active	50	Recreational Equipment	2.00E-01	6.75E-05	3.74E-03
2030	Annual	Golf Carts	15	Recreational Equipment	6.18E+00	5.64E-03	3.32E-03
2030	Annual	Specialty Vehicles Carts	15	Recreational Equipment	8.31E-01	6.83E-04	3.56E-04
2030	Annual	Off-Road Motorcycles Active	15	Recreational Equipment	4.15E-01	1.12E-03	2.47E-04
2030	Annual	Off-Road Motorcycles Active	25	Recreational Equipment	6.69E-01	1.80E-03	3.99E-04
2030	Annual	Off-Road Motorcycles Active	50	Recreational Equipment	6.97E-01	1.88E-03	4.15E-04
2030	Annual	All Terrain Vehicles (ATVs) Active	15	Recreational Equipment	1.90E-01	5.91E-04	1.19E-04
2030	Annual	All Terrain Vehicles (ATVs) Active	25	Recreational Equipment	2.65E+00	8.22E-03	1.66E-03
2030	Annual	All Terrain Vehicles (ATVs) Active	50	Recreational Equipment	1.20E-01	3.71E-04	7.48E-05
2030	Annual	Minibikes	5	Recreational Equipment	7.30E-03	5.17E-05	4.96E-04
2030	Annual	Golf Carts	15	Recreational Equipment	4.83E+00	4.86E-03	3.15E-03

Table GHG-8d: OFFROAD Model Output for Monterey County for 2030

CY	Season	Equipment	MaxHP	Class	CO2 Exhaust	N2O Exhaust	CH4 Exhaust
2030	Annual	Specialty Vehicles Carts	5	Recreational Equipment	1.84E-02	1.40E-05	1.51E-05
2030	Annual	Specialty Vehicles Carts	15	Recreational Equipment	3.49E-01	2.87E-04	1.50E-04
2030	Annual	Specialty Vehicles Carts	25	Recreational Equipment	5.20E-01	2.62E-04	2.29E-04
2030	Annual	Transport Refrigeration Units	15	Transport Refrigeration Units	4.45E-01	3.76E-04	2.90E-04
2030	Annual	Transport Refrigeration Units	15	Transport Refrigeration Units	2.39E+00	0.00E+00	2.24E-04
2030	Annual	Transport Refrigeration Units	25	Transport Refrigeration Units	1.10E+00	0.00E+00	1.19E-04
2030	Annual	Transport Refrigeration Units	50	Transport Refrigeration Units	9.00E+01	0.00E+00	6.10E-03
					8.43E+02	8.76E-02	2.40E-01
					307,679	9,915	1,841

Table GHG-9: Fugitive Pipeline Emission Calculations	
Department of Finance - E-2, 2006 population	37,274,618
CARB - Inventory - 2006 CH4 emissions from NG pipeline	1,900,000
Tons CO2e/capita	0.0510
2006 Monterey County (uninc.) population	106,279
2030 projection	135,375
Buildout projection	210,659
2006 Fugitive CH4 MT	5,417
2030 Fugitive CH4 MT	6,900
Buildout Fugitive CH4 MT	10,738

Table GHG-10 Projected AWCP Winery and Ancillary Use Yearly Building Energy Emissions

New Wineries

Type of Winery	Units	Gallons	Number of Wineries	Total Energy Emissions (MT CO2e)
Artisan (25K cases per year)	gallons	59,500	40	899
Full-scale (75K cases per year)	gallons	178,500	5	337
Full-scale (175K cases per year)	gallons	416,500	2	315
Full-scale (375K cases per year)	gallons	892,500	1	337
Full-scale (750K cases per year)	gallons	1,785,000	1	674
Full-scale (1.5M cases per year)	gallons	3,570,000	1	1,349
Total GHG Energy Emissions - new wineries	gallons		50	**3,911**

Ancillary Uses

Ancillary Use	Units	Size	Number	Electricity (MWh)	Natural Gas (CO2e)	Total Energy Emissions (MT CO2e)
Winery Tasting Rooms (as restaurant)	Square feet	1,000	10	384.00	23.70	177
Restaurants	Square feet	2,500	3	288.00	16.62	270
Delicatessens (as high-turnover restaurant)	Square feet	1,500	5	288.00	17.15	17
Inns	rooms	10	8	810.00	142.16	952
Subtotal						**1,416**

Total GHG Emissions from Building Energy Emissions

Total Winery and Ancillary Uses						**5,327**

NOTE:
Transportation Emissions for wineries and ancillary uses included in overall transportation emissions estimate derived from VMT from traffic evaluation.
Inns assumed to be 7,500 square feet each.

Sources for Factors:

Colman, Tyler and Paster, Pablo. 2007. Red, White and "Green": The cost of Carbon in the Global Wine Trade. American Association of Wine Economists (AAWE) Working Paper No. 9. October. *Factor for Electricity and Natural Gas related CO2 emissions of 100 g CO2 per bottle (750ml), which is equivalent to 0.83 lb/gallon.*

Energy Information Agency (EIA). 2008. 2003 Commercial Building Energy Consumption Survey (CBECS). Table E6A. Electricity Consumption (kWh) Intensities by End Use for All Buildings.*Electricity demand factor for restaurant of 38.4 kwh/square foot and 13.5 kwh/square foot for hotel.*

Climate Action Registry. 2009. The Climate Registry General Reporting Protocol. Version 3.1. Accessed: January 21, 2010. Available: http://www.climateregistry.org/tools/protocols/general-reporting-protocol.html. *Electricity emission factors for CO2, N2O, and CH4.*

Rimpo and Associates. 2007. URBEMIS (Urban Emissions) 2007 Model, Version 9.2.4. Available on the web at: http://www.urbemis.com. *Natural gas-related CO2 for ancillary uses.*

Table GHG-11a Change in Carbon Sequestration, 2006 to 2030 (Carbon Dioxide Equivalent)		
Change in Annual Sequestration (MT CO2e)	-1,924	Converted to CO2 using molecular weight
Change in Stock (MT CO2e)	-578,917	
Annualized Change at 2030 (MT CO2e)	-26,046	Stock Loss Divided by 24 years plus annual loss at 2030
Table GHG-11b **Change in Carbon Sequestration, 2006 to 2092** **(Carbon Dioxide Equivalent)**		
Change in Annual Sequestration (MT CO2e)	-7,090	Converted to CO2 using molecular weight
Change in Stock (MT CO2e)	-2,181,726	
Annualized Change at 2030 (MT CO2e)	-31,882	Stock Loss Divided by 88 years plus annual loss at 2092

Table GHG-11c
Monterey County, Change in Land Cover, 2006 to 2030 (acres)

	2006 Land Cover	Urban Conversions to 2030	Agricultural Conversions to 2030	2030 Land Cover	Net Change
Grassland	717,588	-2,370	-8,243	706,975	-10,613
Woodland	648,478	-1,003	-1,231	646,243	-2,234
Coniferous Forest	56,692	-108	-356	56,229	-464
Scrub	336,073	-1,094	-369	334,609	-1,464
Freshwater Marsh	281		-19	262	-19
Tidal Marsh	2,812		-35	2,777	-35
Agriculture	262,199	-720	10,253	271,732	9,533
Developed/Other	96,959	5,296	0	102,255	5,296
Total	2,121,082	0	0	2,121,082	0

Sources:
2006 Land Cover from Table 4.9-1; Urban Change from Table 4.9-7 for natural land cover (27% of total buildout acreage used) and Table 4.2-9 for farmland conversion to urban use; Agricultural conversion from natural land covers from Table 4.9-8
Note: Riparian areas categorized as woodland for this analysis.

Table GHG-11d
Change in Carbon Sequestration, 2006 to 2030

	Net Change in Land Cover (acres)	Annual Sequestration (MT C/year)	Stock Value (MT C)	Change in Annual Sequestration (MT C)	Change in Stock Value (MT C)
Grassland	-10,613	0.004	1.42	-43	-15,032
Woodland[1]	-2,234	0.42	40.00	-949	-89,366
Coniferous Forest	-464	0.49	89.84	-227	-41,643
Scrub	-1,464	0.004	12.14	-6	-17,772
Freshwater Marsh	-19	N/A[2]	146.90	N/A[2]	-2,828
Tidal Marsh	-35	0.93	80.94	-32	-2,819
Agriculture	9,533	0.08	1.21	733	11,574
Developed/Other	5,296	N/A[3]	N/A[3]	N/A[3]	N/A[3]
Total	0			-525	-157,887

References

California Energy Commission (CEC). 2004. Baseline Greenhouse Gas Emissions for Forest, Range, and Agricultural Lands in California. Final Report. 500-04-069F. March. (A*nnual sequestration value for woodland and forest and stock values for grassland, scrub, and agriculture).*
Gaman, Tom. 2008. Oaks 2040: Carbon REsources in California Oak Woodlands. Prepared for the California Oak Foundation *(Stock value for central coast oak woodlands)*
Kroodsma and Fields (2006), Carbon Sequestration in California Agriculture, 1980-2000, Ecological Applications: Vol. 16, No. 5, pp. 1975-1986 *(Annual sequestration value for agriculture).*
United States Climate Change Science Program (USCCSP). 2007. The First State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle. Synthesis and Assessment Product 2.2. November. (*Annual sequestration value for scrub, freshwater and tidal marsh and stock value for freshwater and tidal marsh and forest*).

Notes:

[1] Riparian areas categorized as woodland for this analysis as tend to consist of hardwood.

[2] Freshwater marsh excluded from annual sequestration calculation as annual production of methane tends to offset annual sequestration of carbon such that many freshwater marshes may actually be a net source of greenhouse gas emissions (USCCP 2007). For this analysis, the net annual sequestration for freshwater marshes are assumed to be zero.

[3] Annual sequestration and stock values for developed/other lands assumed to be zero.

Table GHG-11e
Change in Carbon Sequestration, 2006 to 2030
(Carbon Dioxide Equivalent)

Change in Annual Sequestration (MT CO2e)	**-1,924**	Converted to CO2 using molecular weight
Change in Stock (MT CO2e)	**-578,917**	
Annualized Change at 2030 (MT CO2e)	**-26,046**	Stock Loss Divided by 24 years plus annual loss at 2030

Table GHG-11f
Monterey County, Change in Land Cover, 2006 to 2092 (acres)

	2006 Land Cover	Urban Conversions to 2092	Agricultural Conversions to 2092	2092 Land Cover	Net Change
Grassland	717,588	-8,779	-31,472	677,337	-40,251
Woodland	648,478	-3,715	-4,701	640,062	-8,416
Coniferous Forest	56,692	-399	-1,358	54,935	-1,757
Scrub	336,073	-4,053	-1,411	330,609	-5,464
Freshwater Marsh	281		-74	207	-74
Tidal Marsh	2,812		-133	2,679	-133
Agriculture	262,199	-2,571	39,148	298,775	36,577
Developed/Other	96,959	19,518	0	116,478	19,518
Total	2,121,082	0	0	2,121,082	0

Sources:
2006 Land Cover from Table 4.9-1; Urban Change from Table 4.9-7 for natural land cover and Table 4.2-9 for farmland conversion to urban use; Agricultural conversion from natural land covers from Table 4.9-8
Note: Riparian areas categorized as woodland for this analysis.

Table GHG-11g
Change in Carbon Sequestration, 2006 to 2092

	Net Change in Land Cover (acres)	Annual Sequestration (MT C/year)	Stock Value (MT C)	Change in Annual Sequestration (MT C)	Change in Stock Value (MT C)
Grassland	-40,251	0.004	1.42	-163	-57,012
Woodland[1]	-8,416	0.42	40.00	-3,576	-336,622
Coniferous Forest	-1,757	0.49	89.84	-861	-157,891
Scrub	-5,464	0.004	12.14	-22	-66,335
Freshwater Marsh	-74	N/A[2]	146.90	N/A[2]	-10,797
Tidal Marsh	-133	0.93	80.94	-124	-10,765
Agriculture	36,577	0.08	1.21	2,812	44,406
Developed/Other	19,518	N/A[3]	N/A[3]	N/A[3]	N/A[3]
Total	0			-1,934	-595,016

References

California Energy Commission (CEC). 2004. Baseline Greenhouse Gas Emissions for Forest, Range, and Agricultural Lands in California. Final Report. 500-04-069F. March. (A*nnual sequestration value for woodland and forest and stock values for grassland, scrub, and agriculture).*
Gaman, Tom. 2008. Oaks 2040: Carbon REsources in California Oak Woodlands. Prepared for the California Oak Foundation *(Stock value for central coast oak woodlands)*
Kroodsma and Fields (2006), Carbon Sequestration in California Agriculture, 1980-2000, Ecological Applications: Vol. 16, No. 5, pp. 1975-1986 *(Annual sequestration value for agriculture).*
United States Climate Change Science Program (USCCSP). 2007. The First State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle. Synthesis and Assessment Product 2.2. November. (*Annual sequestration value for scrub, freshwater and tidal marsh and stock value for freshwater and tidal marsh and forest*).

Notes:

[1] Riparian areas categorized as woodland for this analysis as tend to consist of hardwood.

[2] Freshwater marsh excluded from annual sequestration calculation as annual production of methane tends to offset annual sequestration of carbon such that many freshwater marshes may actually be a net source of greenhouse gas emissions (USCCP 2007). For this analysis, the net annual sequestration for freshwater marshes are assumed to be zero.

[3] Annual sequestration and stock values for developed/other lands assumed to be zero.

Table GHG-11h
Change in Carbon Sequestration, 2006 to 2092
(Carbon Dioxide Equivalent)

Change in Annual Sequestration (MT CO2e)	**-7,090**	Converted to CO2 using molecular weight
Change in Stock (MT CO2e)	**-2,181,726**	
Annualized Change at 2030 (MT CO2e)	**-31,882**	Stock Loss Divided by 88 years plus annual loss at 2030

Table GHG-11i: Sequestration Literature Values (MT CO2e/acre)				
	Sequestration Value	**Source**	**Stock Value**	**Source**
Grasslands	0.00405	USCCP 2007	1.42	CEC 2004
Oak Woodlands	0.42492	CEC 2004	40.00	Gaman 2008 for Central Coast Woodlands
Forest (fir-spruce)	0.49000	CEC 2004	89.84	USCCP 2007
Shrub	0.00405	USCCP 2007	12.14	CEC 2004
Agriculture	0.077	Kroodsma and Field 2006	1.21	CEC 2004
Freshwater Wetlands	0.0850	USCCP 2007	146.90	USCCP 2007
Tidal Wetlands	0.9308	USCCP 2007	80.94	USCCP 2007
Settled Lands	0.1255	USCCP 2007	4.05	USCCP 2007

Revised Supplemental Materials to the Final EIR (October 15, 2010)

This document clarifies portions of the version of the Final EIR (FEIR) released in March 2010 and responds to certain issues raised in comments received since that date.

A version of these supplemental materials was originally released to the public on September 17, 2010. Additional clarifications have been included in this material to respond to additional comments received from the public since that time. This version replaces the September 17, 2010 version in its entirety. These revisions clarify and amplify the analysis in the EIR in response to public comments; these materials do not include substantial new information, and the term "supplemental" is used for the public's convenience, not as that term is used in CEQA.

Changes from the March 2010 FEIR are shown in ~~strikeout~~ and underline. Changes from the September 17, 2010 version are shown with a highlight line in the left margin. Changes relative to the Executive Summary Table 1-1 are not shown in strikeout and underline; see discussion below.

The 2010 General Plan proposed for adoption is referred to as the "General Plan" in this document. The Draft 2007 General Plan that was the version of the plan at the time of the DEIR is referred to as the "Draft General Plan".

REVISIONS TO CHAPTER 1 OF THE FEIR – INTRODUCTION

Page 1-3. Insert the following on Page 1-3 at the end of the page.

Changes in the General Plan Policy Numbers

Comments on the Draft EIR and responses and revisions in the March 2010 FEIR reference the draft General Plan policy numbers. Due to deletion, addition, consolidation, or other changes to certain policies, some of the policies were renumbered in the final General Plan. The following table provides a cross-reference of new and changed policy numbers.

Table 1-1: Changes in Policy Numbers between the Draft General Plan and the Final General Plan

Draft General Plan Policy	Final General Plan Policy
LAND USE ELEMENT	
LU-2.11	Draft policy deleted
LU-2.12 – LU-2.38	LU-2.11 – LU-2.37
CIRCULATION ELEMENT	
NA	C-1.12: Policy added per DEIR mitigation
NA	C-3.6: New Policy Added After DEIR
C-9.1	Policy deleted after DEIR
C-9.2	Policy deleted after DEIR
C-9.3	Policy deleted after DEIR
C-10.1 and C-10.2	C-9.1
C-10.3 – C-10.7	C-9.2 – C-9.6
CONSERVATION/OPEN SPACE ELEMENT	
OS-4.4	Policy deleted after DEIR
OS-4.5	OS-4.4
OS-4.6	Policy deleted after DEIR
OS-4.7	Policy deleted after DEIR
NA	OS-5.19 – OS-5.25: Policies added per DEIR mitigation
NA	OS-10.12 – OS-10.15: Policies added per DEIR mitigation
SAFETY ELEMENT	
NA	S-3.9: Policy added per DEIR mitigation
NA	S-5.17: Policy added per DEIR mitigation
PUBLIC SERVICES ELEMENT	
PS-1.1	Split into two policies: PS-1.1 and PS-1.2
PS-1.2	Incorporated into PS-1.1
PS-3.2	Draft policy deleted, replaced with modified PS-3.3
PS-3.3	PS-3.2

PS-3.4	PS-3.3
PS-3.5	PS-3.4
PS-3.6	PS-3.5
PS-3.7	Incorporated into PS-3.2
PS-3.8	PS-3.6
PS-3.9 – PS-3.15	PS-3.7 – PS-3.13
NA	PS-3.14 and PS-3.15: Policies added per DEIR mitigation
NA	PS-5.5 and PS-5.6: Policies added per DEIR mitigation
AGRICULTURE ELEMENT	
NA	AG-4.5: Policy added per DEIR mitigation
ECONOMIC DEVELOPMENT ELEMENT	
NA	ED-4.8: New policy added after DEIR
CARMEL VALLEY MASTER PLAN	
NA	CV-1.28: New policy added after DEIR
CV-2.12	CV-2.10 (Note: changed per mitigation measure)
CV-2.13 - CV-2.17	CV-2.12 – CV-2.16
CV-2.18	CV-2.17: (Note: modified per mitigation and per BOS)
NA	CV-2.18: Policy added per DEIR mitigation
NA	CV-3.20: Policy added per EIR mitigation
NA	CV-3.21 and CV-6.5: New policies added after DEIR
CENTRAL SALINAS VALLEY AREA PLAN	
CSV-5.3	Incorporated into CSV-1.4
GREATER MONTEREY PENINSULA AREA PLAN	
GMP – 2.10	Policy deleted after DEIR
NORTH COUNTY AREA PLAN	
NA	NC-3.8: Policy added per EIR mitigation
NA	NC-3.9, NC-3.10, NC-3.11, NC-5.4, NC-5.5: New policies added after DEIR
TORO	
NA	T-1.8: New policy added after DEIR

REVISIONS TO CHAPTER 2 OF THE FEIR – MASTER RESPONSES

Master Response 2: Growth Assumptions Utilized In the General Plan

Page 2-26. Revise Section 2.5 Consistency of General Plan Growth Projections with Air Quality Management Plan Growth Projections, as follows:

Commenters stated that the General Plan is inconsistent with the AQMP because the Draft General Plan is based on 2004 AMBAG growth forecast, whereas the AQMP presents the lower 2008 growth forecast. ~~Impact AQ-1 provides: "Buildout of the 2007 General Plan would conflict with applicable Air Quality Management Plans and standards."~~

The State General Plan Guidelines state: "An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment." The reverse is true regarding consistency of a general plan with another plan, such as the AQMP.

~~The DEIR conclusion that the Draft General Plan would not conflict with the MBUAPCD Clean Air Plan (the 2008 AQMP) is correct because the~~The transportation emissions forecasts in the 2008 AQMP are based on the 2004 AMBAG traffic model, which in turn, is based on the 2004 AMBAG growth forecast. The 2008 AQMP presents the lower 2008 AMBAG growth forecast, but does not use the updated forecasts for traffic modeling or emissions forecasts, because the 2004 AMBAG traffic model is the only regional traffic model that has been approved for use. (Deshazo, pers. comm.) The August 2008 AQMP on page 4-5 explicitly states that the AQMP mobile source emissions modeling, using EMFAC2007, was based on travel data from AMBAG's June 2005 Metropolitan Transportation Plan, which in turn was based on the AMBAG 2004 growth forecast.

Commenters noted that the Monterey Bay Unified Air Pollution Control District's (APCD's) 2008 AQMP relies upon the 2008 AMBAG population projections in calculating non-mobile source emissions. However, this does not mean that the General Plan will obstruct the attainment of the air quality objectives set out in the 2008 AQMP.

To explain this, we must first clarify the role of the EIR. The EIR is intended to disclose the potential significant effects of the General Plan. It is informing decision makers and the public of the effects of the General Plan as it is implemented in future years. The EIR is not itself a policy document -- it is not committing the County to develop at the rate projected in AMBAG's 2004 growth forecast (nor the 2008 forecast, for that matter). The actual rate of future development involves the complex interplay of many factors including land prices, availability of financing, and the state of the economy at local, state, national, and international levels. The EIR is utilizing available information to make a good faith effort at estimating the impacts of future growth. The reasons for using the 2004 growth forecast in the CEQA analysis is explained the remainder of Master Response 2 of the FEIR.

AMBAG's 2008 growth forecast projects a notably lower rate of population and economic growth within Monterey County than does the 2004 growth forecast. Therefore, the practical effect of using the 2004 AMBAG growth forecast is that the EIR *overestimates* the potential severity of the impacts of implementation of the General Plan to the planning horizon and buildout dates. If the 2008 growth forecast is correct, then there will be less development than anticipated by the EIR. This does not result in any obstruction of implementation of the 2008 AQMP as a result of the EIR.

Comments do not accurately reflect the 2008 AQMP's conclusions relative to future air quality from population-related area sources. Comments imply that air quality will worsen as a result of population-related area source emissions ("While mobile source emissions continue to decline as a percentage of the overall emissions inventory, area source emissions continue to increase"). An increase in the *percentage* of the overall emission inventory attributed to population-related area source emissions would naturally accompany a reduction in mobile source emissions as a percentage, when the reduction of mobile source emissions exceeds that of population-related area source emissions. The expected increased reduction in mobile emissions relates to the regulatory emphasis on reducing mobile source emissions and large stationary sources as a means of meeting air quality objectives. While stationary source emissions increase slightly over time, overall emissions are not worsening over time or that population-related area source emissions are increasing at a rate that would cause the APCD to be unable to meet the objectives of the 2008 AQMP.

The current General Plan is consistent with the 2008 AQMP. *Section 4.5 Population Trends and Emissions* of the 2008 AQMP states "that despite a significant overall increase in population of over 360,000 persons (59% increase) between 1990 and 2030, emissions are expected to decrease by over 130 tons/day (55% decrease). This demonstrates another major success for regional control strategies in that despite a significant increase in population, emissions are expected to decline significantly. This is largely due to reductions in tail-pipe emissions from motor vehicles as well as the application of clean air technologies on power plants."

~~The primary nexus between growth forecasts and AQMP consistency is mobile source emissions forecasts. Therefore, the DEIR conclusion that Impact AQ-1 (conflict with the AQMP) is less than significant is correct. The air quality analysis and traffic modeling in both the DEIR and the 2008 AQMP were based on the same AMBAG 2004 population and travel forecasts. While the 2008 AQMP showed AMBAG's 2008 population forecast in Table 1-1, that forecast was not used in the 2008 AQMP's analysis. (Nunes 2010).~~

Master Response 3: Agricultural Growth and General Plan Agricultural Policies

Page 2-31, the first paragraph is revised as follows and the text of Policy OS-3.5 is replaced with the Board of Supervisor's recommendation.

The County is proposing changes to draft policy OS-3.5 from what it was at the time of the DEIR. ~~that would add further restrictions to the conversion of previously uncultivated lands on steep slopes to agricultural production~~. These include requiring a discretionary permit for all conversions of uncultivated land over 25 percent ~~requiring a discretionary permit for conversion on slopes between 15 percent and 25 percent (or greater than 10 percent if on highly erodible soils), and establishing a general prohibition on conversion of uncultivated lands to cropland on slopes over 25 percent. This prohibition is subject to a narrow exception if stringent requirements for a discretionary permit are met.~~ The definition of the time frame that would govern previously uncultivated for agricultural conversions on slopes between 15 percent and 24 percent (and between 10 and 15 percent if on highly erodible soils) would change from 20 to 30 years.~~remains the same within the past 20 years.~~ The revised policy is as follows and would replace the prior draft policy OS-3.5 in the November 2007 Draft General Plan:

> OS-3.5 The County shall regulate activity on slopes to reduce impacts to water quality and biological resources:
>
> 1) Non-Agricultural.

a) Development on slopes in excess of twenty five percent (25%) shall be prohibited except as stated below; however, such development may be allowed pursuant to a discretionary permit if one or both of the following findings are made, based upon substantial evidence:
   1. there is no feasible alternative which would allow development to occur on slopes of less than 25%;
   2. the proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans, and all applicable master plans.

b) Development on slopes greater than 25-percent (25%) or that contain geologic hazards and constraints shown on the County's GIS Geologic (*Policy S-1.2*) or Hydrologic (*Policy PS-2.6*) Hazard Databases shall require adequate special erosion control and construction techniques and the discretionary permit shall:
   1. evaluate possible building site alternatives that better meet the goals and policies of the general plan;
   2. identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques; and
   3. minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

c) Where proposed development impacting slopes in excess of twenty five percent (25%) does not exceed ten percent (10%), or 500 square feet of the total development footprint (whichever is less), a discretionary permit shall not be required.

d) It is the general policy of the County to require dedication of a scenic easement on a slope exceeding twenty five percent (25%).

2) Agricultural. Conversion of uncultivated land to cultivated land on slopes greater than 25% shall require a discretionary permit.

a) The discretionary permit shall:
   1. Evaluate possible alternatives that better meet the goals and policies of the general plan.
   2. Identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques.
   3. Minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

b) A ministerial permit process shall be developed and implemented for conversion of lands that have not been cultivated for the previous 30 years on slopes between 15 and 24 percent (15-24%), and on such lands on slopes between 10 and 15 percent (10-15%) on highly erodible soils. The permit processes shall be designed to require that an erosion control plan be developed and implemented that addresses slope stabilization, and drainage and flood hazards.

~~OS-3.5 The County shall regulate activity on slopes to reduce impacts to water quality and biological resources:~~

~~1) Non-Agricultural. Development on slopes in excess of twenty five percent (25%) shall be prohibited except as stated below; however, such development may be allowed pursuant to a discretionary permit if one or both of the following findings are made, based upon substantial evidence:~~

~~a) there is no alternative which would allow development to occur on slopes of less than 25%;~~

~~b) the proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans, and all applicable master plans.~~

~~Development on slopes greater than 25-percent (25%) or that contain geologic hazards and constraints shown on the County's GIS Geologic (*Policy S-1.2*) or Hydrologic (*Policy PS-2.6*) Hazard Databases shall require adequate special erosion control and construction techniques and the discretionary permit shall:~~

a) evaluate possible building site alternatives that better meet the goals and policies of the general plan;

b) identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques; and

c) minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

Where proposed development impacting slopes in excess of twenty five percent (25%) does not exceed ten percent (10%), or 500 square feet of the total development footprint (whichever is less), a discretionary permit shall not be required. It is the general policy of the County to require dedication of a scenic easement on a slope exceeding twenty five percent (25%).

2) Agricultural. Conversion for agricultural purposes of previously uncultivated lands containing slopes exceeding fifteen percent (15%) but not exceeding twenty five percent (25%) shall require a discretionary permit. Conversion of such lands containing slopes exceeding ten percent (10%) but not exceeding fifteen percent (15%) shall require a discretionary permit where the lands to be converted contain highly erodible soils. Conversion of previously uncultivated lands shall be prohibited where the slope exceeds twenty five percent (25%) except as noted below; however, such conversion may occur pursuant to a discretionary permit where the area(s) containing slopes exceeding twenty five percent (25%) meets all of the following criteria:

a) does not exceed ten percent (10%) of the total area to be converted;

b) does not contain a slope in excess of fifty percent (50%);

c) is designated for Farmland, Permanent Grazing, or Rural Grazing land use;

d) is planted to a permanent crop such as trees or vines, and,

e) is situated in the interior of the parcel(s) in which the permit is sought.

Approval of discretionary permits for these purposes shall follow the submission of an adequate management plan. Such plans should address appropriate measures to ensure the long term viability of agriculture on that parcel, and include an analysis of soils, erosion potential and control, water demand and availability, proposed methods of water conservation and water quality protection, and protection of important vegetation and wildlife habitats.

For lands designated Rural Density Residential and Low Density Residential (LDR) there shall be no cultivation of any lands exceeding 25%.

As noted above, this policy modifies the proposed Policy OS-3.5 by prohibiting conversion of previously uncultivated acreage on slopes over 25 percent except in specified, limited circumstances and requiring a discretionary permit for conversion on slopes over 15 percent (or over 10 percent if on highly erodible soils). The prior language in Policy OS-3.5 required an Agricultural Permit for conversion on slopes over 25 percent and a ministerial permit for lands over 15 percent (or over 10 percent if on highly erodible soils).

Exceptions to the prohibition of agricultural conversion on slopes over 25 percent would apply only if all of the exceptions set forth in subsections a) through e) are met. There are no exceptions for slopes over 50 percent. The exception would limit the amount of slope area greater than 25 percent that could be converted to less than 10 percent of the area to be converted. These limited circumstances would, for example, allow contiguous planting of a permanent crop on property that has variations in slope in the area considered for cultivation. Approval of all discretionary permits under the revised policy would also require agricultural management plans that include, among other requirements, methods to conserve water and protect water quality, and protection of important vegetation and wildlife habitats. Discretionary

~~permits under Policy OS-3.5, would also require submission of an agricultural management plan that would enable the County to review and address the potential impacts of the proposed conversion on protection of biological resources, as well as erosion/sedimentation and water quality overall. Adoption of this revised policy would both further restrict the number of total acres on steep slopes that could be converted to cropland and enhance the ability of the County to address potential resource impacts from any proposed conversion of previously uncultivated lands. Again, the definition of previously uncultivated -- areas that have not been cultivated in the past 20 years -- was not modified.~~

The proposed modifications to Policy OS 3-5 would make all conversions over 25 percent subject to a discretionary permit. This is more strict than the draft General Plan Policy OS-3.5 which did not have any permit requirements for previously uncultivated lands and which would have applied an agricultural permit (which could be ministerial or discretionary) only to conversions on land that had not been previously cultivated for the last 20 years. For slopes between 15 and 25 percent (or between 10 and 15 percent on highly erodible soils), the policy would be similar to the draft policy, except that the ministerial permit process would not apply to conversions on land that had not been previously cultivated for the last 30 years (as opposed to 20 years). The 30-year period of non-cultivation relative to the ordinance's applicability to agricultural conversions will not make a substantive difference in the amount of land to which this policy would apply. Monterey County supports extensive areas of agricultural production, few if any of which are left uncultivated for long periods of time. Land that has been uncultivated for 20 years has probably also been uncultivated for 30 years. These revisions do not substantively reduce the effectiveness of the draft policy.

In conclusion, the proposed revisions to Policy OS-3.5 would further reduce the potential for impacts from conversion of uncultivated land to cropland by: a) requiring a discretionary permit for all conversions over 25%~~; a) reducing the amount of uncultivated acreage that would be subject to conversion to cropland; b) lowering the threshold for requiring non-agricultural and agricultural projects to be subject to discretionary review,~~ and b)~~c)~~ imposing more stringent environmental requirements for agricultural project discretionary permits with respect to soil erosion~~, water quality and biological resource protection~~.

Page 2-33, the discussion under Modifications to General Plan Glossary are revised as follows:

The following definitions will be added or changed in the General Plan Glossary:

> **SLOPE** means the natural or artificial incline of ground, with the measurement of incline numerically expressed as "percent slope," or the vertical rise divided by the horizontal run. ~~Slope, or Percent Slope = (change in elevation/horizontal distance) x 100, measured over a horizontal distance of at least 10 meters. Slope projections calculated by a Geographical Information System based on the USGS National Elevation Dataset may also be used to make an initial determination of slope.~~
>
> **HIGHLY ERODIBLE SOILS** are soil types with K-factors higher than 0.4, as defined by the Natural Resources Conservation Services (NRCS). ~~"Highly erodible soils" are soils having an erosion hazard rating of "high" in the Soil Survey of Monterey County (1978, Cook).~~
>
> ~~**PREVIOUSLY UNCULTIVATED LANDS** means those areas that have not been cultivated during the past 20 years.~~

The following definition remains~~remained unchanged~~:

CULTIVATED means to prepare or use the land for crops through the tillage of soil or planting of vines or trees. Cultivation includes periods of fallow rotation that are part of an agricultural production system.

Page 2-37, Table AG-1 is changed as follows:

Table AG-1. Areas of Potential Agricultural Expansion in the Salinas Valley Watershed

Factor	Acreage	Notes
Undeveloped/Uncultivated Area	1,258,539	Area assumed to contact intact natural land covers
..of which agriculture allowed	849,313	Designated for farmland, grazing or resource conservation
…of which, contain soil capability categories I through V	77,339	Areas suitable for agriculture
…of which, are located within Zone 2C of the Salinas Valley Water Project	21,798	Areas that are suitable for agriculture and can obtain water from the Salinas River groundwater basin
…of which are on slopes < 25%	21,375	Areas will not require a discretionary permit for ~~that are not prohibited from~~ agricultural conversion by OS 3-5

Page 2-39, revise the first full paragraph on this page as follows:

Though the acreage devoted to grapes is expected to increase in future years, major producers would more likely to convert flat and gently sloping areas from row crops to vineyards and from natural land to vineyard than converting extensive areas of uncultivated slopes to vineyards. This is because it is far easier and more cost-effective to plant on level ground where soils are usually more fertile, where water is usually more readily available and where access is easier. Although vineyard installation can and are often planted on sloping land, vineyard installation on steep slopes will be deterred and/or controlled by the policies proposed by the General Plan that will manage County approval to convert steeply sloping areas.

Policies OS-3.5 and OS-3.9 will discourage the conversion of uncultivated sloping land to cultivation by requiring permits and erosion controls. In addition to requiring a discretionary permit for conversions on slopes of 25%, revised Policy OS-3.5 will require approval of an erosion control plan. Policy OS-3.5 will also require an erosion control plan to be developed as part of a ministerial permit process on uncultivated slopes of 15-24% and 10-15% when on highly erodible soils. Under Policy OS-3.9, the County will develop a program within 5 years of adoption of the General Plan to address the potential cumulative hydrologic impacts of the conversion of hillside rangeland. The objective of the program will be to avoid or minimize off-site soil erosion, impacts on stream stability, and potential violations of adopted water quality standards (such as TMDLs). This will place additional requirements on agricultural conversions of lands on slopes.

During the period before the program called for in Policy OS-3.9 is adopted, individual discretionary permits under Policy OS-3.5 would be subject to CEQA review and it is unlikely that an individual applicant would be willing to underwrite the necessary cumulative analysis, would essentially require individual projects to develop much of the analysis and mitigation program called for by Policy OS-3.9.

Although it is speculative to attempt to describe the specific requirements of the erosion control plans to be developed under Policy OS-3.5, commenters have raised the following concern, which further reinforces the assumption that the discretionary permit requirement will be a deterrent to conversion of uncultivated lands on steep slopes.

> "The bottom line is that methods for developing the information necessary to evaluate the appropriate conditions for discretionary permits are complex and require technical knowledge. Such assessments of potentials for changes in sediment yield are beyond the capabilities of all but the larger agricultural land owners and may call for professional competence and data not currently possessed by the Planning Department personnel who might be charged with issuing the discretionary permits. Thus, the County would have to develop a manual of standards to guide soil erosion specialists and engineers so that application materials for these discretionary permits could be validated."

