Revised

FINAL

Child Development Center

Environmental Assessment

at Beale Air Force Base, California

Beale Air Force Base

Environmental Office

6601 B Street

Beale Air Force Base, CA 95903-1712

March 2010

Report Documentation Page

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FINDING OF NO SIGNIFICANT IMPACT
FOR
CHILD DEVELOPMENT CENTER
BEALE AFB

1.0 NAME OF THE PROPOSED ACTION

Construct a Child Development Center and parking lot construction at Beale AFB, California.

The purpose of the CDC is to provide quality care and education in a safe learning environment for active duty dependent children. The Department of Defense goal is to provide for 80 percent of active duty childcare needs. The current facility was constructed in 1967 with a capacity of 153 children. Currently, families must use alternative child care services and are often burdened with significantly higher costs.

2.0 DESCRIPTION OF PROPOSED ACTION AND NO ACTION ALTERNATIVES

Proposed Action. The proposed project would involve constructing a 39,500 square foot Child Development Center (CDC) that would provide childcare for approximately 305 children. Construction of the new CDC facility would involve a masonry building, utility installation, an access road, and a parking lot. In addition, playgrounds will be constructed outside, with landscaping, exterior lighting and appropriate anti-terrorism force protection measures.

No Action Alternative. The existing CDC would continue to support about half of Beale AFB's childcare needs. If no action is taken, the Base would not meet current childcare needs or future increases.

3.0 SUMMARY OF ENVIRONMENTAL EFFECTS

Biological Resources. Implementation of the Proposed Action would result in a small loss of nonnative grassland habitat during construction. No sensitive biological resources are affected by the proposed action, therefore no significant impacts to biological resources are expected.

Water Resources. Rerouting of the drainage channels and adherence to best management practices will minimize impacts to water resources. No significant impacts to surface waters would be expected as a result of the Proposed Action.

There would be no significant impacts to water resources as a result of implementation of the Proposed Action.

Geological Resources. Implementation of best management practices during construction would limit environmental consequences resulting from construction activities. Therefore, direct or indirect effects on soils, regional or local topography, or physiographic features at the base would not be significant from implementation of the Proposed Action.

Air Quality. Annual construction emissions estimates for base activities were calculated and no significant direct or indirect effects on regional or local air quality would result from implementation of the Proposed Action. Best Management Practices shall be implemented during construction to offset any temporary construction impacts.

Hazardous Materials and Wastes Management. Implementation of design and construction avoidance measures at the proposed action site will ensure there no significant impacts to health and safety due to hazardous materials. No significant impacts are expected from implementation of the proposed action.

Transportation. The vehicles necessary for construction would be expected to have a minor adverse impact on base roads. All road and lane closures would be coordinated with the Security Forces and would be temporary in nature; therefore, no adverse direct or indirect effects on transportation systems would be expected.

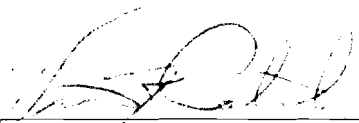
Noise. Construction noise would be temporary and there are few nearby noise-sensitive land uses, and all noise ordinances would be in compliance. Effects are expected to be less than significant.

4.0 CONCLUSION

Based on the provisions set forth in the Proposed Action, all activities were found to comply with the criteria or standards of environmental quality and coordinated with the appropriate Federal, state, and local agencies. The attached Environmental Assessment (EA) and a draft of this Finding of No Significant Impact/Finding of No Practicable Alternative (FONSI/FONPA) were made available to the public for a 30-day review period. No comments were received.

5.0 FINDINGS

Finding of No Significant Impact. After review of the EA prepared in accordance with the requirements of the National Environmental Quality Act (NEPA), the Council on Environmental Quality (CEQ) regulations, and the Environmental Impact Analysis Process (EIAP), 32 CFR Part 989, as amended, I have determined that the Proposed Action would not have a significant impact on the quality of the human or natural environment. An Environmental Impact Statement (EIS) will not be prepared. This decision has been made after taking into account all submitted information, and considering a full range of practical alternatives that would meet project requirements and are within the legal authority of the USAF.



ROBERT A. YAHN, Colonel, USAF
Vice Commander, 9th Reconnaissance Wing

Date

Abbreviations and Acronyms

AFB	Air Force Base
AFI	Air Force Instruction
AQCR	Air Quality Control Region
CA	California
CARB	California Air Resources Board
CDC	Child Development Center
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CAA	Clean Air Act
CO	carbon monoxide
DCE	dichloroethylene
DOD	Department of Defense
DTSC	California Environmental Protection Agency Department of Toxic Substances Control
EA	Environmental Assessment
EO	Executive Order
ERP	Environmental Restoration Program
ft^2	square feet
FONSI	Finding of No Significant Impact
FRAQMD	Feather River Air Quality Management District
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NO_x	total nitrogen oxide(s)
O_3	ozone
Pb	lead
PEA	Preliminary Endangerment Assessment
PCE	perchloroethylene
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PSD	Prevention of Significant Deterioration
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide

SIP	State Implementation Plan
TCE	trichloroethylene
TPH	Total Petroleum Hydrocarbons
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
VOC	volatile organic compound
WINDO	Wing Infrastructure Development Outlook

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1. Purpose of and Need for the Proposed Action

1.1. Location of the Proposed Action

Beale Air Force Base (AFB) is located in Yuba County approximately 40 miles north of the city of Sacramento, California and 12 miles east of the City of Marysville (Figure 1-1). A Child Development Center (CDC) is proposed for construction in the main administrative area of the base.

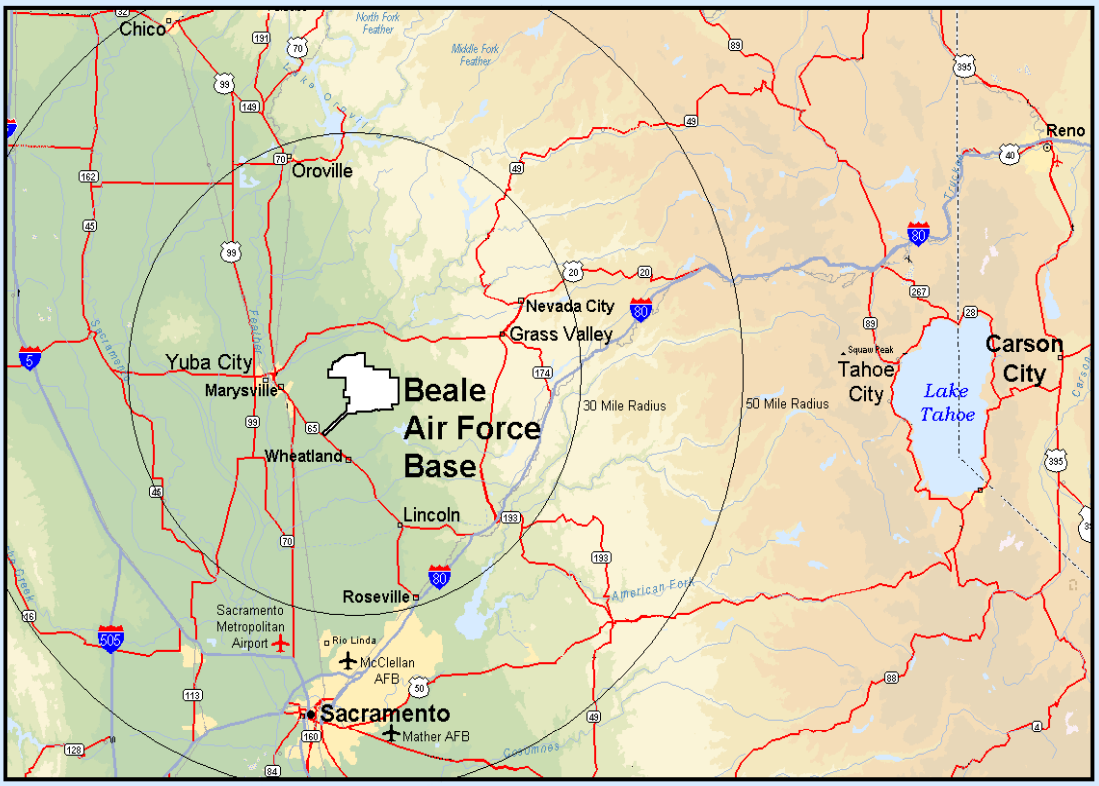
1.2. Purpose and Need

The proposed project would construct a new larger childcare facility located in a centralized area of the base. The purpose of the CDC is to provide quality care and education in a safe learning environment for active duty dependent children. The Department of Defense (DOD) goal is to provide for 80 percent of active duty childcare needs. The current facility was constructed in 1967 with a capacity of 153 children. Currently, families must use alternative child care services and are often burdened with significantly higher costs. In addition, the closest child care facility is approximately 36 miles from the base. The existing facilities are located in family housing which is not convenient to the installation's employment and activity center, as it is several miles away.