Because future discretionary permits will be subject to CEQA, they will not be issued unless a CEQA document has been adopted that adequately analyzes cumulative impacts. The County has technical experts in its Building Services Department and Water Resources Agency that are qualified to review erosion control proposals. The County also has the authority to retain more specialized experts at the expense of an applicant should that be necessary.

Page 2-42, revise the first paragraph under 3.3 as follows:

The Draft General Plan provides exemptions from a number of General Plan policies for "routine and ongoing" agriculture as specified in the referenced policies (Policies C-5.3 (Scenic Highway Corridors), C-5.4 (Scenic Highway Corridors), OS-1.9 (views), OS-1.12 (scenic routes), ~~OS-3.5 (slope), OS-3.6 (erosive soils),~~ OS-5.5 (native vegetation), OS-6.3 (archaeological), OS-7.3 (paleontological), OS-8.3 (burial sites), OS-10.8 (air quality), S-2.3 (floodplain). Policy AG-3.3 does not exempt activities that would contribute to erosion or water quality impacts. The list of specific activities to be covered would be developed in consultation with the Agricultural Commissioner and would be based upon the technical input of County, regional and state technical staff. These would be based on state of the art information from other jurisdictions as well as the County's own experience.

P**age 2-43**, the first full paragraph is revised as follows:

However, it is important to note that proposed General Plan Policy AG-3.3 does not exempt routine and ongoing conversions from the provisions of Policy OS-3.5 when it comes to conversion of previously uncultivated areas (aka natural land covers). Thus, when routine and ongoing agriculture results in conversion of previously uncultivated areas on slopes above 15 percent (or about 10 percent on highly erodible soils), then a ministerial ~~discretionary~~ permit will be required.

Master Response 4: Water Supply

P**age 2-55**, the second and third paragraphs under Section 4.1.3 are revised as follows:

New Table 4.3-9b (see Chapter 4, Changes to the Text of the DEIR) summarizes and augments the information in Chapter 4.3, *Water Resources*, of the DEIR to clarify the projected water supply ~~situation~~ within Monterey County, under the General Plan ~~Update~~. Table 4.3-9b also includes the projected water demands of the incorporated cities and new irrigated agriculture. Tables 4.3-9c, 4.3-9d, 4.3-9e, 4.3-9f,

4.3-9g and 4.3-9h (see Chapter 4, Changes to the Text of the DEIR) provide greater detail concerning water demands and existing and potential future supplies.

The updated water demand and supply details, including updated information on incorporated city demand and new irrigated agriculture, do not, by themselves change the conclusions of the DEIR related to water supply, groundwater overdraft, or seawater intrusion. In the Salinas Valley the updated demand is still consistent with the projections of the SVWP and thus the SVWP EIS/EIR conclusions regarding water supply, groundwater overdraft and seawater intrusion still hold. On the Monterey Peninsula, the fundamental conclusions about the need for further water supply projects to support future growth remain unchanged. However, as discussed below in the section concerning the Monterey Peninsula, the conclusion regarding the impacts of ministerial development on lots of record has been changed due to consideration of ~~2007~~ General Plan policies and due to determinations in the Seaside aquifer adjudication; the impact is now considered less than significant in regards to water supply, groundwater overdraft, and seawater intrusion. In the Pajaro River groundwater basin, the fundamental conclusion of inadequate supplies to address current and future demands is unchanged. The revised water demand and supply estimates do not result in the change of any impact identified as less than significant in the DEIR to significant and unavoidable in the FEIR.

Page 2-65, the discussion under Section 4.2.1 the subsections under Urban Water Demand and Agricultural Demands are replaced in its entirety with the following:

Urban and Agricultural Water Demand

Comments raised the following issues concerning the calculations of urban and agricultural water demand in the Salinas Valley:

- Whether or not the SVWP EIR "1995 Baseline" water demand estimate adequately represented the baseline of water demand in the Salinas Valley.
- Whether or not the General Plan EIR baseline water demand estimate adequately represents baseline water demand.
- Whether or not the SVWP EIR 2030 forecasted urban demand adequately represents future water demand in the Salinas Valley Benefit Assessment Zone 2C (Zone 2C).
- Whether or not the General Plan EIR adequately forecasted 2030 urban and agricultural water demands within Zone 2C.
- Whether or not the General Plan EIR adequately analyzed water supply impacts for areas outside of Zone 2C.

Each of these concerns is addressed below.

In the DEIR, Section 4.3, Water Resources concluded that development and agricultural expansions allowed by the General Plan would result in a level of water demand for 2030 in the Salinas Valley that would be approximately the same as the 2030 water demand amount studied in the SVWP EIR and for which the SVWP EIR concluded there would not be further lowering of groundwater levels and further seawater intrusion. With the revisions described below, this conclusion is unchanged as the projected 2030 demand is within 0 to 1 percent of that studied in the SVWP EIR. This is considered an insignificant difference.

Regarding areas outside of Zone 2C, as discussed below, with the implementation of General Plan policies, impacts to water supply, groundwater overdraft, and seawater intrusion due to new water demands in these areas are expected to be less than significant.

Salinas Valley Water Project EIR "1995 Baseline"

Several concerns were raised concerning whether the SVWP EIR "1995 Baseline" might underestimate baseline urban and agricultural demands due to: 1) differences between groundwater extraction data for the 1995 calendar year and the "1995 Baseline"; 2) differences between the historical average for groundwater extractions for the years prior to 1995 and the "1995 Baseline"; and 3) questions about how the demands for areas outside of the Benefit Zones 2/2A but within Benefit Zone 2C are accounted in light of data collection limitations.

It is important to note that the General Plan EIR did not use the SVWP 1995 baseline as the baseline estimate of use for the General Plan in the Salinas Valley. As discussed below, the General Plan EIR used a combination of groundwater extractions reports and other estimates to disclose the baseline water demands in the Salinas Valley.

Differences between Calendar Year 1995 Groundwater Extraction data and the SVWP EIR's "1995 Baseline"

Comments assert that the SVWP EIR agricultural use baseline for 1995 (see 2007 Draft GP EIR, Table 4.3-6) is inaccurate because it is lower than the actual groundwater extraction for 1995 calendar year indicated in MCWRA data. The SVWP EIR stated that 1995 baseline model conditions were 418,000 afy for agricultural demand[1]. MCWRA data indicates 1995 calendar year agriculture extractions were 462,268 af, indicting a difference of 44,268 afy with the 1995 modeled baseline condition. As explained in a technical memorandum prepared by MCWRA (Weeks, 2010a), the SVIGSM modeled 1995 baseline value for the SVWP EIR represents an average pumping demand for 45 years of Salinas Valley hydrology (1949 to 1994) using the land use in place in 1995. According to the SVWP EIR, this was the longest period that adequate, consistent, and reliable information is available on hydrologic data (precipitation and streamflow), as well as groundwater level data. The period contains extreme hydrologic conditions, such as the critically dry periods of 1976-77 and 1989-91, as well as wet periods. This allows the analysis of the performance and operation of the proposed project through the full range hydrologic periods. Thus, the "1995 baseline" in the SVWP EIR is not a calendar year. Agricultural water demand varies substantially from year to year depending on climatic conditions, including temperatures, precipitation, and the timing of temperatures and precipitation. MCWRA used a long-term period of hydrologic conditions to identify what the demand of 1995's agriculture would be under a long-term average climatic conditions. This is an appropriate approach for modeling water use as the use of a single year would not be sufficiently representative.

Differences between Historic Groundwater Extraction Averages and the SVWP EIR's "1995 Baseline"

Comments assert that the SVWP EIR 1995 baseline groundwater extraction of 463,000 AF for 1995 (see Table 4.3-6) is an "historic average" and that therefore the SVWP EIR used the wrong baseline because the average historic groundwater extraction from 1969 to 1994 was actually 519,400 AF/year (per Montgomery-Watson 1997). These comments confuse the use of long-term average climate conditions

[1] The modeled 1995 baseline is referenced as acre-feet per year, because it represents the annual demand of the 1995 land use baseline averaged over 45 years of hydrology/climatic conditions.

for the SVWP 1995 baseline with long-term average extractions. As described above, the SVWP EIR 1995 Baseline is based on the water uses in 1995 averaged over 45 years of climatic cycles – not the average groundwater use over the prior 45 years or the prior 25 years. So, the comparison of the historic average prior to 1995 is not an appropriate comparison to the SVWP EIR 1995 baseline estimate.

Adequacy of Groundwater Monitoring Data for Zone 2C

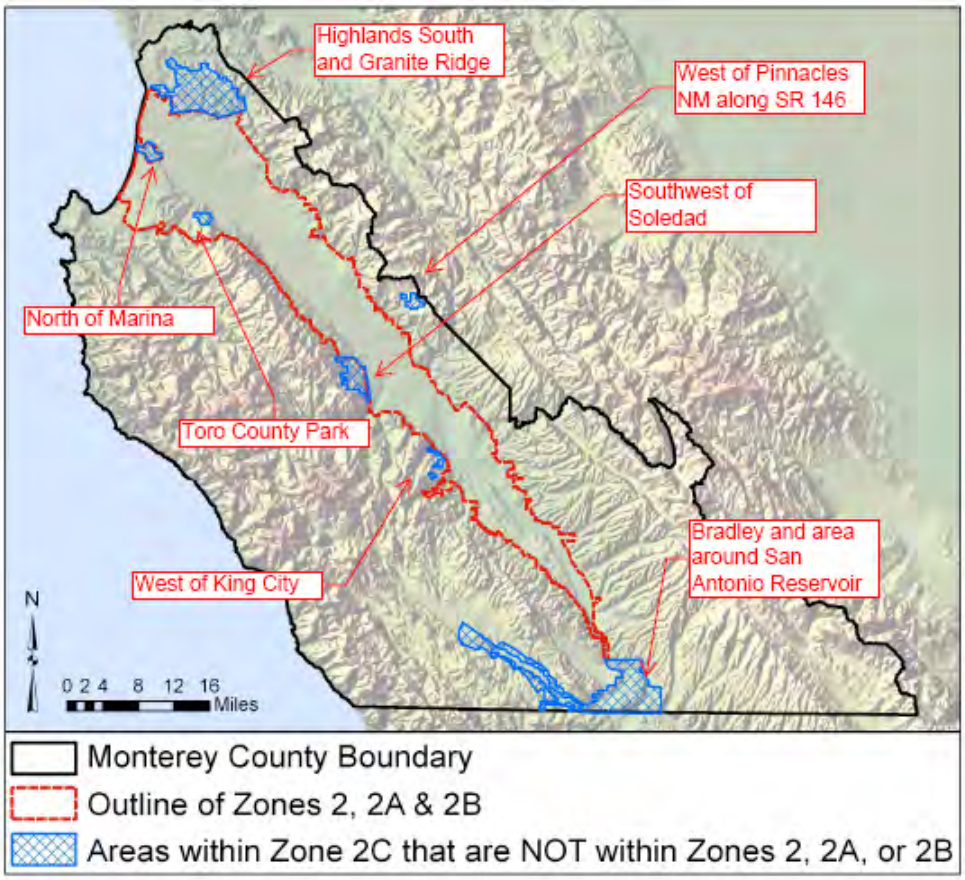
Comments assert that the 1995 SVWP EIR baseline is too low because it did not include water use from portions of Zone 2C that are outside of Zone 2A due to lack of montoring data and did not include Fort Ord (see MCWRA, 2003 for a map of Zones 2A and Zone 2C).

Zone 2 was the benefit zone originally defined for the Nacimiento Reservoir, which was built in 1957. Zone 2A was the benefit zone defined for the San Antonio Reservoir, which was built in 1967. Zone 2/2A was expanded to include Fort Ord and Marina in the 1990s. Zone 2B is the benefit area for the CSIP project near Castroville. Zone 2C is the benefit zone defined for the Salinas Valley Water Project and reservoir operations and has replaced Zones 2/2A. Areas outside of Zones 2/2A/2B are not included in the groundwater extraction reports because MCWRA is not currently authorized to collect data in these areas (Weeks 2010b). There are a number of distinct areas that are in Zone 2C but are outside Zone 2/2A/2B and these are shown in Figure W-1 and described in Table W-2.

Highlands South/Granite Ridge, the southernmost part of Zone 2C (including the area around Bradley and around San Antonio Reservoir), and several other small areas in the Salinas Valley watershed are within Zone 2C are outside Zones 2/2A/2B (see Figure W-1 and Table W-2) are thus not included in the groundwater extraction reports because MCWRA is not currently authorized to collect such data (Weeks 2010b). MCWRA intends to request authorization seeking to collect data for these additional areas (Weeks 2010b).

Although some of these areas are not included in the groundwater extraction data, as discussed below (see Figure W-2 and Table W-2), some of these areas, including Fort Ord, were actually included in the SVIGSM model for the SVWP EIR and were thus included in the SVWP EIR 1995 Baseline.

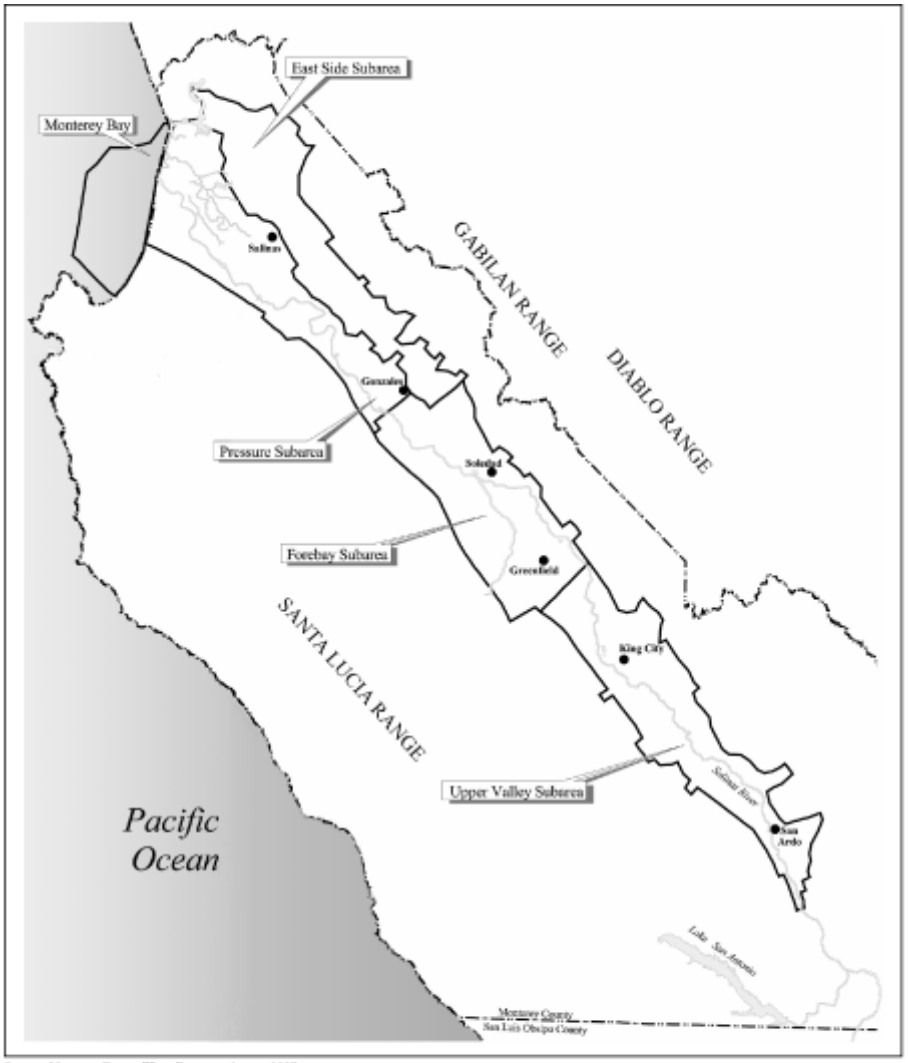
Figure W-1: Portions of Salinas Valley Benefit Assessment Zone 2C that are outside of Benefit Assessment Zones 2/2A/2B



Source: Barber, Adelia. 2010. GIS Analysis of MCWRA Assessment Zones. Prepared for Julie Engell, September 18. Markup of different geographical areas added by ICF for purposes of reference only.

The boundary of the SVIGSM model used for the SVWP EIR (see Figure W-2 below) in general follows the limits of Zone 2/2A with two additions: 1) a portion of the area along SR68; and 2) the portion of the North County areas known as Highlands South and Granite Ridge (MCWRA 2001).

Figure W-2: Salinas Valley Groundwater Basin SVIGSM Subareas



Source: Monterey County Water Resources Agency, 1997.

Figure 3-2
Salinas Valley Ground Water Basin SVIGSM Subareas
5/2001

Salinas Valley Water Project EIR/EIS

Source: MCWRA, 2001. Salinas Valley Water Project EIR/EIS

Table W-2: Review of Areas of MCWRA Benefit Assessment Zone 2C that are outside of Assessment Zones 2/2A relative to Analysis of Water Supply in the General Plan EIR

Area	MCWRA GW Extraction Reports, SVIGSM Modeling for the SVWP EIR, and SVWP EIR	General Plan EIR Analysis
Highlands South/Granite Ridge areas in North County	Not in GW extraction reports. Included in SVIGSM model for the SVWP EIR Included in SVWP EIR baseline and 2030 forecast.	EIR baseline (urban and agricultural) adjusted to include demand in this area based on Fugro, 1995 estimate adjusted to 2005. Urban use added to 2030 forecast. Agricultural use already included in 2030 forecast because within SVIGSM model area for SVWP EIR.
North of Marina south of the Salinas River along SR-1	Not in GW extraction reports. Included in SVIGSM model for the SVWP EIR Included in SVWP EIR baseline and 2030 forecast.	EIR baseline adjusted to include demand from 263 acres of farmland in 2008 (= 2008 FMMP farmland) in Zone 2C outside of Zone 2/2A. Area has limited urban use so no adjustment for urban baseline made. 2030 forecast included urban growth in unincorporated areas. Agricultural use already included in 2030 forecast because area within SVIGSM model area for SVWP EIR.
Toro County Park	Not in GW extraction reports. May be outside SVIGSM model used for the SVWP EIR and thus would be accounted in model boundary conditions (note demand likely minimal).	Baseline not adjusted due to minimal demand. 2030 forecast not adjusted due to minimal demand.
West of Pinnacles National Monument along SR 146 (Chalone)	Area is not within the SVIGSM model area but accounted for in model boundary conditions.	Baseline not adjusted as extraction to support existing farmland is done within Zone 2/2A and then pumped to location, so likely included in groundwater reporting. As conservative worst case approach for General Plan EIR, 2030 forecast adjusted to include 439 acres of farmland (= 2008 FMMP farmland) because area is outside of SVIGSM model area for SVWP EIR. Potential agricultural expansion included in overall forecast of 10,253 acres.
Southwest of Soledad north of Arroyo Seco	Not in GW extraction reports. Outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions.	Baseline adjusted to include demand from ~ 957 acres of farmland as of 2008 (= 2008 FMMP farmland) in Zone 2C outside of Zone 2/2A. As conservative worst case approach, General Plan EIR 2030 forecast adjusted to include existing farmland as area is outside of SVIGSM model area for SVWP EIR. Potential agricultural expansion already included in overall 10,253 acre agricultural forecast.
Several small areas west of King City	Not in GW extraction reports. Possibly outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions.	Baseline adjusted to include ~168 acres of farmland as of 2008 (= 2008 FMMP farmland). As conservative worst case approach, General Plan EIR 2030 forecast adjusted to include existing farmland assuming area is outside SVIGSM model area for SVWP EIR. Potential agricultural expansion already included in overall 10,253 acre agricultural forecast.
Bradley area and adjacent to the San Antonio Reservoir	Not in GW extraction reports. Outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions	Baseline updated to include ~575 acres of farmland as of 2008 (= 2008 FMMP farmland) but accounted as separate area from that included in SVIGSM model area for SVWP EIR. Existing farmland included in 2030 forecast for area outside of main basin. Potential agricultural expansion already included in overall 10,253 agricultural forecast.
NOTE: The General Plan EIR 2030 analysis used a worst-case conservative approach by adding in demand from agriculture in the Chalone area, southwest of Soledad, and several areas west of King City. Areas outside the SVIGSM modeled area were addressed in SVIGSM for the SVWP EIR through consideration of boundary flows. However, the General Plan EIR's analysis conservatively added the agricultural demands in these areas to the 2030 demand estimated within the SVIGSM modeled area (e.g. the main basin from near San Ardo to Monterey Bay) for the SVWP EIR. Bradley/San Antonio Reservoir area accounted separately because it is located in groundwater basin separate from the modeled basin in the SVIGSM for the SVWP EIR.		

Relative to the SVWP 1995 EIR baseline, the responses above clarify what was included or not included in the 1995 baseline. As the SVWP 1995 EIR baseline was not used to establish baseline for the General Plan EIR baseline, this is not ultimately a concern for this EIR.

General Plan Salinas Valley Baseline Water Demand

Several concerns were raised concerning whether the General Plan EIR baseline water demand might underestimate baseline urban and agricultural demands due to: 1) exclusion of demand from incorporated cities in the Salinas Valley; and 2) limitations on MCWRA groundwater extraction monitoring data in Zone 2C.

Inclusion of Incorporated City Demands

As noted above, some commenters requested that the estimate of water demand include the demands of the incorporated cities. This has been done, as shown in Table 4.3-9c. The urban water demand has also been updated to take into account the mandatory 20 percent reduction in per capita urban use required by SBX7 7 (Steinberg).[2]

Adequacy of Baseline Water Demands for Zone 2C

Comments suggested that the baseline demand (for both urban and agricultural use) in the Salinas Valley groundwater basin (defined in the DEIR as including Upper Valley, Forebay, East Side, the 180 foot/400 foot aquifer – also referred to as the Pressure Zone, and the Langley Area in North County as shown in Exhibit 4.3-3 in the Draft EIR) is incomplete because the MCWRA monitoring data only includes Zones 2/2A/2B and excludes other areas within Zone 2C including Highland South/Granite Ridge in North County, the southernmost part of the County, and several other areas.

The baseline urban demand shown in Table 4.3-9c in the General Plan EIR is based in part on MCWRA groundwater extraction data (for 2005), which does include all of Zones 2/2A/2B as well as Fort Ord (Weeks, 2010b). The baseline urban demand has been updated to include an estimated baseline urban demand for Highland South/Granite Ridge based on estimates from Fugro, 1995 adjusted, as appropriate to 2005 (see Table W-2 above). Because the baseline urban demand was used to estimate the 2030 urban demand (along with new demand and City demand), the 2030 urban demand estimate was also updated (see discussion below). The urban demand baseline was not updated for the other parts of Zone 2C that are outside Zones 2/2A/2B as these areas have limited urban uses and urban water demands

The General Plan EIR baseline estimate of agricultural demand was updated to include the agricultural demands in areas outside of Zones 2/2A/2B that are within Zone 2C, with two exceptions (Bradley/San Antonio Reservoir area and Chalone, explained below). Due to the lack of monitoring data in these areas outside of Zone 2C, baseline agricultural demand was estimated by determining the amount of farmland (using FMMP mapping) in each of these areas (for 2008) and then calculating water demand using the 2002-2009 average agricultural acreage reported in MCWRA groundwater reports. The Bradley/San Antonio Reservoir area is within Zone 2C but is not included in the SVIGSM modeled area used for the

[2] Sustainable Water Use and Demand Reduction Act (Water Code Section 10608, et seq.) will require a 20 percent reduction in statewide water use by 2020 (compared to current per capita levels defined as a 10-year period ending between 2005 and 2010), including water use at the local level. The 20% goal applies to urban water users, but the legislation also requires agricultural water suppliers to implement a menu of "critical efficient management practices" (Water Code Sec. 10608.48, et seq.). This comes from last year's SBX7 7 (Steinberg) signed by the Governor as part of the Delta legislation package in November 2009.

SVWP EIR, which covers an area beginning north of Bradley.[3] The Bradley/San Antonio Reservoir area benefits from recharge relative to the Salinas Valley Water Project, but draws from a separate basin than the portions of the Salinas Valley groundwater basin in the SVIGSM model used for the SVWP EIR. As such, water demands for this area are not included in the baseline accounting for the main groundwater basin, but they are included in the General Plan EIR baseline for areas outside of the main groundwater basin (see Table 4.3-9b). The Chalone area along SR-146 currently uses water that is extracted from the Salinas Valley floor (e.g. within Zone 2/2A) and them pumped to this area outside the Valley proper – as such the baseline extraction is already included in MCWRA groundwater reporting. Thus, the baseline agricultural demand estimate, as updated, uses reasonably available data to disclose current agricultural water use.

Each of the areas that are within Zone 2C, but outside Zones 2/2A/2B is reviewed in relevance to the baseline demand in the General Plan EIR in Table W-2 above. As set forth in Table W-2, the EIR adequately discloses baseline urban and agricultural water demand in Zone 2C appropriately.

SVWP EIR 2030 Forecasted Water Demand

Comments questioned whether the General Plan EIR accurately presented the SVWP EIR's water demand estimate for 2030 and whether the SVWP EIR's 2030 water demand was representative due to: 1) differences in cited urban demand total ; 2) population projections; 3) questions about accounting for agricultural growth.

SVWP EIR Urban Demand Estimates for 2030

Comments suggest that the General Plan EIR misrepresents the SVWP 2030 estimate of urban demand because it notes a total (88,897 AF) that is larger than that cited in the SVWP EIR (85,000 AF). The March 2010 FEIR Table 4.3-9d explained in a footnote that the 88,897 came from urban water demand estimates made in 1998 and that the 2001 SVWP EIR used 85,000 AF total, reflecting minor adjustments in calculation post-1998. The March 2010 FEIR version mistakenly referred to the 1998 source as an RMC document when, in fact, the data came from MCWRA; this has been corrected to MCRWA 1998[4] in the FEIR. The FEIR accurately reports the source data and the assumptions used in the SVWP EIR modeling.

SVWP EIR Population Projections for 2030

Comments questioned whether the SVWP EIR population projections were complete. These comments assert that the SVWP EIR population projections for the Salinas Valley groundwater basin were only 355,829 (based on SVWP EIR Table 7-1). However, as noted on SVWP EIR Table 7-1, this total is only for the incorporated city areas and built-up portions of the unincorporated area (e.g., Castroville). As shown in MCWRA 1998, MCWRA actually included all unincorporated areas along with the built up areas, to derive a total population estimate in the Salinas Valley groundwater basin of 425,611. Thus the EIR presents the correct population assumptions for the SVWP EIR and its associated water demand.

[3] Surface and subsurface flows from the Bradley/San Antonio area are included in the model as boundary conditions. Boundary conditions are the interactions (e.g. water flows) between areas inside the model domain and areas outside the model domain. In this instance there are surface and subsurface flows from the Bradley/San Antonio area to the Upper Valley sub-basin north of Bradley and the Upper Valley sub-basin is in the SVIGSM model domain.

[4] Monterey County Water Resources Agency (MCWRA). 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May 1998. Available on CDROM at the front counter. [NOTE: This reference was formerly referred to in the March 2010 FEIR version as RMC 1998, but this is actually a MCWRA document].

Accounting for 2030 Agricultural Demand

Some commenters have asserted that the future agricultural water demand in the Salinas Valley has been underestimated in the SVWP EIR, and by reference, the DEIR for the General Plan ~~Update~~. Projected Salinas Valley agricultural demand for the SVWP EIR was ~~is~~ based on the records and projections of the MCWRA in development of the SVWP As noted below, the General Plan EIR added additional demand from projected agricultural expansion to the SVWP 2030 agricultural forecast.

General Plan 2030 Water Demand Assessment within Zone 2C

Comments questioned whether the General Plan EIR's water demand estimate for 2030 was adequate due to: 1) differences in population assumptions with the SVWP EIR; 2) assumptions about agricultural growth; 3) questions regarding adequacy of water demand data for portions of Zone 2C outside the SVIGSM model used for the SVWP EIR; 4) assumptions about agricultural efficiency improvements over time; and 5) the need to account for potential water demands in American Viticultural Areas (AVAs) and designated wine corridors.

Differences in Population Assumptions

Comments also questioned how the EIR's 2030 water demand estimate for the Salinas Valley groundwater basin could end up with the same result as the SVWP's 2030 water demand estimate despite different assumptions about levels of urban growth. The SVWP EIR used a population level of 425,611 for the Salinas Valley groundwater basin (cities and County) in 2030 (see MCWRA 1998) whereas this EIR now estimates the population to be approximately 454,160. Although this EIR projects population higher than the SVWP EIR, this does not correspond into a higher water demand because this EIR and the SVWP EIR used different methodologies and assumptions to estimate water demand. This EIR uses a per capita water demand (for 2005 using a factor from DWR) and the EIR population projections and then adjusted overall demand (both from existing development and new development) to reflect the reduction in per capita water use required by 2020 in compliance with SBX7 7 (Steinberg). This state law was not in effect when the SVWP EIR was completed. Thus, due to the different methodologies and the application of recent state law, this General Plan EIR estimates a lower urban demand for 2030 than the SVWP EIR.

The March 2010 FEIR estimated in Table 4.3-9c that total 2030 population for the Salinas Valley for the unincorporated County was 135,375. However, that population estimate was actually for the entire unincorporated County, not just for that the unincorporated portion of the Salinas Valley. Thus, the total 2030 population shown for the Salinas Valley overall (517,888) was an overstatement. Table 4.3-9c has been revised to include the corrected total 2030 population estimate of 454,160 for the cities and unincorporated County areas within the Salinas Valley groundwater basin. Current population in Zone 2C was estimated based on 2000 census data adjusted by County growth factors to 2005. New County population due to new development for unincorporated areas is based on the General Plan. AMBAG 2004 projections for the cities were used to estimate 2030 population in the cities. This revised total is approximately 30,000 more than that assumed by the SVWP EIR.

Accounting for Agricultural Expansions and related water demands to 2030

As discussed in the DEIR for the SVWP, the MCWRA projected that agricultural water use will decrease in the future due to the limited expected growth in irrigated acres overall and the increase in efficiency of water use over time. The SVWP EIR estimated that agricultural acres would decline by 2030 by

approximately 1,849 acres. As explained in MR-3, the General Plan is expected to result in an expansion of agriculture by 10,253 acres by 2030. City development and unincorporated area development due to occur under the General Plan is expected to result in a loss of 2,571 acres of farmland by buildout (DEIR, Section 4.2); most of this loss is expected to occur by 2030 due to the expansion of incorporated cities and due to focused growth area development. Thus, as a rough estimate, there may be a net expansion of agricultural acres by 7,682 acres. The exact location of agricultural expansion was not predicted for this EIR, however the majority of expansion is likely to occur in the Salinas Valley watershed. The worst-case estimate of agricultural water demand for 2030 for this EIR assumes that all of the agricultural expansion acres will occur in the Salinas Valley watershed and will draw on the Salinas Valley groundwater basin. This is an overstatement, but is a worst-case assumption. Applying all of these acres to the Salinas Valley, results in a net change in agricultural acres of 9,531 acres compared to the SVWP EIR assumption. Thus, the agricultural water demands (see Tables 4.3-9b and 4.3-9c in Chapter 4 of the FEIR and below in Table W-4) in the Salinas Valley are higher than that included in the SVWP EIR.

Commenters also asked for a forecast of future agricultural water demand (and overall water demand) using available MCWRA groundwater extraction data for the Salinas Valley. Table W-3 presents a 2030 forecast based on 1995 to 2009 groundwater extraction data. As shown in Table W-3, agricultural use averages have declined from the early part of the reported period (1995 to 2001) to the later part of the period (2002 to 2009).

Using only the reported MCWRA data, and making no other adjustments, the 2030 forecasted demand would be 477,029 AF. Of note, this trend forecast shows substantial decrease in agricultural water use overall. Taking into account a 20 percent reduction in current per capita urban water demand per SBX7 7 (Steinberg), but not adjusting the agricultural demand, the 2030 adjusted forecast would be 464,214 AF which is about 4 percent more than this EIR's estimate (see Table 4.3-9c in Chapter 4 of the FEIR) of 443,168. This adjusted trend forecast shows an even more pronounced reduction in agricultural water use over time than the unadjusted trend forecast. Given the scale of the Salinas Valley, this forecast using actual data (and state mandates) is reasonably similar at a basin scale compared to the General Plan EIR estimate. As noted above, the MCWRA data is not 100 percent complete for Zone 2C, and thus any trend forecast would be lower than actual demand due to the exclusion of certain areas currently not included in the groundwater extraction reports.

However, as indicated in Table W-3, the MCWRA data is not 100 percent complete due to the lack of reporting of all wells in the groundwater basin, which introduces a substantial amount of uncertainty into a forecast based on trend. For this reason, the forecast using MCWRA data was not used as the basis for estimating water demand in 2030. To illustrate how sensitive forecasting can be when data is incomplete, Table W-3 includes a 2030 forecast with correction for the incomplete data.

The reported water demand for 1995 to 2009 was adjusted upward by the reporting percentage (e.g. if the percent reporting was 98 percent in a particular year, then the urban and agricultural water demand was adjusted to account for the non-reporting 2 percent, assuming an equivalent amount of water demand for the missing wells for that year). Using the adjusted data for the forecast and accounting for the SBX7 7 (Steinberg) reduction in per capita urban water demand, the adjusted 2030 forecast would be 446,461 AF, which is only 0.7 percent more than the General Plan EIR estimate. This adjusted forecast is not used in the General Plan EIR due to the uncertainty in accounting for missing data, but it illustrates how sensitive a forecast can be when utilizing less than complete data sets. As noted above, the MCWRA groundwater extraction data does not include certain parts of Zone 2C, and thus any trend forecast would also need to account for the areas of missing data.

Table W-3. Salinas Valley Groundwater Basin Extraction Data (1995-2009) and 2030 Trend Forecasts (acre-feet)

Year	% reporting	Urban Water	Adjusted AF	Ag Water	Adjusted AF	Total	Adjusted Total
1995	98%	41,884	42,739	462,628	472,069	504,512	514,808
1996	96%	42,634	44,410	520,804	542,504	563,438	586,915
1997	93%	46,238	49,718	551,900	593,441	598,139	643,159
1998	93%	41,527	44,653	399,521	429,592	441,048	474,245
1999	91%	40,559	44,570	464,008	509,899	504,567	554,469
2000	89%	42,293	47,520	442,061	496,698	484,354	544,218
2001	82%	37,693	45,967	403,583	492,174	441,276	538,141
2002	93%	46,956	50,490	473,246	508,867	520,202	559,357
2003	97%	50,472	52,033	450,864	464,808	501,336	516,841
2004	97%	53,062	54,703	471,052	485,621	524,114	540,324
2005	98%	50,479	51,509	443,567	452,619	494,046	504,129
2006	96%	49,606	51,673	421,634	439,202	471,240	490,875
2007	97%	50,440	52,000	475,155	489,851	525,595	541,851
2008	97%	50,047	51,595	477,124	491,880	527,171	543,475
2009	97%	45,717	47,131	465,707	480,110	511,224	527,241
Average (1995 -2009)	**94%**	**45,974**	**48,714**	**461,524**	**489,956**	**507,484**	**538,670**
1995 - 2001 average	92%	41,833	45,654	463,501	505,197	505,333	550,851
2002 - 2009 average	97%	49,597	51,392	459,794	476,620	509,366	528,012
Change (1995/2001 to 2002/2009)	5%	7,765	5,738	-3,707	-28,577	4,033	-22,839
2030 Trend Projection		64,845	64,173	412,338	395,123	477,029	459,296
Difference w/ 2002/2009 avg.		15,248	12,781	-47,456	-81,497	-32,337	-68,716
2030 Trend Projection with SBX7 7		51,876	51,338	412,338	395,123	464,214	446,461
Difference with 2002/2009 average		2,279	-53	-47,456	-81,497	-45,152	-81,550
2030 GP EIR Estimate (see Table 4.3-9c)		67,631	67,631	375,537	375,537	443,168	443,168

Note: 2030 Trend projections made based on 1995 - 2009 trend
Source for 1995 to 2009 data = MCWRA 2008b, 2010a. Groundwater Extraction Summary Reports 1995-2009. Available on the web: http://www.mcwra.co.monterey.ca.us/index.html. Look under "Available Data and Reports." Look under "Groundwater Extraction Summary Reports" and then look by individual year.
Note: Data collected in the Salinas Valley for Zone 2/2A/2B only and Fort Ord because MCWRA not currently authorized to collect such data. Thus, the extractions shown above do not include the areas noted in Table W-2 that are within Zone 2C but outside of Zones 2/2A/2B.

Accounting for Demands within Zone 2C that are outside the SVISGM Model Boundary

The General Plan EIR 2030 forecast was updated to include the demands within Zone 2C that would affect the Salinas Valley groundwater basin but that may have only been accounted in the SVWP EIR SVIGSM modeling effort for 2030 as model boundary conditions, including the Chalone area along SR 146, the area southwest of Soledad north of Arroyo Seco, and the area west of King City. Agricultural water demands for these areas were estimated by identifying the amount of farmland in FMMP mapping in 2008 and then calculating water demand for 2030 using the SVWP EIR estimated average agricultural use average in 2030. This amount has been added to the 2030 forecast in Table 4.3-9c. As to the area around Bradley and San Antonio Reservoir, much of this land is owned by the military and/or MCWRA and there is very limited agricultural use at present. Further, as noted above, this area overlies a groundwater basin that is separate from the portion of the Salinas Valley groundwater basin within SVIGSM modeled area for the SVWP EIR. Thus the water demand for this area is separate from and beyond the 443,000 AFY demand estimated in the SVWP EIR for 2030 for the main groundwater basin (e.g. north of Bradley). Thus, exclusion of this area from the 2030 forecast for the area in the main groundwater basin (e.g. north of Bradley) would not change the conclusions of the EIR.

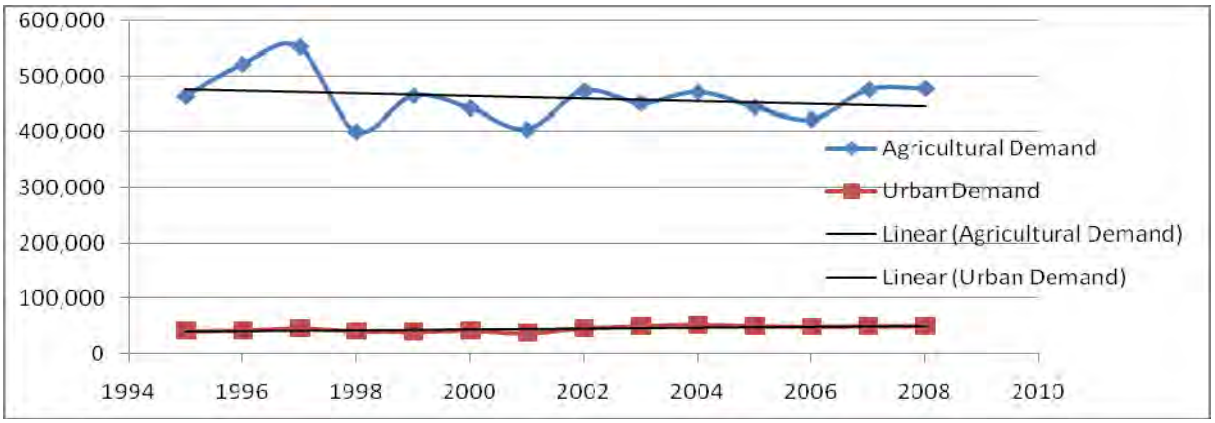
Therefore, while the MCWRA agricultural groundwater extraction data does not include all of Zone 2C, the SVWP EIR 2030 forecasted agricultural demand has been adjusted for the General Plan EIR to cover the potential projected demands from areas outside the SVWP EIR modeled area that could affect the Salinas Valley groundwater basin and is an appropriate basis for the General Plan EIR's estimated 2030 agricultural demand. This is a conservative approach as the SVWP EIR modeling did account for the effect of adjacent areas through the defined boundary conditions (e.g. , the model accounts for flows from areas surrounding the modeled area into the modeled area).

Each of the areas that are within Zone 2C, but outside Zones 2/2A/2B is reviewed in relevance to the 2030 water demand in the General Plan EIR in Table W-2 above. As shown there, the EIR adequately discloses 2030 urban and agricultural water demands in Zone 2C appropriately and conservatively.

Agricultural Efficiency Improvements over Time

Regarding the increase in efficiency of agricultural water use over time, as shown in Table 4.3-5 in the DEIR, agricultural pumping has slightly declined from 1995 to 2008. This is graphically shown with trend lines in Exhibit W-1 below.

Exhibit W-1. Salinas Valley Groundwater Basin Extraction Data, 1995 to 2008 (Acre-Feet)



Source: Monterey County Water Resources Agency 2008b

The SVWP EIR estimate of agricultural demand took into account this trend which is likely influenced by both the increased efficiency in water user in the agricultural sector, as well as crop selection. Exhibit W-1 includes data from the MCWRA's 2006, 2007, and 2008 Groundwater Summary Reports, and updates the information relied upon in the DEIR.

Changes in agricultural practices have resulted in improved water conservation. The MCWRA's "2008 Groundwater Summary Report" illustrates the change in irrigation methods between 1993 and 2009. In 1993, approximately 3,227 acres in the Salinas Valley were furrow irrigated (water is run down furrows and allowed to sink into the ground) and 86,435 acres were irrigated using sprinkler and furrow irrigation (water is applied to the furrows by sprinkler). These methods are relatively high water users. By 2009, these numbers had shrunk to 143 acres being furrow irrigated and 34,895 acres being irrigated by the sprinkler and furrow method. In contrast, water-conserving drip irrigation acreage has increased from about 25,080 acres in 1993 to 95,032 acres in 2009. (Monterey County Water Resources Agency 2009).

Commenters also cite MCWRA groundwater summary reports as reporting current agricultural use averages for 2000 to 2008 as 1.8 to 2.77 af/acre/year, whereas the SVWP EIR has an average of 1.84 af/acre/year assumption for agricultural use for 2030. The comments suggest that there is no trend of declining agricultural water use per acre based on the 2000 to 2008 data and thus that the SVWP EIR's estimate for agricultural water use per acre 2030 may not be reliable. However, the cited 8-year sample for water use per acre is too small to predict a trend and the changes in water use over such a short period are heavily influenced by weather, climate, crop types or soil type changes over the period. Thus, 8 years of data on reported per acre water use is not considered to be a reliable predictor of long-term trends. The SVWP EIR methodology for estimating future agricultural use is explained in MCWRA 1998 and the per-acre averages from the SVWP EIR are still considered appropriate for use in this EIR. The overriding concern is about overall agricultural water use and the General Plan EIR provides evidence, based on MCWRA data reports of declining aggregate agricultural use over time (see discussion of trend projections above). Thus, although some may question whether or not a declining trend of agricultural water use per acre exists in the most recent 8 year period, aggregate agricultural water use has shown a decline based on the available data and thus the citation of a limited data set is not considered sufficiently robust data to question the developed methodology for forecasting future agricultural use per acre averages in the SVWP EIR.

Accounting for Water Demands in American Viticultural Areas and the designated Wine Corridors

Comments assert that the EIR underestimates the amount of future agricultural water demand because there are large portions of designated American Viticultural Areas (AVAs) and/or large portions of the proposed wine corridors in the AWCP that are not cultivated at present. The mere inclusion of areas within an AVA or of a wine corridor does not indicate that such area will be developed into new vineyards. Vineyard development is done based on consideration of soils, water availability, slope, microclimate, access, and other considerations. For example, a comparison of the AVAs (see Figure AWCP-2 in the General Plan) or the wine corridors (see Exhibit 3.3 in the FEIR) to the remaining areas with suitable soils in the Salinas Valley watershed (see Figure AG-1 in Chapter 2 in the FEIR) reveals that only a portion of the AVAs and the wine corridors actually contain uncultivated areas with suitable soils for agricultural expansion. Water availability and other concerns will limit the amount of agricultural expansion within the AVAs and AWCP as well. See Master Response No. 3 for further discussion of the EIR's approach to estimating the amount of agricultural expansion. There is no perfect way to predict the exact amount and location of agricultural expansions for the future. The EIR's use of historical trends to estimate future agricultural expansions, in terms of extent, combined with considerations of soils and water availability in terms of location, remains a reasonable approach by which to complete the EIR's analysis of impacts on water supply, biological resources, water quality, and other subject areas.

Overall Conclusion about Adequacy of 2030 Water Demand Estimate

Thus, in response to questions raised by commenters regarding the methodology of estimating urban and agricultural water demand, the County has concluded that the evidence used in the SVWP remains a solid basis by which, in part, to evaluate future water demands in the EIR for the General Plan, as revised. ~~Therefore, the DEIR is correct in its projections of agricultural water demand.~~

Overall Demand within the Salinas Valley Groundwater Basin

The critical issue is whether this EIR's identification of water demand overall is greater than the SVWP EIR and thus whether the SVWP EIR's analysis of the effect of water demand in 2030 on groundwater levels and seawater intrusion reflect physical conditions with growth allowed by the General Plan by 2030.

Table W-4 below summarizes the adjusted 2030 Salinas Valley Groundwater Basin water demand estimates described in detail above.

As shown in Table W-4 and in revised Table 4.3-9c, when assuming all agricultural expansions occur within the Salinas Valley groundwater basin (or drawing water from it), the updated estimate of water use (both urban and agricultural use) is within 1 percent of that estimated during planning for the Salinas Valley Water Project. Given the scale of groundwater extractions within the Salinas Valley (~443,000 AFY), the difference between the two estimates is statistically insignificant because it would not substantially change overdraft, seawater intrusion, or biological conditions and because it is within the margin of error for the SVIGSM groundwater model used for the SVWP EIR (e.g. modeling of such small differences would not result in a statistically valid difference in groundwater outcomes). Thus, the conclusions about water supply, seawater intrusion, and groundwater overdraft in the Salinas groundwater basin in the SVWP EIR would also hold true for the General Plan development to approximately 2030 due to the General Plan. For the alternative scenario, assuming approximately 25 percent of agricultural expansions occur in the Salinas Valley watershed outside of the Salinas Valley groundwater basin and 75 percent inside main basin (or drawing water from it), the updated estimate would be within 0.01 percent of that estimated during planning for the Salinas Valley Water Project. For assessment of water supply outside the main groundwater basin, see the separate discussion below.

There is no perfect method for forecasting water demand. However, this EIR's approach of using land use projections from the General Plan, estimates of agricultural acreage expansion, and accounting for state regulations and changes in urban and agricultural efficiency over time provides substantial data and evidence to enable decision makers and the public to intelligently evaluate the impacts of the General Plan on water demand and remains an appropriate basis for the water supply analysis.

~~As shown therein, the updated estimate of water use is within 0.01 percent of that estimated during planning for the Salinas Valley Water Project (see Table 4.3-9d). Given the scale of groundwater extractions within the Salinas Valley (~443,000 AFY), the difference between the two estimates is trivial and statistically insignificant. Thus, the conclusions about water supply, seawater intrusion, and groundwater overdraft in the Salinas groundwater basin in the SVWP EIR would also hold true for the General Plan development to approximately 2030.~~

Table W-4 Salinas Valley Groundwater Basin, 2030 Water Demand Estimates (Acre-Feet)

Version	Urban Demand	Agricultural Demand	Total Demand	Population	Notes
Salinas Valley Water Project EIR	85,000	358,000	**443,000**	425,611	Urban demand estimated based on water use efficiency as of 1998 and land use projections at the time. Agricultural demand estimated based on projected increase in water efficiency, change in crops and reduction of irrigated agricultural acreage by 1,849 acres.
March 2010 GP FEIR	84,458	358,000	**442,458**	517,288	Urban demand estimated using General Plan land use projections and DWR 2005 per capita demand. Agricultural demand from SVWP EIR used. Population total cited in Table 4.3-9c was in error as it included population for all of the unincorporated County, not just the portion in the Salinas groundwater basin. The population total cited was not actually used to derive water demand which was instead calculated based on existing urban demand plus new demand due to population growth.
October 2010 GP FEIR				454,160	Urban demand adjusted to include Highland South/Granite Ridge areas within Zone 2C but outside Zone 2A and to exclude Pleyto/Lockwood/Bradley rural centers. Urban demand adjusted to include 20 percent reduction in urban per capita use per SBX7 7 (Steinberg).
Assuming all agricultural expansions draws from the Salinas Valley groundwater basin	69,339	378,415	**447,754**		
Assuming 75% of agricultural expansions draw from the main basin and 25% do not	69,339	373,461	**442,970**		SVWP agricultural demand adjusted to include net agricultural expansion of 7,682 acres (10,253 acre expansion offset by 2,571 acre loss of farmland to urban use). This represents a net increase of 9,531 acres of agricultural compared to SVWP EIR using SVWP average agricultural use per acre for 2030. Agricultural demand also includes areas within Zone 2C outside of Zone 2A that would affect groundwater basin.

Sources:

For SVWP population = MCWRA, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May

For SVWP Water Demand = MCWRA 2001. Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June.

For General Plan = FEIR Table 4.3-9c (March and October 2010)

General Plan Water Supply Analysis for Areas outside of Zone 2C

Comments raised concern about the adequacy of the EIR's analysis of water supply in areas outside of Zone 2C.

The DEIR was not able to account for all potential water demand in the Salinas Valley watershed outside of Zone 2C due to 1) the lack of existing urban uses in these areas at present, 2) the lack of substantial new urban development forecasted in such areas, and 3) the lack of detailed information on water supplies and water uses in such areas. The DEIR did, however, assess the El Toro Creek groundwater subbasin (see p. 4.3-9 and p. 2-76 in the DEIR and Master Response WR-4 in the FEIR), which is the only area outside of Zone 2C with substantial residential development.

In order to more fully disclose potential water demands in these areas, the amount of existing and potential future agricultural demand was estimated for areas of the Salinas Valley watershed outside of Zone 2C. Existing agricultural use was estimated using FMMP farmland mapping and the 2002 – 2009 average agricultural use per acre in MCWRA groundwater reports. The amount of future agricultural expansion in areas in these areas is difficult to predict. Using FMMP farmland mapping for 1984 (4,429 acres important farmland) and 2008 (7,316 acres important farmland), a long-term trend of 120 acres/year of agricultural expansion was identified. Forecasting from 2008 to 2030, if this trend were to continue, there could be 2,600 acres of new agriculture by 2030 in areas outside of Zone 2C. Water supply (see Table 4.3-9c) impacts are assessed in the General Plan EIR for two different scenarios: (1) assuming all new agricultural expansions (10,253 acres) occur in Zone 2C (worst-case impact on the Salinas Valley groundwater basin); and (2) assuming the trend noted above for the areas outside of Zone 2C continues to 2030 and 2,600 acres of expansion occurs outside of zone 2C and the remainder (7,653 acres) occurs inside Zone 2C. As agricultural growth was predicted for the County as a whole using all-County data, growth in areas outside of Zone 2C is included in the 10,253 acre estimated overall.

With the implementation of the General Plan, new water demands in areas outside of Zone 2C within the Salinas Valley watershed would result in less than significant impacts for the following reasons:

- **Development of the Pleyto and Lockwood Rural Centers** – As noted in Table 4.3-9c, expected new demands at 2030 for these areas total 192 AFY. This amount would be derived from local groundwater sources (Pleyto RC) or the Lockwood Valley aquifer (Lockwood RC). All new discretionary development would be subject to Policy PS-3.1 (without exception as these areas are outside Zone 2C) and PS-3.2 for demonstrating long-term sustainable water supply, including consideration of impact on adjacent wells and instream flows (as appropriate). All new domestic wells would be subject to Policy PS-3.3 requiring assessment of supply and quality. With these policies, new water demand for development in this area is not expected to result in a significant impact to water supply, groundwater overdraft, or biological resources.

- **Dispersed development in other parts of the watershed outside Zone 2C** – There would be limited development in other parts of the watershed outside of Zone 2C. Given the limited development, no estimate of demand for 2030 was developed. Such development would be dependent on local groundwater sources. Discretionary development would be subject to Policies PS-1, PS-2, and PS-3 as noted above, and impacts would thus be less than significant.

- **Agricultural expansions in other areas including the Lockwood area, the Hames Valley area and other dispersed areas -** A review of current aerial photography indicates dispersed

agricultural development outside of the Hames Valley and the Lockwood Area. Agricultural uses in the Lockwood[5] and the Hames Valley areas are supported by local groundwater aquifers (Monterey County 1982) that are separate from the Salinas Valley groundwater basin (which begins north of Bradley). Outside of the Lockwood area and the Hames Valley, relatively flat lands outside Zone 2C are limited in extent and groundwater sources may be limited to support substantial agricultural expansion. The exact amount of agricultural expansion that might occur specifically in the Lockwood or Hames Valley area or other dispersed areas has not been estimated. However, as shown in Figure AG-1 and Table AG-1 in the Chapter 2 in the FEIR, there are limited dispersed areas of suitable soils, designated for agriculture, outside of Zone 2C (~56,000 acres in the entire watershed) overall and the areas that are not uncultivated already in the Hames Valley and Lockwood area are limited in extent. Where agricultural expansions occur in the Lockwood Area, the Hames Valley, or other areas outside of Zone 2C, such expansion would be dependent on local groundwater sources. All new high-capacity agricultural wells would be subject to Policy PS-3.4, requiring assessment of impacts on nearby wells and on in-stream flows (as appropriate). As a result, impacts to water supply, overdraft, and biological resources due to dispersed agricultural expansion and associated water demands is expected to be less than significant.

As mentioned above, the area around Bradley and San Antonio Reservoir is within Zone 2C, but is not within the Salinas Valley groundwater basin. This area benefits from recharge from the SVWP, which is why it is included in Zone 2C. This area is predominantly public land owned by the military (around Bradley) and by MCWRA (around the reservoir). As of 2008, there were approximately 575 acres of important farmland in this area; using the 2002-2009 average per acre demand from MCWRA groundwater extraction reports, this could correspond to a current demand of 1,431 AF. Future demand would include limited agricultural expansion and the Bradley Rural Center. The Bradley Rural Center, as shown in Table 4.3-9a would result in an estimated new demand of 154 AF in 2030. Demands in this area would be met by local aquifer sources separate from the Salinas Valley groundwater basin proper, which starts north of this area near San Ardo. Discretionary development would be subject to Policies PS-1, PS-2, and PS-3 as noted above, and impacts would thus be less than significant. All new high-capacity agricultural wells would be subject to Policy PS-3.4, requiring assessment of impacts on nearby wells and on in-stream flows (as appropriate).

P**age 2-71,** revise the first full paragraph as follows:

The SVWP estimated the increase in urban water use in the Salinas Valley from 1995 to 2030 to be approximately 45,000 AFY (see Table 4.3-6 on page 4.3-34 of the DEIR). The ~~new~~ FEIR tables show an urban water use increase in the Salinas Valley groundwater basin of approximately 27,066 ~~34,000~~ AFY (2008 to 2030) both combined city and county demands. However, what really matters is the total demand projected under the SVWP and with the ~~2007 GP~~ General Plan. As shown in ~~new~~ Table 4.3-9c (see Chapter 4, Changes to the Text of the DEIR) , the total demand projected for 2030 in the SVWP EIR

[5] The Lockwood Valley groundwater basin is described in Bulletin 118 (California Department of Water Resources, 2004). Lockwood Valley Ground Water Basin is comprised of a northwesterly trending valley in the Coast Range Mountains of Monterey County west of the Salinas Valley. The basin extends from Lake San Antonio in the southeast to the Camp Hunter Liggett gate in the northwest. About the western one half of the basin is within the Hunter Liggett Military Reservation and is used as an artillery firing range. The primary water bearing formations are unconsolidated alluvium along the San Antonio River and Quaternary terrace deposits from the river floodplain to the basin boundary. The primary area of groundwater recharge is from the San Antonio River and the basin margins. Bulletin 118 indicated that no groundwater level hydrographs were identified as available and no information to provide an estimate of this basin's budget.

and the total demand projected with the ~~2007 GP~~ General Plan are within 0 to 1 percent ~~virtually the same~~ (443,000 to 448,000 AFY for the General Plan vs. ~443,000 AFY in the SVWP EIR). While the two analyses used somewhat different methodologies, they both result in a similar estimate of 2030 demand.

Comments asserted that EIR claims that the CSIP and the initial SVWP actions have already resulted in increases in the water table are not shown in MCWRA data from 2003 to 2009 for the end of the water year (e.g. September). The EIR's reference to rising groundwater levels near the coast is based on a comparison of current (2007 is latest year available) groundwater level contours with groundwater level contours in 1994 and 1995. Groundwater pumping conditions change from year to year depending on variations in demand which vary depending on climatic conditions. As such, comparison of groundwater levels is best done over the long-term as smaller interval changes may reflect individual year variations more than long-term groundwater conditions. MCWRA's 2009 4th quarter monitoring report (MCWRA 2010b) includes historical data which show that August usually has the lowest groundwater levels across the different parts of the Salinas groundwater basin (particularly in the Pressure Area and East Side area) , and September groundwater levels often rise from their August low. For this reason, MCWRA's groundwater level maps are based on the August elevations.

A comparison of August 1994 (MCWRA 2010c) and August 1995 (MCWRA 2010d) groundwater level contour maps with August 2007 (MCWRA 2010e) groundwater level contour maps shows a clear increase in the groundwater levels near Castroville in both the shallow (180-foot) and the deep (400-foot) aquifers. Accordingly, the EIR's statement (Weeks, 2009) that coastal area groundwater levels in 2007 were higher than previously is supported by evidence on the record and demonstrates that the CSIP and initial SVWP actions are having a positive effect in the coastal areas. The 1994, 1995, and 2007 groundwater level contour maps have been added as references to the EIR.

Master Response 6: Traffic Mitigation

Page 2-116, revise the title "Development-Specific Impacts (Traffic Tier 1)" as follows:

Development Specific Impacts (Traffic Tier 1) Identified as "A" Scenarios in the DEIR.

Page 2-116, delete the final paragraph under Development-Specific Impacts (Traffic Tier 1) and insert the following:

~~It is County's policy to require concurrent mitigation of development-specific impacts (Traffic Tier 1).~~The geographic extent of impacts from Traffic Tier 1 facilities and connections ends at the connection with the public road or highway and includes the intersection itself. E.g., a private driveway or private access road would be considered a Tier 1 facility, but the public road to which it connects would not. Thus Traffic Tier 1 impacts would not affect any road or highway shared with public traffic except at the intersection where the development connects to the public roadway system for access. Except for the access intersection with public roads and highways, impacts from Traffic Tier 1 facilities would be expected to remain on private property. It is the County's policy that development projects prepare a traffic impact study of both direct and cumulative conditions and fully implement all necessary internal circulation (on private property) and access connections to the County's standards. Therefore, the DEIR analysis correctly anticipates that all potential traffic-related impacts on Traffic Tier 1 facilities would be reduced or avoided by the development itself (i.e., self-mitigating under direct and cumulative conditions) and identifies Traffic Tier 1 impacts as Less than Significant.

Because the geographic scope of Traffic Tier 1 facilities will be different in every instance, it is not possible to identify a standard geographic scope. Moreover, the geographic extent of Traffic Tier 1 improvements is largely irrelevant because the development would be required to reduce or avoid impacts to internal circulation (on private property) and access connections regardless of the geographic extent of the development or distance to public roads and highways.

The determination of the improvements necessary to address potential impacts to Traffic Tier 1 facilities may vary between existing and cumulative conditions and will require the study of cumulative conditions before the Traffic Tier 1 impact is deemed to comply with County's standards. For example, an intersection providing access to a private development from a public roadway may meet level of service standards as a stop-controlled intersection under existing conditions but may require the installation of a traffic signal under cumulative conditions. The County will determine the level of improvement required to be implemented concurrently with the development.

All other impacts, except for the development's access intersection, on public roads or highways, are considered Traffic Tier 2 and 3 (both identified as "B" scenarios in the DEIR) impacts and require concurrent mitigation or fair share payment of fees toward regional improvements. The geographic extent of the study of Traffic Tier 2 and 3 impacts is based on Caltrans' Traffic Impact Study Guidelines and the judgment of County engineering staff.

Master Response 8: Biological Resources

Page 2-141, second full paragraph is revised as follows:

Based on comments received on the DEIR and in accordance with discussions at workshops conducted by the Planning Commission and in hearings by the Planning Commission and the Board of Supervisors on possible modifications to policies and mitigation measures, the County also modified Policy OS-3.5 (slope). The changes to this policy require that cultivation of uncultivated land on slopes exceeding ~~15 percent but not exceeding~~ 25 percent ~~(or on slopes that exceed 10 percent if on highly erodible soils)~~ would be subject to a discretionary permit which would require protection of important vegetation and wildlife habitats consistent with revised OS-5.16 described above. ~~Further, there is a cap on conversion on slopes over 25 percent with a limited exception. Permits issued consistent with this exception would require approval of management plans for discretionary permits.~~ Ministerial permits would be required for conversion of land that has not been cultivated for the previous 30 years to agricultural cultivation on slopes between 15 --24 percent or 10 --15 percent on highly erodible soils, and would include consideration of erosion control, slope stabilization, drainage, and flood hazards, which would help to protect downstream water resources and species dependent upon them, consistent with the objectives of Policy OS-3. ~~Similarly,~~ A requirement was also added to the AWCP that would require a biological study per OS-5.16 for proposed artisan wineries and ancillary uses. Please refer to Master Response 3 for a more detailed discussion of these issues pertaining to agricultural development and policy modifications.

Page 2-142, first full paragraph, fifth sentence is revised as follows:

For agricultural conversions on slopes greater than 25 ~~15~~ percent, revised Policy OS-3.5 requires a discretionary permit that will require project-level of impacts and mitigation.

Master Response 9: Water Quality

Page 2-168, insert the following before Section 9.2:

Commenters assert that the EIR lacks modeling or other quantitative analysis to support the conclusion that existing and proposed regulations will be sufficient to avoid a significant effect.

See the discussion of the level of detail expected of a General Plan EIR in Master Response 10. The General Plan is a long-term document establishing development and conservation policies for the non-coastal portions of Monterey County. The General Plan proposes no site-specific development projects; the specific locations and designs of future development and land being converted to agricultural production are unknown; and the effects of development or conversion to agriculture are highly dependent upon the design of the development or, in the case of agricultural conversion, site and crop-dependent cultivation and erosion control techniques. Because this type of information is unknown at the General Plan level, a quantitative analysis of potential erosion would be largely speculative. Modeling would be similarly ineffective due to the speculative nature of the data needed to fill in the variables that would inhabit the model. Exhibit 4.4.5 provides information at a scale commensurate with the General Plan effort. Future site-specific development and agricultural conversion will be reviewed at a much closer scale, commensurate with their project-level nature.

Page 2-169, revise the third paragraph as follows:

The Draft General Plan includes policies intended to provide a comprehensive set of water quality protections. These policies include protecting water quality from agricultural runoff, as well as protecting groundwater quality. A number of the General Plan policies direct the preparation and adoption of new programs that will protect water quality. For example:

- Pursuant to Policy OS-3.9, a program will be designed to address off-site soil erosion, increased runoff-related stream stability impacts and/or potential violation of adopted water quality standards from the conversion of hillside rangeland areas to cultivated croplands.

- Policy OS-5.22 requires the County to develop and adopt a stream setback ordinance to protect riparian areas and reduce erosion potential. It implements and is the same as Mitigation Measure BIO-2.1 described below.

- Under Policy PS-4.12, the County Environmental Health Bureau will develop On-site Wastewater Management Plans (OWMP) for areas with high concentrations of development that are served primarily by individual sewage systems.

Page 2-170, insert the following before the first full paragraph (beginning with "Monterey County is proposing:"

Some commenters argue that the language of the proposed County stream setback ordinance (as required under Mitigation Measure BIO-2.1 and Policy OS-5.22) is vague and lacks meaningful performance standards and therefore cannot be effectively implemented and enforced.

General Plan policies are separate from the regulatory ordinances that implement those policies. A general plan is a comprehensive statement of policies to guide the future development and conservation of the county. In general practice, the policies of a General Plan act as a framework for the ordinances and regulations that implement them. They are not as specific as the ordinances, nor do they need to be. Please see FEIR Master Response 10 (Level of Detail for the General Plan the General Plan's EIR) for

additional explanation. The *California Planning Guide* published by the Governor's Office of Planning and Research explains this difference (using zoning as an example):

> A general plan is a set of long-term goals and policies that the community uses to guide development decisions. Although the plan establishes standards for the location and density of land uses, it does not directly regulate land use.
>
> Zoning, on the other hand, is regulatory. Under the zoning ordinance, development must comply with specific, enforceable standards such as minimum lot size, maximum building height, minimum building setback, and a list of allowable uses. Zoning is applied lot-by-lot, whereas the general plan has a community-wide perspective.[6]

Proposed Policy OS-5.22 reads as follows:

OS-5.22 In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall delineate appropriate uses within the setback area that shall not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream while also taking into consideration uses that serve health and safety purposes. The Stream Setback Ordinance shall apply to all discretionary development, County public projects, and to conversion of lands uncultivated for the previous 30 years, on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within three (3) years of adoption of the General Plan.

The purpose of the stream setback ordinance is to "preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development." In order to be consistent with the General Plan as required by California Planning Law the ordinance must "further the objectives and policies of the general plan and not obstruct their attainment."[7] Therefore, this sets the objectives that the ordinance must meet.

The ordinance must include a stream classification system to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and establish standard setbacks for different stream types. It must utilize standardized inventory methodologies and mapping requirements. It must establish specific setbacks for the eight larger rivers and creeks and may include other creeks.

[6] Governor's Office of Planning and Research. 2005. *California Planning Guide: An Introduction to Planning in California*. Sacramento, CA. December. Page 3.
[7] Governor's Office of Planning and Research. 2003. *State of California General Plan Guidelines*. Sacramento, CA. October.

This requires that the ordinance establish a common methodology and approach by which to meet its purpose. The County's eight largest rivers and streams are to have specific setback requirements based on their needs, while other streams may use generic setbacks developed under the common methodology.

Policy OS-5.22 establishes the following performance standard for the content of the future stream setback ordinance:

- The ordinance will identify appropriate uses within the setback area that shall not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream while also taking into consideration uses that serve health and safety purposes.

This establishes the minimum standards that the ordinance must meet in order to be consistent with the General Plan. How the ordinance meets these standards is to be determined when developing the ordinance.

The ordinance applies to all discretionary development, County public projects, and to the conversion of lands uncultivated for the previous 30 years on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The ordinance must be adopted within three years of adoption of the General Plan.

This commits the County to adopting an ordinance, and to applying the ordinance to a broad range of projects, including the conversion to agriculture of uncultivated lands on specified slopes.

Page 2-170, revise the first full paragraph and add new text as follows:

Some commenters assert that the EIR incorrectly concludes that, despite the failure of existing regulations, existing regulations and a handful of allegedly inadequately specified General Plan policies will prevent future significant effects. They further assert that this conclusion is unsupported. Monterey County is proposing to adopt as policies in its General Plan, feasible and fully enforceable measures that will avoid, reduce, minimize, and otherwise mitigate the significant environmental effects identified in the DEIR. All of the mitigation measures identified in the EIR will be adopted as General Plan policies to ensure that they are implemented. This is consistent with (CEQA Guidelines Section 15126.4[a][2]), which states, in part: "In the case of adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design." In addition, the policies will be amended into the pertinent Monterey County regulations or result in the adoption of new regulations, best management practices, and design manuals.

The alleged failure of existing or past regulations to mitigate significant effects does not mean that the policies of the General Plan (as implemented through regulation) and the future regulations of agencies such as the RWQCB will not be effective over the term of the planning horizon and buildout. As discussed in Chapter 4.3 of the EIR and in this Master Response, regulations are continually evolving and being improved. The County has no reason to assume that the General Plan policies, which will improve the County's regulatory scheme relative to protecting water quality, and new and revised regulations adopted by other agencies will not be implemented.

The comment mistakenly approaches a General Plan and its policies as if it were a site-specific development project. Unlike a development project, the General Plan establishes a framework for mitigation through its policies, relying upon more specific regulations to be adopted in conformance with the policies for implementation. The General Plan policies cannot reasonably be expected to include the

level of detail that will apply to site-specific development. Further, unlike the mitigation measures applied to a specific development project, the new and amended regulations, best management practices, and design manuals to be adopted by the County will be subject to further CEQA review that will help guide their development and the avoidance of potential impacts from their implementation. Unlike a development project, which typically will be operational within a few years of its approval, the General Plan is a long-term document – its planning horizon is 20 years in the future; buildout is over 70 years in the future. The conclusions of the General Plan EIR are similarly long-term in their approach. For example, the planning horizon reaches beyond the RWQCB's deadlines for adoption of TMDLs for the County's impaired water bodies and so the EIR can correctly assume that those regulations on discharge to surface waters will be in place and operational at that time.

Page 2-170, add the following after the discussion under Section 9.2.2:

Commenters contend that existing regulations have failed to address cumulative sedimentation in part because the agency with the most focused concern over water quality, the RWQCB, cannot readily control the many non-point sources because it lacks authority to control land use. They further note that the RWQCB has pointed out that the County lacks a long-term comprehensive watershed management strategy. Commenters also suggest that because the Greater Monterey County Integrated Regional Water Management Plan (IRWMP) is only in the early stages of development it should not be considered as a future solution.

As discussed at length in Chapter 4.3 of the EIR and in Master Responses 4 and 9, the RWQCB is mandated to bring the listed impaired water bodies into compliance. It is doing this through its Basin Plan and by supporting local, multi-jurisdictional watershed management efforts such as the IRWMP. In addition to participating in the Greater Monterey County IRWMP, local agencies such as Monterey County are adopting regulations to implement the regulations of the RWQCB. Examples of this include Low Impact Development (LID) standards for new development to minimize contaminated runoff through integrated design features and the County Environmental Health Division's onsite wastewater management program in Carmel Highlands. The General Plan is a long-term policy document. It is reasonable to assume that future amended regulations, as well as watershed management planning currently underway, implemented over the planning horizon and plan buildout will be in place and operating to reduce and avoid impacts.

Page 2-174, insert the following discussion before section 9.4.2:

Commenters assert that the General Plan's proposed policy they characterize as relaxing the current ban on agricultural conversion on slopes in excess of 25% will exacerbate the existing significant sedimentation impacts to County waterways. They further assert that the EIR's assumption that erosion and sedimentation will be controlled by existing and future regulations of the RWQCB is incorrect. They contend that the existing agricultural waiver program has not been effective in preventing sedimentation impacts from agriculture and therefore future programs will not be effective.

The EIR's conclusion that this impact is less than significant is based not only on the current and future regulations of the Central Coast RWQCB, but also current and future County regulations. Existing Chapters 16.08 and 16.12 of the County Code regarding grading and erosion control, respectively, act to reduce erosion from new development. New General Plan Policies OS-3.5, OS-3.8, and OS-3.9 regarding erosion control on slopes, education on erosion prevention, and a program to address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands, respectively, will expand existing protections against erosion from agricultural activities. As discussed

below, California Planning Law will require the existing grading and erosion control ordinances to be amended to conform to the policies of the general plan. (Government Code Section 65860)

The RWQCB is obligated under the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act to establish TMDLs as part of its Basin Plan to control the contaminants identified in the Section 303(d)-listed waterways, including sediment. TMDLs will be adopted for each such waterway. The express purpose of the TMDL is to fix the contaminant problem (i.e., sediment) over time. The TMDLs adopted as part of the Basin Plan are required to be implemented[8].