1.3. Public Involvement

The original Draft CDC Environmental Assessment (EA) was made available for a 30-day public comment period in April 2009. A Notice of Availability was published in the local newspaper, the Marysville Appeal-Democrat and the Beale AFB public affairs website. Additionally, flyers summarizing the project and providing pertinent environmental information were distributed to current CDC parents that may have interest in the project or reviewing the EA.

The EA was revised as a result of a state agency request for additional information and has been released for a 30-day public comment period again. The Revised Draft CDC Environmental Assessment (EA) was made available to the public for a 30-day public comment period. A Notice of Availability was published in the local newspaper, the Marysville Appeal Democrat.



VICINITY MAP

REGIONAL MAP

BEALE AIR FORCE BASE

FIGURE 1-1

2. Proposed Action and Alternatives

2.1. Proposed Action

The proposed project would involve constructing a approximately 39,000 square foot Child Development Center (CDC) that would provide childcare for approximately 305 children. The proposed CDC site covers approximately 7 acres and is bounded by 23rd Street to the south, 24th Street to the north, B Street to the east, and C Street to the west. (Figure 2-1).

The CDC project site is on a disturbed vacant lot that contains nonnative grassland, old building pads where barracks and administrative facilities were previously located and roadside drainage ditches. The proposed site is bound by roads on all sides (Figure 2-2).

Construction of the new CDC facility would involve a masonry building, utility installation, an access road, and a parking lot. In addition, playgrounds will be constructed outside, with landscaping, exterior lighting and appropriate anti-terrorism force protection measures.

2.2. Alternatives

2.2.1. Site Selection Criteria

The site for the proposed CDC facility must meet several selection criteria for consideration:

a) Must be located in the main administrative area of the base to provide better access to working parents.

b) Should be located consistent with future land use designations shown in the base general plan and within existing development zones.

c) Should be located in an area with easy access and would not create congestion for the base administrative areas or main roads.

d) Should be located where there is no known soil or groundwater contamination above health screening levels.

2.2.2. No Action

The existing CDC would continue to support about half of Beale AFB's childcare needs. If no action is taken, the installation would not meet current childcare needs or future increases.

2.2.3. Alternatives Eliminated From Further Evaluation

Several additional sites considered in the main base area did not meet site selection criteria. The sites had either known groundwater or soil contamination, were located in areas zoned as industrial, or were not located near a major thoroughfare that would provide easy access for parents.