As discussed earlier, the current agricultural waiver program adopted by the RWQCB is expiring on its own terms. As a result, the RWQCB staff is in the process of drafting a new program to take its place. In the course of adopting that program, the RWQCB has examined the effectiveness of the existing program and determined that improvements should be integrated into the new program. Within the next year, the RWQCB will be adopting an improved agricultural waiver program for the express purpose of meeting its statutory obligation to control sediments in Section 303(d)-listed waterways. Whatever is adopted by the RWQCB will be implemented in Monterey County.

The RWQCB's new program is still in the process of being drafted. One proposal put forward by the RWQCB staff is to establish a stream setback requirement to be enforced by the RWQCB. Land Watch has mischaracterized the County's opposition to this approach. The County is committed to working with other agencies to address the problem of surface water quality and solve it in the long run. A recent example of this is the County Environmental Health Division's work in adopting regulations for onside wastewater treatment systems in Carmel Highlands to complement the standards of the Central Coast RWQCB. However, the Board of Supervisors opposes a CCRWQCB-enforced stream setback requirement because it is an intrusion into local land use regulatory authority, an area reserved to the County. The Board of Supervisors is not opposed to streambed setback regulations per se, and in fact is committing to developing and adopting a County stream setback ordinance within 3 years of General Plan adoption, pursuant to Policy OS-5.22 of the proposed General Plan. The County's stream setback ordinance would reduce impacts to both biological impacts and erosion and sedimentation impacts.

Comments that the County will exempt existing operations from the future setback ordinance are highly speculative. The ordinance specifically applies to previously uncultivated lands on slopes greater than 15% or 10% if the soils are highly erosive.. Changes in agricultural practices short of banning agricultural use within the stream setback, such as the use of vegetated buffers or restrictions on cultivation activities during rains, have not been eliminated from consideration.

The County believes that the new policies in the General Plan will be more effective in preventing soil erosion and sedimentation than are the existing County General Plan and ordinances, not less. For example, the proposed OS-3.5 (recommended by the Planning Commission August 2010) changes the trigger for a discretionary permit from 30% slope to 25% and there is no exception for previously uncultivated agricultural land.

Proposed General Plan Policy OS-3.9, as reproduced below, requires the development of a program to reduce erosion and sedimentation potential resulting from converting hillside rangeland to cultivation. There is no corresponding policy or requirement in the existing General Plan. The County is committing to adopting this program within five years of adopting the General Plan.

[8] State Water Resources Control Board. 2010. Total Maximum Daily Load Program. Website: < www.scrcb.ca.gov/water_issues/programs/tmdl/background.shtml > Accessed August 31, 2010.

OS-3.9 The County shall develop a Program to address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. The Program shall be designed to avoid or minimize:

a) off-site soil erosion,

b) increased runoff-related stream stability impacts, and/or

c) potential violation of adopted water quality standards.

The County shall convene a committee comprised of county staff, technical experts (including staff of the Natural Resources Conservation Service), and stakeholders to develop the Program, including implementation recommendations. This program shall be adopted within five (5) years of adoption of the General Plan.

California Planning Law requires land use ordinances to be amended to conform to the policies of the general plan within a reasonable period of time (Government Code Section 65860). This will apply to existing County regulations limiting erosion and the release of sediment.

The existing County grading ordinance (Monterey County Code Chapter 16.08) exempts agricultural grading (i.e., "fill or excavation which is to be used only for agricultural purposes such as cultivation or leveling for crops or orchards, and which does not adversely affect any drainage course; not exempted is the construction of reservoirs") from grading permit requirements. Section 16.08.060(B) restricts the issuance of grading permits for non-agricultural uses on slopes of 30% or more.

16.08.060 (B) A grading permit will not be issued for development of any building site or roadway where it has been shown that grading activity will permanently alter existing material on slopes greater than or equal to thirty (30) percent (in excess of twenty-five (25) percent for development in North County Area Plans). Upon application, an exception to allow development on slopes of thirty (30) percent or greater may be granted at a noticed public hearing by the Planning Commission. The exception may be granted if one or both of the following findings are made, based upon substantial evidence.

1. There is no alternative which would allow development to occur on slopes of less than thirty (30) percent North County LUP); or
2. The proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans and Land Use Plans, and all applicable master plans."

If proposed Policy OS-3.5 is adopted, Monterey County Code Section 16.08.060(B) will be amended for consistency.

Monterey County Code Chapter 16.12 comprises the existing erosion control ordinance. Agricultural grading is currently exempted from the requirement to prepare an erosion control plan and many other aspects of the ordinance. However, agricultural grading is subject to the provisions of Section 16.12.040:

16.12.040 No person shall cause or allow the continued existence of a condition on any site that is causing or is likely to cause accelerated erosion as determined by the Director of Building Inspection in accordance with this Chapter. Such a condition shall be controlled and/or prevented by the responsible person and the property owner by using appropriate measures outlined in

subsequent sections of this Chapter. Additional measures may be necessary, and should be applied by the responsible person and the property owner. Specific additional measures may be required by the Director of Building Inspection. Property owners will be given a reasonable amount of time, as determined by the Director of Building Inspection, to control existing problems depending on the severity of the problem, and the extent of necessary control measures. Where feasible, erosion problems shall be controlled no later than the beginning of the next rainy season (October 15th).

Development and related construction activities such as site cleaning, grading, soil removal or placement which causes a permanent change to existing site conditions are prohibited on slopes greater than or equal to thirty (30) percent (greater than twenty-five (25) percent for development in North County LUP). Exceptions may be made for special circumstances. Ref. Section 16.08.060B Monterey County Code. The process includes submitting an application for an exception and noticed public hearing to determine if the exception is valid.

If proposed Policies OS-3.5 and OS 3.9, which will require permits and erosion control plans in conjunction with converting uncultivated land to agricultural use, are adopted, Monterey County Code Section 16.12.040 will be amended for consistency.

Page 2-174, second paragraph under Section 9.4.2 is revised as follows :

Cultivation of previously uncultivated slopes over 15% is not Routine and Ongoing Agriculture. So, conversion of uncultivated lands on steep slopes will be subject to the restrictions of Policy OS-3.5, including the requirements for ministerial permits for slopes over 15% and discretionary permits for slopes over 25% that include a management plan for erosion control and water quality. In addition, Mitigation Measure BIO-2.1, as revised, will require adoption of a county-wide Stream Setback Ordinance that will apply to the conversion of previously uncultivated land on slopes over 15% or on highly erodible soils with slopes over 10% that has not been previously cultivated in the last 30 years. One purpose of that ordinance will be to "reduce sediment and other water quality impacts of new development." The conversion of slopes below 15% would be subject to Policy AG-3.3 and the Conditional Waiver for Irrigated Agriculture.

Page 2-178, insert the following before the third paragraph (beginning with "As discussed in the EIR"):

Commenters note that CCRWQCB has pointed out that the EIR fails to acknowledge that sedimentation from the General Plan will make a considerable contribution to baseline erosion.

The CCRWQCB is reviewing the General Plan like a project, not a plan. As discussed in Master Response 10, a general plan is a comprehensive statement of policies to guide the future development and conservation of the county. It is implemented over a long term through many individual site-specific decisions. Individual projects will be subject to existing requirements of the CCRWQCB, County ordinances and other regulations (including Chapters 16.08 and 16.12 of the County Code regarding grading control and erosion control, respectively, as described in the EIR and revised to conform to the proposed policies), new General Plan policies reducing the potential for erosion (including Policies OS-3.5, OS-3.8, and OS-3.9 regarding erosion control on slopes, education on erosion prevention, and a program to address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands, respectively), and future ordinances that will be enacted to implement the General Plan policies.

In addition, the CCRWQCB is obligated under the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act to establish TMDLs as part of its Basin Plan for all contaminants identified in the Section 303(d) listed waterways, including sediment. The express purpose of the TMDL is to fix the contaminant problem (i.e., sediment) over time. The TMDLs adopted as part of the Basin Plan are required to be implemented[9]. This provides substantial evidence that the existing sedimentation problem will be addressed over the span of the General Plan and will not worsen as a result of General Plan policies.

Page 2-178, revise the fourth paragraph as follows:

To further ensure that new development under the ~~2007~~ General Plan does not result in erosion and sedimentation, the Update includes a number of policies that will directly limit those effects. As discussed under Impacts WR-1 (beginning on page 4.3-90), WR-2 (beginning on page 4.3-99), and WR-3 (beginning on page 4.3-107) in the DEIR, these include Policies OS-3.1 through OS-3.9, and Policy S-3-7. Further, Policy S-1.7 requires the development of a geologic constraints and hazards database in the County's GIS, which will assist in the application and implementation of project-specific development standards on erosive and/or steep soils. Establishing a GIS-based data repository that will be readily available to County planners and project reviewers improves the effectiveness of project-level analyses and project-specific mitigation measures and conditions of approval. The database does not directly avoid potential impacts, but it greatly improves the capability of project reviewers identify and potential avoid impacts. In these Impact discussions, the DEIR also details those Area Plan policies being proposed as part of the ~~2007~~ General Plan that will similarly provide standards for the avoidance of erosion and sedimentation.

Master Response 10: Level Of Detail For The General Plan And The General Plan's EIR

Page 2-184, revise the last paragraph as follows:

While the County strives to provide as much quantitative detail as possible, not all impacts can be analyzed quantitatively. For example, see DEIR aesthetics analysis in Section 4.14, and buildout methodology discussion in Sections 2.5 and 3.3.1.2. Qualitative analysis is consistent with CEQA; as discussed in CEQA Guidelines Section 15064.7, "Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of the environmental effects. A threshold of significance is a quantitative, *qualitative* or performance level of a particular environmental effect, non-compliance with which means the effects will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (Emphasis added.) Another example is analysis of erosion and sedimentation effects. As discussed on page 4.4-115 of the EIR, the General Plan proposes no site-specific development projects; the specific locations and designs of future development and land being converted to agricultural production are unknown; and the effects of development or conversion to agriculture are highly dependent upon the design of the development or, in the case of agricultural conversion, site and crop-dependent cultivation and erosion control techniques. Because this type of information is unknown at the General Plan level, a quantitative analysis of potential erosion would be largely speculative.

Page 2-184, revise the first paragraph under Section 10.5 as follows:

[9] State Water Resources Control Board. 2010. Total Maximum Daily Load Program. Website: < www.scrcb.ca.gov/water_issues/programs/tmdl/background.shtml > Accessed August 31, 2010.

Some commenters have suggested that the mitigation measures and policies in the DEIR improperly defer mitigation of some impacts and suggest that these mitigation measures and policies should be more specific. For example, it has been argued that if the County is going to postpone watershed-level analysis and mitigation that it must revise the proposed policies to provide more detail, explicit performance standards, examples of adequate measures, and identify resources for implementation and enforcement. Commenters also contend that some policies and mitigation measures are infeasible, unenforceable, unlikely to be carried out, unlikely to be successful, or lack a time frame for implementation.

REVISIONS TO FEIR CHAPTER 3 "RESPONSES TO SPECIFIC COMMENTS"

Page 3-10, revise Response S-3.5, the third paragraph on this page as follows:

Please note that revised Open Space Element Policy OS-3.5 includes provisions that would address compatibility between agricultural uses and biological resources. Revised Policy OS-3.5 requires the County to regulate activity on slopes through a discretionary permit process for conversion of previously uncultivated lands for agricultural purposes on slopes over ~~between 15% and 25% and exceeding 10% slope if on highly erodible soils. With minimal exceptions, conversion on slopes over 25% would be prohibited~~. This discretionary review process is intended to address impacts to water quality and biological resources. Management plans for such permits should propose, among other things, methods to protect water quality and important vegetation and wildlife habitats. Minimizing impacts associated with erosion and water quality can also protect biological resources that are sensitive to water quality or soil losses.

Page 3-72, revise Response O-3.4 as follows:

The commenter expresses concern over the exclusion of routine and ongoing agricultural activities from proposed Policy OS-3.5. The commenter recommends that these activities be "carefully spelled out, as some types of agricultural activities can be very destructive of hillsides, ridges, watersheds, and must not be given a blank check."

Policy AG-3.3 was modified after the DEIR to delete an exemption for routine and ongoing agriculture from Policy OS-3.5. Where agricultural activity results in conversion of uncultivated land on slopes over 35 percent a discretionary permit would be required. Where conversions are proposed on slopes between 15% and 25% on land that has not been cultivated for the last 30 years, a ministerial permit will be required.

~~The range of qualifying activities are described in the General Plan and will be defined more precisely when the ordinance required under proposed Policy AG-3.3 is developed. While the intent of the policy is to codify existing practice of not requiring permits for many agricultural activities, the policy does not absolve agricultural activities from all permitting requirements. Proposed Policy AG-3.3 specifically does not exempt "Routine and Ongoing Agricultural Activities" if those activities create significant soil erosion impacts or violate adopted water quality standards.~~

~~The ordinance to be enacted by the County will also identify County permit requirements for specific "Routine and Ongoing Agricultural Activities" consistent with these exemptions, General Plan goals, and State and Federal Law.~~

~~In addition, proposed revisions to Policy OS-3.5 (slope policy), regulate future conversions of uncultivated lands through discretionary permits on slopes between 15% and 25% and 10% and 25% on highly erosive soils. Please see Chapter 5 of this FEIR.~~

Last, as discussed in Section 4.3, Water Resources of the DEIR, the conditional waiver on irrigated agriculture administered by the Central Coast Regional Water Quality Control Board also acts to minimize the release of erosion from agricultural lands. These activities are not given a "blank check" as suggested by the commenter. No change in the conclusions of the DEIR is warranted. Please refer also to Master Response 3, General Plan Agricultural Policies, for a more detailed discussion of slope and

erosion policies and mitigation measures pertaining to routine and ongoing agriculture and agricultural operations in general.

Page 3-73, revise Response O-3.7, 4th paragraph as follows:

In addition, proposed policy OS-3.5 has been revised as described in Response O-3.4 to specify that county-wide agricultural conversion on slopes in excess of 25% would require a discretionary permit~~. would only be allowed upon approval of a discretionary permit under limited circumstances. Note also that that the exemption would not apply to lands zoned rural residential, which characterizes the majority of the lands in Carmel Valley.~~ Policy CV-6.4 was revised after the DEIR to specifically prohibit agricultural conversion in the CVMP on slopes over 25 percent. Policy CV-6.5 has been added to specifically prohibit development on slopes over 25% with highly erodible soils.

Page 3-78, revise Response O-4.6, 2nd paragraph as follows:

The proposed Policy OS-3.5, as revised, would be as restrictive ~~more restrictive than~~ the prior draft General Plan. Please refer to Master Response 3, Agricultural Growth and General Plan Agricultural Policies for a discussion of this issue and the text of the revision. In addition, the revisions can be found in FEIR Chapter 5.

Page 3-146, revise response O-9b.3,1st full paragraph on page, as follows:

The commenter questions the effectiveness of Policy OS-3.5 which guides the conversion of non-cultivated lands on steep slopes. In response to this and other comments, Policy OS-3.5 has been strengthened to require a discretionary permit for conversion of previously uncultivated lands ~~between 15% and~~ on slopes above 25%~~, or greater than 10% slope if on highly erodible soils. The modification to OS-3.5 also prohibits conversion of slopes of 25% or greater, except under limited circumstances that would also require a discretionary permit.~~ Please also refer to Master Response 3 for a detailed discussion of Policy OS-3.5.

Page 3-153, revise Response O-9b.9, 3rd paragraph as follows:

Master Response 8, Biological Resources, discusses changes to General Plan policies and mitigation measures that pertain to evaluation of impacts to species. The revisions clarify which species will be addressed by the policies and the specificity of the mitigation that will be provided. Master Response 3, General Plan Agricultural Policies, describes changes to Policy OS-3.5 which, as modified, requires a discretionary permit for conversion of previously uncultivated land on slopes over ~~between 15% and~~ 25% ~~slope or 10% to 25% in areas of highly erosive soils. Except under special circumstances, conversion of previously uncultivated lands is prohibited on slopes over 25%. These changes address many of the comments raised with respect to impacts from agricultural on water quality and sensitive species.~~ The Central Coast RWQCB's Agricultural Waiver Program, as well as a number of additional agency programs and General Plan policies, is intended in concert with this policy to address ~~these~~ water quality impacts.

Page 3-154, response to OS-9b.9, revise 1st paragraph as follows:

The commenter has suggested that BIO 2.3 be strengthened. The substantive requirements of BIO-2.3 have not been changed; however the measure has been applied to policy PS-3.4 (high-capacity wells) in addition to PS-3.2 (long-term water supply criteria) and PS-3.3 (domestic wells) and to create a new

policy requiring discretionary permits for wells in the Carmel Valley alluvial aquifer. The County believes that this revised policy in combination with BIO 2.1 and the proposed modifications to OS-3.5 all help to reduce impacts to special-status species associates with streams and riparian areas ~~would achieve a similar result. Therefore, the County is not proposing to change the policy.~~

Page 3-169-170 revise Response O-11g.5 as follows:

The comment raises concerns about the proposed language in OS-3.5 regarding development on slopes, the vague provisions and standards for what will be allowed and the resulting potential impacts from conversion and the increased viticulture development and impacts that could occur by removing requirements for a discretionary permit as contrasted with current County policy. The commenter is referred to Master Response 3, *Agricultural Growth and General Plan Agricultural Policies* which discusses the likely extent of future viticulture based on a number of factors. Policy OS-3.5, as modified would require discretionary permits for all conversions of uncultivated land over 25% slope; discretionary review will need to address impacts to biological resources. ~~and modifications to policy OS-3.5 which further restrict both non-agricultural development on steeper slopes and agricultural conversion and further reduces the impacts that were likely to occur~~. The commenter is also referred to Master Response 8, *Biological Resources* which discusses ~~the further reduction in~~ impacts to biological resources that would result from agricultural conversions ~~based on this modified policy~~.

Page 3-177, revise Response O-11g.20, 1st paragraph on the page, as follows:

Policy OS-3.5, as revised, regulates development on slopes. It will prohibit development on slopes over 25%, except where such development is approved under a discretionary permit. It also requires a discretionary permit for conversion of previously uncultivated lands on slopes over 25% ~~15% or over 10% if on highly erodible soils and prohibits conversion on slopes over 25% with a minor exception~~. ~~Permits approved under that exception would require that~~ Both discretionary permits (for slopes over 25% and ministerial permits (for slopes between 15% and 25% and 10% to 15% on highly erodible soils) will require ~~special~~ erosion control and construction techniques be applied to all development on the site. This will avoid impacts from such development. See Master Response 9 on water quality for additional discussions of erosion and sedimentation.

Page 3-177, revise Response O-11g.21, 1st paragraph on the page as follows:

The commenter presents several arguments regarding why the terms of Policy OS-3.5 should be revised. As noted in response to comment O-11g.05, the County has modified this policy. The policy modifications require a discretionary permit for ~~change the thresholds for requiring a discretionary permit for both non-agricultural permits and agricultural permits and establish a cap with respect to~~ conversion of all uncultivated land of 25% ~~that allows only for minor exceptions~~. The policy also provides additional guidance on what will be required in an evaluation of discretionary permits. The commenter is referred to Master Response 3, Agricultural Growth and General Plan Agricultural Policies and Master Response 8, Biological Resources for further discussion of the impact analysis relative to these changes and to Chapter 5 for the text.

Page 3-178, revise Response O.11g.21, starting at the 2nd paragraph on the page, as follows:

The commenter is referred to the revisions to the text which again now ~~require a discretionary permit for~~ prohibit development on slopes over 25% with only certain exceptions and a discretionary permit will be required for all development on slopes over 25% that fit the exception. ~~rather than 30% and provide~~

~~guidance on implementation including the purpose of the regulation" to reduce impacts to water quality and biological resources and that such development shall be required to have adequate special erosion control and construction techniques. There is, however, a minor exception to the requirement for a discretionary permit if the footprint of the area that is on a slope exceeding 25% does not exceed 10% of the total footprint of the development or 500 square feet, whichever is less.~~

The commenter is again referred to Master Response 10 which discusses what is required in a programmatic EIR.

With respect to comments on the lack of specificity for the proposed "Agricultural Permit," the policy has been modified to require a discretionary permit for conversion on slopes greater than ~~15% and 25% or greater than 10% if highly erodible soils.~~ All of the provisions regarding analysis for a discretionary permit would apply. Applicants are also required to submit a management plan that addresses long-term viability of agriculture on that parcel, analysis of soils, erosion potential and control, water demand an availability, proposed methods of water conservation, water quality protection and protection of important vegetation and wildlife habitats. The policy also specifies the data source that the County will be relying upon for determining if a site has highly erosive soils.

Comments regarding the requirements and conditions necessary to satisfy the policies pertaining to the RWQCB's Agricultural Waiver and ministerial permit process have been addressed based upon the proposed modifications to the policy. The County believes that with these modifications, the policy by itself in concert with the other policies proposed under Goal OS-3 more fully addresses Goal OS-3, to prevent soil erosion and enhance water quality.

The commenter points to the exemption in OS-3.5 for routine and ongoing activities other than slope conversions and points to Policy AG-3.3 for a list of possible activities that commenter believes would be exempt and would cause erosion. Policy AG-3.3 has been changed to delete the exemption of routine and ongoing agriculture from Policy OS-3.5. ~~AG-3.3, however, includes the following caveat to the exemption which is in boldface for emphasis below:~~

> ~~"….farming and ranching activities that are "Routine and Ongoing Agricultural Activities" should be exempted from the general Plan policies listed below to the extent specified in those policies except for activities that create significant soil erosion impact or violate adopted water quality standards…"~~

~~This provision would address the concerns raised by the commenter to a great extent by limiting the types of activities that would be exempted from policy AG-3.3~~. For a more detailed response to this comment, the commenter is referred to Master Responses 3, Agricultural Growth and General Plan Agricultural Policies, Master Response 8, Biological Resources, and Master Response 9, Water Quality, which address the potential impacts of agricultural expansion including routine and ongoing agriculture on erosion/sedimentation, water quality and biological resources. The commenter is also referred again to response to comment O-11g.23 below.

Page 3-180, revise Response 0.11g.21, 1st full paragraph on page, as follows:

Regarding development on slopes, revised Policy OS-3.5 provides specific requirements that will minimize the impacts on erosion and sedimentation (see Master Response 3 on agricultural policies). The slope/density provisions of Policy OS-3.6 reduce the potential for erosion and sedimentation by establishing increasingly strict building restrictions as slope increases. It will work in concert with Policy OS-3.5, which also ~~restricts~~ prohibits development on steep slopes (with narrow exceptions) and requires discretionary permits for agricultural conversion on slopes over 25%. Where development is allowed on

steep slopes over 25%, a discretionary permit is required (unless the footprint is 500 square feet or less). For example, a proposed residential project on an average slope of greater than 25% would be limited to not more than 1 residence per 2 acres (Policy OS-3.6) and would be subject to a discretionary permit based on the specific findings about the site's suitability and provisions for "special erosion control and construction techniques" (Policy OS-3.5). Because a discretionary permit is required, under these provisions even a single family residence would be subject to CEQA analysis that would develop additional project- and site-specific mitigation.

Page 3-259, revise Response O-12a.2, 2nd paragraph as follows:

See Master Response 3 on Agricultural Policies. Revised Policy OS-3.5 allows conversion of uncultivated lands on slopes greater than 25% only ~~with limited exceptions and~~ only upon approval of a discretionary county permit. This will discourage such conversions and mitigate the impacts of those that are allowed. As discussed in Master Response 3, the commenter's estimate of steeply sloping lands potentially available for conversion is highly overestimated.

Page 3-272, revise Response O-12a.48, 3rd paragraph as follows:

~~In contrast,~~ Proposed Conservation and Open Space Element Policy OS-3.5, as revised, would require a discretionary permit for the conversion of ~~previously~~ uncultivated land to agricultural use on slopes ~~from 10-15% (where soils are highly erodible), 15-25% slopes, and~~ greater than 25% ~~(prohibited, except under specified circumstances)~~. The discretionary review ~~permit would require a management plan to~~ would evaluate impacts to and means to reduce significant impacts related to fugitive dust emissions erosion potential, ~~incorporate~~ water conservation and water quality ~~considerations~~, a~~ddress~~ water demand and availability, and ~~protect~~ important vegetation and wildlife habitats. ~~The proposed Policy OS-3.5 will discourage future conversions in all agricultural zoning districts in comparison to existing policies.~~ As a result, the implementation of the Draft General Plan is not expected to increase the potential for fugitive dust emissions.

Page 3-272, revise Response O-12a.49, 3rd paragraph as follows:

Further, the Draft General Plan definitions and revised policies and would further restrict and regulate the conversion of previously uncultivated land to agricultural uses in two important ways. First, the ~~Draft~~ Proposed General Plan deletes ~~narrows~~ the definition of "previously uncultivated land" ~~to mean "areas that have not been cultivated during the past 20 years."~~ (General Plan Glossary) Current County policy does not provide for a timeframe limitation. ~~Second,~~ Under revised Draft General Plan Policy OS-3.5, discretionary permits would be required for conversion of all uncultivated land containing slopes over 25% and a ministerial permit for conversions of land that has not been cultivated in the last 30 years. ~~and highly erodible soils~~. See Master Response 3 for additional discussion of slope conversion.

Page 3-302, revise Response O-20c.2, 4th paragraph on page, as follows:

With regard to previously uncultivated land on slopes, proposed Policy OS-3.5 has been revised to provide for discretionary permits for agricultural conversions on slopes greater than ~~15% or 10% if on highly erosive soils and prohibits conversion except in limited circumstances on slopes over~~ 25%. As discussed in Master Response 3 regarding agricultural policies, this change to OS-3.5 will further limit the impacts of uncultivated land conversion on steep slopes.

Page 3-150, revise Response O-21k.149, 2nd paragraph as follows:

The commenter asserts incorrectly that proposed Policy OS-3.5 would result in "a huge amount of development where it is not currently allowed." See Master Response 3, Agricultural Growth and General Plan Agricultural Policies, for an expanded analysis of the extent of land that may be affected by this policy. Policy OS-3.5, as revised and clarified, would prohibit development ~~conversion of previously uncultivated land for agricultural purposes~~ where the slope exceeds 25% except for a narrow exception requiring a discretionary permit and for which specific ~~five~~ criteria must be met to qualify for the exception. The policy also establishes a discretionary permit process for conversion of previously uncultivated lands containing slopes ~~exceeding 15%, but not~~ exceeding 25% and a ministerial permit for conversion of lands containing slopes exceeding 15% (or 10% where the lands to be converted contain highly erodible soils). ~~To the extent~~ Routine and Ongoing Agricultural Activities are ~~would create significant soil erosion impacts or violate water quality standards, such activities would be~~ subject to Policy OS-3.5 when they result in conversions of uncultivated land over 25% slope or land that has not been cultivated for 30 years (for slopes over 15% or over 10% if highly erodible soils).

Page 3-377, revise Response O-21k.246, 1st paragraph as follows:

Please see Master Response 3, Agricultural Growth and General Plan Agricultural Policies, for additional analysis of the impacts of steep slope development and the wide variety of environmental regulations that would apply to Routine and Ongoing Agricultural activities. The extent of future conversions of slopes is substantially less than asserted by commenters, and conversions will be subject to the revised provisions of Policy OS-3.5 that will require discretionary permits for agricultural conversions on steep slopes and the approval of a management plan. The commenter is mistaken that Routine and Ongoing Agricultural activities are exempt from erosion control and water quality regulations. By its own terms, Policy AG-3.3 does not exempt "activities that create significant soil erosion impacts or violate adopted water quality standards." Further, as revised, this policy has been clarified by removing Policy OS-3.5 (slope) and Policy OS-3.6 (erosive soils) from the list of exemptions.

Page 3-409, revise Response O-21k.319, as follows:

See Master Response 3, Agricultural Growth and General Agricultural Policies, and Master Response 9, Water Quality, for discussions of the slope restrictions and their potential for impact on land use, water, biology, and other environmental issues. With the revision in Policy OS-3.5, the General Plan will have similar constraints on development and agricultural conversion on steep slopes as the 1982 General Plan. Revised Policy OS-3.5 prohibits development (with narrow exceptions) and requires discretionary review and permitting for agricultural conversion of uncultivated lands on slopes exceeding 25%~~, except under special circumstances~~. The 1982 General Plan applies a 30% cut off. Arguably, on that count the General Plan is stricter than the 1982 Plan as it relates to development. While the General Plan would allow agricultural conversions, in theory, on land over 30%, all such development will go through discretionary review, such that significant impacts to land use, water quality and supply, biological resources or other impacts will be assessed and mitigated appropriately.

Page 3-410, revise Response O-21k.324, as follows:

The impacts on water resources of the General Plan's slope policy is addressed in Section 4.3, on page 4.3-100. As described in Master Response 9, Water Quality, revised Policy OS-3.5 will require discretionary permits for development on steep slopes and discourage agricultural conversion of such slopes as a result. GPU3 generally proposed to prohibit development on slopes exceeding 30% (with an exception for cases where the prohibition would make an existing legal lot unbuildable) and to prohibit

the conversion of uncultivated land on slopes exceeding 30%. This is similar to the General Plan's revised Policy OS-3.5, which prohibits development (with limited exceptions) and requires discretionary review for conversion of uncultivated lands on slopes exceeding 25%~~, with limited exceptions~~. Policy OS-3.5 also includes provisions for discretionary and ministerial permits and a management plan for erosion, and water quality~~, and vegetation/habitat protection~~ for agricultural conversions, which GPU3 does not. On the whole, Policy OS-3.5 appears to be as stringent, if not more stringent.

Page 3-410, revise Response O-21k.326, as follows:

This comment alleges that the steep slope policies of the General Plan creates erosion potential that outweighs the GPU3 impacts and asks why the analysis discusses County erosion control ordinances. See Master Response 9, Water Quality and Master Response 3, Agricultural Growth and General Plan Agricultural Policies for discussions of the erosion controls in the General Plan. The Alternatives analysis discusses the County's erosion control ordinances based on the premise that the ordinance would remain in effect under either GPU3 or the General Plan. As noted in the response to comment O-21k.324, with revised Policy OS-3.5, the General Plan would have similar (~~though somewhat~~ and possibly more stringent) constraints as GPU3 as to development and agricultural development on slopes.

Page 3-411, revise Response O-21k.331, as follows:

The comment raises the issue of the alleged effects of the proposed slope policies. See Master Response 8, Biological Resources, Master Response 9, Water Quality, and Master Response 3, Agricultural Growth and General Plan Agricultural Policies. As noted in the response to comment O-21k.324, with the revised Policy OS-3.5, the General Plan would have similar, ~~albeit~~ and possibly more restrictive, constraints as GPU3 as to development and agricultural development on slopes.

Page 3-414, revise Response O-21k.351, as follows:

See Master Responses 3 (relating to agricultural policies), 4 (relating to water supply), and 8 (relating to biological resources and the potential for conversion of steep slopes). The proposed Policy OS-3.5, as revised, would not result in extensive development on steep slopes (development is prohibited on slopes over 25 with narrow exceptions, all conversions over 15% are subject to ~~discretionary~~ ministerial permit review and conversions over 25% are subject to discretionary permit review ~~would be strictly limited~~) and therefore would not result in a substantial difference in erosion and sedimentation in comparison to the application of existing policies or the policies of the GPI alternative. The analysis does not, however, "hide" the differences; the EIR analysis concludes that GPI have fewer potential adverse impacts on geology and soils than the General Plan.

Page 3-423 to 4-425, revise Response O-21k.375, as follows:

General Plan:

The General Plan contains the following policies regarding development on slopes. Note that Policy OS-3.5 has been revised since publication of the DEIR.

> OS-3.5 The County shall regulate activity on slopes to reduce impacts to water quality and biological resources:
>
> 1) Non-Agricultural.

a) Development on slopes in excess of twenty five percent (25%) shall be prohibited except as stated below; however, such development may be allowed pursuant to a discretionary permit if one or both of the following findings are made, based upon substantial evidence:

1. there is no feasible alternative which would allow development to occur on slopes of less than 25%;

2. the proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans, and all applicable master plans.

b) Development on slopes greater than 25-percent (25%) or that contain geologic hazards and constraints shown on the County's GIS Geologic (Policy S-1.2) or Hydrologic (Policy PS-2.6) Hazard Databases shall require adequate special erosion control and construction techniques and the discretionary permit shall:

1. evaluate possible building site alternatives that better meet the goals and policies of the general plan;

2. identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques; and

3. minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

c) Where proposed development impacting slopes in excess of twenty five percent (25%) does not exceed ten percent (10%), or 500 square feet of the total development footprint (whichever is less), a discretionary permit shall not be required.

d) It is the general policy of the County to require dedication of a scenic easement on a slope exceeding twenty five percent (25%).

2) Agricultural. Conversion ~~for agricultural purposes of previously~~ of uncultivated lands to cultivated land on slopes ~~containing slopes exceeding fifteen percent (15%)~~ but not exceeding ~~twenty five percent (~~greater than 25%~~)~~ shall require a discretionary permit.

a) The discretionary permit shall:

1. Evaluate possible alternatives that better meet the goals and policies of the general plan.

2. Identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques.

3. Minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

b) A ministerial permit process shall be developed and implemented for conversion of lands that have not been cultivated for the previous 30 years on slopes between 15 and 24 percent (15-24%), and on such lands on slopes between 10 and 15 percent (10-15%) on highly erodible soils. The permit processes shall be designed to require that an erosion control plan be developed and implemented that addresses slope stabilization, and drainage and flood hazards.

~~Conversion of such lands containing slopes exceeding ten percent (10%) but not exceeding fifteen percent (15%) shall require a discretionary permit where the lands to be converted contain highly erodible soils. Conversion of previously uncultivated lands shall be prohibited where the slope exceeds twenty five percent (25%) except as noted below; however, such conversion may occur pursuant to a discretionary permit where the area(s) containing slopes exceeding twenty five percent (25%) meets all of the following criteria:~~

~~a) does not exceed ten percent (10%) of the total area to be converted;~~

~~b) does not contain a slope in excess of fifty percent (50%);~~

~~c) is designated for Farmland, Permanent Grazing, or Rural Grazing land use;~~

~~d) is planted to a permanent crop such as trees or vines, and,~~

~~e) is situated in the interior of the parcel(s) in which the permit is sought.~~

~~Approval of discretionary permits for these purposes shall follow the submission of an adequate management plan. Such plans should address appropriate measures to ensure the long-term viability of agriculture on that parcel, and include an analysis of soils, erosion potential and control, water demand and availability, proposed methods of water conservation and water quality protection, and protection of important vegetation and wildlife habitats.~~

~~For lands designated Rural Density Residential and Low Density Residential (LDR) there shall be no cultivation of any lands exceeding 25%.~~

OS-3.6 Except in Community Areas where Community Plans or Specific Plans are adopted (*Policy LU-2.24*), areas designated as Medium Density Residential or High Density Residential, or in areas designated as commercial or industrial where residential use may be allowed, a formula based on slope shall be established to calculate the maximum possible residential density for individual parcels:

a. Those portions of parcels with cross-slope of between zero and 19.9 percent shall be assigned one (1) building site per each one (1) acre.

b. Those portions of parcels with a cross-slope of between 20 and 29.9 percent shall be assigned one (1) building site per each two (2) acres.

c. Those portions of parcels with a cross-slope of 30 percent or greater shall be assigned zero building sites.

d. The density for a particular parcel shall be computed by determining the cross-slope of the various portions of the parcel applying the assigned densities listed above according to the percent of cross-slope and by adding the densities derived from this process. The maximum density derived by the procedure shall be used as one of the factors in final determination of the actual density that shall be allowed on a parcel.

Clustering is encouraged as a technique to avoid development on slopes over 25 percent (25%). Where an entire parcel would not be developable because of plan policies, an extremely low density of development or single family home will be allowed, as appropriate.

Table 3-6. Comparison Table of GPU4 and the General Plan (GPU5) Policies

Slope	GPU4 Provisions	General Plan (GPU5) Provisions
Non-Agricultural		
25% and over	Discretionary permit required[1]	Prohibited, except with discretionary permit[2, 3]
Ag Conversion of Uncultivated Land		
10-15% on highly erodible soils	Ministerial permit process to be developed[4]	Ministerial permit process to be developed~~. Discretionary permit required~~
15-25% on any soil	Ministerial permit process to be developed[4]	Ministerial permit process to be developed~~. Discretionary permit required~~
25% and over	Grading permit required	~~Prohibited, except with~~ Discretionary permit required[5]
Routine and Ongoing Ag Activities	Provisions do not apply	Provisions ~~do not~~ apply to conversions

[1] Also applies to any slope with known geologic or floodplain hazard. GPU4 establishes standards for permit considerations.

[2] Discretionary permit only issued when specific findings of fact can be made. If approved, will require special erosion control and construction techniques.

[3] No discretionary permit required if area over 25% slope does not exceed 500 square feet or 10% of the total development footprint, whichever is less.

[4] Process will require an erosion control plan be developed to address slope stabilization and flooding and drainage hazards.

[5] Specifies criteria for approval of discretionary permit.

The respective Policies OS-3.6 in GPU4 and the General Plan are identical.

The comparison, particularly where discretionary permits are required, makes it clear that the proposed Policy OS-3.5 in the General Plan is more restrictive than its counterpart in the GPU4 alternative. It is not necessary to examine the amount of land that would be affected by the policies. Because they apply to basically the same slopes, that can be considered a constant in the comparison.

Page 3-427, revise Response O-21k.385, as follows:

The comment asks for clarification of the agricultural permit process proposed under the prior version of Policy OS-3.5 of the General Plan. The revisions to Policy OS-3.5 clarify that the approval of agricultural conversion of uncultivated land on steep slopes would be subject to a discretionary permit process, ~~except under a narrow exception delineated in the revised policy~~. See the response to comment O-21k.375 for the text of the revised proposal, including the standards applicable to issuance of a permit and the requirements for the related management plan.

Page 3-428, revise Response O-21k.388, as follows:

The comment states that the DEIR does not analyze the impacts resulting from the ministerial permit process under GPU steep slope policies (Policy OS-3.5). ~~GPU Policy OS-3.5 has been revised and no~~

~~longer provides a ministerial permit process for proposed development on slopes between 15-24% or on slopes between 10-15% on highly erodible soils. The policy now requires discretionary permits.~~ Please see the revisions to Policy OS-3.5 in FEIR Chapter 5, and Master Response 3, Agricultural Growth and General Plan Agricultural Policies. Additionally, please see Master Response 8, Biological Resources, and Master Response 9, Water Quality, which discuss the impacts of agricultural expansions on biological resources and water quality. The burden on the EIR is not to analyze the impacts of a permit process per se, but rather to analyze the impacts of allowable development and agricultural activity on environmental resources and the effect of General Plan policies on those impacts as well as the influence of identified mitigation. In the EIR's analysis of impacts related to agricultural, including water quality, geology and soils, biological resources, and water supply, the EIR has fully disclosed potential impacts of development and agricultural conversions on slopes. Also see Master Response 10 which discusses the level of detail for the General Plan and General Plan's EIR.

The comment also suggests that existing policy would be a "…significant departure from current policy." Please see response to comment O-21k.2 which discusses the CEQA requirements for discussion of the existing General Plan.

Page 3-428, revise Response O-21k.389, as follows:

The comment suggests that the EIR consider prohibiting development on slopes over 25% and over 30% as a mitigation measure. ~~It is not clear from the comment whether it refers to non-agricultural or agricultural development.~~ The General Plan Policy OS-3.5, as revised, prohibits non-agricultural development on slopes in excess of 25%, except when certain findings can be made. The findings are similar to those required under the existing 1982 General Plan for approval of development on slopes in excess of 30%. ~~Policy OS-3.5 as revised prohibits conversion of previously uncultivated lands to agricultural uses where the slope exceeds 25% except under a narrow exception delineated in the policy. The revisions made to Policy OS-3.5 since publication of the DEIR have effectively~~ incorporates the ~~recommendation of the comment by more or less restricting development on slopes and by requiring discretionary review of agricultural conversions.~~ Relative to development, the Policy essentially implements the commenter's suggestion. The comment that the comment's proposed mitigation would significantly reduce the impacts of GPU5 is noted.

Page 3-479, revise Response I.16.59, 3rd paragraph as follows:

Conservation and Open Space Element Policy OS-3.5, as revised, would prohibit development on slopes that exceed 25%, except where the there is no alternative that would allow development to occur on slopes less than 25% and the proposal better achieves the resources protection policies of the County's general plan. In addition, a discretionary permit would be required for the conversion of previously uncultivated land to agricultural use on slopes ~~from 10-15% (where soils are highly erodible), 15-25% slopes, and~~ greater than 25% ~~(prohibited except under specified circumstances).~~ ~~The permit~~ Discretionary review would require evaluation of and mitigation of significant impacts to ~~would require a management plan to reduce~~ erosion ~~potential~~, ~~incorporate~~ water conservation and water quality ~~considerations~~, ~~address~~ water demand and availability, and ~~protect important~~ vegetation and wildlife habitats. A ministerial permit process will apply for conversions on slopes over 15% (or over 10% if highly erodible soils) that will be required to address erosion, slope stability, and flood hazards.

REVISIONS TO FEIR CHAPTER 4 "CHANGES TO THE TEXT OF THE EIR"[10]

Page 4- 2, revise the following entry:

Table 1-2, Executive Summary Table. DEIR Table 1-2 is replaced in its entirety with the following table. The table shows all mitigation measures as they appeared in the DEIR, in the March 2010 FEIR version, and in their final form (October 2010).

[10] The text pages shown in bold refer to pages in the March 2010 FEIR; the plain text page number that follows refers to the page in the Draft EIR where the text change is being made. This reference to pages in the Draft EIR follows the format of the FEIR.

Table 1-2. Executive Summary Table

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
4.1 LAND USE				
LU-1: Implementation of the General Plan would potentially result in the physical division of established communities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
LU-2: Implementation of the General Plan would potentially result in conflicts with an adopted land use plan, general plan, specific plan, local coastal program, or zoning ordinance adopted for the purpose of avoiding or mitigating an environmental effect.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
LU-3: General Plan implementation would potentially conflict with an existing adopted	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS

[11] Mitigation measures in the Draft EIR published in September 5, 2008.
[12] Mitigation measures in the FEIR released in March 2010.
[13] Mitigation measures reflecting the final measures proposed for adoption by the Board of Supervisors.
[14] LTS = Less than significant (including less than significant with mitigation); SU = Significant and unavoidable; CC = Cumulatively considerable;

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
habitat conservation or natural community conservation plan.				
4.2 AGRICULTURE RESOURCES				
AG-1: Implementation of the General Plan would result in the conversion of Important Farmland to non-agricultural use.	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	2030—SU Buildout—SU
AG-2: Implementation of the General Plan could result in conflicts with existing zoning for agricultural use or Williamson Act contracts.	No mitigation beyond the General Plan goals and policies is necessary.	No mitigation beyond the General Plan goals and policies is necessary.	No mitigation beyond the General Plan goals and policies is necessary.	2030—LTS Buildout—LTS
AG-3: Implementation of the General Plan would involve other changes in the existing environment which, due to their location or nature, would result in conversion of farmland to non-agricultural use.	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	2030—SU Buildout—SU
CUM-1: Agricultural Resources	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC.
4.3 WATER RESOURCES				
WR-1: Residential, commercial, industrial,	No mitigation beyond the General Plan and Area Plan goals and policies is	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is	2030—LTS Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
and public uses consistent with the General Plan would introduce additional nonpoint source pollutants to downstream surface waters, substantially degrading water quality.	necessary.		necessary.	
WR-2: Land uses and development consistent with the General Plan would result in increased soil erosion and sedimentation during construction activities, substantially degrading water quality in downstream waterways.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
WR-3: Agricultural and resource development (i.e., limited timber harvesting and mineral resources extraction) land uses consistent with the General Plan would increase sediment and nutrients in downstream waterways and violate water quality standards.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
WR-4: Land uses and development consistent with the General Plan	**2030** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the	**2030** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the	**2030** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the	2030—SU (Pajaro River groundwater

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
would exceed the capacity of existing water supplies and necessitate the acquisition of new supplies to meet expected demands	Coastal Water Project The County will revise the draft General Plan to include the following new policy. PS-3.16 The County will participate in the Water for Monterey County Coalition or similar regional group, for the purpose of identifying and supporting a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and Seaside basin, while continuing to protect the Salinas and Pajaro River groundwater basins from saltwater intrusion. The County will also participate in regional groups including representatives of the Pajaro Valley Water Management Agency and the County of Santa Cruz to identify and support a variety of new water supply, water management and multiple agency agreement that will provide additional domestic water supplies for the Pajaro Groundwater Basin. The County's general objective, while recognizing that timeframes will be dependent on the dynamics of each of the regional groups, will be to complete the cooperative planning of these water supply alternatives within five years of the adoption of the General Plan and to implement the selected alternatives within five years after that time.	Coastal Water Project The County will revise the draft General Plan to include the following additional ~~new~~ policy. PS-3.16 The County will participate in the Water for Monterey County Coalition or similar regional group, for the purpose of identifying and supporting a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and Seaside basin, while continuing to protect the Salinas and Pajaro River groundwater basins from saltwater intrusion. The County will also participate in regional groups including representatives of the Pajaro Valley Water Management Agency and the County of Santa Cruz to identify and support a variety of new water supply, water management and multiple agency agreement that will provide additional domestic water supplies for the Pajaro Groundwater Basin. The County's general objective, while recognizing that timeframes will be dependent on the dynamics of each of the regional groups, will be to complete the cooperative planning of these water supply alternatives within five years of the adoption of the General Plan and to implement the selected alternatives within five years after that time.	Coastal Water Project.[15] The County will participate in regional coalitions for the purpose of identifying and supporting a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and Seaside basin, while continuing to protect the Salinas and Pajaro River groundwater basins from saltwater intrusion. The County will also participate in regional groups including representatives of the Pajaro Valley Water Management Agency and the County of Santa Cruz to identify and support a variety of new water supply, water management and multiple agency agreement that will provide additional domestic water supplies for the Pajaro Groundwater Basin. The County's general objective, while recognizing that timeframes will be dependent on the dynamics of each of the regional groups, will be to complete the cooperative planning of these water supply alternatives within five years of the adoption of the General Plan and to implement the selected alternatives within five years after that time.	basin) 2030—LTS (Salinas Valley; Granite Ridge; El Toro Creek sub-basin; Monterey Peninsula; Carmel; Valley; Seaside aquifer) Buildout—SU (Pajaro River groundwater basin; Monterey Peninsula; Seaside aquifer) Buildout—LTS (Salinas Valley; Granite Ridge; El Toro Creek sub-basin; Carmel Valley)

[15] Policy PS-3.14, renumbered from PS-3.16.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	2092	**2092**	**2092**	
	WR-1: Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project. This measure is described above.	**WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project. This measure is described above.	**WR-1.** See above.	
	WR-2: Initiate Planning for Additional Supplies to the Salinas Valley The County will revise the draft General Plan to include the following new policies. PS-3.17. The County will pursue expansion of the SVWP by initiating investigations of the capacity for the Salinas River water storage and distribution system to be further expanded. This shall also include investigations of expanded conjunctive use, use of recycled water for groundwater recharge and seawater intrusion barrier, and changes in operations of the reservoirs. The County's overall objective is to have an expansion planned and in service by 2030. PS-3.18. The County will convene and coordinate a working group made up of the Salinas Valley cities, the MCWRA, and other affected entities for the purpose of identifying new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Salinas Valley. These	**WR-2:** Initiate Planning for Additional Supplies to the Salinas Valley The County will revise the draft General Plan to include the following additional ~~new~~ policies. PS 3.17 The County will pursue expansion of the SVWP by investigating expansion ~~initiating investigations~~ of the capacity for the Salinas River water storage and distribution system. ~~to be further expanded.~~ This shall also include, but not be limited to investigations of expanded conjunctive use, use of recycled water for groundwater recharge and seawater intrusion barrier, and changes in operations of the reservoirs. The County's overall objective is to have an expansion planned and in service by ~~2030.~~ the date that extractions from the Salinas Valley groundwater basin are predicted to reach the levels estimated for 2030 in the EIR for the Salinas Valley Water Project. The County shall review this extraction data trends at five year intervals. The County shall also assess the degree to which the Salinas Valley Groundwater Basin (Zone 2C) has responded with respect to water supply and	**WR-2** The County will pursue expansion of the Salinas Valley Water Project (SVWP) by investigating expansion of the capacity for the Salinas River water storage and distribution system.[16] This shall also include, but not be limited to, investigations of expanded conjunctive use, use of recycled water for groundwater recharge and seawater intrusion barrier, and changes in operations of the reservoirs. The County's overall objective is to have an expansion planned and in service by the date that the extractions from the Salinas Valley groundwater basin are predicted to reach the levels estimated for 2030 in the EIR for the Salinas Valley Water Project. The County shall review these extraction data trends at five year intervals. The County shall also assess the degree to which the Salinas Valley Groundwater Basin (Zone 2C) has responded with respect to water supply and the reversal of seawater intrusion based upon the modeling protocol utilized in the Salinas Valley Water Project EIR. If the examination indicates that the growth in extractions predicted for 2030 are likely to be attained within ten years of	

[16] Policy PS-3.15; combined prior PS-3.17 and 3.18 and renumbered.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	may include, but not be limited to, expanded conjunctive use programs, further improvements to the upriver reservoirs, additional pipelines to provide more efficient distribution, and expanded use of recycled water to reinforce the hydraulic barrier against seawater intrusion. The County's objective will be to complete the cooperative planning of these water supply alternatives by 2020 and have projects online by 2030. .	the reversal of seawater intrusion based upon the modeling protocol utilized in the Salinas Valley Water Project EIR. If the examination indicates that the growth in extractions predicted for 2030 are likely to be attained within ten years of the date of the review, or the groundwater basin has not responded with respect to water supply and reversal of seawater intrusion as predicted by the model, then the County shall implement PS-3.18. PS-3.18 As required by PS-3.17, ~~the~~ County will convene and coordinate a working group made up of the Salinas Valley cities, the MCWRA, and other affected entities. The ~~for the~~ purpose ~~of the working group~~ will be to identify~~ing~~ new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Salinas Valley. These may include, but not be limited to, expanded conjunctive use programs, further improvements to the upriver reservoirs, additional pipelines to provide more efficient distribution, and expanded use of recycled water to reinforce the hydraulic barrier against seawater intrusion. The county's objective will be to complete the cooperative planning of these water supply alternatives ~~by 2020 and have projects online by 2030.~~within five years and to have the projects on-line five years following identification of water supply alternatives.	the date of the review, or the groundwater basin has not responded with respect to water supply and reversal of seawater intrusion as predicted by the model, then the County shall convene and coordinate a working group made up of the Salinas Valley cities, the MCWRA, and other affected entities. The purpose will be to identify new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Salinas Valley. These may include, but not be limited to, expanded conjunctive use programs, further improvements to the upriver reservoirs, additional pipelines to provide more efficient distribution, and expanded use of recycled water to reinforce the hydraulic barrier against seawater intrusion. The county's objective will be to complete the cooperative planning of these water supply alternatives within five years and to have the projects on-line five years following identification of water supply alternatives.	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	BIO-2.3: Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. (see Section 4.9 Biological Resources, below). No additional mitigation measure is available	**BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. (see Section 4.9 Biological Resources, below). No additional mitigation measure is available.	**BIO-2.3.** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. See Section 4.9 Biological Resources, below.	
WR-5: Land uses and development consistent with the General Plan would increase the demand for water storage, treatment, and conveyance facilities that could have significant secondary impacts on the environment.	The General Plan and Area Plan goals and policies will apply. Future projects will be subject to CEQA and have specific mitigation measures. As the experience with existing large-scale water supply projects shows, impacts cannot always be mitigated to a less than significant level.	The General Plan and Area Plan goals and policies will apply. Future projects will be subject to CEQA and have specific mitigation measures. As the experience with existing large-scale water supply projects shows, impacts cannot always be mitigated to a less than significant level.	The General Plan and Area Plan goals and policies will apply. Future projects will be subject to CEQA and have specific mitigation measures. As the experience with existing large-scale water supply projects shows, impacts cannot always be mitigated to a less than significant level.	2030—SU Buildout—SU
WR-6: Land uses and development consistent with the General Plan would increase demand on groundwater supplies in some areas; the associated increased well pumping would result in the continued decline of groundwater levels and accelerated overdraft in portions of the county.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	2030—SU (Pajaro River groundwater basin) 2030—LTS (Salinas Valley; Granite Ridge; El Toro Creek sub-basin; Monterey Peninsula; Carmel Valley; Seaside aquifer) Buildout—SU (Pajaro River groundwater

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
				basin; Seaside aquifer). Buildout—LTS (Salinas Valley; Granite Ridge; El Toro Creek sub-basin; Monterey Peninsula; Carmel Valley)
WR-7: Land uses and development consistent with the General Plan would increase demand on groundwater supplies in areas currently experiencing or susceptible to saltwater intrusion. Increased groundwater pumping in certain coastal areas would result in increased saltwater intrusion in some areas of the county.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	2030—SU (Pajaro River groundwater basin) 2030—LTS (Salinas Valley; Granite Ridge; El Toro Creek sub-basin; Monterey Peninsula; Carmel Valley; Seaside aquifer) Buildout—SU (Salinas Valley; Granite Ridge; Monterey Peninsula; Seaside aquifer; Pajaro River groundwater basin) Buildout—LTS (El Toro Creek

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
				sub-basin; Carmel Valley)
WR-8: Land uses and development consistent with the General Plan would result in sewer- and septic-related water quality impacts, including those associated with reuse of treated water and migration of septic tank leachfield wastewater effluent to groundwater that would violate water quality standards.	No additional mitigation beyond the General Plan and Area Plan goals and policies is required.	No additional mitigation beyond the General Plan and Area Plan goals and policies is required.	No additional mitigation beyond the General Plan and Area Plan goals and policies is required.	2030—LTS Buildout—LTS
WR-9: Land uses and development consistent with the General Plan would result in an increase in the number of private wells in unincorporated inland areas of the county. Approval of wells in these areas would result in well interference impacts.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
WR-10: Land use and development consistent with the General Plan would result in	**2030** **BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the	**2030** **BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the	**2030** **BIO-2.1:** Stream Setback Ordinance.[17] See Section 4.9 Biological Resources, below. No additional mitigation beyond	2030—LTS Buildout—LTS

[17] Policy OS-5.22.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
alterations to existing drainage patterns. Such changes would increase erosion, both in overland flow paths and in drainage swales and creeks.	General Plan and Area Plan goals and policies is necessary.	General Plan and Area Plan goals and policies is necessary.	the General Plan and Area Plan goals and policies is necessary.	
WR-11: Land uses and development consistent with the General Plan would result in increases in storm water runoff and peak discharge. Existing storm drain systems, including urban creeks and rivers, may be incapable of accommodating increased flows, potentially resulting in increased onsite or offsite flooding.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
WR-12: Land uses and development consistent with the General Plan would allow continued development in 100-year flood hazard areas.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	2030—LTS Buildout—SU
WR-13: The placement of land uses and structures within Special Flood Hazard Areas	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is	2030—LTS Buildout—SU

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
would impede or redirect flood flows, resulting in secondary downstream flood damage, including bank failure.	necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	**2092** Extent and locations of future impact are unknown; no mitigation is feasible.	necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	
WR-14: Potential failure of levees or dams would expose people and structures to inundation and result in the loss of property, increased risk, injury, or death.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	2030—LTS Buildout—SU
CUM-2: Water Resources – Surface water quality:	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	LTCC
CUM-3: Water Resources – Groundwater Quality:	Mitigation measures WR-1 and WR-2, as described above.	Mitigation measures WR-1 and WR-2, as described above.	Mitigation measures WR-1 and WR-2, as described above.	CC
CUM-4: Water Resources – Indirect impacts of water supply projects.	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC
4.4 GEOLOGY, SOILS, AND SEISMICITY				
GEO-1: Implementation of the General Plan could expose persons and property to fault rupture hazards.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
GEO-2: Land uses and development consistent with the General Plan could expose people or structures to substantial adverse seismic effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	No mitigation beyond the General Plan Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
GEO-3: Land uses and development consistent with the General Plan could expose property and structures to the damaging effects of ground subsidence hazards. This kind of geologic hazard can be seismically triggered (e.g., liquefaction), caused by seasonal saturation of the soils and rock materials, or related to grading activities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
GEO-4: Land uses and development consistent with the General Plan could expose people and structures to substantial damaging effects of landslides, including the risk of loss, injury, or death from downslope earth movement that may	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
be slow or rapidly occurring. This kind of geologic hazard is commonly caused by earthquakes, seasonal saturation of soils and rock, erosion, or grading activities.				
GEO-5: Erosion from activities and land uses consistent with the General Plan could result in erosion hazards.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	**BIO-2.1:** Stream Setback Ordinance. See Section 4.9 Biological Resources, below. No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—LTS Buildout—LTS
GEO-6: Land uses and development consistent with the General Plan could expose property improvements to potential adverse effects from expansive soils. Expansive soils can damage improvements, especially structures such as residential buildings, small commercial buildings, and pavements.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
GEO-7: Construction of septic tanks or alternative wastewater disposal systems on soils incapable of adequately supporting such systems could damage improvements and	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
adversely affect groundwater resources.				
GEO-8: Land use activities and development consistent with the General Plan could expose persons and property to tsunami, seiche, or mudflow hazards.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
4.5 MINERAL RESOURCES				
MIN-1: Implementation of the General Plan would potentially result in the loss of availability of known mineral resources of value to the region and the residents of the state.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
MIN-2: Implementation of the General Plan would potentially result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
4.6 TRANSPORTATION				
TRAN-1A: Development allowed under the	Impacts are less than significant, therefore no mitigation is necessary.	Impacts are less than significant, therefore no mitigation is necessary.	Impacts are less than significant, therefore no mitigation is necessary.	2030—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
General Plan would cause direct impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.				
TRAN-1B: Development of the land uses allowed under the General Plan would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No mitigation is feasible.	No mitigation is feasible.	No additional mitigation beyond General Plan policies and Mitigation Measures TRAN-2B and MM TRAN-5A (described below) is available.	2030—SU
TRAN 1-C: Growth in land uses allowed under the General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	Impacts are less than significant, therefore no mitigation is necessary.	Impacts are less than significant, therefore no mitigation is necessary.	Impacts are less than significant, therefore no mitigation is necessary.	2030—LTS
TRAN 1-D: Growth in land uses allowed under the General Plan could result in non-standard or hazardous designs or land uses that are	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	2030—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
incompatible with public facilities and adjoining land uses.				
TRAN 1-E: Growth in land uses allowed under the General Plan would result in inadequate emergency access.	**TRAN-1E:** Revise Safety Element S-4.27 on increasing roadway connectivity to enhance emergency access. S-4.27 The County shall continue to review the procedure for proposed development, including minor and major subdivisions, and provide for an optional pre-submittal meeting between the project applicant, planning staff, and fire officials. In addition, the County shall review Community Area and Rural Center Plans, and new development proposals for roadway connectivity that provides multiple routes for emergency response vehicles. At the time of their update, Community Area and Rural Center Plans shall identify primary and secondary response routes. Secondary response routes shall be required to accommodate through traffic and may be existing roads, or may be new roads required as part of development proposals. The emergency route and connectivity plans shall be coordinated with the appropriate Fire District.	**TRAN-1E:** Revise Safety Element S-4.27 on increasing roadway connectivity to enhance emergency access. S-4.27 The County shall continue to review the procedure for proposed development, including minor and major subdivisions, and provide for an optional pre-submittal meeting between the project applicant, planning staff, and fire officials. In addition, the County shall review Community Area and Rural Center Plans, and new development proposals for roadway connectivity that provides multiple routes for emergency response vehicles. At the time of their update, Community Area and Rural Center Plans shall identify primary and secondary response routes. Secondary response routes shall be required to accommodate through traffic and may be existing roads, or may be new roads required as part of development proposals. The emergency route and connectivity plans shall be coordinated with the appropriate Fire District.	**TRAN-1E:** Revise Safety Element S-5.17 on increasing roadway connectivity to enhance emergency access.[18] S-5.17 Emergency Response Routes and Street Connectivity Plans shall be required for Community Areas and Rural Centers, and for any development producing traffic at an equivalent or greater level to five or more lots/units. Said Plan shall include: a. Roadway connectivity that provides multiple routes for emergency response vehicles. b. Primary and secondary response routes in Community Areas and Rural Centers. c. Secondary response routes, which may include existing roads or new roads required as part of development proposals. The County shall review said plans in coordination with the appropriate Fire District.	2030—SU
TRAN 1-F: Development allowed under the General Plan could potentially conflict with adopted policies,	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	2030—LTS

[18] The March 2010 FEIR calls out S-4.27. The actual policy is S-5.17.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.				
TRAN-2A: Development allowed under the General Plan cumulatively with other development to the year 2030 would cause direct impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	2030—LTCC
TRAN-2B: Development of the land uses allowed under the General Plan cumulatively with development in incorporated cities and in adjacent counties would create traffic increases on County and Regional roadways which would	No mitigation is feasible for County and Regional roadways outside of the CVMP. **TRAN-2B:** Revise policies in the Carmel Valley Master Plan as follows: Policy CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road: a) Via Petra to Robinson Canyon Road. Every effort should be made to	No mitigation is feasible for County and Regional roadways outside of the CVMP. **TRAN-2B:** Revise policies in the Carmel Valley Master Plan as follows: Policy CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road: a) Via Petra to Robinson Canyon Road. Every effort should be made to preserve	No mitigation is feasible for County and Regional roadways outside of the CVMP. **TRAN-2B:** Revise policies in the Carmel Valley Master Plan as follows:[19] CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road: a) *Via Petra to Robinson Canyon Road*: Every effort should be made to	2030—CC (most of county)

[19] Policies CV-2.10, CV-2.17, and CV-2.18; prior Policy CV-2.12 was deleted, prior CV-2.18 was renumbered to CV-2.17, and prior CV-2.19 was renumbered to CV-2.18.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. b) Robinson Canyon Road to Laureles Grade. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. c) Carmel Valley Road/Laureles Grade. A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation. Laureles Grade to Ford Road. Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted. d) East of Esquiline Road. Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs. e) Laureles Grade improvements. Improvements to Laureles Grade	its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. b) Robinson Canyon Road to Laureles Grade. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. c) Carmel Valley Road/Laureles Grade. A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation. d) Laureles Grade to Ford Road. Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted. e) East of Esquiline Road. Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs. f) Laureles Grade improvements. Improvements to Laureles Grade should consist of the construction of shoulder	preserve its rural character by maintaining it as a 2-lane road with paved shoulders and left turn channelizations at intersections where warranted. b) *Robinson Canyon Road to Laureles Grade*: Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders and left turn channelizations at intersections where warranted. c) *Carmel Valley Road/Laureles Grade*: A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation. d) *Laureles Grade to Ford Road*: Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted. e) *East of Esquiline Road*: Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs. f) *Laureles Grade improvements*: Improvements to Laureles Grade should consist of the construction of	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.	widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.	shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.	
	Policy CV-2.12: To accommodate existing and future traffic, the following road improvements are recommended: a) Add a northbound climbing lane between Rio Road and Carmel Valley Road; b) Laureles Grade—undertake shoulder improvements, widening and spot realignment; Carmel Valley Road, Robinson Canyon Road to Ford Road—add left turn channelization at all intersections. Shoulder improvements should be undertaken.	Policy CV-2.12: To accommodate existing and future traffic, the following road improvements are recommended: a) Add a northbound climbing lane between Rio Road and Carmel Valley Road; b) Laureles Grade—undertake shoulder improvements, widening and spot realignment; c) Carmel Valley Road, Robinson Canyon Road to Ford Road—add left turn channelization at all intersections. Shoulder improvements should be undertaken.	NOTE: The Laureles Grade and Carmel Valley Road improvements are all included in CV-2.10. The northbound climbing land on SR1 between Rio Road and Carmel Valley Road is an approved and funded project and thus is not included in final mitigation measure.	
	Policy CV-2.18: To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic at the following 12 locations: Carmel Valley Road:	Policy CV-2.18: To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic at the following 12 locations: Carmel Valley Road: ▪ East of Holman Road	CV-2.17. To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic volumes at the 6 locations in the following list noted in bold type: *Carmel Valley Road* 1. East of Holman Road	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	▪ East of Holman Road ▪ Holman Road to Esquiline Road ▪ Esquiline Road to Ford Road ▪ Ford Road to Laureles Grade ▪ Laureles Grade to Robinson Canyon Road ▪ Robinson Canyon Road to Schulte Road ▪ Schulte Road to Rancho San Carlos Road ▪ Rancho San Carlos Road to Rio Road ▪ Rio Road to Carmel Rancho Boulevard ▪ Carmel Rancho Boulevard to SR1 Other Locations: ▪ Carmel Rancho Boulevard between Carmel Valley Road and Rio Road ▪ Rio Road between its eastern terminus and SR1 b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the peak-hour level of service (LOS) for these 12 locations to indicate segments approaching a traffic volume which would lower levels of service below the LOS standards established below under CV 2-18(d). c) Public hearings shall be held in	▪ Holman Road to Esquiline Road ▪ Esquiline Road to Ford Road ▪ Ford Road to Laureles Grade ▪ Laureles Grade to Robinson Canyon Road ▪ Robinson Canyon Road to Schulte Road ▪ Schulte Road to Rancho San Carlos Road ▪ Rancho San Carlos Road to Rio Road ▪ Rio Road to Carmel Rancho Boulevard ▪ Carmel Rancho Boulevard to SR1 Other Locations: ▪ Carmel Rancho Boulevard between Carmel Valley Road and Rio Road ▪ Rio Road between its eastern terminus <u>at Val Verde Drive</u> and SR1 b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the peak-hour level of service (LOS) for these 12 locations to indicate segments approaching a traffic volume which would lower levels of service below the LOS standards established below under CV 2-18(d). c) Public hearings shall be held in January	2. Holman Road to Esquiline Road **3. Esquiline Road to Ford Road** **4. Ford Road to Laureles Grade** **5. Laureles Grade to Robinson Canyon Road** **6. Robinson Canyon Road to Schulte Road** **7. Schulte Road to Rancho San Carlos Road** 8. Rancho San Carlos Road to Rio Road 9. Rio Road to Carmel Rancho Boulevard 10. Carmel Rancho Boulevard to SR1 *Other Locations* 11. Carmel Rancho Boulevard between Carmel Valley Road and Rio Road **12. Rio Road between its eastern terminus at Val Verde Drive and SR1** Monitoring may be reestablished on other segments when traffic studies indicate that they are approaching 80% of existing thresholds. b) A yearly evaluation report shall be prepared jointly by the Department of Public Works in December to evaluate the peak-hour level of service (LOS) for the 6 monitoring locations and determine if any of those segments are approaching a peak hour traffic volume that would lower levels of service below the LOS	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	January immediately following a December report in (b) above in which only 100 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-18(d)) would be reached for any of the 12 segments described above. d) The traffic LOS standards (measured for peak hour conditions) for the CVMP Area shall be as follows: ▪ Signalized Intersections—LOS of "C" is the acceptable condition. ▪ Unsignalized Intersections—LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions ▪ Carmel Valley Road Segment Operations: ❑ LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition; ❑ LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition. During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in CV 2-18(d) after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation	immediately following a December report in (b) above in which only 100 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-18(d)) would be reached for any of the 12 segments described above. d) The traffic LOS standards (measured for peak hour conditions) for the CVMP Area shall be as follows: ▪ Signalized Intersections—LOS of "C" is the acceptable condition. ▪ Unsignalized Intersections—LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions ▪ Carmel Valley Road Segment Operations: ❑ LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition; ❑ LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition. During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in CV 2-18(d) after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the	standards established below under CV 2-17(e). The report will summarize peak hour data and Percent Time Following (PTSF) analysis in an ADT format. c) Public hearings shall be held in January immediately following the December report when only 10 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-17(e)) would be reached for any of the 6segments described above. d) At five year intervals, the County shall examine the degree to which estimates of changes in Levels of Service ("LOS") in the Carmel Valley Master Plan Area may be occurring earlier than predicted in the General Plan Environmental Impact Report. If the examination indicates that LOS are likely to fall to a lower letter grade than predicted for 2030, then the County shall consider adjustments to the cap on new residential units established in (CV-1.6) and/or the cap on new visitor serving units established in (CV-1.15) or other measures that may reduce the impacts. e) The traffic LOS standards (measured by peak hour conditions) for the CVMP Area shall be as follows: 1) Signalized Intersections – LOS of "C" is the acceptable condition.	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	Fee, then approval of the project shall be conditioned on the prior (e.g. prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family residence on a legal lot of record.	prior (e.g. prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family residence on a legal lot of record.	2) Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions. 3) Carmel Valley Road Segment Operations: a) LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition; b) LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition. During review of development applications that require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in CV 2-17(e), after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the prior (e.g., prior to project-generated traffic) construction of additional roadway improvements or an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
			improvements. This policy does not apply to the first single family residence on a legal lot of record.	
	Policy CV-2.19: Carmel Valley Traffic Improvement Program (CVTIP) a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy CV-2.18(d): ▪ Left-turn channelization on Carmel Valley Road west of Ford Road; ▪ Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road; ▪ Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade; ▪ Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation); ▪ Sight Distance Improvement at Dorris Road; ▪ Passing lanes in front of the proposed September Ranch	Policy CV-2.19: Carmel Valley Traffic Improvement Program (CVTIP) a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy CV-2.18(d): ▪ Left-turn channelization on Carmel Valley Road west of Ford Road; ▪ Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road; ▪ Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade; ▪ Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation); ▪ Sight Distance Improvement at Dorris Road; ▪ Passing lanes in front of the proposed September Ranch development;	CV-2.18 The County shall adopt a Carmel Valley Traffic Improvement Program (CVTIP) that: a. Evaluates the conditions of Carmel Valley Road and identifies projects designed to maintain the adopted LOS standards for this roadway as follows: 1. In order to preserve the rural character of Carmel Valley, improvements shall be designed to avoid creating more than three through lanes along Carmel Valley Road. 2. Higher priority shall be given to projects that address safety issues and manage congestion 3. The project list may include projects previously identified for inclusion in the CVTIP or their functional equivalent. 4. Priorities shall be established through community input via a Carmel Valley Road Committee, which shall be established by the Board of Supervisors. 5. At a minimum, the project list shall be updated every five years unless a subsequent traffic analysis identifies that	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	development; ▪ Passing lanes opposite Garland Park; ▪ Climbing Lane on Laureles Grade; ▪ Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes; ▪ Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and ▪ Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road. b) The County shall adopt an updated fee program to fund the CVTIP. c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under CV 2-18(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.	▪ Passing lanes opposite Garland Park; ▪ Climbing Lane on Laureles Grade; ▪ Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes; ▪ Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and ▪ Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road. b) The County shall adopt an updated fee program to fund the CVTIP. c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under CV 2-18(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.	different projects are necessary. b. Validates and refines the specific scope of all projects proposed by the CVTIP through preparation of a Project Study Report (PSR). The PSR will be reviewed by the Carmel Valley Road Committee prior to commencement of project design. c. Establishes a fee program to fund the CVTIP. All projects within the Carmel Valley Master Plan (CVMP) area , and within the "Expanded Area" that contribute to traffic within the CVMP area, shall contribute a fair-share traffic impact fee to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. Fees will be updated annually as specified by the CVTIP to account for changes in construction costs and land values. The County shall adopt a CVTIP within one year of approval of the 2010 General Plan. The CVTIP does not apply to any roadways (including SR1) that are located outside the CVMP area.	
TRAN-2C: Growth in land uses allowed under	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	2030—LTCC

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
the General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.				
TRAN-2D: Growth in land uses allowed under the General Plan, cumulatively with development in incorporated cities and adjacent counties, could result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	No additional mitigation beyond General Plan policies is necessary.	2030—LTCC
TRAN-2E: Growth in land uses allowed under the General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	2030—CC
TRAN-2F: Development allowed under the	No additional mitigation beyond General	No additional mitigation beyond General	No additional mitigation beyond General	2030—LTCC