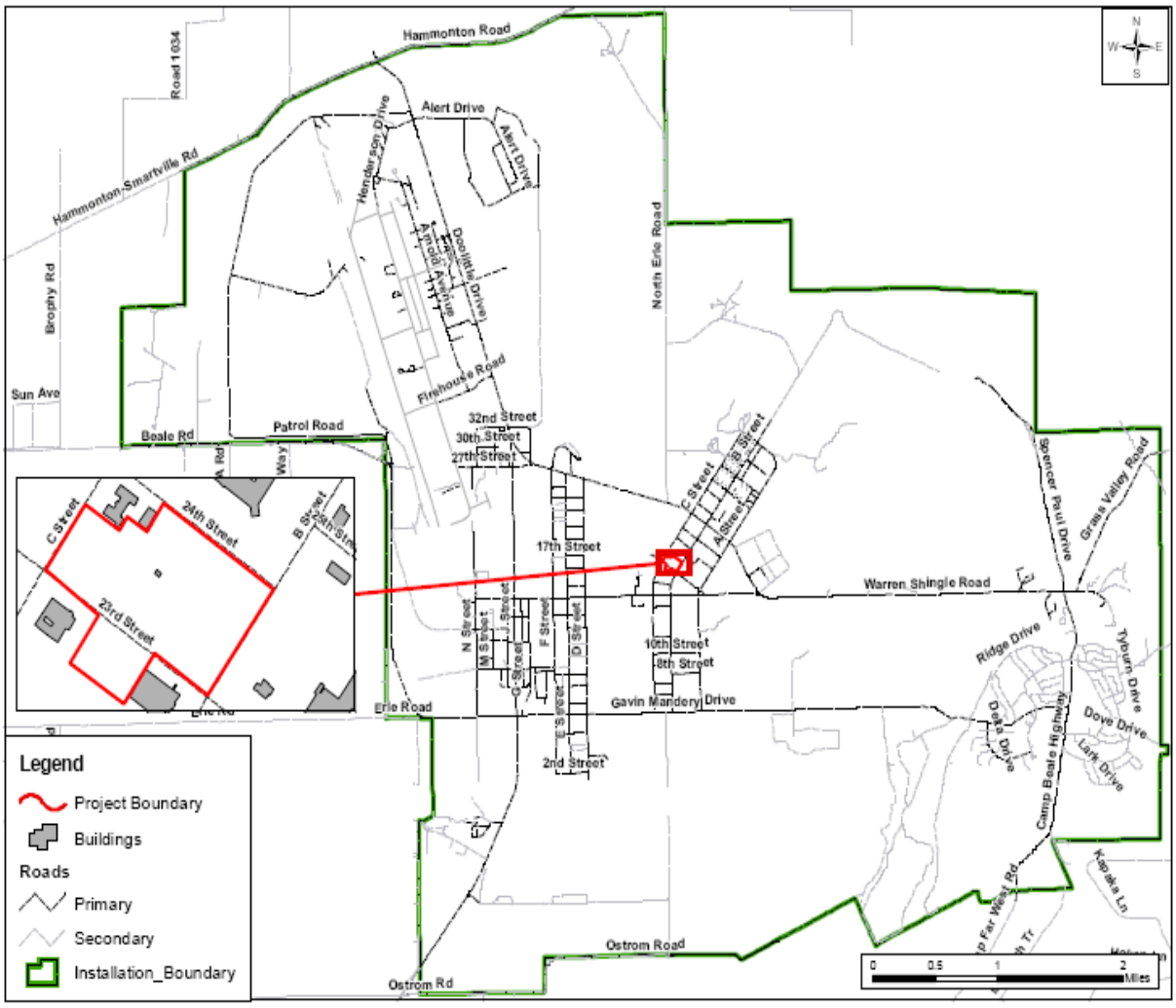


FIGURE 2-1

PROPOSED PROJECT LOCATION

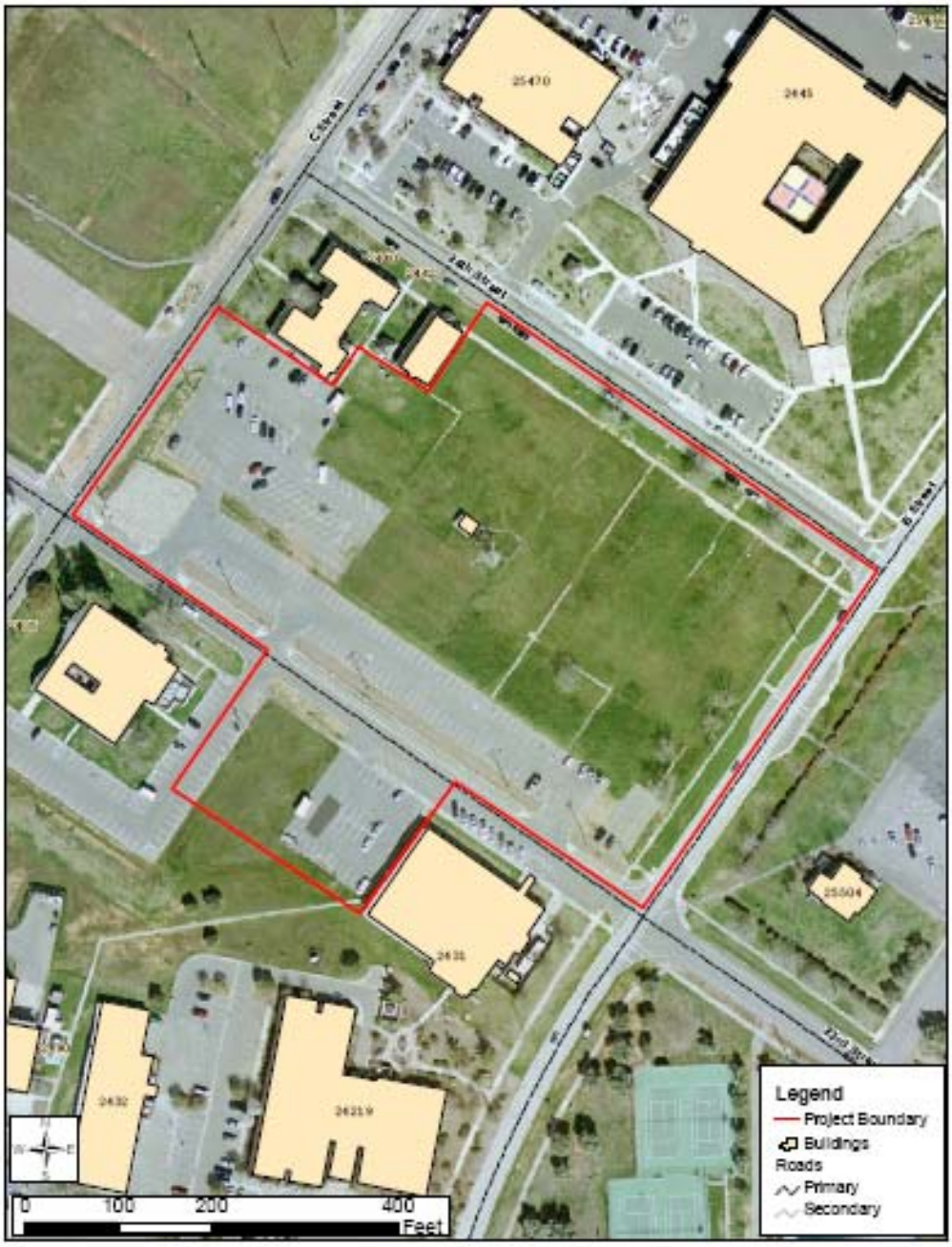


FIGURE 2-2

PROPOSED PROJECT SITE BOUNDARY

3. Affected Environment

In compliance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) guidelines, and 32 CFR Part 989, as amended, the description of the affected environment focuses on those resources and conditions potentially subject to impacts including air quality, biological resources, cultural resources, geological resources, hazardous materials and waste management, noise, safety and military munitions, transportation resources, and water resources. Some environmental resources and conditions that are often analyzed in an EA were omitted from this analysis because the site conditions had been fully analyzed in a different Beale AFB EA or the resource area was not affected as part of the action.

This EA has tiered resource area evaluations from the Wing Infrastructure Development Outlook Environmental Assessment (2004-2007) Volume 2 Beale Air Force Base California (WINDO 2 EA) October 2006 (e^2M 2006) and the Fitness Center EA (e^2M 2009). Within the WINDO 2 EA the Construct Gas Service Station, Auto Hobby Shop, and Car Wash Project and Construct Heritage Park Project were used as the reference projects. The hazardous materials section is supplemented in this EA to incorporate the specific site conditions that are potentially affected and are different than those discussed in the WINDO 2 EA (Atch.1). The WINDO 2 EA projects were selected for reference because the CDC project is located in a similar area of the base within the administrative area where the land has been disturbed previously. The site conditions, affected environment and environmental consequences for all environmental resource areas except air quality, biological resources and hazardous materials are tiered from the WINDO 2 and Fitness Center EAs.

3.1. Resources Eliminated from Further Detailed Analysis

The following resource areas were eliminated from further analysis because preliminary analysis revealed the resource area would not be affected.

3.1.1. Socioeconomics

The Proposed Action does not involve activities that would directly affect off-base activities, or directly or indirectly contribute to changes in socioeconomic resources. The new CDC would have a positive socioeconomic affect as it would provide additional job opportunities at the base as well as affordable childcare to many more Beale AFB families. The new CDC would also reduce the amount of driving to off-base childcare facilities and create a more convenient situation for Beale families. Active duty personnel and their dependents are allowed to conduct on-base childcare programs in their homes, per AFI 34-276, *Family Child Care Programs*. When the demand for childcare at an Air Force CDC exceeds the slots available, many of these children go to in-home childcare programs located on-base. Although there may be a temporary reduction in the use of off-base childcare facilities, the impacts would not be significant because the majority of new children at the CDC would come from these in-home childcare programs. While this may represent a loss of customers for the members providing in-home childcare on-base, the additional space at the new CDC will create new jobs for these members. Overall, there would be no change in the number of personnel assigned to Beale AFB and no changes in area

population or associated changes in demand for housing and services. Accordingly, this resource area was not analyzed in detail.

3.1.2. Environmental Justice

Environmental justice concerns the disproportionate effect of a federal action on low-income or minority populations. Because the proposed action is situated within the boundaries of Beale AFB, impacts to low-income and minority populations are not expected and have been eliminated from further analysis.

3.1.3. Land Use and Aesthetics

All activities associated with the Proposed Action would be consistent with present and foreseeable land use patterns at Beale AFB. In addition, the Beale General Plan identifies the area as multi-use. Implementation of the Proposed Action would not significantly alter the existing land use at Beale AFB. Accordingly, this resource area was not analyzed in detail.

3.1.4. Cultural Resources

A cultural resources survey has been conducted and no known archaeological sites are located within the site boundaries or near the proposed project site (BAFB 2008). Therefore, the effects to cultural resources are insignificant and have been eliminated from further analysis.

3.1.5. Safety and Military Munitions Response Program

An initial investigation of the sites within the Military Munitions Response Program has found that the proposed CDC site is not within the bounds of a potential munitions investigation site. In addition, standard health and safety practices will be followed during construction. Therefore, this resource area was eliminated from further analysis.

3.1.6. Aesthetics

No scenic vistas or scenic resources are located in or near the project area. No scenic vistas or scenic resources are located in or near the project area. The project site is within an administrative area of the base and the site has been previously developed, so the existing visual character or quality of the site would not change. The project involves the installation of outdoor lighting, but this is not expected to impact the views in the area. Therefore, this resource area was eliminated from further analysis.

3.1.7. Recreation

Outdoor play areas would be constructed within the CDC complex. The Proposed Action would not increase the use of any existing recreational facilities. Therefore, this resource area was eliminated from further analysis.

3.2. Resources Fully Evaluated in the WINDO 2 and Fitness Center EAs

3.2.1. Transportation

The WINDO 2 (e^2M 2006) and Fitness Center (e^2M 2009) EAs evaluated impacts on transportation resources and found that implementation of similar projects at sites similar to the CDC site would not be expected to affect transportation resources. The vehicles necessary for construction would be expected to have a minor adverse impact on base roads. All road and lane closures would be coordinated with Security Forces and would be temporary in nature; therefore, no significant effects on transportation as a result of the Proposed Action would be expected.

3.2.2. Noise

The WINDO 2 EA (e^2M 2006) evaluated aircraft and surface traffic noise as the major sources of noise within the base boundaries as well as adjacent property off base. There are no nearby noise-sensitive land uses and Beale AFB would be in compliance with all noise ordinances. Additionally, construction noise would be temporary. Therefore, no significant effects from noise are expected.

3.2.3. Geological Resources

Effects on geological resources were evaluated in the WINDO 2 (e^2M 2006) and Fitness Center (e^2M 2009) EAs. Temporary effects on geology and soils would be anticipated due to construction and demolition activities, such as grading, excavation and recontouring of the soil; however, the site is already highly disturbed. Implementation of best management practices during construction would limit adverse effects to geological resources. Therefore, direct or indirect effects on soils, regional or local topography, or physiographic features are expected to be less than significant.

No mineral resources would be impacted by the construction of the CDC. There are no known mineral resources on Beale AFB.

Beale AFB is not in or near any Alquist-Priolo Earthquake Fault Zones. The project would conform to current seismic design standards and therefore no impacts from seismic activity would be expected.

3.2.4. Water Resources

The proposed CDC project site is located outside the 100-year floodplain. The site has several roadside drainages (1,035 linear ft) that cross the proposed site and eventually flow into Hutchinson Creek. These drainages are considered jurisdictional waters of the U.S. and would require permitting under Clean Water Act Sections 404 and 401. Impacts to Jurisdictional Waters of the U.S similar sites were evaluated in the WINDO 2 (e^2M 2006) and Fitness Center (e^2M 2009) EAs. With rerouting of the drainage channels and adherence to best management practices, significant effects to surface waters would not be expected as a result of the Proposed Action.