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
General Plan, cumulatively with development in incorporated cities and adjacent counties, could potentially conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.	Plan policies is necessary.	Plan policies is necessary.	Plan policies is necessary.	
TRAN-3A: Buildout of the General Plan would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS
TRAN-3B: Buildout of the General Plan would increase traffic on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	Buildout—SU

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
LOS standard without development.				
TRAN-3C: Buildout of the General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS
TRAN-3D: Buildout of the General Plan would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	Buildout—LTS
TRAN-3E: Buildout of the General Plan would result in inadequate emergency access.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout—SU
TRAN-3F: Buildout of the General Plan would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
development plans, or long-range transit plans				
TRAN-4A: Buildout of the General Plan cumulatively with development in incorporated cities and adjacent counties would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS
TRAN-4B: Buildout of the General Plan cumulatively with development in incorporated cities and in adjacent counties would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	Buildout—SU
TRAN-4C: Buildout of the General Plan, cumulatively with development in incorporated cities and	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS

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adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.				
TRAN-4D: Growth in land uses allowed under the General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	No additional mitigation measures beyond the General Plan are necessary.	Buildout—LTS
TRAN-4E: Buildout of the General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout—SU
TRAN-4F: Buildout of the General Plan, cumulatively with development in incorporated cities and adjacent counties, would conflict with adopted	No mitigation is necessary.	No mitigation is necessary.	No mitigation is necessary.	Buildout—LTS

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policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.				
TRAN-5A: Growth in land uses allowed under the General Plan to the year 2030 would create adverse impacts to County roads within the Agricultural and Winery Corridor.	**TRAN-5A:** The roadway segments exceeding LOS standards are two-lane rural roads that provide left turn lanes at some intersections. These segments include County Road G14 between US 101 and San Lucas Road, and Spreckels Boulevard between SR-68 and Harkins Road. Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Corridor by the Public Works Department. These improvements would be implemented when: 1) A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety. 2) A proposed development gains access from an intersection within the	**TRAN-5A:** The roadway segments exceeding LOS standards are two-lane rural roads that provide left turn lanes at some intersections. These segments include County Road G14 between US 101 and San Lucas Road, and Spreckels Boulevard between SR-68 and Harkins Road. Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Corridor by the Public Works Department. These improvements would be implemented when: 1) A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety. 2) A proposed development gains access from an intersection within the	**TRAN-5A:** The County Traffic Impact Fee Program and CIFP shall include roadway segments within the AWCP that exceed LOS standards.[20] Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Agricultural and Winery Corridor by the County Public Works Department. These improvements would be implemented when: 1. A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety. 2. A proposed development gains access from an intersection within the segment. 3. A corridor-wide nexus study prepared for the required Capital	2030—LTS

[20] Policy C-1.12.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	segment. 3) A corridor-wide nexus study prepared for the required Capital Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements. To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by: 1. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or 2. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or **3.** Constructing passing lanes as determined in the Capital Improvement and Financing Plan.	segment. 3) A corridor-wide nexus study prepared for the required Capital Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements. To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by: 4. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or 5. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or 6. Constructing passing lanes as determined in the Capital Improvement and Financing Plan. <u>Until such time as the County Traffic Impact Fee Program and CIFP for the AWCP are adopted, all new development in the AWCP will be required to prepare a Traffic Impact Analysis (TIA) regardless of the level of CEQA analysis conducted for the Project. Project-specific (Tier 1) mitigation measures identified in the TIA will be required to be implemented concurrently. If a TIA identifies a Traffic Tier impact, the development will be required to make a "fair share" payment for</u>	Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements. To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by: 1. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or 2. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or 3. Constructing passing lanes as determined in the Capital Improvement and Financing Plan. Until such time as the County Traffic Impact Fee Program and CIFP for the AWCP are adopted, all new development in the AWCP will be required to prepare a Traffic Impact Analysis (TIA) regardless of the level of CEQA analysis conducted for the Project. Project-specific (Tier 1) mitigation measures identified in the TIA will be required to be implemented concurrently. If a TIA identifies a Traffic Tier impact, the development will be required to make a "fair share" payment for that impact. For discretionary permits and approvals, Policies C-1.3 and C-1.4	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
		that impact. For discretionary permits and approvals, Policies C-1.3 and C-1.4 shall apply. In addition, all projects are subject to payment of the TAMC Regional Development Impact Fee.	shall apply. In addition, all projects are subject to payment of the TAMC Regional Development Impact Fee.	
TRAN-5B: Buildout of the General Plan would create adverse impacts to County roads within the Agricultural Winery Corridor.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-5A (described above) is necessary.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-5A (described above) is necessary.	No additional mitigation beyond General Plan policies and Mitigation Measure TRAN-5A (described above) is necessary.	Buildout—LTS
CUM-6: Transportation	Related mitigation measures are included in Section 4.6.	Related mitigation measures are included in Section 4.6.	Related mitigation measures are included in Section 4.6.	CC
4.7 AIR QUALITY				
AQ-1: Buildout of the General Plan would conflict with applicable Air Quality Management Plans and Standards.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
AQ-2: Generation of significant quantities of construction-related emissions would result in greater levels of air pollution.	**2030 and 2092** **AQ-1:** The County of Monterey will update General Plan policy OS-10.5 as follows: OS-10.5 The County of Monterey will require that future construction in accordance with the 2007 implement MBUAPCD PM_{10} control measures.	**2030 and 2092** **AQ-1:** The County of Monterey will update General Plan policy OS-10.~~5~~9 as follows: OS-10.~~5~~9. The County of Monterey ~~will~~shall require that future ~~construction in accordance with the 2007~~development implement applicable Monterey Bay Unified Air Pollution Control District ~~PM_{10}~~control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution	**2030 and 2092** **AQ-1[21]:** [this measure is the same as AQ-2] The County of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution Control District to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met. The	2030—LTS Buildout—LTS

[21] Policy OS-10.9.

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		Control District to incorporate feasible measures that assure that health-based standards for diesel particulate emissions are met. The County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction-related PM_{10} emissions do not exceed the MBUAPCD's PM_{10} threshold of 82 pounds per day. The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's NO_X threshold of 137 pounds per day.	County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction-related PM_{10} emissions do not exceed the MBUAPCD's daily threshold for PM_{10}. The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's daily threshold for NO_X.	
	AQ-2: Implement MBUAPCD Mitigation Measures for Off-Road Mobile Source and Heavy Duty Equipment Emissions. General Plan Policy OS-10.6 will be revised as follows: The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development.	**AQ-2:** Implement MBUAPCD Mitigation Measures for Off-Road Mobile Source and Heavy Duty Equipment Emissions. General Plan Policy OS-10.~~6~~9 will be revised as follows: OS-10.~~6~~9 The County ~~shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development.~~ of Monterey shall require that future development implement applicable Monterey Bay Unified Air Pollution Control District control measures. Applicants for discretionary projects shall work with the Monterey Bay Unified Air Pollution Control District to incorporate	**AQ-2:** See AQ-1 above.	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
		feasible measures that assure that health-based standards for diesel particulate emissions are met. The County of Monterey will require that future construction operate and implement MBUAPCD PM_{10} control measures to ensure that construction-related PM_{10} emissions do not exceed the MBUAPCD's PM_{10} threshold of 82 pounds per day. The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development to ensure that construction-related NO_X emissions from non-typical construction equipment do not exceed the MBUAPCD's NO_X threshold of 137 pounds per day.		
AQ-3: Net Change in Ozone Precursor (ROG and NOx) and Particulate Matter.	**2030 and 2092** **CC-2 and CC-3:** See the description of these measures under Climate Change, below. **AQ-3:** Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.10: ▪ Provide preferential carpool/vanpool parking spaces ▪ Implement a parking surcharge for	**2030 and 2092** **CC-2 and CC-3:** See the description of these measures under Climate Change, below. **AQ-3:** Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.10: ▪ Provide preferential carpool/vanpool parking spaces ▪ Implement a parking surcharge for	**2030 and 2092** **AQ-3:** Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses. [22] In the design of future development within Community Areas and Rural Centers, the following sustainable land use strategies shall be considered to reduce energy consumption, minimize greenhouse gas emissions, and foster healthier environments for people:	2030—SU Buildout—SU

[22] Policy OS-10.10.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	single occupant vehicles ▪ Provide for shuttle/mini bus service ▪ Provide bicycle storage/parking facilities and shower/locker facilities ▪ Provide onsite child care centers ▪ Provide transit design features within the development ▪ Develop park-and-ride lots ▪ Employ a transportation/rideshare coordinator ▪ Implement a rideshare program ▪ Provide incentives to employees to rideshare or take public transportation ▪ Implement compressed work schedules Implement telecommuting program	single occupant vehicles ▪ Provide for shuttle/mini bus service ▪ Provide bicycle storage/parking facilities and shower/locker facilities ▪ Provide onsite child care centers ▪ Provide transit design features within the development ▪ Develop park-and-ride lots ▪ Employ a transportation/rideshare coordinator ▪ Implement a rideshare program ▪ Provide incentives to employees to rideshare or take public transportation ▪ Implement compressed work schedules Implement telecommuting program	• Take an integrated approach to siting, design, and operation of buildings and infrastructure • Incorporate multiple-uses for infrastructure (e.g., recreational fields designed to capture stormwater and reduce urban runoff) • Design development to take advantage of solar orientation • Recycle brownfield sites • Employ individual and systematic water conservation measures (e.g., native vegetation, bioswales, graywater reuse, high efficiency appliances) • Promote Transit Oriented Development (TOD) to increase mobility and reduce auto dependency • Provide preferential carpool/vanpool parking spaces • Implement a parking surcharge for single occupant vehicles • Provide for shuttle/mini bus service • Provide bicycle storage/parking facilities and shower/locker facilities • Provide onsite child care centers • Provide transit design features within the development • Develop park-and-ride lots • Employ a transportation/rideshare coordinator • Implement a rideshare program • Provide incentives to employees to rideshare or take public transportation • Implement compressed work schedules	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
			• Implement telecommuting program • Provide bicycle paths within major subdivisions that link to an external network • Provide pedestrian facilities within major subdivisions • Locate development of new sensitive land uses (schools, hospitals, facilities for the elderly) at least 500 feet from a freeway carrying more than 100,000 vehicles per day. Future development shall be designed to maximize energy efficiency to the extent feasible and accommodate energy infrastructure (i.e., transmission lines, power plants and pipelines, and fueling stations), including the potential for distributed renewable generation.	
	AQ-4: Implement MBUAPCD Mitigation Measures for Residential Land Uses (MBUAPCD 2008). General Plan Policy OS-10.10 will be revised to include the following measures to address residential land use: ▪ Provide bicycle paths within major subdivisions that link to an external network Provide pedestrian facilities within major subdivisions	**AQ-4:** Implement MBUAPCD Mitigation Measures for Residential Land Uses (MBUAPCD 2008). General Plan Policy OS-10.10 will be revised to include the following measures to address residential land use: ▪ Provide bicycle paths within major subdivisions that link to an external network Provide pedestrian facilities within major subdivisions	**AQ-4:** Implement MBUAPCD Mitigation Measures for Residential Land Uses.[23] This measure is incorporated into measure AQ-3, above.	
	AQ-5: Implement MBUAPCD	**AQ-5:** Implement MBUAPCD Mitigation	**AQ-5:** Implement MBUAPCD	

[23] Policy OS-10.10.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	Mitigation Measures for Alternative Fuels (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.2 to address alternative fuels: ▪ Utilize electric fleet vehicles ▪ Utilize Ultra Low-Emission fleet vehicles ▪ Utilize methanol fleet vehicles ▪ Utilize liquid propane gas fleet vehicles Utilize compressed natural gas fleet vehicles	Measures for Alternative Fuels (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.2 to address alternative fuels: ▪ Utilize electric fleet vehicles ▪ Utilize Ultra Low-Emission fleet vehicles ▪ Utilize methanol fleet vehicles ▪ Utilize liquid propane gas fleet vehicles Utilize compressed natural gas fleet vehicles	Mitigation Measures for Alternative Fuels.[24] Within 12 months of adoption of the General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 15% less than 2005 emission levels. Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: • an energy tracking and management system; • energy-efficient lighting; • lights-out-at-night policy; • occupancy sensors; • heating, cooling and ventilation system retrofits; • ENERGY STAR appliances • green or reflective roofing; • improved water pumping energy efficiency; • central irrigation control system; • energy-efficient vending machines; • preference for recycled materials in purchasing; • use of low or zero-emission vehicles	

[24] Policy OS-10.15; this was renumbered from OS-10.2.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
			and equipment • recycling of construction materials in new county construction; • solar roofs; and • conversion of fleets (as feasible) to; ▪ Electric vehicles, ▪ Ultra Low-Emission vehicles, ▪ Methanol fleet vehicles, ▪ Liquid propane gas fleet vehicles, or Compressed natural gas fleet vehicles	
AQ-4: Buildout of the General Plan would expose sensitive receptors to increased diesel exhaust.	**2030 and 2092** **AQ-6:** The County of Monterey shall require that construction contracts be given to those contractors who show evidence of the use of soot traps, ultra-low sulfur fuels, and other diesel engine emissions upgrades that reduce PM_{10} emissions to less than 50% of the statewide PM_{10} emissions average for comparable equipment. **AQ-7:** The following language should be included in General Plan policy OS-10.10: Development of new sensitive land uses (schools, hospitals, facilities for the elderly) should not be located any closer	**2030 and 2092** **AQ-6:** The County of Monterey shall require that construction contracts be given to those contractors who show evidence of the use of soot traps, ultra-low sulfur fuels, and other diesel engine emissions upgrades that reduce PM_{10} emissions to less than 50% of the statewide PM_{10} emissions average for comparable equipment. **AQ-7:** The following language should be included in General Plan Policy OS-10.10: Ensure development~~Development~~ of new sensitive land uses (schools, hospitals, facilities for the elderly) is~~should~~ not ~~be~~	**2030 and 2092** **AQ-6[25]:** The County of Monterey shall require that construction contracts be given to those contractors who show evidence of the use of soot traps, ultra-low sulfur fuels, and other diesel engine emissions upgrades that reduce PM_{10} emissions to less than 50% of the statewide PM_{10} emissions average for comparable equipment. **AQ-7[26]:** The following language is included in Policy OS-10.10: • Locate development of new sensitive land uses (schools, hospitals, facilities for the elderly) at least 500 feet from a	2030—LTS Buildout—LTS

[25] Policy OS-10.14.
[26] Policy OS-10.10.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	than 500 feet of a freeway carrying more than 100,000 vehicles per day.	located any closer than 500 feet of a freeway carrying more than 100,000 vehicles per day.	freeway carrying more than 100,000 vehicles per day. (This measure is incorporated into measure AQ-3, above.)	
AQ-5: Future traffic growth would cause increases in CO levels along County roadways.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
AQ-6: Buildout of the General Plan would result in the emission of objectionable odors.	**2030 and 2092** **AQ-8:** The following measures should be added as General Plan Policy OS-10.12: OS-10.12. Provide for the proper storage and disposal of pomace resulting from winery operations. ▪ To minimize odors resulting from the storage of pomace, all residue shall be removed from the site or spread in the vineyards as a soil amendment by the winery. ▪ To prevent complaints resulting from burning of pomace, burning of pomace as a disposal method shall be prohibited. ▪ All wineries shall incorporate best management practices and technologies to prevent fugitive emissions and odors from escaping the winery during production.	**2030 and 2092** **AQ-8:** The following measures should be added as General Plan Policy OS-10.12: OS-10.12. Provide for the proper storage and disposal of pomace resulting from winery operations. ▪ To minimize odors resulting from the storage of pomace, all residue shall be removed from the site or spread in the vineyards as a soil amendment by the winery. ▪ To prevent complaints resulting from burning of pomace, burning of pomace as a disposal method shall be prohibited. ▪ All wineries shall incorporate best management practices and technologies to prevent fugitive emissions and odors from escaping the winery during production.	**2030 and 2092** **AQ-8:** The following measures should be added as General Plan Policy AG-4.5[27]: AG-4.5. Wineries shall provide for the proper storage and disposal of pomace resulting from winery operations. • To minimize odors resulting from the storage of pomace, all residue shall be removed from the site or spread in the vineyards as a soil amendment by the winery. • To prevent complaints resulting from burning of pomace, burning of pomace as a disposal method shall be prohibited. All wineries shall incorporate best management practices and technologies to prevent fugitive emissions and odors from escaping the winery during production.	2030—LTS Buildout—LTS
CUM 7: Air Quality	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC

[27] Policy AG-4.5; this was renumbered from OS-10.12.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
4.8 NOISE				
Impact N-1: Future development activities associated with the General Plan would result in exposure of noise sensitive land uses (i.e. persons) to traffic noise in excess of County noise standards, or substantial increases in traffic noise.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	2030—LTS 2092—LTS
Impact N-2: Development activities associated with implementation of the General Plan would result in exposure of persons to excessive ground-borne vibration.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	2030—LTS 2092—LTS
Impact N-3: Implementation of the General Plan would create temporary, short-term noise impacts during associated construction activities.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	2030—LTS 2092—LTS
Impact N-4: Implementation of the General Plan would potentially expose people residing or working near an airport to excessive noise levels.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	2030—LTS 2092—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
Impact N-5: Implementation of the General Plan would expose people residing or working near industrial/agricultural land uses and recreational venues to excessive noise levels.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	2030—LTS 2092—LTS
CUM-8: Noise	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	No mitigation beyond General Plan policies is necessary.	LTCC
4.9 BIOLOGICAL RESOURCES				
BIO-1: Potential Adverse Impact on Special-Status Species	**2030** ***All Special Status Species—Program Level*** **BIO-1.1:** Baseline Inventory of Landcover, Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County The County shall expand the inventory of listed species suitable and critical habitat required by Policy OS 5.1 and OS-5.2 to include an updated vegetation land cover map, identification of suitable habitat for special status species (as defined in this document), sensitive natural communities, and riparian habitat in Monterey County. The inventory shall include wetlands inventory as feasible based on existing data sources and aerial interpretation. This inventory should be updated at a	**2030** *All Special Status Species—Program Level* ~~**BIO-1.1:** Baseline Inventory of Landcover, Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County~~ ~~The County shall expand the inventory of listed species suitable and critical habitat required by Policy OS 5.1 and OS-5.2 to include an updated vegetation land cover map, identification of suitable habitat for special status species (as defined in this document), sensitive natural communities, and riparian habitat in Monterey County. The inventory shall include wetlands inventory as feasible based on existing data sources and aerial interpretation. This inventory should be updated at a minimum of ten-year intervals. The inventory can~~	**2030** *All Special Status Species—Program Level*	2030—LTS 2092—SU

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	minimum of ten-year intervals. The inventory can exclude areas that are not under the control of Monterey County (e.g. cities, state and federal lands).	~~exclude areas that are not under the control of Monterey County (e.g. cities, state and federal lands).~~		
	BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley The County shall, in concert with the USFWS, CDFG, cities in the Salinas Valley, and stakeholders develop a conservation plan for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The Conservation Plan, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation plan area. The County shall complete the conservation plan within 4 years of General Plan adoption. The conservation plan funding program shall be developed and shall include a mitigation fee program for which development projects will be assessed a fee based on a proportional basis of impact to the San Joaquin kit fox. The compensation plan shall be developed and implemented in coordination with the	**BIO-1.2:** Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley The County shall, in concert with the ~~USFWS~~ U.S. Fish and Wildlife Service, ~~CDFG~~ California Department of Fish and Game, cities in the Salinas Valley, and stakeholders develop a conservation ~~plan~~ strategy for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The conservation ~~plan~~ strategy, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation ~~plan~~ strategy area. The County shall complete the conservation strategy within 4 years of General Plan adoption. The conservation strategy funding program shall be developed and shall ~~include~~ consider a mitigation fee program for which development projects will be assessed a fee based on a proportional basis of impact to	**BIO-1.2:** Salinas Valley Conservation Strategy to preserve habitat for the San Joaquin kit fox in the Salinas Valley.[28] The County shall, in concert with the U.S. Fish and Wildlife Service, California Department of Fish and Game, cities in the Salinas Valley, and stakeholders develop a conservation strategy for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The conservation strategy, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation strategy area. The County shall complete the conservation strategy within 4 years of General Plan adoption. The conservation strategy funding program shall be developed and shall consider a mitigation fee program for which development projects will be assessed a fee based on a proportional basis of impact to the San Joaquin kit fox	

[28] Policy OS-5.19.

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	appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site. ***All Special Status Species—Project Level***	the San Joaquin kit fox as one of the options**.** The compensation ~~plan~~ strategy shall be developed and implemented in coordination with the appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site. Until the adoption of the conservation strategy, habitat loss due to discretionary projects shall be mitigated on a project-by-project basis. *All Special Status Species—Project Level*	as one of the options. The compensation strategy shall be developed and implemented in coordination with the appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site. Until the adoption of the conservation strategy, habitat loss due to discretionary projects shall be mitigated on a project-by-project basis.	
	BIO-1.3: Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to Non-Listed Special-Status Species and Sensitive Natural Communities. The County shall require that any development project that could potentially impact a non-listed special status species or sensitive natural community shall be required to conduct a biological survey of the site. If non-listed special-status species or sensitive natural communities are found on the site, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts to non-listed special	~~**BIO-1.3:** Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to Non-Listed Special-Status Species and Sensitive Natural Communities.~~ ~~The County shall require that any development project that could potentially impact a non-listed special status species or sensitive natural community shall be required to conduct a biological survey of the site. If non-listed special-status species or sensitive natural communities are found on the site, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts to non-listed special status species~~		

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	status species and sensitive natural communities. An ordinance establishing minimum standards for a biological report shall be enacted. This policy shall only apply to the following: (a) Development in Focused Growth Areas (Community Areas, Rural Centers and Housing Overlays (b) Development requiring a discretionary permit (c) Large scale wineries in the AWCP.	~~and sensitive natural communities. An ordinance establishing minimum standards for a biological report shall be enacted. This policy shall only apply to the following:~~ ~~(a) Development in Focused Growth Areas (Community Areas, Rural Centers and Housing Overlays~~ ~~(b) Development requiring a discretionary permit~~ ~~(c) Large scale wineries in the AWCP.~~		
	2092 **BIO-1.1 through BIO-1.3** as described above. **BIO-1.4:** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County. The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of special status species (both listed and	**2092** **BIO-1.2 ~~1.1 through BIO-1.3~~** as described above. **BIO-1.4:** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County. ~~The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the General Plan and/or the designation of new focused growth areas.~~ At five year intervals, the County shall examine the degree to which thresholds predicted in the General Plan EIR for the timeframe 2006-	**2092** **BIO-1.2**: See the description above. **BIO-1.4:** Prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County.[29] At five year intervals, the County shall examine the degree to which thresholds predicted in the General Plan EIR for the timeframe 2006-2030 for increased population, residential construction, and commercial growth have been attained. If the examination indicates that actual growth is within 10% of the thresholds (10,015 new housing units; 500 acres new commercial development; 3,111 acres new industrial	

[29] Policy OS-5.20.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	non-listed) and their habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to special status species.	2030 for increased population, residential construction and commercial growth have been attained. If the examination indicates that actual growth is within 10% of the thresholds (10,015 new housing units; 500 acres new commercial development; 3111 acres new industrial development and 10,253 acres of land converted to agriculture) the County shall initiate a General Plan Amendment process to consider the expansion of focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of ~~CEQA-defined special status~~ species and habitat addressed by Policy OS-5.16 due to continued urban growth ~~after 2030~~. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to ~~CEQA-defined special status~~ the species and habitat addressed by policy OS-5.16.	development, or 10,253 acres of land converted to agriculture), the County shall initiate a General Plan Amendment process to consider the expansion of focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of species and habitat addressed by Policy OS-5.16 due to continued urban growth. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to the species and habitat addressed by policy OS-5.16.	
	BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan The County shall complete the preparation	**BIO-1.5:** By 2030, prepare a Comprehensive ~~County Natural Communities~~ Conservation ~~Plan~~Strategy At five year intervals, the County shall	**BIO-1.5:** Prepare a Comprehensive Conservation Strategy.[30] At five year intervals, the County shall examine the degree to which thresholds for increased	

[30] Policy OS-5.21.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	of a NCCP for all incorporated areas in Monterey County by no later than January 1, 2030 to address all state and federal listed species and all special-status species with potential to be listed up to buildout of the County. The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans and other stakeholders. The NCCP shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms including on and off-site mitigation ratios and fee programs for mitigating impacts.	examine the degree to which thresholds for increased population, residential construction and commercial growth predicted in the General Plan EIR for the timeframe 2006-2030 have been attained. If the examination indicates that actual growth is within 10% of the growth projected in the General Plan EIR **(**10,015 new housing units; 500 acres new commercial development; 3111 acres new industrial development and 10,253 acres of land converted to agriculture**),** then the County shall assess the vulnerability of currently non-listed species becoming rare, threatened or endangered due to projected development. The County shall complete the preparation of a ~~NCCP for all incorporated areas in Monterey County by no later than January 1, 2030 to address all state and federal listed species and all CEQA-defined special-status species~~ conservation strategy for those areas containing substantial suitable habitat for plant and wildlife species with the potential to become listed species ~~up to buildout of the County~~ due to development**.** The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans and other stakeholders. The ~~NCCP~~ conservation strategy shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms ~~including~~ such as on and off-site mitigation ratios and fee programs for mitigating impacts or their	population, residential construction, and commercial growth predicted in the General Plan EIR for the timeframe 2006-2030 have been attained. If the examination indicates that actual growth is within 10% of the growth projected in the General Plan EIR **(**10,015 new housing units; 500 acres new commercial development; 3,111 acres new industrial development and 10,253 acres of land converted to agriculture**),** the County shall assess the vulnerability of currently non-listed species to become rare, threatened, or endangered due to projected development. The County shall complete the preparation of a conservation strategy for those areas containing substantial suitable habitat for those plant and wildlife species for which a biological report would be required pursuant to Policy OS-5.16 due to development**.** The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans, and other stakeholders. The conservation strategy shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms such as on and off-site mitigation ratios and fee programs for mitigating impacts or their equivalent**.**	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
		equivalent**.**		
BIO-2: Potential Adverse Effects on Sensitive Riparian Habitat, Other Sensitive Natural Communities and on Federal and State Jurisdictional Waters and Wetlands	**2030** *Program Level Mitigation Measures* **BIO-1.1 (**as described above under Impacts to Special Status Species) **BIO-2.1:** Stream Setback Ordinance The county shall develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance.	**2030** *Program Level Mitigation Measures* **~~BIO-1.1 (~~~~as described above under Impacts to Special Status Species)~~** **BIO-2.1:** Stream Setback Ordinance ~~The~~ In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a ~~county-wide~~ Stream Setback Ordinance. The ordinance shall ~~to~~ establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to inland portions of the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek,	**2030** *Program Level Mitigation Measures* **BIO-2.1:** Stream Setback Ordinance.[31] In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek.	2030—LTS 2092—SU

[31] Policy OS-5.22.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	The purpose of the ordinance will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development. The Stream Setback Ordinance shall apply to all discretionary development within the County and to conversion of previously uncultivated agricultural land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%.	and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ~~purpose of the~~ ordinance ~~will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development~~ shall identify appropriate uses within the setback area that would not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream. The Stream Setback Ordinance shall apply to all discretionary development, County public projects~~within the County~~ and to conversion of previously uncultivated ~~agricultural~~ land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within three (3) years of adoption of the General Plan.	The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall delineate appropriate uses within the setback area that shall not cause removal of riparian habitat, compromise identified riparian wildlife corridors, or compromise water quality of the relevant stream while also taking into consideration uses that serve health and safety purposes. The Stream Setback Ordinance shall apply to all discretionary development, County public projects, and to conversion of lands uncultivated for the previous 30 years, on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within three (3) years of adoption of the General Plan.	
	BIO-2.2—Oak Woodlands Mitigation Program. The County shall prepare, adopt and implement a program that allows project to mitigate the loss of oak woodlands. The program would include ratios for replacement, payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance. The program would identify	**BIO-2.2—Oak Woodlands Mitigation Program.** The County shall prepare, adopt and implement a program that allows project to mitigate the loss of oak woodlands. The program ~~would include~~ shall be consistent with California Public Resources Code Section 21083.4, and will identify a combination of the following mitigation alternatives: a) ratios for replacement, b)	**BIO-2.2.** Oak Woodlands Mitigation Program.[32] The County shall prepare, adopt and implement a program that allows projects to mitigate the loss of oak woodlands, while also taking into consideration wildfire prevention/protection. Consistent with California Public Resources Code Section 21083.4, the program shall identify a combination of the following mitigation alternatives:	

[32] Policy OS-5.23.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	criteria for suitable donor sites. Mitigation for the loss of oak tree woodlands may be either on-site or off-site. The program would allow payment to either a local fund established by the County. Until such time as the County program is implemented, payment of a fee may be made to the State Oak Woodlands Conservation Program. Replacement of oak woodlands shall be on a minimum 1:1 ratio.	payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance, and c) conservation easements. The program would identify criteria for suitable donor sites. Mitigation for the loss of oak ~~tree~~ woodlands may be either on-site or off-site. The program would allow payment of fees to either a local fund established by the County or a state fund. Until such time as the County program is implemented consistent with Public Resources Code section 21083.4 (b), ~~payment of~~ projects shall pay a fee ~~may be made~~ to the State Oak Woodlands Conservation ~~Program~~ Fund (OWCF). Replacement of oak woodlands shall ~~be on a minimum 1:1 ratio~~ provide for equivalent acreage and ecological value at a minimum of 1:1 ratio. The program shall prioritize the conservation of oak woodlands that are within known wildlife corridors as a high priority. The oak woodlands mitigation program shall be adopted within 5 years of adoption of the General Plan.	a) ratios for replacement, b) payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance; and c) conservation easements. The program shall identify criteria for suitable donor sites. Mitigation for the loss of oak woodlands may be either on-site or off-site. The program shall allow payment of fees to either a local fund established by the County or a state fund. Until such time as the County program is implemented consistent with Public Resources Code Section 21083.4(b), projects shall pay a fee to the state Oak Woodlands Conservation Fund (OWCF). Replacement of oak woodlands shall provide for equivalent acreage and ecological value at a minimum of 1:1 ratio. The program shall prioritize the conservation of oak woodlands that are within known wildlife corridors as a high priority. The oak woodlands mitigation program shall be adopted within 5 years of adoption of the General Plan.	
	BIO-2.3: Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and	**BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and	**BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	Well Assessment. Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies: Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead. Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.	Well Assessment. Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies: Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead, for the purpose of minimizing impacts to those resources and species. Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead, for the purpose of minimizing impacts to those resources and species. h— A discretionary permit shall be required for new wells in the Carmel Valley alluvial aquifer. All new wells shall be required to fully offset any increase in	Well Assessment.[33] Public Services Policies PS-3.2, PS-3.3, and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new domestic and high-capacity wells. The following criteria shall be added to these policies: Policy PS-3.2.f—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead, for the purpose of minimizing impacts to those resources and species. Policy PS-3.3.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead, for the purpose of minimizing impacts to those resources and species. Policy PS-3.4b - Effects on in-stream	

[33] Policies PS-3.2 and PS-3.3 in Final General Plan; renumbered from Policies PS-3.3 and PS-3.4 in the Draft General Plan. Carmel Valley Master Plan Policy CV-3.20 further provides that a discretionary permit shall be required for new wells in the Carmel Valley alluvial aquifer. All new wells shall be required to fully offset any increase in extractions from this aquifer. These requirements shall be maintained until such a time that the Coastal Water project (or its equivalent) results in elimination of all Cal-Am withdrawals in excess of its legal rights. North County Area Plan Policy NC-3.8 provides that a discretionary permit shall be required for all new wells in fractured rock or hard rock areas in the North County Area Plan in order to provide for case by case review of potential water quality and overdraft concerns. This requirement shall be maintained until such a time that a water supply project or projects are completed that addresses existing water quality and water supply issues in fractured rock or hard rock areas. Policy NC-5.4 provides that in order to address serious public health concerns regarding water quality and quantity, and in addition to the permit process required in Policy NC-3.8, a permit process shall be developed for all new wells proposed to be developed in the North County Planning Area. The permit process shall be developed by ordinance and shall be in place within 18 months of adoption of this General Plan, and a permit shall be required to develop any new well. The requirement for a permit shall be effective until the later of the effective date of the ordinances required by Policies PS-3.2 and -3.3, or 36 months.

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		extractions from this aquifer. These requirements shall be maintained until such a time that the Coastal Water project (or its equivalent) results in elimination of all Cal-Am withdrawals in excess of its legal rights.	flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead, for the purpose of minimizing impacts to those resources and species.	
		i— A discretionary permit shall be required for all new wells in fractured rock or hard rock areas in the North County Area Plan in order to provide for case by case review of potential water quality and overdraft concerns. This requirement shall be maintained until such a time that a water supply project or projects are completed that addresses existing water quality and water supply issues in fractured rock or hard rock areas.	CV-3.20— A discretionary permit shall be required for new wells in the Carmel Valley alluvial aquifer. All new wells shall be required to fully offset any increase in extractions from this aquifer (see Policies PS-3.3 and PS-3.4). These requirements shall be maintained until such a time that the Coastal Water project (or its equivalent) results in elimination of all Cal-Am withdrawals in excess of its legal rights. NC-3.8— A discretionary permit shall be required for all new wells in fractured rock or hard rock areas in the North County Area Plan in order to provide for case by case review of potential water quality and overdraft concerns. This requirement shall be maintained until such a time that a water supply project or projects are completed that addresses existing water quality and water supply issues in fractured rock or hard rock areas.	
	Project Level Mitigation Measure	*Project Level* Mitigation *Measure*	*Project Level Mitigation Measures*	
	BIO-1.3 as described above under Impacts to Special Status Species.	**~~BIO-1.3~~** ~~as described above under Impacts to Special Status Species.~~		
	2092	**2092**	**2092**	

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	BIO-1.1, 1.2, 1.3, 1.4, and 1.5 as described above under Impacts to Special Status Species. **BIO-2.1, 2.2 and 2.3** as described above.	**BIO-~~1.1,~~ -1.2, ~~1.3,~~ 1.4, and 1.5** as described above under Impacts to Special Status Species. **BIO-2.1, 2.2 and 2.3** as described above.	**BIO-1.2, -1.4, and -1.5.** See the descriptions above. **BIO-2.1, -2.2 and -2.3.** See the descriptions above.	
BIO-3.1: Potential Disturbance and Loss of Native Fish and Wildlife Species Movement Corridors	**2030** **BIO-1.2** described under Impacts to Special Status Species. **BIO-2.1** described under Impacts to Sensitive Natural Communities. **BIO-3.1:** Project-Level Wildlife Movement Considerations**.** The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall consider the need for wildlife movement in designing and expanding major roadways and public infrastructure projects to provide movement opportunities for terrestrial wildlife and to ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.	**2030** **BIO-1.2** described under Impacts to Special Status Species. **BIO-2.1** described under Impacts to Sensitive Natural Communities. **BIO-3.1:** Project-Level Wildlife Movement Considerations**.** The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall <u>require that expansion of ~~consider the need for wildlife movement in designing and expanding~~</u> major roadways and public infrastructure projects ~~to~~ provide movement opportunities for terrestrial wildlife and ~~to~~ ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access. <u>Among others, sources of information about wildlife corridors in Monterey County can be found in the following references:</u>	**2030** **BIO-1.2.** See the description above. **BIO-2.1.** See the descriptions above. **BIO-3.1:** Project-Level Wildlife Movement Considerations**.**[34] The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall require that expansion of its roadways and public infrastructure projects to provide movement opportunities for terrestrial wildlife and ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.	2030—LTS 2092—LTS

[34] Policy OS-5.24.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
		▪ California Wilderness Coalition. 2001. Missing Linkages: Restoring Connectivity to the California Landscape. ▪ The Nature Conservancy. 2006. California Central Coast Ecoregional Plan Update. October.		
	2092	**2092**	**2092**	
	BIO-1.2 described under Impacts to Special Status Species.	**BIO-1.2** described under Impacts to Special Status Species.	**BIO-1.2** See the description above.	
	BIO-1.3 described under Impacts to Special Status Species.	~~**BIO-1.3** described under Impacts to Special Status Species.~~		
	BIO-1.4 described under Impacts to Special Status Species.	**BIO-1.4** described under Impacts to Special Status Species.	**BIO-1.4** See the description above.	
	BIO-1.5 discussed under Impacts to Special Status Species.	**BIO-1.5** discussed under Impacts to Special Status Species.	**BIO-1.5** See the description above.	
	BIO-2.1 discussed under Impacts to Sensitive Natural Communities.	**BIO-2.1** discussed under Impacts to Sensitive Natural Communities.	**BIO-2.1** See the description above.	
	BIO-3.1 discussed above.	**BIO-3.1** discussed above.	**BIO-3.1** See the description above.	
BIO-3.2: Potential Loss or Disturbance of Nesting Migratory Birds and Raptors	**2030** **BIO-3.2**: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally September 16 to January 31). Vegetation removed in the course of development will be removed only during	**2030** **BIO-3.2**: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally ~~September 16 to January 31~~February 1 to September 15). ~~Vegetation removed in the course of~~	**2030** **BIO-3.2**: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally February 1 to September 15).[35] Occupied nests of statutorily protected migratory birds and raptors	2030—LTS 2092—LTS

[35] Policy OS-5.25.