3.2.5. Utilities and Infrastructure

The Proposed Action would result in the use of many of the infrastructure and utility resources discussed in Section 3.9.2 of the Fitness Center EA (e^2M 2009). Impacts on infrastructure and utilities from the Proposed Action would be negligible, compared to the existing demand. Sustainable design measures would be used to reduce demand. Therefore, impacts to utilities and infrastructure would be less than significant.

3.3. Resources Evaluated in Detail

3.3.1. Air Quality

In accordance with Federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of criteria pollutants in the atmosphere. The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological "air basin" and the prevailing meteorological conditions.

Under the CAA, the USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to affect human health and the environment. The NAAQS represent the maximum allowable concentrations for ozone (O_3) - measured as either volatile organic compounds (VOCs) or total nitrogen oxides (NO_x), carbon monoxide (CO), , sulfur oxides (SO_x), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [PM_{10}] and particulate matter equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead (Pb) (40 CFR Part 50). The CAA also gives the authority to states to establish air quality rules and regulations. The State of California has adopted the NAAQS and promulgated additional California Ambient Air Quality Standards (CAAQS) for criteria pollutants. The CAAQS are more stringent than the Federal primary standards. **Table 3-1** presents the USEPA NAAQS and CAAQS.

USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. Areas within each AQCR are therefore designated as either "attainment," "nonattainment," "maintenance," or "unclassified" for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS; nonattainment indicates that criteria pollutant levels exceed NAAQS; maintenance indicates that an area was previously designated nonattainment but is now attainment; and an unclassified air quality designation by USEPA means that there is not enough information to appropriately classify an AQCR, so the area is considered attainment. USEPA has delegated the authority for ensuring compliance with the NAAQS to the California Air Resources Board (CARB). CARB has delegated responsibility for implementation of the Federal CAA and California CAA to local air pollution control agencies. In accordance with the CAA, each state must develop a State Implementation Plan (SIP), which is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS.

The General Conformity Rule requires Federal actions meet the requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not cause a new violation of the NAAQS; contribute to an increase in the frequency or severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS. The General Conformity Rule applies only to regionally significant actions in nonattainment or maintenance areas.

Table 3-1. National and State Ambient Air Quality Standards

Pollutant	Averaging Time	Standard Value		Federal Standard Type
		Federal	State	
CO	8-hour [a]	9 ppm (10 mg/m^3)	Same	Primary
	1-hour [a]	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)	Primary
NO_2	Annual Arithmetic Mean	0.053 ppm (100 µg/m^3)	0.030 ppm (57 µg/m^3)	Primary and Secondary
	1-hour	.100 ppm[h]	0.18 ppm (339 µg/m^3)	None
O_3	8-hour [b]	0.075 ppm (147 µg/m^3)	0.070 ppm (137 µg/m^3)	Primary and Secondary
	1-hour [c]	--	0.09 ppm (180 µg/m^3)	Primary and Secondary
Pb	Quarterly average	1.5 µg/m^3	--	Primary and Secondary
	30-Day	--	1.5 µg/m^3	
PM_{10}	Annual Arithmetic Mean	--	20 µg/m^3	
	24-hour	150 µg/m^3 [d]	50 µg/m^3	Primary and Secondary
$PM_{2.5}$	Annual Arithmetic Mean [e]	15 µg/m^3	12 µg/m^3	Primary and Secondary
	24-hour [f]	35 µg/m^3	Same	Primary and Secondary
SO_2	Annual Arithmetic Mean	0.030 ppm	--	Primary
	24-hour [a]	0.14 ppm	0.04 ppm	Primary

	3-hour [a]	0.5 ppm (1,300 µg/m^3)	--	Secondary
	1-hour	--	0.25 ppm--	None
Visibility Reducing Particles	8-hour	0.23 per km[g]	--	None
Sulfates	24-hour	25 µg/m^3	--	None
Hydrogen Sulfide	1-hour	0.03 ppm	--	None
Vinyl Chloride	24-hour	0.01 ppm	--	None

Sources: USEPA 2008 and CARB 2008
Notes: Parenthetical values are approximate equivalent concentrations.

a. Not to be exceeded more than once per year.

b. To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. This standard is effective on May 27, 2008, and replaces the 1997 8-hour ozone standard of 0.08 ppm. However, the 1997 standard and its implementing rules remain in effect while USEPA undergoes rulemaking to transition to the 2008 standard.

c. As of June 15, 2005, USEPA revoked the Federal 1-hour ozone standard in all areas except the 14 8-hour ozone nonattainment Early Action Compact Areas.

d. Not to be exceeded more than once per year on average over 3 years.

e. To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

f. To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3. This standard is effective December 17, 2006.

g. Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles when relative humidity is < 70%.

h. Federal Standard 1-Hour Value was revised and is effective April 12, 2010.

Key: ppm = parts per million; mg/m^3 = milligrams per cubic meter; µg/m^3 = micrograms per cubic meter; km = kilometer

Federal Prevention of Significant Deterioration (PSD) regulations also define air pollutant emissions from proposed major stationary sources or modifications to be "significant" if (1) a proposed project is within 10 kilometers of any Class I Area, and (2) regulated pollutant emissions would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I Area of 1 µg/m^3 or more (40 CFR 52.21[b][23][iii]). A Class I Area includes national parks larger than 6,000 acres, national wilderness areas and national memorial parks larger than 5,000 acres, and international parks. PSD regulations also define ambient air increments, limiting the allowable increases to any area's baseline air contaminant

concentrations, based on the area's Class designation (40 CFR 52.21[c]). According to 40 CFR Part 81, no Class I Areas are located in the vicinity of Beale AFB. Therefore, Federal PSD regulations would not apply to the Proposed Action (USEPA 2009b).

On March 10, 2009, the USEPA issued a proposed rule for mandatory greenhouse gas (GHG) reporting from large GHG emissions sources in the United States. The proposed rule was published in the *Federal Register* on April 10, 2009. The purpose of the rule is to collect comprehensive and accurate data on carbon dioxide (CO_2) and other GHG emissions that would be used to inform future policy decisions. The proposed rule would require reporting of greenhouse gases including CO_2. Although GHGs are not currently regulated under the CAA, the USEPA has clearly indicated that GHG emissions and climate change are issues that need to be considered in future planning. GHGs are produced by the burning of fossil fuels and through industrial and biological processes.

Title V of the CAA Amendments of 1990 requires states and local agencies to permit major stationary sources. A major stationary source has the potential to emit more than 100 tons per year (tpy) of any one criteria air pollutant, 10 tpy of a hazardous air pollutant (HAP), or 25 tpy of any combination of HAPs. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and monitor their impact on air quality. Section 112 of the CAA defines the sources and kinds of HAPs. Beale AFB produces less than 100 tpy of any criteria pollutant, less than 10 tpy of a HAP, and less than 25 tpy of any combination of HAPs and is, therefore, not regulated under Title V of the CAA.

Beale AFB is in Yuba County, which is within the Sacramento Valley Intrastate (SVI) AQCR. The Proposed Action is in the Feather River Air Quality Management District (FRAQMD) and is subject to rules and regulations developed by the FRAQMD. The FRAQMD is responsible for implementing and enforcing state and Federal air quality regulations in Yuba County, Sutter County, and portions of the Northern Sacramento Valley Air Basin. The air quality in Yuba County has been characterized by the USEPA as nonattainment for $PM_{2.5}$ (USEPA, Green Book, Jan 6, 2010). CARB has also designated Yuba county as a nonattainment area for 8-hour O_3 and PM_{10} (CARB 2007).

3.3.2. Biological Resources

The Proposed Action would occur in nonnative, disturbed annual grassland plant community dominated by ruderal vegetation and with a few non-native ornamental trees. There are no wetlands on the proposed project site, only degraded man-made drainage ditches. Annual grasslands on the proposed project site have been subject to disturbance associated with human activities. This type of disturbed habitat generally provides less value to wildlife than undisturbed native grassland.

Special-Status Species. There are six federally protected plant species and 10 federally protected animal species with potential to occur at Beale AFB. All of these federally listed species were excluded from further analysis because the Proposed Action would be located in an area that does not support these protected species.