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	the nonbreeding season (generally September 16 to January 31). Occupied nests of migratory birds, including raptors, will be avoided during this period. The county shall consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to (1) determine whether work is proposed during nesting season for migratory birds, (2) determine whether site vegetation is suitable to nesting migratory birds, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of nesting birds. The county shall require the development to follow the recommendations of the biologist.	~~development will be removed only during the nonbreeding season (generally September 16 to January 31).~~ Occupied nests of statutorily protected migratory birds~~, including~~ and raptors ~~will be avoided during this period~~shall not be disturbed during the breeding season (generally February 1 to September 15). The county shall consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to (1) determine whether work is proposed during nesting season for migratory birds or raptors, (2) determine whether site vegetation is suitable to nesting migratory birds or raptors, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds and raptors which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of disruption of nesting birds. The county shall require the development to follow the recommendations of the biologist. This measure may be implemented in one of two ways: (1) preconstruction surveys can be conducted to identify active nests and if found, adequate buffers shall be provided to avoid active nest disruption until after the young have fledged; or (2) vegetation removal can be conducted during the non-breeding season (generally September 16 to January 31); however, removal of vegetation along waterways shall require approval of all appropriate local, state, and	shall not be disturbed during the breeding season (generally February 1 to September 15). The county shall: A. Consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to: (1) determine whether work is proposed during nesting season for migratory birds or raptors, (2) determine whether site vegetation is suitable to nesting migratory birds or raptors, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds and raptors which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of disruption of nesting birds. B. Require the development to follow the recommendations of the biologist. This measure may be implemented in one of two ways: (1) preconstruction surveys may be conducted to identify active nests and, if found, adequate buffers shall be provided to avoid active nest disruption until after the young have fledged; or (2) vegetation removal may be conducted during the non-	

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		federal agencies. This policy would not apply in the case of an emergency fire event requiring tree removal. This policy would apply for tree removal that addresses fire safety planning, since removal can be scheduled to reduce impacts to migratory birds and raptors.	breeding season (generally September 16 to January 31); however, removal of vegetation along waterways shall require approval of all appropriate local, state, and federal agencies. This policy shall not apply in the case of an emergency fire event requiring tree removal. This policy shall apply for tree removal that addresses fire safety planning, since removal can be scheduled to reduce impacts to migratory birds and raptors.	
	2092 **BIO-3.2** discussed above.	**2092** **BIO-3.2** discussed above.	**2092** **BIO-3.2.** See the discussion above.	
BIO-4: Potential Loss of Protected Trees	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS 2092—LTS
BIO-5.1: Potential Inconsistency with Adopted Conservation Plan	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS 2092—LTS
CUM-9: Biological Resources	Mitigation measures **BIO-1.1 to 1.5, BIO-2.1 to 2.3, BIO-3.1 to 3.2**.	Mitigation measures **BIO-~~1.1 to~~-1.2, 1.4, and 1.5, BIO-2.1 to 2.3, BIO-3.1 to 3.2**.	Mitigation measures **BIO-1.2, -1.4, and -1.5, BIO-2.1 to 2.3, BIO-3.1 to 3.2**. See the discussions above.	Cumulatively considerable.
4.10 CULTURAL RESOURCES				
CUL-1: Development under the General Plan	**CUL-1:**	**CUL-1:**	**CUL-1:**	2030—LTS

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could potentially damage or destroy historic resources.	Policy CSV-1.1 of the Central Salinas Valley Area Plan will be revised to read: CSV-1.1 Special Treatment Area: Paraiso Hot Springs—The Paraiso Hot Springs properties shall be designated a Special Treatment Area. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits, and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The plan shall address cultural resources protection, fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues (APN: 418-361-004, 418-361-009, 418-361-021, 418-361-022).	Policy CSV-1.1 of the Central Salinas Valley Area Plan will be revised to read: CSV-1.1 Special Treatment Area: Paraiso Hot Springs—The Paraiso Hot Springs properties shall be designated a Special Treatment Area. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits, and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The plan shall address cultural resources protection, fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues (APN: 418-361-004, 418-361-009, 418-381~~361~~-021, 418-381~~361-~~022).	Policy CSV-1.1 of the Central Salinas Valley Area Plan will be revised to read[36]: CSV-1.1 Special Treatment Area: Paraiso Hot Springs—The Paraiso Hot Springs properties shall be designated a Special Treatment Area. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits, and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The plan shall address cultural resources protection, fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues (APN: 418-361-004, 418-361-009, 418-381-021, 418-381-022).	2092—LTS
CUL-2: Development under the General Plan could potentially damage or destroy archaeological resources.	**CUL-1** discussed under impacts to historic resources.	**CUL-1** discussed under impacts to historic resources.	**CUL-1** discussed under impacts to historic resources.	2030—LTS 2092—LTS
CUL-3: Development under the General Plan could result in damage or destruction of	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS 2092—LTS

[36] Policy CSV-1.1.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
paleontological resources.				
CUL-4: Buildout of the General Plan could damage or destroy burial sites.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS 2092—LTS
4.11 PUBLIC SERVICES AND UTILITIES				
PSU-1: Development and land use activities contemplated in the General Plan may result in the need for new or expanded fire facilities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
PSU-2: Development and land use activities contemplated in the General Plan may result in the need for new or expanded Sheriff's facilities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
PSU-3: Development and land use activities contemplated in the General Plan may result in the need for new or expanded school facilities. Future schools may affect adjoining land uses.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** Specific mitigation of school operational impacts is not feasible because specific future school characteristics are unknown.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** Specific mitigation of school operational impacts is not feasible because specific future school characteristics are unknown.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** Specific mitigation of school operational impacts is not feasible because specific future school characteristics are unknown.	2030—LTS Buildout—SU
PSU-4: Development and land use activities contemplated in the	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
General Plan may result in the need for new or expanded library facilities.				
PSU-5: Development and land use activities contemplated in the General Plan may result in the need for new or expanded public health facilities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
PSU-6: Development and land use activities contemplated in the General Plan may create additional demands for wastewater collection and treatment, resulting in a need for new or expanded wastewater treatment facilities.	No mitigation beyond the General Plan policies and existing regulatory standards is necessary.	No mitigation beyond the General Plan policies and existing regulatory standards is necessary.	No mitigation beyond the General Plan policies and existing regulatory standards is necessary.	2030—LTS Buildout—LTS
PSU-7: Development and land use activities contemplated in the General Plan may result in the need for new or expanded stormwater drainage facilities.	**PS-1:** The County will add the following policy to the General Plan: Policy S-3.9: require all future developments to implement the most feasible number of Low Impact Development (LID) techniques into their stormwater management plan. The LID techniques may include, but are not limited to, grassy swales, rain gardens, bioretention cells, tree box filters, and preserve as much native vegetation as	**PS-1:** The County will add the following policy to the General Plan: Policy S-3.9: require all future developments to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate ~~the most feasible number of~~ Low Impact Development ~~(LID)~~ techniques ~~into their stormwater management plan~~. BMPs~~The LID techniques~~ may include, but	**PS-1:** The County will add the following policy to the General Plan[37]: In order to minimize urban runoff affecting water quality, the County shall require all future development within urban and suburban areas to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate Low Impact Development techniques. BMPs may	2030—LTS Buildout—LTS

[37] Policy S-3.9.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	feasible possible on the project site.	are not limited to, grassy swales, rain gardens, bioretention cells, tree box filters, and preserve as much native vegetation as feasible possible on the project site.	include, but are not limited to, grassy swales, rain gardens, bioretention cells, and tree box filters. BMPs should preserve as much native vegetation as feasible possible on the project site.	
PSU-8: Development and land use activities contemplated in the General Plan may result in a need for new solid waste facilities or non-compliance with waste diversion requirements. Future solid waste facilities would have a significant effect on the environment.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** **PS-2:** The County will add the following policy to the General Plan: Policy PS-5.5 The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream. Specific mitigation measures to reduce the impacts of future solid waste facilities are infeasible because the characteristics of those future facilities are unknown.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** **PS-2:** The County will add the following policy to the General Plan: Policy PS-5.5 The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream. Specific mitigation measures to reduce the impacts of future solid waste facilities are infeasible because the characteristics of those future facilities are unknown.	**2030** No mitigation beyond the General Plan policies is necessary. **2092** **PS-2:** The County will add the following policy to the General Plan[38]: The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream. Specific mitigation measures to reduce the impacts of future solid waste facilities are infeasible because the characteristics of those future facilities are unknown.	2030—LTS Buildout—SU
CUM-10: Public Services and Utilities – Solid Waste	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC

[38] Policy PS-5.6; renumbered from PS-5.5.

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4.12 PARKS AND RECREATION				
PAR-1: Implementation of the General Plan would result in the need for new or expanded parks and recreational facilities, which were not contemplated in the general plan.	**PAR-1:** Proposed General Plan policy PS-11.10 will be amended to read: "Pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development. *The ratio of park and recreation facilities to residents will be at least three acres for each one thousand residents*." No additional mitigation beyond the General Plan policies is necessary.	**PAR-1:** Proposed General Plan policy PS-11.10 will be amended to read: "Pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development. *The ratio of park and recreation facilities to residents will be at least three acres for each one thousand residents*." No additional mitigation beyond the General Plan policies is necessary.	**PAR-1[39]:** The County shall adopt an ordinance that requires residential subdivision projects to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development. The ratio of park and recreation facilities to residents will be at least three acres for each one thousand residents. No additional mitigation beyond the General Plan policies is necessary.	LTS
PAR-2: Population growth associated with implementation of the General Plan would potentially create additional demands on existing parks and recreational facilities, thereby resulting in the physical deterioration of such facilities.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	LTS
4.13 HAZARDS AND HAZARDOUS MATERIALS				
HAZ-1: New	No mitigation beyond the General Plan	No mitigation beyond the General Plan	No mitigation beyond the General Plan	LTS

[39] Monterey County Code Section 19.12.010 provides the same standards as included in MM PAR-1. The General Plan does not include any provision that will eliminate the standards in Section 19.12.010 or preclude their application to projects. This mitigation measure will be implemented during the County's ordinance update following General Plan adoption. Its implementation will be assured through the Mitigation Monitoring and Reporting Program adopted at the time of the adoption of the General Plan.

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development in accordance with the General Plan would expose persons to hazardous materials from routine use, transport, or disposal of hazardous materials or the release of hazardous materials.	policies is necessary.	policies is necessary.	policies is necessary.	
HAZ-2: The General Plan would establish new land uses that would potentially create aviation safety hazards.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	LTS
HAZ-3: New development in accordance with the General Plan would increase exposure to wildland fires.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	LTS
HAZ-4: Development under the General Plan would establish new land uses that would interfere with the implementation of an emergency response or evacuation plan.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	LTS
CUM-11: Hazards – Wildfire	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC.
4.14 AESTHETICS, LIGHT, AND GLARE				
AES-1: Implementation of the General Plan	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	2030—SU

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would result in a substantial adverse effects on scenic vistas.				Buildout—SU
AES-2: Implementation of the General Plan could result in the degradation of scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	2030—SU Buildout—SU
AES-3: Implementation of the General Plan would substantially degrade the existing visual character or quality of Monterey County.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	2030—SU Buildout—SU
AES-4: Implementation of the General Plan could create substantial new sources of light and glare that would adversely affect day or nighttime views in the area.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available.	No mitigation beyond the General Plan policies is available	SU
CUM-12: Aesthetics, Light and Glare	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC
4.15 POPULATION AND HOUSING				
POP-1: Implementation of the General Plan would induce population growth in unincorporated	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	No feasible mitigation beyond the General Plan goals and policies is available.	2030—SU Buildout—SU

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Monterey County.				
POP-2: Buildout of the General Plan would result in the displacement of existing housing units, necessitating the construction of new housing elsewhere.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
POP-3: Buildout of the General Plan would result in the displacement of persons, necessitating the construction of new housing elsewhere.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	No mitigation beyond the General Plan policies is necessary.	2030—LTS Buildout—LTS
CUM-13: Population and Housing	No mitigation is feasible.	No mitigation is feasible.	No mitigation is feasible.	CC
		4.16 CLIMATE CHANGE		
CC-1: Development of the General Plan would contribute considerably to cumulative GHG emissions and global climate change as the County in 2020 would have GHG emissions greater than 72% of business as usual conditions.	**2030 Horizon** **CC-1a**: Modify Policy OS-10.11 regarding the Greenhouse Gas Reduction Plan Revise Policy OS-10.11 as follows: OS-10.11 Within 24 months of the adoption of the General Plan, Monterey County will develop a Greenhouse Gas Reduction Plan with a target to reduce emissions by 2020 by 28% relative to estimated "business as usual" 2020 emissions. At a minimum, the Plan shall:	**2030 Horizon** **CC-1a**: Modify Policy OS-10.11 regarding the Greenhouse Gas Reduction Plan Revise Policy OS-10.11 as follows: OS-10.11 Within 24 months of the adoption of the General Plan, Monterey County shall~~will~~ develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce emissions by 2020 ~~to the 1990 level by 28% relative to estimated "business as usual" 2020 emissions.~~ to a level that is 15% less than 2005 emission levels.	**2030 Horizon** **CC-1a** Modify Policy OS-10.11 regarding the Greenhouse Gas Reduction Plan [40] OS-10.11. Within 24 months of the adoption of the General Plan, Monterey County shall develop and adopt a Greenhouse Gas (GHG) Reduction Plan with a target to reduce emissions by 2020 to a level that is 15% less than 2005 emission levels. At a minimum, the Plan shall: a. Establish an inventory of 2005 GHG emissions in the County of Monterey	2030—LTCC Buildout—CC

[40] Policy OS-10.11.

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	a. establish an inventory of current (2006) GHG emissions in the County of Monterey including but not limited to residential, commercial, industrial and agricultural emissions; b. forecast GHG emissions for 2020 for County operations; c. forecast GHG emissions for areas within the jurisdictional control of the County for "business as usual" conditions; d. identify methods to reduce GHG emissions; e. quantify the reductions in GHG emissions from the identified methods; f. requirements for monitoring and reporting of GHG emissions; g. establish a schedule of actions for implementation; h. identify funding sources for implementation; and i. identify a reduction goal for the 2030 Planning Horizon. During preparation of the Greenhouse Gas Reduction Plan, the County shall also evaluate potential options for changes in County policies regarding land use and circulation as necessary to further achieve the 2020 and 2030 reduction goals and measures to promote urban forestry and public awareness concerning climate change.	At a minimum, the Plan shall: a. establish an inventory of current (2006) GHG emissions in the County of Monterey including but not limited to residential, commercial, industrial and agricultural emissions; b. forecast GHG emissions for 2020 for County operations; c. forecast GHG emissions for areas within the jurisdictional control of the County for "business as usual" conditions; d. identify methods to reduce GHG emissions; e. quantify the reductions in GHG emissions from the identified methods; f. requirements for monitoring and reporting of GHG emissions; g. establish a schedule of actions for implementation; h. identify funding sources for implementation; and i. identify a reduction goal for the 2030 Planning Horizon. During preparation of the Greenhouse Gas Reduction Plan, the County shall also evaluate potential options for changes in County policies regarding land use and circulation as necessary to further achieve the 2020 and 2030 reduction goals and measures to promote urban forestry and public awareness concerning climate change.	including but not limited to residential, commercial, industrial, and agricultural emissions; and b. Forecast GHG emissions for 2020 for County operations; c. Forecast GHG emissions for areas within the jurisdictional control of the County for "business as usual" conditions; d. Identify methods to reduce GHG emissions; e. Quantify the reductions in GHG emissions from the identified methods; f. Establish requirements for monitoring and reporting of GHG emissions; g. Establish a schedule of actions for implementation; h. Identify funding sources for implementation; and i. Identify a reduction goal for the 2030 Planning Horizon. j. Quantify carbon sequestration in agricultural soils and crops. During preparation of the Greenhouse Gas Reduction Plan, the County shall also evaluate potential options for changes in County policies regarding land use and circulation, as necessary, to further achieve the 2020 and 2030 reduction goals and measures to promote urban forestry	

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			and public awareness concerning climate change.	
	CC-2: Add Policy OS-10.12: Adoption of a Green Building Ordinance OS-10.12 Within 24 months of the adoption of the General Plan, the County shall adopt a Green Building Ordinance to require green building practices and materials for new civic buildings and new private residential, commercial, and industrial buildings that will include, but are not limited to, the following: ▪ All new County government projects and major renovations shall meet, at a minimum, LEED-Silver standards or an equivalent rating system ▪ All new commercial buildings shall be certified under the LEED rating system for commercial buildings or an equivalent rating system. ▪ All new residential projects of 6 units or more shall meet the GreenPoint Rating System for residential buildings, or an equivalent alternate rating system. ▪ The County shall require consideration of solar building orientation, solar roofs, cool pavements, and planting of shade trees in development review of new	**CC-2:** Add Policy OS-10.12: Adoption of a Green Building Ordinance OS-10.12 Within 24 months of the adoption of the General Plan, the County shall adopt a Green Building Ordinance to require green building practices and materials for new civic buildings and new private residential, commercial, and industrial buildings that will include, but are not limited to, the following <u>technologies, strategies or their functional equivalent</u>: ▪ All new County government projects and major renovations shall meet, at a minimum, LEED-Silver standards or an equivalent rating system ▪ All new commercial buildings shall <u>meet the requirements of</u>~~be certified under~~ the LEED rating system for commercial buildings or an equivalent rating system. ▪ All new residential projects of 6 units or more shall meet the GreenPoint Rating System for residential buildings, or an equivalent alternate rating system. ▪ The County shall require consideration of solar building orientation, solar roofs, cool pavements, and planting of shade trees in development review of	**CC-2.** Add Policy OS-10.12: Adoption of a Green Building Ordinance.[41] OS-10.12. Within 24 months of the adoption of the General Plan, the County shall adopt a Green Building Ordinance to require green building practices and materials for new civic buildings and new private residential, commercial, and industrial buildings that will include, but are not limited to, the following technologies, strategies, or their functional equivalent: ▪ All new County government projects and major renovations shall meet, at a minimum, LEED-Silver standards or an equivalent rating system ▪ All new commercial buildings shall be certified under meet requirements of the LEED rating system for commercial buildings or an equivalent rating system. ▪ All new residential projects of 6 units or more shall meet the GreenPoint Rating System for residential buildings, or an equivalent alternate rating system. ▪ The County shall require consideration of solar building orientation, solar roofs, cool pavements, and planting of shade	

[41] Policy OS-10.12.

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	commercial and industrial projects and new residential projects of 6 units or more. ▪ Prioritized parking within new commercial and retail areas for electric vehicles, hybrid vehicles, and alternative fuel vehicles shall be provided for new commercial and institutional developments. New commercial and industrial projects greater than 25,000 square feet shall be required to provide on-site renewable energy generation as part of their development proposal. This requirement can be met through a solar roof or other means. **CC-3:** New Policy OS-10.13—Promote Alternative Energy Development OS-10.13: The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies. The County shall adopt an Alternative Energy Promotion ordinance that will: ▪ identify possible sites for production of energy using local renewable resources such as solar, wind, small	new commercial and industrial projects and new residential projects of 6 units or more. ▪ Prioritized parking within new commercial and retail areas for electric vehicles, hybrid vehicles, and alternative fuel vehicles shall be provided for new commercial and institutional developments. New commercial and industrial projects greater than 25,000 square feet shall be required to provide on-site renewable energy generation as part of their development proposal. This requirement can be met through a solar roof or other means. **CC-3:** New Policy OS-10.13—Promote Alternative Energy Development OS-10.13: The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies. The County shall adopt an Alternative Energy Promotion ordinance that will: ▪ identify possible sites for production of energy using local renewable resources such as solar, wind, small	trees in development review of new commercial and industrial projects and new residential projects of 6 units or more. ▪ Prioritized parking within new commercial and retail areas for electric vehicles, hybrid vehicles, bicycles, and alternative fuel vehicles shall be provided for new commercial and institutional developments. New commercial and industrial projects greater than 25,000 square feet shall be required to provide on-site renewable energy generation as part of their development proposal. This requirement can be met through a solar roof or other means. **CC-3.** New Policy OS-10.13—Promote Alternative Energy Development.[42] OS-10.13. The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies. The County shall adopt an Alternative Energy Promotion ordinance that will: ▪ identify possible sites for production of energy using local renewable resources such as solar, wind, small	

[42] Policy OS-10.13.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	hydro, and, biogas; ▪ consider the potential need for exemption from other General Plan policies concerning visual resources, ridgeline protection, biological resources; ▪ evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and ▪ adopt measures to protect both renewable energy resources, such as utility easement, right-of-way, and land set-asides as well as visual and biological resources. The County shall also complete the following: ▪ Evaluate the feasibility of Community Choice Aggregation (CCA) for the County. CCA allows cities and counties, or groups of them, to aggregate the electric loads of customers within their jurisdictions for purposes of procuring electrical services. CCA allows the community to choose what resources will serve their loads and can significantly increase renewable energy. ▪ If CCA is ultimately not pursued, the County shall evaluate the feasibility of purchasing renewable energy certificates to reduce the County's contribution to GHG emissions related to County electricity use.	hydro, and, biogas; ▪ consider the potential need for exemption from other General Plan policies concerning visual resources, ridgeline protection, biological resources; ▪ evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and ▪ adopt measures to protect ~~both~~ renewable energy resources, such as utility easement, right-of-way, and land set-asides as well as visual and biological resources. The County shall also complete the following: ▪ Evaluate the feasibility of Community Choice Aggregation (CCA) for the County. CCA allows cities and counties, or groups of them, to aggregate the electric loads of customers within their jurisdictions for purposes of procuring electrical services. CCA allows the community to choose what resources will serve their loads and can significantly increase renewable energy. ▪ If CCA is ultimately not pursued, the County shall evaluate the feasibility of purchasing renewable energy certificates to reduce the County's contribution to GHG emissions related to County electricity use.	hydro, and, biogas; ▪ consider the potential need for exemption from other General Plan policies concerning visual resources, ridgeline protection, or biological resources; ▪ evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and ▪ adopt measures to protect both renewable energy resources, such as utility easement, right-of-way, and land set-asides, as well as visual and biological resources. The County shall also complete the following: ▪ Evaluate the feasibility of Community Choice Aggregation (CCA) for the County. CCA allows cities and counties, or groups of them, to aggregate the electric loads of customers within their jurisdictions for purposes of procuring electrical services. CCA allows the community to choose what resources will serve their loads and can significantly increase renewable energy. ▪ If CCA is ultimately not pursued, the County shall evaluate the feasibility of purchasing renewable energy certificates to reduce the County's contribution to GHG emissions related to County electricity use.	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use.	The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use.	▪ The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use.	
	CC-4: New Policy PS-5.5—Promote Recycling and Waste Reduction PS-5.5: The County shall promote waste diversion and recycling and waste energy recovery as follows: ▪ The County shall adopt a 75% waste diversion goal. ▪ The County shall support the extension of the types of recycling services offered (e.g., to include food and green waste recycling). ▪ The County shall support waste conversion and methane recovery in local landfills to generate electricity. ▪ The County shall support and require the installation of anaerobic digesters for winery facilities and wastewater treatment facilities under County jurisdiction.	**CC-4:** New Policy PS-5.5—Promote Recycling and Waste Reduction PS-5.5: The County shall promote waste diversion and recycling and waste energy recovery as follows: ▪ The County shall adopt a 75% waste diversion goal. ▪ The County shall support the extension of the types of recycling services offered (e.g., to include food and green waste recycling). ▪ The County shall support waste conversion and methane recovery in local landfills to generate electricity. ▪ The County shall support and require the installation of anaerobic digesters or equivalent technology for ~~winery facilities and~~ wastewater treatment facilities under County jurisdiction.	**CC-4.** New Policy PS-5.5—Promote Recycling and Waste Reduction.[43] PS-5.5. The County shall promote waste diversion and recycling and waste energy recovery as follows: a. The County shall adopt a 75% waste diversion goal. b. The County shall support the extension of the types of recycling services offered (e.g., to include food and green waste recycling). c. The County shall support waste conversion and methane recovery in local landfills to generate electricity. The County shall support and require the installation of anaerobic digesters or equivalent technology for wastewater treatment facilities.	
	CC-5: Adopt GHG Reduction Plan for County Operations Within 12 months of adoption of the	**CC-5:** Adopt GHG Reduction Plan for County Operations Within 12 months of adoption of the	**CC-5.** Adopt GHG Reduction Plan for County Operations (this is the same as Measure AQ-5, above)[44]	

[43] Policy PS-5.5.
[44] Policy OS-10.14.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 28% relative to BAU 2020 conditions. Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: an energy tracking and management system; energy-efficient lighting; lights-out-at-night policy; occupancy sensors; heating, cooling and ventilation system retrofits; ENERGY STAR appliances; green or reflective roofing; improved water pumping energy efficiency; central irrigation control system; energy-efficient vending machines; preference for recycled materials in purchasing; use of low or zero-emission vehicles and equipment and recycling of construction materials in new county construction; conversion of fleets (as feasible) to electric and hybrid vehicles; and solar roofs.	General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 28% relative to BAU 2020 conditions. Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: an energy tracking and management system; energy-efficient lighting; lights-out-at-night policy; occupancy sensors; heating, cooling and ventilation system retrofits; ENERGY STAR appliances; green or reflective roofing; improved water pumping energy efficiency; central irrigation control system; energy-efficient vending machines; preference for recycled materials in purchasing; use of low or zero-emission vehicles and equipment and recycling of construction materials in new county construction; conversion of fleets (as feasible) to electric and hybrid vehicles; and solar roofs.	Implement MBUAPCD Mitigation Measures for Alternative Fuels. Within 12 months of adoption of the General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 15% less than 2005 emission levels. Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: • an energy tracking and management system; • energy-efficient lighting; • lights-out-at-night policy; • occupancy sensors; • heating, cooling and ventilation system retrofits; • ENERGY STAR appliances • green or reflective roofing; • improved water pumping energy efficiency; • central irrigation control system; • energy-efficient vending machines; • preference for recycled materials in purchasing; • use of low or zero-emission vehicles and equipment • recycling of construction materials in	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
			new county construction; • solar roofs; and • conversion of fleets (as feasible) to; ▪ Electric vehicles, ▪ Ultra Low-Emission vehicles, ▪ Methanol fleet vehicles, ▪ Liquid propane gas fleet vehicles, or ▪ Compressed natural gas fleet vehicles	
	2092 **CC-11 (Same as BIO-1.9):** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County and vehicle miles traveled The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of natural habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to	**2092** **CC-11 ~~(Same as BIO-1.9)~~:** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County and vehicle miles traveled The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of natural habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least	**2092** **CC-11.**[45] At five year intervals, the County shall examine the degree to which thresholds predicted in the General Plan EIR for the timeframe 2006-2030 for increased population, residential construction, and commercial growth have been attained. If the examination indicates that actual growth is within 10% of the thresholds (10,015 new housing units; 500 acres new commercial development; 3,111 acres new industrial development, or 10,253 acres of land converted to agriculture), the County shall initiate a General Plan Amendment process to consider the expansion of focused growth areas established by the General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth	

[45] Policy OS-5.20.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout.	80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout.	areas would be to reduce the loss of species and habitat addressed by Policy OS-5.16 due to continued urban growth. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to the species and habitat addressed by policy OS-5.16.	
	CC-12: Greenhouse Gas Reduction Plan Requirements Beyond 2030	**CC-12**: Greenhouse Gas Reduction Plan Requirements Beyond 2030	**CC-12.** Greenhouse Gas Reduction Plan Requirements Beyond 2030[46]	
	In parallel with the development and adoption **of** the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80% relative to 1990 emissions.	In parallel with the development and adoption of the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80% relative to 1990 emissions.	In parallel with the development and adoption of the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80% relative to 1990 emissions.	
	At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding	At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding sources for implementation.	At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding	

[46] No corresponding policy.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	sources for implementation.		sources for implementation.	
CC-2: Development Allowed by the General Plan May Subject Property and Persons to Otherwise Avoidable Physical Harm in Light of Inevitable Climate Change.	**CC-13:** Develop and Integrate Climate Change Preparedness Planning for Monterey County Monterey County shall prepare and implement a Climate Change Preparedness Plan to prepare proactively for the impacts of climate change to the County's economy and natural ecosystems and to promote a climate resilient community. A useful guide to climate resiliency planning is *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments.* (The Climate Impacts Group, King County, Washington, and ICLEI—Local Governments for Sustainability 2007), which outlines the following steps: ▪ Scope the climate change impacts to major County sectors and building and maintain support among stakeholders to prepare for climate change. ▪ Establish a climate change preparedness team. ▪ Identify planning areas relevant to climate change impacts. ▪ Conduct a vulnerability assessment based on climate change projections for the region, the sensitivity of	**CC-13:** Develop and Integrate Climate Change Preparedness Planning for Monterey County Monterey County shall prepare and implement a Climate Change Preparedness Plan to prepare proactively for the impacts of climate change to the County's economy and natural ecosystems and to promote a climate resilient community. A useful guide to climate resiliency planning is *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments.* (The Climate Impacts Group, King County, Washington, and ICLEI—Local Governments for Sustainability 2007), which outlines the following steps: ▪ Scope the climate change impacts to major County sectors and building and maintain support among stakeholders to prepare for climate change. ▪ Establish a climate change preparedness team. ▪ Identify planning areas relevant to climate change impacts. ▪ Conduct a vulnerability assessment based on climate change projections for the region, the sensitivity of planning areas to climate change impacts, and the ability of	**CC-13.** Develop and Integrate Climate Change Preparedness Planning for Monterey County[47] Monterey County shall prepare and implement a Climate Change Preparedness Plan to prepare proactively for the impacts of climate change to the County's economy and natural ecosystems and to promote a climate resilient community. A useful guide to climate resiliency planning is *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments.* (The Climate Impacts Group, King County, Washington, and ICLEI—Local Governments for Sustainability 2007), which outlines the following steps: ▪ Scope the climate change impacts to major County sectors and building and maintain support among stakeholders to prepare for climate change. ▪ Establish a climate change preparedness team. ▪ Identify planning areas relevant to climate change impacts. ▪ Conduct a vulnerability assessment based on climate change projections for the region, the sensitivity of	2030 and Buildout—LTCC

[47] No corresponding policy.

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	planning areas to climate change impacts, and the ability of communities to adapt to climate change impacts ▪ Conduct a risk assessment based on the consequences, magnitude, and probability of climate change impacts, as well as on an evaluation of risk tolerance and community values. ▪ Establish a vision and guiding principles for climate resilient communities and set preparedness goals in priority planning areas based on these guiding principles. ▪ Develop, select, and prioritize possible preparedness actions. ▪ Identify a list of important implementation tools ▪ Develop an understanding of how to manage risk and uncertainty in the planning effort. ▪ Develop measures of resilience, and use these to track the results of actions over time ▪ Review assumptions and other essential information to ensure that planning remains relevant to the most salient climate change impacts. ▪ Update plans regularly. Potential areas of emphasis for preparedness planning may include risk of wildfires, agricultural impacts, flooding and sea level rise, salt water intrusion; and	communities to adapt to climate change impacts ▪ Conduct a risk assessment based on the consequences, magnitude, and probability of climate change impacts, as well as on an evaluation of risk tolerance and community values. ▪ Establish a vision and guiding principles for climate resilient communities and set preparedness goals in priority planning areas based on these guiding principles. ▪ Develop, select, and prioritize possible preparedness actions. ▪ Identify a list of important implementation tools ▪ Develop an understanding of how to manage risk and uncertainty in the planning effort. ▪ Develop measures of resilience, and use these to track the results of actions over time ▪ Review assumptions and other essential information to ensure that planning remains relevant to the most salient climate change impacts. ▪ Update plans regularly. Potential areas of emphasis for preparedness planning may include risk of wildfires, agricultural impacts, flooding and sea level rise, salt water intrusion; and health effects of increased heat and ozone,	planning areas to climate change impacts, and the ability of communities to adapt to climate change impacts ▪ Conduct a risk assessment based on the consequences, magnitude, and probability of climate change impacts, as well as on an evaluation of risk tolerance and community values. ▪ Establish a vision and guiding principles for climate resilient communities and set preparedness goals in priority planning areas based on these guiding principles. ▪ Develop, select, and prioritize possible preparedness actions. ▪ Identify a list of important implementation tools ▪ Develop an understanding of how to manage risk and uncertainty in the planning effort. ▪ Develop measures of resilience, and use these to track the results of actions over time ▪ Review assumptions and other essential information to ensure that planning remains relevant to the most salient climate change impacts. ▪ Update plans regularly. Potential areas of emphasis for preparedness planning may include risk of wildfires, agricultural impacts, flooding	

Issues/Impacts	GP DEIR Mitigation Measures[11]	March 2010 GP FEIR Mitigation Measures[12]	October 2010 GP FEIR Mitigation Measures[13]	Level of Significance after Mitigation[14]
	health effects of increased heat and ozone, through appropriate policies and programs. Potential implementation steps could include adopting land use designations that restrict or prohibit development in areas that may be more severely impacted by climate change, e.g., areas that are at high risk of wildfire, sea level rise, or flooding; adoption of programs for the purchase or transfer of development rights in high risk areas to receiving areas of equal or greater value; and support for agricultural research on locally changing climate conditions. To be effective, preparedness planning needs to be an ongoing commitment of the County. The first plan shall be completed no later than 5 years after the adoption of the General Plan and shall be updated at least every 5 years thereafter.	through appropriate policies and programs. Potential implementation steps could include adopting land use designations that restrict or prohibit development in areas that may be more severely impacted by climate change, e.g., areas that are at high risk of wildfire, sea level rise, or flooding; adoption of programs for the purchase or transfer of development rights in high risk areas to receiving areas of equal or greater value; and support for agricultural research on locally changing climate conditions. To be effective, preparedness planning needs to be an ongoing commitment of the County. The first plan shall be completed no later than 5 years after the adoption of the General Plan and shall be updated at least every 5 years thereafter.	and sea level rise, salt water intrusion; and health effects of increased heat and ozone, through appropriate policies and programs. Potential implementation steps could include adopting land use designations that restrict or prohibit development in areas that may be more severely impacted by climate change, e.g., areas that are at high risk of wildfire, sea level rise, or flooding; adoption of programs for the purchase or transfer of development rights in high risk areas to receiving areas of equal or greater value; and support for agricultural research on locally changing climate conditions. To be effective, preparedness planning needs to be an ongoing commitment of the County. The first plan shall be completed no later than 5 years after the adoption of the General Plan and shall be updated at least every 5 years thereafter.	
CUM-12: Climate Change	See Mitigation Measures as described in Section 4.16, *Climate Change*, above.	See Mitigation Measures as described in Section 4.16, *Climate Change*, above.	See Mitigation Measures as described in Section 4.16, *Climate Change*, above.	CC

Page 4-44, add the following:

Page 2-5, under Future Use of This EIR. The following new paragraph is inserted before the third full paragraph on this page, beginning with "Other agencies:"

In addition to the above, a number of existing county ordinances will be revised and a number of new ordinances, programs, best management practices, and design manuals will be adopted to reflect the policies of the General Plan. These adoptions are discretionary actions and will be subject to review pursuant to CEQA. Whether these will tier from this EIR will depend upon their specific content.