Several other special-status species occur on Beale AFB and have the potential to fly over or forage in the vicinity of the proposed project site. The state-protected white-tailed kite (*Elanus leucurus*), golden eagle (*Aquila chrysaetos*), American peregrine falcon (*Falco peregrinus anatum*), black rail (*Laterallus jamaicensis*), Swainson's hawk (*Buteo swainsoni*) and greater sandhill crane (*Grus canadensis tabida*) use grasslands and savannas for foraging and/or breeding. The Western burrowing owl (*Athene cunicularia hypugea*), the Northern harrier (*Circus cyaneus*), and the Ferruginous hawk (*Buteo regalis*) also use these habitat types. Golden eagle and white-tailed kite are fully protected under California Fish and Game Code. Western burrowing owl, northern harrier, and ferruginous hawk are considered species of special concern by state and Federal agencies, but receive no legal protection. Other bird species that may be present at the proposed project site are subject to regulation under the Migratory Bird Treaty Act.

Agricultural Resources. No prime or unique farmland or farmland of statewide importance is present on Beale AFB, and the project site is not used for agriculture.

3.3.3. Hazardous Materials

Environmental Restoration Program (ERP). The ERP at Beale AFB began in 1984 with a base-wide records search that identified 16 ERP sites for further investigation. Primary contaminants in the soil and water include fuels, oils, pesticides, herbicides, waste solvents, and inorganic compounds. Progress under ERP is closely coordinated with various regulatory agencies, including the Cal-EPA Department of Toxic Substance Control (DTSC) and the California Regional Water Quality Control Board (CRWCB).

Because the base has known contamination sites throughout the base property, special considerations were given when selecting the proposed new CDC site. The main consideration regarding hazardous materials and waste in site selection was finding a proposed site that had little or no historical uses of hazardous materials and a site with no existing contamination within the project boundaries.

The proposed CDC site was historically the location of barrack type structures, dormitories and administrative facilities. No known sources of contamination were identified as part of the historical uses of the property. The proposed action is in the vicinity of sites under investigation for contamination under the ERP program. The primary constituent of concern at adjacent ERP sites consist of chlorinated solvents (primarily TCE) dissolved in the groundwater at concentrations greater than 5 µg/L (CH2MHILL 2008). These VOC contaminants are being addressed through the Basewide Monitoring Program.

4. Environmental Consequences

4.1. Air Quality

The impacts to local and regional air quality conditions near a proposed Federal action are determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. Specifically, the impact in NAAQS "nonattainment" areas would be considered significant if the net increases in pollutant emissions from the Federal action would result in any one of the following scenarios:

- Produced emissions above the allowable threshold based on the severity of the nonattainment for the criteria pollutant(s).
- Cause or contribute to a violation of any national or state ambient air quality standard. Although not applicable to Federal actions, significance thresholds as defined by FRAQMD guidelines are compared to the Proposed Action as a frame of reference. Significance thresholds for FRAQMD are shown in **Table 3-2**.
- Expose sensitive receptors to substantially increased pollutant concentrations.
- Represent an increase of 10 percent or more in an affected AQCR emissions inventory.
- Exceed any Evaluation Criteria established by a SIP.

Table 3-2. FRAQMD Significance Thresholds

Project Type	Ozone Precursor Emissions		Respirable Particulate Matter Emissions
	NO_x (pounds per day)	ROG (pounds per day)	PM_{10} (pounds per day)
All	25	25	80

Source: FRAQMD 2009

Key:

NO_x = nitrogen oxides

ROG = reactive organic gases

PM_{10} = respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter)

In addition to the *de minimis* emissions thresholds, Federal PSD regulations define air pollutant emissions to be significant if the source is within 10 kilometers of any Class I area, and emissions would cause an increase in the concentration of any regulated pollutant in the Class I area of 1 $\mu g/m^3$ or more (40 CFR 52.21[b][23][iii]).

The Proposed Action would have short-term, minor, adverse impacts on air quality. **Table 3-3** summarizes the annual estimated air quality emissions from construction, demolition and operational activities. The estimated emissions from the Proposed Action would represent a minor percentage of

the air emissions inventory locally in Yuba County and would represent a negligible percentage of the air emissions inventory regionally within the SVI AQCR.

Table 3-3. Annual Estimated Air Emissions Resulting from the Proposed Action

Activity	NO_x tpy	VOC tpy	CO tpy	SO_2 tpy	PM_{10} tpy	$PM_{2.5}$ tpy
2010 Construction Emissions	*1.50*	*0.33*	*1.50*	*0.00*	*0.12*	*0..06*
Percent of SVI AQCR Inventory	0.002%	0.0003%	0.0003%	0.000%	0..0002%	0.0004%
2011 Construction Emissions	*1.61*	*.75*	*1.70*	*0.00*	*0.08*	*0.07*
Percent of SVI AQCR Inventory	0.002%	0.0007%	0.0004%	0.000%	0.0002%	0.0004%
Total Operational Emissions in 2012 and Beyond	**0.07**	**0.05**	**0.06**	**0.00**	**0.00**	**0.00**
Percent of SVI AQCR Inventory	0.00007%	0.0002%	0.00002%	0.000%	0.000%	0.000%

Note: Annual emissions reported are mitigated. URBEMIS estimates emissions of reactive organic gas (ROG). Emissions of ROG are assumed to equal VOC emissions.

Since Beale AFB is located in an nonattainment area for $PM_{2.5}$ identified by the USEPA, a formal conformity analysis is required. Emissions for the construction activities in the Proposed Action were calculated using the Urban Emissions Model (URBEMIS), which is used in California to evaluate the air quality impacts of land development projects. URBEMIS is approved by the FRAQMD. URBEMIS2007 Version 9.2.4 was run primarily in default mode as described in the URBEMIS2007, Version 9.2 User's Guide. In addition to the URBEMIS default equipment used during the construction phase of the project, it was assumed that two 49 brake-horsepower diesel generator sets would be used 8 hours per day. For construction conservation measures, the most conservative conservation measure in URBEMIS was chosen although actual conservation measures may be more stringent and result in lower emissions, i.e. all portable internal combustion (IC) equipment are required to have a Portable Equipment Registration Program (PERP) permit (Title 13, California Code of Regulations [CCR]), resulting in meeting at least Tier 1 engine requirements.

Daily construction emissions estimated using URBEMIS2007 are presented in **Table 3-4**. Emissions estimated with construction conservation measures in URBEMIS are below the FRAQMD significance thresholds for all regulated pollutants with the exception of NO_x in 2010. Emissions in 2010 estimated without URBEMIS conservation measures exceed the FRAQMD significance threshold for NO_x. The most conservative conservation measure in URBEMIS was chosen, but actual conservation measures

may be more stringent and result in lower emissions. Although the Proposed Action's daily NO_x emission rate in 2010 exceeds the FRAQMD threshold, emissions would be temporary in nature.

Table 3-4. Daily Construction Emissions Resulting from the Proposed Action for Comparison to FRAQMD Significance Thresholds

Activity	NO_x lbs/day	VOC lbs/day	CO lbs/day	SO_2 lbs/day	PM_{10} lbs/day	$PM_{2.5}$ lbs/day
2010 Construction Emissions Conservation Measures Not Employed	*36.94*	*7.36*	*33.59*	*0.01*	*36.26*	*8.46*
2010 Construction Emissions Including Conservation Measures	*33.01*	*7.36*	*33.59*	*0.01*	*11.21*	*2.48*
Feather River AQMD Significance Threshold	**25**	**25**	**--**	**--**	**80**	**--**
2011 Construction Emissions Conservation Measures Not Employed	*119.37*	*16.95*	*18.96*	*0.01*	*1.46*	*1.33*
2011 Construction Emissions Including Conservation Measures	*17.84*	*15.67*	*18.96*	*0.01*	*0.94*	*0.85*
Feather River AQMD Significance Threshold	**25**	**25**	**--**	**--**	**80**	**--**

Note: URBEMIS estimates emissions of reactive organic gas (ROG). Emissions of ROG are assumed to equal VOC emissions.

Construction and Demolition Emissions. Emissions from construction and demolition activities associated with the Proposed Action would have short-term, minor, adverse impacts on local air quality and would have negligible impacts on regional air quality. Implementation of the Proposed Action would not result in violations of any ambient air quality standards. The construction of the CDC and demolition of the existing facility would generate air pollutant emissions because of grading, filling, compacting, trenching, and operation of construction equipment and generators. Construction activities would also generate total suspended particulate and PM_{10} emissions as fugitive dust from ground-disturbing activities (e.g., grading, trenching, soil piles) and from combustion of fuels in construction equipment. Fugitive dust emissions would be greatest during the initial site preparation activities and would vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity. Construction activities would incorporate BMPs and Environmental Protection Measures (see Page 4-5) to minimize fugitive particulate matter emissions. Additionally, construction workers commuting daily to and from the construction site in their personal vehicles would result in criteria pollutant emissions. All portable construction equipment greater than or equal to (GTE)50 brake-horse-power would be registered in the

CARB PERP prior to commencing construction activities. **Appendix B** contains detailed calculations and the assumptions used to estimate the air quality emissions from construction activities.

It is assumed that the proposed CDC would be similar to the existing facility, which is not subject to CAA permitting. Operational emissions are assumed to be similar in nature.

Indirect emissions would result from the operation of privately-owned vehicles (POVs) accessing the CDC facility. No new personnel would be arriving at Beale AFB as part of the Proposed Action. Personnel using the current CDC would commute to the proposed CDC once this facility becomes operational. Most personnel dropping children off at the CDC would be driving to the main base area for work anyway, so the commute time would not increase. Therefore, no net increase in POV emissions would result from implementation of the Proposed Action.

Other operational and area source emissions would result from natural gas combustion from small water heaters and heating, ventilation, and air conditioning (HVAC) systems heat/cool the proposed CDC facility and emissions from landscaping activities. The facility scheduled for demolition is currently heated and has regularly scheduled landscaping activities. After implementation of the Proposed Action, there would be no net increase in operational emissions from landscaping activities since landscaping activities would be offset by the demolition of existing facilities once the proposed Fitness Center becomes operational. Therefore, emissions from the Proposed Action would be slightly less than ongoing heating and landscaping emissions at the current facilities scheduled for demolition.

Greenhouse Gas Emissions. The Proposed Action would contribute directly to emissions of greenhouse gases from the combustion of fossil fuels from construction equipment. CO_2 accounts for 92 percent of all greenhouse gas emissions; electric utilities are the primary source of anthropogenic CO_2, followed by transportation. The California Energy Commission estimates that in 2004, gross CO_2 emissions in California were 492 million metric tons of CO_2 equivalents (CEC 2006). Construction and demolition activities associated with the Proposed Action would emit 188 metric tons of CO_2 in 2010 and 209 metric tons of CO_2 in 2011. CO_2 emissions from the Proposed Action would be 0.00000038 percent in 2010 and 0.000000042 percent in 2011 of the California state CO_2 emissions respectively. Therefore, the Proposed Action would have negligible contribution towards statewide greenhouse gas inventories.

Summary. As shown in **Tables 3-3**, air quality emissions from the Proposed Action would be minor, less than 10 percent of the emissions inventory for SVI AQCR, and are below FRAQMD significance thresholds when employing FRAQMD conservation measures. There would be a negligible, adverse impact on local or regional air quality from implementation of the Proposed Action. Therefore, a conformity determination in accordance with 40 CFR 93-153(1) is not required, as the total of direct and indirect emissions from the Proposed Action would not be regionally significant (e.g., the emissions are not greater than 10 percent of the SVI AQCR emissions inventory). **Appendix B** contains detailed calculations and the assumptions used to estimate the air quality emissions from the Proposed Action's construction, demolition, and operational activities.

No significant direct or indirect effects on regional or local air quality would result from implementation of the Proposed Action.

Environmental Protection Measures: Implementation of the following measures will ensure that the proposed action minimizes impacts on air quality:

Measure 1: Fugitive Dust Control. Contractors would be required to follow FRAQMD fugitive dust control measures, such as wind breaks and barriers, frequent water applications, application of soil additives, control of vehicle access, vehicle speed restrictions, covering of piles, use of gravel at site exit points, washing of equipment at the end of each work day and prior to site removal, and work stoppage.

The environmental protection measures used in the URBEMIS model for fugitive dust control include the following for fine and mass grading:

Soil stabilizing measures such as replacing ground cover in disturbed areas as quick as possible; watering exposed surfaces two times daily; and equipment loading/unloading

Unpaved roads measures to include managing haul road dust by watering these roads two times daily.

Measure 2: Construction Equipment Emission Controls. Construction equipment exhaust emissions would not exceed FRAQMD Regulation II, Rule 3.0, *Visible Emissions* limitations (40 percent opacity or Ringlemann 2.0). All construction equipment would be properly tuned and maintained prior to and for the duration of the Proposed Action. In addition, construction equipment and vehicles would reduce idling times to 5 minutes or less when possible.

The environmental protection measures used in the URBEMIS model for construction equipment emission controls include the following for demolition, grading, trenching, paving, and building construction:

- Construction equipment would use diesel particulate filters
- Construction equipment would use diesel oxidation catalysts.

Measure 3: Power Sources. The Proposed Action would utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

4.2. Biological Resources

Implementation of the Proposed Action would result in a small loss of disturbed annual grassland habitat during construction. However, this is a negligible loss of this habitat type as it represents a very small portion of the abundance of comparable nonnative grassland Beale AFB has in the surrounding area. There will be no significant impacts to protected wildlife because the Proposed Action occurs in an area that generally does not support protected species. Several special-status bird species use annual grassland habitats, but cannot be considered to use the project site for more than occasional foraging,

have not been observed on the project site, and/or are more likely to forage elsewhere on the installation where less disturbed, higher quality annual grassland habitat is abundant. Although the potential is low, other birds protected under the Migratory Bird Treaty Act may nest in the two ornamental trees that would be removed from the project site. However, these trees would either be removed before nesting season begins, or a qualified biologist would ensure birds are precluded from nesting in the trees by installing preventative netting over the trees prior to nesting season. Therefore, implementation of the Proposed Action would have no significant impacts on Biological Resources at Beale AFB.

Environmental Protection Measures: Implementation of the following safety measures will ensure the Proposed Action will not have significant impacts to biological resources:

Measure 1: Bird Exclusion. A qualified biologist would determine the nesting season for birds that may use the ornamental trees on the proposed project site. Trees would either be removed prior to the nesting season or a qualified biologist would install netting on the trees in order to exclude birds from nesting in the trees before the nesting season.

4.3. Hazardous Materials

A *Preliminary Endangerment Assessment Proposed Child Development Center Site (PEA),* (URS 2008) was prepared as part of the site selection process for the CDC. The overall objective of the PEA was to evaluate whether hazardous materials are present at the site that pose an unacceptable risk to children's health, children's learning abilities, public health, or the environment. The following steps were conducted to assess the safety of the site.

- Evaluating available information for indications of current or past use, storage, disposal, release, or threatened release of hazardous wastes/substances at the site.
- Evaluating available information for indications of naturally occurring hazardous materials at the site.
- Evaluating through a field sampling and analysis program the nature, concentrations, and general extent of hazardous materials that may be present in soil, soil gas, or groundwater at the site.

Estimating the potential threat to public health posed by hazardous materials at the site, using the human health screening evaluation procedure described in the California Environmental Protection Agency (Cal/EPA) (2004) and DTSC School Environmental Assessment Guidance Manual (2008).

The PEA field investigation was performed in October 2008. Soil, soil gas and ground water samples were analyzed for VOCs, TPH, lead, arsenic, and pesticides. This data was used to conduct a Preliminary Endangerment Assessment (PEA) in accordance with state health screening levels for school sites. The base is under no regulatory direction to conduct this investigation, but wanted to ensure that there would be adequate protection of any children utilizing the proposed new site.

Soil and groundwater samples collected and analyzed at the site confirmed the site has no known sources of contamination located within the boundaries of the proposed CDC site. Known VOC contaminants in groundwater in the vicinity of the proposed CDC site include TCE, PCE, and 1,1-DCE. The TCE plume is located to the east, separate PCE plumes are located to the northeast and south, and a 1,1-DCE plume is located to the north of the CDC site. The groundwater flow direction is generally toward the southwest.

The PEA field investigation and risk evaluation, predicted human health risks of the chemicals detected on site are below typical screening levels for California school sites, except for VOCs in soil gas which are present at elevated levels. However, the predicted risks due to soil gas VOC concentrations detected during this PEA are within the range that can typically be mitigated through building design and construction.

Environmental Protection Measures: Implementation of the following safety measures will ensure the CDC operates and provides the safest environment during its future operation:

- Installation of a soil vapor barrier and passive mitigation system beneath the CDC building and initiation of a monitoring program:

o Installation of a subgrade vapor barrier

o Sand or gravel blanket and perforated collector piping placed beneath the vapor barrier

o Vertical passive vent pipes extending above the roof-line with passive ventilators

o Subgrade vapor sample ports accessible for periodic sampling

o Installation of a minimum of four groundwater monitoring wells would be installed to ensure no groundwater contamination from surrounding sites migrates to the CDC site.

o All the components of an active ventilation system would be installed in case sampling of the vapor sample ports reveal higher levels of soil gas that would require active ventilation.

o Further investigation of VOCs in soil gas prior to construction within the proposed building footprint

o A maintenance, monitoring and reporting program would be established and results of sampling would be provided to the users of the facility.

o Sampling of the subgrade vapor sample ports would take place prior to the facility being occupied to ensure the risk of vapor intrusion remains low.