Page 4-66, add the following:

Page 4.3-33. Table 4.3-5 is revised as follows:

Table 4.3-5. Salinas Valley Groundwater Basin Extraction Data, 1995–2009 (acre-feet)

Year	Urban Pumping	Percent	Agricultural Pumping	Percent	Total
1995	41,884	8	462,628	92	504,512
1996	42,634	8	520,804	92	563,438
1997	46,238	8	551,900	92	598,1398
1998	41,527	9	399,521	91	441,048
1999	40,559	8	464,008	92	504,567
2000	42,293	9	442,061	91	484,354
2001	37,693	9	403,583	91	441,276
2002	46,956	9	473,24664	91	520,2202
2003	50,472	10	450,864	90	501,336
2004	53,062	10	471,052	90	524,114
2005	50,479	10	443,567	90	494,046
2006	49,606	11	421,634	89	471,240
2007	50,440	10	475,155	90	525,595
2008	50,047	9	477,124	91	527,171
2009	45,717	9	465,707	91	511,224
Average	**44,891**		**462,114**		**507,004**
1995-2001	41,833		463,501		505,333
2002-2009	49,597		459,794		509,366
Change between 1995/2001 and 2002/ 2009	*+7,765*		*-3,707*		*+4,033*

Sources: Monterey County Water Resources Agency 2008b, 2010a

NOTE: Extractions are based on reported water use. Percent reporting wells ranged from 82 percent to 98 percent over the 15 year period. Average in first 7 years was 92 percent; average in last 8 years was 97 percent. Changes between the periods may reflect, in part, changes in the amount of reporting.

Note: Data collected in the Salinas Valley for Zone 2/2A/2B only and Fort Ord due as MCWRA not currently authorize to collect data outside these areas. Thus, the extractions shown above do not include certain areas that are within Zone 2C but outside of Zones 2/2A/2B. For the analysis in this EIR, baseline was adjusted to include these areas (see Table 4.3-9c).

Page 4-78, insert the following new entry:

Page 4.3-97, first paragraph under Mitigation Measures. The paragraph is revised as follows:

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. ~~While not necessary to~~In conjunction with the existing and future regulations of the County, Central Coast RWQCB, and other agencies, as well as the proposed General Plan policies that will address significant water quality impacts, this measure will help to reduce water quality impacts.

Page 4-78, insert the following new entry:

Page 4.3-109, third paragraph under Safety Element. Insert the following text:

> Safety Element Policy S-3.5 requires the County to develop and implement where appropriate Runoff Performance Standards that result in an array of site planning and design techniques to reduce storm flows, plus capture and recharge runoff, as determined by the Monterey County Water Resources Agency.

Page 4-79, revise the following entry:

Page 4.3-114, last paragraph. The paragraph has been revised as follows:

Agriculture will also place demands on raw water supplies. ~~Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in overall agricultural acreage is projected for 2030 as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the county in the most recent (2008) and the immediately prior (2004) economic forecasts.~~ The Salinas Valley Water Project EIR forecast a slight decline in agricultural water demand in the Salinas Valley for 2030 based on a slight decrease in agricultural land (-1,849 acres), changes in crop mixtures, and increases in water use efficiency (MCWRA 2001a). ~~While~~ With the General Plan, the~~The~~ amount of agricultural land use is expected to increase~~d slightly remain essentially constant~~ during the 2030 planning horizon overall. As described in Table 4.9-8, based on trend data, there could be an expansion of agriculture onto uncultivated land by 11,253 acres by 2030. Based on Table 4.2-9, there could be a loss of 2,571 acres of farmland due to new development; much of which is due to city expansion. Most of the urban expansion is expected to occur by 2030. Assuming all of the agricultural expansion would occur in the Salinas Valley and all of the farmland loss would occur by 2030, there could be a net agricultural expansion over baseline of an estimated 7,682 acres. Compared to the SVWP EIR assumption of a decrease in agricultural acreage, this EIR assumes for the water supply analysis, a net change of 9,531 acres compared to the SVWP EIR. Thus, the SVWP EIR's estimated agricultural water demand in 2030 was adjusted to add the water demand for 9,531 acres using the average water demand per acre in the SVWP EIR. ~~However, agriculture's demands on water supplies in some areas are anticipated to increase~~ in some areas ~~(North County, pursuant to the projections in the Rancho Roberto FEIR, for example), while they are expected to decrease in other areas (Salinas Valley, pursuant to the SVWP FEIR, for example). Overall, agricultural water demand is expected to remain relatively stable, with a small decline~~, due to improvements in water use efficiency~~.~~

Page 4-79, revise Tables 4.3-9a through 4.3-9d under the following entry:

Page 4.3-115, Table 4.3-9. The table is replaced in its entirety with the following Tables 4.3-9a through 4.3-9h:

Table 4.3-9a. Monterey County 2007 Estimated New Water Demand from Urban Uses and New Wineries (2030 and Beyond)
Estimated and Projected 2030 Water Demand

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
Salinas Valley Groundwater Basin							
Chualar CA	1,500	492	1,429	290	4,224	856	Calculated based on population
Fort Ord CA	8,610	2,823	8,201	1,663	24,246	4,916	Calculated based on population
Boronda CA	726	238	691	140	2,044	414	Calculated based on population
Castroville CA	1,632	535	1,554	315	4,596	932	Calculated based on population
Pine Canyon RC	1,704	559	1,624	329	4,798	973	Calculated based on population
San Lucas RC	169	55	160	32	476	96	Calculated based on population
~~Bradley RC~~	~~800~~	~~262~~	~~761~~	~~154~~	~~2,253~~	~~457~~	~~Calculated based on population~~
~~Lockwood RC~~	~~221~~	~~72~~	~~209~~	~~42~~	~~622~~	~~126~~	~~Calculated based on population~~
~~Pleyto RC~~	~~160~~	~~52~~	~~151~~	~~31~~	~~451~~	~~91~~	~~Calculated based on population~~
San Ardo RC	480	157	456	92	1,352	274	Calculated based on population
River Road RC	389	128	372	75	1,095	222	Calculated based on population
Hwy 68/Reservation AHO	930	305	886	180	2,619	531	Calculated based on population
Cachagua	66	9	26	5	186	38	Assumed 50/50 split between Carmel River and Salinas watershed basins
Central Salinas Valley	456	61	177	36	1,284	260	Calculated based on population
Greater Salinas	1,395	187	542	110	3,928	796	Calculated based on population
Butterfly Village (4)	1,147	1,147	3,332	-25	3,332	-25	Based on Addendum to FEIR for project

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
North County (5)	1,956	262	760	154	5,508	1,117	Assumed 60/40 split between Salinas River and Pajaro River
South County	939	125	363	74	2,644	536	Calculated based on population
Toro	4,046	540	1,569	318	11,393	2,310	Calculated based on population
Subtotal	*26,145* ~~*27,326*~~	*7,662* ~~*8,008*~~	*22,144* ~~*23,625*~~	*3,789* ~~*4,016*~~	*73,726* ~~*77,052*~~	*14,247* ~~*14,921*~~	
Wineries and Ancillary in AWCP				326		326	Assumes all 40 artisan and 10 large-scale wineries built by 2030
INLAND Unincorporated Total	**26,145** ~~**27,326**~~	**7,622** ~~**8,008**~~	**22,144** ~~**23,625**~~	**4,115** ~~**4,343**~~	**73,726** ~~**77,052**~~	**14,574** ~~**15,248**~~	
Revised INLAND Unincorporated Total				***3,292***		***11,724***	*Taking into account reduction from current per capita levels for all urban demand (excluding wineries/ancillary uses) by 2020 per SBX7 7 (Steinberg)*
Salinas Valley Watershed (Outside Salinas Valley Groundwater Basin)							
Lockwood RC	221	72	209	42	622	126	Calculated based on population
Pleyto RC	160	52	151	31	451	91	Calculated based on population
Bradley RC	800	262	761	154	2,253	457	Calculated based on population
INLAND Unincorporated Total	**1,181**	**386**	**1121**	**227**	**3,326**	**674**	
Revised INLAND Unincorporated Total				***182***		***539***	*Taking into account reduction from current per capita levels for all urban demand (excluding wineries/ancillary uses) by 2020 per SBX7 7 (Steinberg)*

Carmel River and Seaside Aquifer

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
Greater Monterey Peninsula	4,011	536	1,557	316	11,295	2,290	Calculated based on population
Carmel Mid-Valley AHO	390	128	372	75	1,098	223	Calculated based on population
Hwy 68/Airport AHO	2,550	836	2,429	492	7,181	1,456	Calculated based on population
Cachagua	66	9	26	5	186	38	Assumed 50/50 split between Salinas and Carmel River basins.
Carmel Valley	758	101	294	60	2,135	433	Calculated based on population
INLAND Unincorporated Total	**7,775**	**1,610**	**4,678**	**948**	**21,894**	**4,439**	
Pajaro Groundwater Basin							
Pajaro CA	676	222	645	131	1,904	386	
North County	1,304	174	507	103	3,672	744	New demand in N. County planning area split 60/40 between Salinas/Pajaro basins.
INLAND Unincorporated Total	**1,980**	**396**	**1,151**	**233**	**5,576**	**1,130**	
Monterey County Unincorporated Areas							
Total	**37,081**	**10,015**	**29,094**	**5,525**	**104,522**	**20,817**	~~Existing Demand from MPWMD 2006a.~~New Demand from calculations above. ~~Total 2030 = Existing + New Demand~~
Revised INLAND Unincorporated Total				***4,656***		***17,833***	*Taking into account reduction from current per capita levels for all urban demand in the Salinas Valley by 2020 per SBX7 7 (Steinberg), but does not adjust urban demand in other basins.*

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes

Notes:

(1)Assumes persons/housing unit = 2006 to 2030 average (2.91 from DEIR Table 3-5 for unincorporated county for 2030).

(2)Assumes person/housing unit = 2006 to Buildout average (2.82 from DEIR Table 3-5 for unincorporated county for buildout horizon)

(3) Assumes per capita water use [urban applied water (including residential, commercial, industrial, and landscape uses) for Central Coast Region] of 181 gpd per California Water Plan Update 2005 for all area total and first total in Salinas Valley. As noted in table, the revised total assumes a reduction in per capita urban water use by 20 percent by 2020 in the Salinas Valley per SBX7 7 (Steinberg). Urban water demands were not adjusted for the Carmel River/Seaside Aquifer or the Pajaro groundwater basin.

(4) Butterfly Village water demand based on Project FEIR Addendum (Monterey County, 2008b).

(5) 60/40 split based on Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency.

Table 4.3-9b. Water Supply and Projected Water Demand for 2030, Monterey County (acre feet)

Groundwater Basin	Salinas Valley Groundwater Basin (1,2)	Salinas River Watershed (Outside Salinas Valley Groundwater Basin) (3)	Carmel River/ Seaside Aquifer (4)	Pajaro Valley (5)
Existing Demand	500,952 ~~494,046~~	19,991	18,214	71,500
Projected City New Demand in 2030	23,361 ~~29,539~~	0	3,273	(6)
Projected County New Demand in 2030	16,188 to 20,972 ~~4,439~~	182 to 4,966	1,006	(6)
Projected Total Demand in 2030	**442,970 to 447,754 ~~442,458~~**	**14,701 to 19,485**	**22,493**	**78,192**
Estimated 2030 Supplies	443,000	NA	22,344	72,100
Balance in 2030	30 to -4,754 ~~542~~	NA	-149	-6,092

Sources: See Tables 4.3-9c through 4.3-9h.

Notes:

1. Salinas Valley demand declines by 2030 due to reduction in agricultural demand (due to gains in efficiency, taking into account agricultural expansions and due to reduction in per capita urban use per SBX7 7 (Steinberg). See Table 4.3-9c. Range shown for 2030 is for two difference cases: 1) 100% of new agricultural expansions (10,253 acres) assumed in Zone 2C; 2) 75% of new agricultural expansions in Zone 2C and 25% new agricultural expansions in Salinas Valley Watershed outside of Zone 2C.
2. Salinas Valley supply = groundwater. As discussed in text, with SVWP implementation, the expectation is that this amount can be provided without further lowering of groundwater tables or increased seawater intrusion compared to baseline levels.
3. Existing demand includes agricultural demand based on FMMP farmland mapping for 2008 for areas outside of Zone 2C plus Bradley/San Antonio area within Zone 2C (outside of 2A) and average agricultural use per acre in MCWRA groundwater extraction reporting (for Zone 2/2A) for 2002-2009. Existing non-agricultural demand not estimated due to lack of data . New County Demand includes new growth in Bradley, Pleyto and Lockwood Rural Centers. Range shown for 2030 is for two difference cases: 1) 100% of new agricultural expansions (10,253 acres) assumed in Salinas Valley groundwater basin proper (demand shown of 182 AFY is only for the three new rural centers); and 2) 75% of new agricultural expansions in Salinas Valley groundwater basin and 25% of new agricultural expansions outside Salinas Valley groundwater basin plus Bradley/Pleyto/Lockwood rural center growth.
4. Carmel River/Seaside Aquifer supplies is based on implementation of CWP, ASR, and several smaller projects. (See Table 4.9-4f). Excludes agricultural demand unless part of existing demand served by Cal-Am. Effect of SBX7 7 (Steinberg) not included.
5. Pajaro Valley Basin includes areas of Santa Cruz County. See Table 4.3-9g for list of potential projects. Effect of SBX7 7 (Steinberg) not included.
6. See Table 4.3-9g. PVWMA projections for urban growth include growth in Monterey County.

Table 4.3-9c. Salinas ~~River~~ Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Unincorporated Urban Water Demand in Salinas Valley Groundwater Basin								
Chualar CA		1,500	492	1,429	290			Calculated based on population
Fort Ord CA		8,610	2,823	8,201	1,663			
Boronda CA		726	238	691	140			
Castroville CA		1,632	535	1,554	315			
Pine Canyon RC		1,704	559	1,624	329			
San Lucas RC		169	55	160	32			
~~Bradley RC~~	-	~~800~~	~~262~~	~~761~~	~~154~~			
~~Lockwood RC~~	-	~~221~~	~~72~~	~~209~~	~~42~~			
~~Pleyto RC~~	-	~~160~~	~~52~~	~~151~~	~~31~~			
San Ardo RC		480	157	456	92			
River Road RC		389	128	372	75			
Hwy 68/Reservation AHO		930	305	886	180			
Cachagua		66	9	26	5			Assumed 50/50 split between Carmel River and Salinas watershed basins
Central Salinas Valley		456	61	177	36			Calculated based on population
Greater Salinas		1,395	187	542	110			Calculated based on population
Butterfly Village (3)		1,147	1,147	3,332	-25			Based on Addendum to FEIR for project
North County (4)		1,956	262	760	154			Assumed 60/40 split between Salinas River and Pajaro River
South County		939	125	363	74			Calculated based on population

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Toro		4,046	540	1,569	318			Calculated based on population
Wineries/Ancillary in AWCP					326			Assumes all 40 artisan and 10 large-scale wineries and ancillary uses built by 2030
Inland Subtotal		*26,145* ~~*28,326*~~	*7,622* ~~*8,008*~~	*22,144* ~~*23,625*~~	*4,115* ~~*4,343*~~			
North County-Coastal		585	164	477	97			Calculated based on population
Total		**26,730** ~~**27,911**~~	**7,786** ~~**8,172**~~	**22,620** ~~**23,742**~~	**4,212** ~~**4,439**~~	**71,747** ~~**135,375**~~		Total Population includes estimated 49,126 existing population as of 2005 in GW basin Zone 2C plus new population
Revised Total					***3,435***			***Takes into account 20 % reduction by 2020 (SBX7 7 Steinberg)***
City Urban Water Demand in Salinas Valley Groundwater Basin								
Gonzales				19,916	4,038	29,145		Calculated based on population
Greenfield				14,757	2,992	29,854		
King City				10,475	2,124	23,360		
Marina				12,185	2,470	35,357		
Salinas				66,376	13,457	213,063		
Soledad				21,987	4,458	51,634		
Total				**145,696**	**29,539**	**382,413**		
Revised Total					***23,631***			***Takes into account 20 % reduction by 2020 due to SBX7 7 (Steinberg)***

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Total Urban Water Demand in Salinas Valley Groundwater Basin								
Total	**52,841** **~~50,479~~**			**168,316** **~~169,438~~**	**33,751** **~~33,979~~**	**454,160** **~~517,788~~**	**86,592** **~~84,458~~**	Existing Demand = 2005 within Zone 2/2A (DEIR Table 4.3-1) (including Fort Ord) of 50,479 along with estimated Granite Ridge/Highland South 2005 demand estimate of 2,362 AF. See Note 5.
Revised Total	-				***27,066***		***69,339***	***Takes into account 20 % reduction by 2020 due to SBX7 7 (Steinberg)***
Agricultural Demand in Salinas Valley Groundwater Basin								
Existing Agricultural Demand	448, 111 ~~443,567~~						360, 878 ~~358,000~~	Existing = 2005 extraction ~~average~~ (DEIR Table 4.3-1) of 443,567 within Zone 2/2A plus agriculture withdrawals in Highland South/Granite Ridge of 3,156 AF; 2030 = from SVWP EIR plus 2,878 AF due to Chalone, area SW of Soledad, and area west of King City. See note 6.
Potential New Agricultural Demand		-	-	-	12,753 - 17,537	-	12,753 - 17,537	See note 7
Total	**448,111** **~~443,567~~**				**12,753 - 17,537**		**373,631 - 378,415** **~~358,000~~**	

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Total Water Demand in Salinas Valley Groundwater Basin								
Total	**500,952** **~~494,046~~**	**26,730** **~~27,911~~**	**15,408** **~~16,180~~**	**168,316** **~~169,438~~**	**39,819 - 44,603** **~~33,979~~**	**454,160** **~~517,788~~**	**442,970 - 447,754** **~~442,458~~**	2030 = Existing Urban Demand (2005) + New U~~r~~rban Demand (2030) [taking into account 20 percent reduction per SBX7 7 (Steinberg)) + Forecasted Agricultural Demand (2030).
SVWP EIS/EIR						*425,611*	*443,000*	See Note 8.

Sources: California Department of Water Resources, 2005 California Water Plan Update.

Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency. October.

Monterey County. 2008b. Addendum #2 to the Final Environmental Impact Report for the Rancho San Juan Specific Plan and HYH Property EIR, SCH No. 2002121142. July 17.

Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June.

MCWRA~~RMC~~, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May.

Notes: (1) Assumes persons/housing unit = 2006 to 2030 average (2.91 from Table 3-5 for unincorporated county for 2030).

(2) Per capita water use [urban applied water (including residential, commercial, industrial, and landscape uses) for Central Coast Region] = 181 gpd (CA Water Plan Update 2005), except for butterfly village. Agricultural new demand calculated per Note 7.

(3) Butterfly Village water demand based on Project FEIR Addendum (Monterey County, 2008b)

(4) 60/40 split based on Fugro West, 1995.

(5) Urban demand for Highlands South/Granite Ridge from Fugro, 1995 inflated to 2005 by County population growth.

(6) Existing agricultural demand for Highlands South/Granite Ridge from Fugro, 1995. Amount shown is from 1995. Based on overall trend of declining agricultural demand, this amount was not adjusted for the 2005 baseline estimate. For 2030, water demand for three areas outside of one 2/2A/2B estimated based on acreage and 1.84 AF/Acre (from SVWP EIR for 2030).

(7) 2030 estimate calculated using 1.84 AF/Acre (from SVWP EIR for 2030) and 9,531 acre increase relative to SVWP EIR. SVWP EIR assumed 1,849 acre decrease whereas General Plan EIR assumed 7,682 acre increase [= 10,253 acre increase from EIR Table 4.9-8 minus 2,571 acre of

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
								farmland conversion from EIR Table 4.2-9]. Assumes all new agricultural land and all farmland conversion occurs within the Salinas Valley watershed, which are both an overstatement. Assumes all new farmland conversion is for irrigated agriculture, which is also an overstatement. Range shown is for two cases: 1) 75% of all agricultural conversions occur in Zone 2C; and 2) 100% of all agricultural conversions occur in Zone 2C.

(8) MCWRA 2001 and MCWRA ~~RMC~~1998. SVWP forecast used 1995 urban water use factors which does not take into account improvement in water use efficiencies.

Salinas Valley Watershed Outside of Salinas Valley Groundwater Basin								
Agricultural Demand (9)	19,991				0 – 4,784		**14,519 – 19,303**	Range is for two difference scenarios; 2030 includes urban and agricultural efficiency
Urban Demand (10)								
Pleyto Rural Center		221	72	209	42	NA	NA	Using 2005 per capita factor
Lockwood Rural Center		160	52	151	31	NA	NA	Using 2005 per capita factor
Bradley Rural Center		800	262	761	154	NA	NA	Using 2005 per capita factor
Subtotal		*1,181*	*386*	*1,121*	*227*	*NA*	*NA*	Taking into account SBX7 7
Reduced Subtotal					182			
Total	**19,991**				**182 – 4,966**	**NA**	**14,701 – 19,485**	Partial estimate only due to data limitations

Notes:

9. Existing demand based on FMMP farmland mapping and 2002-2009 agricultural use average per acre in MCWRA groundwater extraction reporting. 2030 new demand range is for two scenarios: 1) 100% agricultural expansions go into Salinas Valley groundwater basin (or draw from it) and none use water outside the main basin 2) 25% of agricultural expansions use water from outside of the main groundwater basin and remainder draws from the main basin. 2030 demand calculated based on acreage and SVWP EIR 1.84 AF/year agricultural use/acre average. Reduction in demand is due to assumed improvements in agricultural water use efficiency over time.

10. No data found for non-agricultural water use in areas outside of Zone 2C at present. There are dispersed residents in this area. Limited future growth

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
expected outside of Bradley, Pleyto or Lockwood, and thus no estimate prepared for areas outside the rural centers.								

Table 4.3-9d. Water Demands for Salinas Valley Groundwater Basin Estimated in the 2001 Salinas Valley Water Project EIR

	Population 2030	Water Demand (AF)
Cities		
Marina	24,913	4,400
Salinas	194,407	33,722
Gonzales	14,361	7,862
Soledad (w/ prison)	33,639	7,794
Greenfield	15,027	3,374
King City	29,024	10,851
City Subtotals	311,371	68,003
County		
Castroville	7,088	1,022
Fort Ord	37,370	6,600
Pressure		3,592
Toro/Ft. Ord		1,113
East Side	49,400	3,286
Forebay		1,120
Upper Valley		1,212
North County[1]	20,382	3,039
County Subtotals	114,240	20,984
TOTAL URBAN WATER DEMAND[2]	*425,611*	*88,987*
TOTAL URBAN WATER DEMAND[3]		*85,000*
Agricultural Demand		358,000
Total Demand		**443,000**

Sources: Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June 2001.
MCWRA~~RMC~~, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May.
Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency. October.

[1] No population estimate provided for North County portion (Highlands South and Granite Ridge) in SVWP EIS/EIR. Fugro West (1995) study used to estimate forecast for 2030 units, then converted to population using 2.91/household.

[2] Total Urban W~~w~~ater Demand shown above from MCWRA~~RMC~~ 1998.

[3] DEIR for SVWP used 85,000 AF total, likely reflecting minor adjustment in calculation post-1998.

Page 4-79, insert the following new entry:

Page 4.3-111, first paragraph under Significance Determination. The paragraph is revised as follows:

In summary, while timber harvesting and mining impacts are adequately addressed on the state level and by the THP process, County ordinance requirements, and the County's surface mining ordinance, the ~~2007~~ General Plan provides additional water quality protections specific to hillside agricultural cultivation and agricultural conversion impacts on moderate slopes. Establishment of an agricultural conversion permit process, in part to identify development and design techniques for erosion control and slope stabilization, would further reduce potential erosion and sedimentation impacts from implementation of

the ~~2007~~ General Plan (Policy OS-3.5). Safety Element Policies S-3.1, S-3.3, and S-3.5 will result in new regulations limiting off-site drainage flow and stormwater detention, including provisions for concurrent installation of stormwater containment with new development, as well as complementary Runoff Performance Standards for development to reduce and capture flows. These will reduce the potential for contaminants to enter surface waters. Further, the Central Coast RWQCB Conditional Waiver for Irrigated Agriculture, including future revisions improving its effectiveness, will continue to regulate ~~regulates~~ farm runoff to prevent release of erosion sediment. Thus, overall impacts will be less than significant with implementation of ~~2007~~ General Plan policies. No mitigation is required.

Page 4-79, insert the following new entry:

Page 4.3-112, first paragraph under Mitigation Measures. The paragraph is revised as follows:

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. ~~While not necessary to~~In conjunction with the existing and future regulations of the County, Central Coast RWQCB, and other agencies, as well as the proposed General Plan policies that will address significant water quality impacts, this measure will help to reduce water quality impacts.

Page 4-79, insert the following new entry:

Page 4.3-113, first paragraph under Mitigation Measures. The paragraph is revised as follows:

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. ~~While not necessary to~~In conjunction with the existing and future regulations of the County, Central Coast RWQCB, and other agencies, as well as the proposed General Plan policies that will address significant water quality impacts, this measure will help to reduce water quality impacts.

Page 4-98, insert the following entry as follows**:**

Page 4.3-130, Mitigation Measures**.** The following measure is added above "Significance Conclusions"

> Mitigation Measure BIO-2.3: Add Considerations regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment
>
> Public Services Policies PS-3.2, PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new domestic and high capacity wells. The following criteria shall be added to these policies:
>
> - Policy PS-3.2.f—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead , for the purpose of minimizing impacts to those resources and species.
> - Policy PS-3.3.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead , for the purpose of minimizing impacts to those resources and species.
> - Policy PS-3.4b - Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead , for the purpose of minimizing impacts to those resources and species.
>
> The following policy shall be added to the Carmel Valley Master Plan:

CV-3.20. A discretionary permit shall be required for new wells in the Carmel Valley alluvial aquifer. All new wells shall be required to fully offset any increase in extractions from this aquifer (see Policies PS-3.3 and PS-3.4). These requirements shall be maintained until such a time that the Coastal Water project (or its equivalent) results in elimination of all Cal-Am withdrawals in excess of its legal rights.

NC-3.8— A discretionary permit shall be required for all new wells in fractured rock or hard rock areas in the North County Area Plan in order to provide for case by case review of potential water quality and overdraft concerns. This requirement shall be maintained until such a time that a water supply project or projects are completed that addresses existing water quality and water supply issues in fractured rock or hard rock areas.

Page 4-104, insert the following new entry:

Page 4.4-15, second paragraph under Erosion. The paragraph is revised as follows:

Soils can sometimes be quantitatively rated as to their erosion hazard potential. The relative erosion hazard is depicted at a County-wide scale in Exhibit 4.4.5. The General Plan proposes no site-specific development projects; the specific locations and designs of future development and land being converted to agricultural production are unknown; and the effects of development or conversion to agriculture are highly dependent upon the design of the development or, in the case of agricultural conversion, site and crop-dependent cultivation and erosion control techniques. Because this type of information is unknown at the General Plan level, a quantitative analysis of potential erosion would be largely speculative. Exhibit 4.4.5 provides information at a scale commensurate with the General Plan effort. Future site-specific development and agricultural conversion will be reviewed at a much closer scale, commensurate with their project-level nature.

Page 4-104, insert the following new entry:

Page 4.4-15, second paragraph under Erosion. The paragraph is revised as follows:

Soils can sometimes be quantitatively rated as to their erosion hazard potential. The relative erosion hazard is depicted at a County-wide scale in Exhibit 4.4.5. The General Plan proposes no site-specific development projects; the specific locations and designs of future development and land being converted to agricultural production are unknown; and the effects of development or conversion to agriculture are highly dependent upon the design of the development or, in the case of agricultural conversion, site and crop-dependent cultivation and erosion control techniques. Because this type of information is unknown at the General Plan level, a quantitative analysis of potential erosion would be largely speculative. Modeling would be similarly ineffective due to the speculative nature of the data needed to fill in the variables that would inhabit the model. Exhibit 4.4.5 provides information at a scale commensurate with the General Plan effort. Future site-specific development and agricultural conversion will be reviewed at a much closer scale, commensurate with their project-level nature.

Page 4-136, new entry as follows:

Page 4.9-87. Mitigation Measure BIO-2.3 is revised as follows:

Mitigation Measure BIO-2.3: Add Considerations regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment

Public Services Policies PS-3.2, PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new domestic and high capacity wells. The following criteria shall be added to these policies:

- Policy PS-3.2.f—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead for the purpose of minimizing impacts on the environment and to those resources and species.
- Policy PS-3.3.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead for the purpose of minimizing impacts to those resources and species.
- Policy PS-3.4b - Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead for the purpose of minimizing impacts to those resources and species.

The following policy shall be added to the Carmel Valley Master Plan:

CV-3.20~~. h.~~ A discretionary permit shall be required for new wells in the Carmel Valley alluvial aquifer. All new wells shall be required to fully offset any increase in extractions from this aquifer (see Policies PS-3.3 and PS-3.4). These requirements shall be maintained until such a time that the Coastal Water project (or its equivalent) results in elimination of all Cal-Am withdrawals in excess of its legal rights.

NC-3.8~~i.~~— A discretionary permit shall be required for all new wells in fractured rock or hard rock areas in the North County Area Plan in order to provide for case by case review of potential water quality and overdraft concerns. This requirement shall be maintained until such a time that a water supply project or projects are completed that addresses existing water quality and water supply issues in fractured rock or hard rock areas.

Page 4-149, insert the following new entry at the bottom of the page:

Page 4.16-18, under Contribution to Global Climate Change is revised as follows:

Impact CC-1: Development of the General Plan would contribute considerably to cumulative GHG emissions and global climate change as the County in 2020 would have GHG emissions greater than 85 ~~72~~ percent of current conditions ~~BAU conditions~~ (Mitigated to Less Than Considerable for 2030 Planning Horizon, but Cumulatively Considerable with Mitigation for Buildout)

Page 4-172, insert the following new entry:

Page 6-6, first paragraph under Geology, Soils and Seismicity. The paragraph has been revised as follows:

This is a site specific impact that affects individual development projects and that is adequately mitigated on an individual basis. As discussed in Chapter 4.4, Geology, Soils, and Seismicity, there are numerous state and local regulations that act to reduce geologic and seismic risks to acceptable levels. Project design and building standards avoid the aggregation of individual effects into a significant combined impact. Therefore, there would be no cumulative impact. Soil erosion is the exception. It has a cumulative impact ~~to this~~ and is discussed under water quality.

Page 4-172, insert the following new entry:

Page 6-10, under Impact CUM-2. Surface Water Quality. The discussion has been revised as follows:

Activities within the county and cities can affect surface water quality by releasing contaminants (including sediment from soil erosion) through point sources or through stormwater runoff. As discussed in the Project Description, AMBAG has projected continued growth throughout the region, including Monterey County, its cities, and those parts of Santa Cruz County that drain into the Pajaro River and its groundwater basin. The growth of the cities and those county areas identified for urbanization would increase the potential for new point sources, expanded point sources (such as wastewater treatment plants), and urban runoff. Rural and agricultural activities can similarly contribute contaminants from runoff. As discussed in Section 4.3, Water Resources, the SWRCB has listed numerous waterways within the county as "impaired waterways" under Section 303(d) of the Clean Water Act. This indicates that the County has an existing significant cumulative surface water quality impact.

Discharges to impaired waterways are regulated under the Central Coast RWQCB's Basin Plan, which includes TMDLs for the impaired waterways. At present, although the Central Coast RWQCB's regulations have not been fully effective in mitigating existing levels of contaminants. However, this does not, imply that future regulations will not be effective over the term of the planning horizon and buildout under the General Plan. ~~Over time, the~~The Central Coast RWQCB continues to expand its list of impaired waterways (see Table 4.3-8), providing more comprehensive coverage, and will adopt TMDLs for all impaired waterways in the County by the deadlines noted in Table 4.3-8. In turn, county and city regulations will be required to limit discharges to the limits set by the TMDLs. As discussed in Section 4.3.3.2, state law mandates implementation of the TMDL requirements.

In addition, the~~The~~ RWQCB's conditional agricultural waiver program is in place to prevent~~preventing~~ sediment-laced runoff from agricultural lands reaching surface water bodies. The RWQCB is in the process of revising the current agricultural waiver program to improve its effectiveness. These regulations are or will be in addition to the County's existing grading, slope development, and erosion control ordinances. Further, the ~~2007~~ General Plan will impose additional requirements on development that will reduce the release of contaminants to surface waters, including the following:

- Policies OS-3.5 and -3.6: require slope development regulations to be adopted that will restrict development and require a discretionary permit for all conversion of uncultivated land to cultivation on slopes of 25% or greater intended to protect against erosion and unstable slopes. Development on lesser slopes is regulated for erosion control under the existing county grading and erosion control ordinances. Agricultural conversion on lesser slopes will require approval of an erosion control plan under Policy OS-3.5.
- Policy S-3.8: requires the county to provide public education/outreach and technical assistance programs on erosion and sediment control.
- Policy OS-3.9: will establish a program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands.
- Policy OS-5.7, as well as state and County regulation of timber harvesting will also limit potential discharges to streams from forestry activities.
- Policy OS-5.22 (Mitigation Measure BIO-2.1) requires the county to adopt a stream setback ordinance "to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors

and reduce sediment and other water quality impacts of new development." This will reduce erosion and sedimentation.

- Policy S-3.1 will require that post-development, off-site peak flow drainage from areas being developed not exceed pre-development peak flow drainage, thereby limiting the potential for sediment leaving the site.
- Policy S-3.3 requires drainage facilities to mitigate post-development peak flow to be installed concurrent with new development.
- Policy S-3.5 requires the County to develop runoff performance standards to reduce storm flows plus capture and recharge runoff.
- Policy AG-3.3, which exempts "routine and ongoing agricultural activities" from certain General Plan policies, specifically excludes "activities that create significant soil erosion impacts or violate adopted water quality standards" from that exclusion. Thus, regulations protecting from erosion and the violation of water quality standards will apply.

These policies will be implemented through revisions to County ordinances and regulations, as well as through subdivision map approvals. The~~se~~ state and local regulations will mitigate the ~~2007~~ General Plan's incremental impact to surface water quality and therefore, the ~~2007~~ General Plan's contribution will not be cumulatively considerable.

Chapter 6 of the Final EIR

Additional References (October 2010)

The following references are added to Chapter 6 of the FEIR.

These references are available in hard copy or on CDROM at the Front Counter of the Monterey County Planning Department, Salinas Permit Center, 168 W. Alisal St. 2nd Floor Salinas, CA 93901, (831) 755-5025. Where noted that the reference is available on CD ROM at the front counter, that means the file is available in electronic form for review on a CD ROM on a computer at the front counter. Some of the references are also available on the internet. The internet links below may or may not be current. If a link does not work, then the document is still available at the front counter either on CDROM or in hard copy. If a location is not listed for a reference below it is available at the front counter either on CDROM or in hard copy.

The Salinas Permit Center is open Monday through Friday, from 7:30 a.m. to 5:00 p.m. For questions regarding these citations, or for assistance, please contact Carl Holm, Deputy Director, RMA-Planning at holmcp@co.monterey.ca.us or 831-755-5103.

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