5. Cumulative Impacts

Cumulative impacts on environmental resources result from incremental effects of the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects in the area. Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time. Informed decision making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

During the timeframe of the Proposed Action, several other construction actions are scheduled to take place on Beale AFB.

- Land-Based Discharge (2010-2011)
- Replace Bridge 2627 (2009-2010)
- Construct New Fitness Center (2011-2012)
- J Street Water Main Repair (2010-2011)
- Anti Terrorism/Force Protection Gate Improvements (2010-2011)
- Base Perimeter Fencing (2009-2011)
- Munitions Complex Upgrades (2010-2011)
- Small Arms Range Construction (2011-2012)
- Military Family Housing Water Main Replacement (2010-2011)
- Connect Contingency Water Well to Base Water Supply (2011-2012)
- Construction Bulk Construction Material Storage Area (2011-2012)
- Antenna Installation (2009-2010)
- A Street Pond Expansion (2010-2011)

The cumulative impacts would be similar to the WINDO 2 EA and would not be significant due to the location and type of each future construction project.

5.1. Unavoidable Adverse Impacts

Unavoidable adverse impacts would not result from implementation of the Proposed Action. None of these impacts would be significant or cause permanent changes to the resources. Projects that would occur over the same construction period would have only temporary construction impacts.

6. Report Preparation

This report has been prepared by the United States Air Force at Beale Air Force Base, California. Those involved in preparation of this report are listed below:

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7. References

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e^2M 2009 Engineering-Environmental Management, Inc. (e^2M). 2009. *Environmental Assessment Addressing Construction of a Fitness Center at Beale Air Force Base California.*

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Appendix A

WINDO 2 EA

(CD Attached)

Appendix B

Fitness Center EA

(CD Attached)

Appendix C

Air Emissions Report

2/10/2010 6:05:47 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\D\Application Data\Urbemis\Version9a\Projects\New CDC (2010).urb924

Project Name: New Child Development Center, Beale AFB 2010

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

2/10/2010 6:05:47 AM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010 TOTALS (tons/year unmitigated)	0.04	0.11	0.15
2010 TOTALS (tons/year mitigated)	0.01	0.06	0.07
Percent Reduction	67.44	49.81	54.17
2011 TOTALS (tons/year unmitigated)	0.00	0.12	0.12
2011 TOTALS (tons/year mitigated)	0.00	0.07	0.07
Percent Reduction	0.00	38.28	38.05

AREA SOURCE EMISSION ESTIMATES

	PM2.5
TOTALS (tons/year, unmitigated)	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	PM2.5
TOTALS (tons/year, unmitigated)	0.23

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	PM2.5
TOTALS (tons/year, unmitigated)	0.23

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

2/10/2010 6:05:47 AM

	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010	0.04	0.11	0.15
Mass Grading 06/01/2010-06/07/2010	0.02	0.00	0.02
Mass Grading Dust	0.02	0.00	0.02
Mass Grading Off Road Diesel	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00
Fine Grading 06/14/2010-06/18/2010	0.02	0.00	0.02
Fine Grading Dust	0.02	0.00	0.02
Fine Grading Off Road Diesel	0.00	0.00	0.00
Fine Grading On Road Diesel	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00
Trenching 06/22/2010-06/25/2010	0.00	0.00	0.00
Trenching Off Road Diesel	0.00	0.00	0.00
Trenching Worker Trips	0.00	0.00	0.00
Asphalt 07/05/2010-08/27/2010	0.00	0.03	0.03
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.03	0.03
Paving On Road Diesel	0.00	0.00	0.00
Paving Worker Trips	0.00	0.00	0.00

Building 07/26/2010-08/31/2011	0.00	0.08	0.08
Building Off Road Diesel	0.00	0.08	0.08
Building Vendor Trips	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00
2011	0.00	0.12	0.12
Building 07/26/2010-08/31/2011	0.00	0.11	0.11
Building Off Road Diesel	0.00	0.11	0.11
Building Vendor Trips	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00
Demolition 10/03/2011-11/01/2011	0.00	0.01	0.01
Fugitive Dust	0.01	0.00	0.01
Demo Off Road Diesel	0.00	0.01	0.01
Demo On Road Diesel	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 10/3/2011 - 11/1/2011 - Demo Old CDC

Building Volume Total (cubic feet): 93750

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 6/14/2010 - 6/18/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 7

Maximum Daily Acreage Disturbed: 1.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 6/1/2010 - 6/7/2010 - Type Your Description Here

Total Acres Disturbed: 7

Maximum Daily Acreage Disturbed: 1.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/22/2010 - 6/25/2010 - Type Your Description Here

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 7/5/2010 - 8/27/2010 - Default Paving Description

Acres to be Paved: 1.75

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 7/26/2010 - 8/31/2011 - Default Building Construction Description

Off-Road Equipment:

1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2011 - 9/30/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

2/10/2010 6:05:47 AM

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010	0.01	0.06	0.07
Mass Grading 06/01/2010-06/07/2010	0.01	0.00	0.01
Mass Grading Dust	0.01	0.00	0.01
Mass Grading Off Road Diesel	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00
Fine Grading 06/14/2010-06/18/2010	0.01	0.00	0.01
Fine Grading Dust	0.01	0.00	0.01
Fine Grading Off Road Diesel	0.00	0.00	0.00
Fine Grading On Road Diesel	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00
Trenching 06/22/2010-06/25/2010	0.00	0.00	0.00
Trenching Off Road Diesel	0.00	0.00	0.00
Trenching Worker Trips	0.00	0.00	0.00
Asphalt 07/05/2010-08/27/2010	0.00	0.00	0.00
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.00	0.00
Paving On Road Diesel	0.00	0.00	0.00
Paving Worker Trips	0.00	0.00	0.00

Building 07/26/2010-08/31/2011	0.00	0.05	0.05
Building Off Road Diesel	0.00	0.05	0.05
Building Vendor Trips	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00
2011	0.00	0.07	0.07
Building 07/26/2010-08/31/2011	0.00	0.07	0.07
Building Off Road Diesel	0.00	0.07	0.07
Building Vendor Trips	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00
Demolition 10/03/2011-11/01/2011	0.00	0.00	0.00
Fugitive Dust	0.01	0.00	0.01
Demo Off Road Diesel	0.00	0.00	0.00
Demo On Road Diesel	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 10/3/2011 - 11/1/2011 - Demo Old CDC

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 6/14/2010 - 6/18/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Mass Grading 6/1/2010 - 6/7/2010 - Type Your Description Here

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Trenching 6/22/2010 - 6/25/2010 - Type Your Description Here

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Other General Industrial Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Other General Industrial Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/5/2010 - 8/27/2010 - Default Paving Description

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 7/26/2010 - 8/31/2011 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 7/1/2011 - 9/30/2011 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	PM2.5
Natural Gas	0.00
Hearth	
Landscape	
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	0.00

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	PM25
Day-care center	0.23
TOTALS (tons/year, unmitigated)	0.23

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Day-care center		79.26	1000 sq ft	39.50	3,130.77	21,931.04
					3,130.77	21,931.04

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.3	1.0	98.7	0.3
Light Truck < 3750 lbs	19.3	3.1	87.6	9.3
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	4.3	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.0	6.2	18.8	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	5.6	94.4
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.0	60.0	40.0	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	8.3	75.0	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	55.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Day-care center				5.0	2.5	92.5

Operational Changes to Defaults

The urban/rural selection has been changed from Urban to Rural

Ambient summer temperature changed from 85 degrees F to 100 degrees F

Home-based work average speed changed from 35 mph to 55 mph

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\D\Application Data\Urbemis\Version9a\Projects\New CDC (2010).urb924

Project Name: New Child Development Center, Beale AFB 2010

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010 TOTALS (lbs/day unmitigated)	7.31	2.68	8.46
2010 TOTALS (lbs/day mitigated)	2.30	1.12	2.48
2011 TOTALS (lbs/day unmitigated)	0.01	1.32	1.33
2011 TOTALS (lbs/day mitigated)	0.01	0.84	0.85

AREA SOURCE EMISSION ESTIMATES

	PM2.5
TOTALS (lbs/day, unmitigated)	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	PM2.5
TOTALS (lbs/day, unmitigated)	1.26

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	PM2.5
TOTALS (lbs/day, unmitigated)	1.26

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	PM2.5 Dust	PM2.5 Exhaust	PM2.5

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Time Slice 6/1/2010-6/7/2010 Active Days: 5	**7.31**	1.15	**8.46**
Mass Grading 06/01/2010-06/07/2010	7.31	1.15	8.46
Mass Grading Dust	7.31	0.00	7.31
Mass Grading Off Road Diesel	0.00	1.15	1.15
Mass Grading On Road Diesel	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01
Time Slice 6/14/2010-6/18/2010 Active Days: 5	**7.31**	1.15	**8.46**
Fine Grading 06/14/2010-06/18/2010	7.31	1.15	8.46
Fine Grading Dust	7.31	0.00	7.31
Fine Grading Off Road Diesel	0.00	1.15	1.15
Fine Grading On Road Diesel	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01
Time Slice 6/22/2010-6/25/2010 Active Days: 4	0.00	0.81	0.81
Trenching 06/22/2010-06/25/2010	0.00	0.81	0.81
Trenching Off Road Diesel	0.00	0.81	0.81
Trenching Worker Trips	0.00	0.00	0.01
Time Slice 7/5/2010-7/23/2010 Active Days: 15	0.01	1.29	1.30
Asphalt 07/05/2010-08/27/2010	0.01	1.29	1.30
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	1.27	1.27
Paving On Road Diesel	0.00	0.01	0.01
Paving Worker Trips	0.01	0.01	0.01

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Time Slice 7/26/2010-8/27/2010 Active Days: 25	0.01	**2.68**	2.69
Asphalt 07/05/2010-08/27/2010	0.01	1.29	1.30
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	1.27	1.27
Paving On Road Diesel	0.00	0.01	0.01
Paving Worker Trips	0.01	0.01	0.01
Building 07/26/2010-08/31/2011	0.01	1.38	1.39
Building Off Road Diesel	0.00	1.37	1.37
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Time Slice 8/30/2010-12/31/2010 Active Days: 90	0.01	1.38	1.39
Building 07/26/2010-08/31/2011	0.01	1.38	1.39
Building Off Road Diesel	0.00	1.37	1.37
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Time Slice 1/3/2011-6/30/2011 Active Days: 129	0.01	1.32	1.33
Building 07/26/2010-08/31/2011	0.01	1.32	1.33
Building Off Road Diesel	0.00	1.30	1.30
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01

Time Slice 7/1/2011-8/31/2011 Active Days: 44	0.01	1.32	1.33
Building 07/26/2010-08/31/2011	0.01	1.32	1.33
Building Off Road Diesel	0.00	1.30	1.30
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00
Time Slice 9/1/2011-9/30/2011 Active Days: 22	0.00	0.00	0.00
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00
Time Slice 10/3/2011-11/1/2011 Active Days: 22	0.00	0.51	0.51
Demolition 10/03/2011-11/01/2011	0.00	0.51	0.51
Fugitive Dust	0.00	0.00	0.00
Demo Off Road Diesel	0.00	0.50	0.50
Demo On Road Diesel	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.01

Phase Assumptions

Phase: Demolition 10/3/2011 - 11/1/2011 - Demo Old CDC

Building Volume Total (cubic feet): 93750

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 6/14/2010 - 6/18/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 7

Maximum Daily Acreage Disturbed: 1.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 6/1/2010 - 6/7/2010 - Type Your Description Here

Total Acres Disturbed: 7

Maximum Daily Acreage Disturbed: 1.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 6/22/2010 - 6/25/2010 - Type Your Description Here

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 7/5/2010 - 8/27/2010 - Default Paving Description

Acres to be Paved: 1.75

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 7/26/2010 - 8/31/2011 - Default Building Construction Description

Off-Road Equipment:

1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2011 - 9/30/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/1/2010-6/7/2010 Active Days: 5	2.30	0.18	2.48
Mass Grading 06/01/2010-06/07/2010	2.30	0.18	2.48
Mass Grading Dust	2.30	0.00	2.30
Mass Grading Off Road Diesel	0.00	0.17	0.17
Mass Grading On Road Diesel	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01
Time Slice 6/14/2010-6/18/2010 Active Days: 5	2.30	0.18	2.48
Fine Grading 06/14/2010-06/18/2010	2.30	0.18	2.48
Fine Grading Dust	2.30	0.00	2.30
Fine Grading Off Road Diesel	0.00	0.17	0.17
Fine Grading On Road Diesel	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01
Time Slice 6/22/2010-6/25/2010 Active Days: 4	0.00	0.12	0.13
Trenching 06/22/2010-06/25/2010	0.00	0.12	0.13
Trenching Off Road Diesel	0.00	0.12	0.12
Trenching Worker Trips	0.00	0.00	0.01

Time Slice 7/5/2010-7/23/2010 Active Days: 15	0.01	0.24	0.25
Asphalt 07/05/2010-08/27/2010	0.01	0.24	0.25
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.23	0.23
Paving On Road Diesel	0.00	0.01	0.01
Paving Worker Trips	0.01	0.01	0.01
Time Slice 7/26/2010-8/27/2010 Active Days: 25	0.01	1.12	1.14
Asphalt 07/05/2010-08/27/2010	0.01	0.24	0.25
Paving Off-Gas	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.23	0.23
Paving On Road Diesel	0.00	0.01	0.01
Paving Worker Trips	0.01	0.01	0.01
Building 07/26/2010-08/31/2011	0.01	0.88	0.89
Building Off Road Diesel	0.00	0.86	0.86
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Time Slice 8/30/2010-12/31/2010 Active Days: 90	0.01	0.88	0.89
Building 07/26/2010-08/31/2011	0.01	0.88	0.89
Building Off Road Diesel	0.00	0.86	0.86
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01

Time Slice 1/3/2011-6/30/2011 Active Days: 129	0.01	0.84	0.85
Building 07/26/2010-08/31/2011	0.01	0.84	0.85
Building Off Road Diesel	0.00	0.83	0.83
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Time Slice 7/1/2011-8/31/2011 Active Days: 44	0.01	0.84	0.85
Building 07/26/2010-08/31/2011	0.01	0.84	0.85
Building Off Road Diesel	0.00	0.83	0.83
Building Vendor Trips	0.00	0.01	0.01
Building Worker Trips	0.01	0.01	0.01
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00
Time Slice 9/1/2011-9/30/2011 Active Days: 22	0.00	0.00	0.00
Coating 07/01/2011-09/30/2011	0.00	0.00	0.00
Architectural Coating	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00

Time Slice 10/3/2011-11/1/2011 Active Days: 22	0.00	0.09	0.10
Demolition 10/03/2011-11/01/2011	0.00	0.09	0.10
Fugitive Dust	0.00	0.00	0.00
Demo Off Road Diesel	0.00	0.09	0.09
Demo On Road Diesel	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 10/3/2011 - 11/1/2011 - Demo Old CDC

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 6/14/2010 - 6/18/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Mass Grading 6/1/2010 - 6/7/2010 - Type Your Description Here

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Trenching 6/22/2010 - 6/25/2010 - Type Your Description Here

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Other General Industrial Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Other General Industrial Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/5/2010 - 8/27/2010 - Default Paving Description

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 7/26/2010 - 8/31/2011 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 7/1/2011 - 9/30/2011 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	PM2.5
Natural Gas	0.00
Hearth	
Landscape	
Consumer Products	
Architectural Coatings	
TOTALS (lbs/day, unmitigated)	0.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	PM25
Day-care center	1.26
TOTALS (lbs/day, unmitigated)	1.26

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 100 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Day-care center		79.26	1000 sq ft	39.50	3,130.77	21,931.04
					3,130.77	21,931.04

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.3	1.0	98.7	0.3
Light Truck < 3750 lbs	19.3	3.1	87.6	9.3
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	4.3	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs	1.0	6.2	18.8	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	5.6	94.4
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.0	60.0	40.0	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	8.3	75.0	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	55.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Day-care center				5.0	2.5	92.5

Operational Changes to Defaults

The urban/rural selection has been changed from Urban to Rural

Ambient summer temperature changed from 85 degrees F to 100 degrees F

Home-based work average speed changed from 35 mph to 55 mph

Appendix D

Preliminary Endangerment Assessment Report

(CD Attached)