



Agenda Item C.1
PUBLIC HEARING
Meeting Date: July 7, 2020

TO: Mayor and Councilmembers

FROM: Peter Imhof, Planning and Environmental Review Director

CONTACT: Lisa Prasse, Current Planning Manager
Mark Schleich, Public Works

SUBJECT: Vehicle Miles Traveled (VMT) California Environmental Quality Act (CEQA) Thresholds.

RECOMMENDATION:

Adopt Resolution No. 20-____, entitled "A Resolution of the City Council of the City of Goleta, California Adopting Guidelines for the Implementation of Vehicle Miles Travelled, Including Vehicle Miles Travelled Thresholds of Significance, for Land Use and Transportation Projects in the City of Goleta and Finding the Same Is Not a Project Subject to The California Environmental Quality Act."

BACKGROUND:

Historically, vehicle delay and congestion have been the metrics used when evaluating transportation impacts for land use projects in California Environmental Quality Act (CEQA) documents. These delays are translated into letter grades, A through F, and are referred to as Level of Service (LOS). In 2013, the State of California passed Senate Bill 743. SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers to measuring the impact of driving. The change is being made by replacing the Level of Service (LOS) metric with a Vehicles Miles Traveled (VMT) metric, by July 1, 2020. The new VMT metric focuses on the amount of VMT attributable to a project.

This paradigm shift in transportation impact focus will better align transportation impact analysis and mitigation outcomes with the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. Based on the extensive statewide input received on this change, in December 2018, the Governor's Office of Planning and Research (OPR) revised the State CEQA Guidelines to reflect the requirements of SB 743.

According to SB 743, all jurisdictions are required to use the VMT metric for CEQA analysis by July 1, 2020. The City will have to use the VMT metric in all CEQA documents following this date. The City will not be making any CEQA determinations after that date

and before the City Council considers the VMT Thresholds. The short gap that will occur between July 1, 2020 and the hearing date will not create an issue.

Under SB 743, cities can retain automobile LOS as a local policy, unrelated to CEQA, to measure a project's effect of local traffic operations. While LOS service standards will be removed from the City's CEQA Guidelines (Section 18 of Exhibit A of Council Resolution #08-40 provided as Attachment 1), the City will retain the LOS standards outlined in General Plan Policy TE 4. The City will retain discretion to impose conditions of approval as necessary to bring a project into consistency with adopted LOS policies.

VMT is calculated by multiplying the number of vehicle trips that a proposed development will generate by the estimated number of miles driven per trip. LOS impacts were typically offset by increasing roadway capacity (i.e., widening roads) as a mitigation measure to increase vehicular throughput.

Under the new metric, VMT mitigation for projects with potentially significant traffic impacts will be focused on changes to the development proposal itself as opposed to intersection and segment improvements at specific locations. The types of mitigations may be non-programmatic where the density and types of land uses proposed are modified, pedestrian and bicycle infrastructures are enhanced, or programmatic measures that project occupants would be required to implement for the life of the project. These measures include such programs as car-sharing services, unbundled parking, and transit subsidies, among others.

To implement SB 743, the City of Goleta needs to determine appropriate VMT methodologies, baselines, thresholds, and feasible mitigation measures based on requirements and guidelines established by the State of California. Since VMT is a new methodology to analyze transportation impacts, there is a need to develop appropriate guidance at the local level for projects subject to environmental review. The guidance is to ensure that all projects subject to review by the City use the same data, approaches, and analytical tools.

In January 2020, the City contracted with GHD to develop the methodologies and tools necessary to implement SB 743. As stated previously, SB 743 represents a significant departure from the City of Goleta's current practice of evaluating traffic impacts. Given this departure, the questions that staff and the Consultant have been using to inform this effort are:

1. What methodology should be used to forecast a project's generated VMT and what baseline/threshold of significance should the project's effect on VMT be measured against?
2. Under what threshold conditions should a project be presumed to have a less than significant impact and not be subject to further VMT impact review?
3. What would constitute feasible mitigation measures for a VMT impact, given the land use and transportation context of Goleta?

Given the technical nature of the methodology and topic, staff sought input from local traffic engineers, from Santa Barbara County Association of Governments (SBCAG), and from Santa Barbara Metropolitan Transit District (MTD) representatives to make sure that methodology, thresholds, and mitigation measures proposed were sound. Their comments are provided, where beneficial, and are reflected in the attached study.

DISCUSSION:

This item seeks Council approval of new thresholds of significance for determining the traffic impacts of projects under the California Environmental Quality Act (CEQA). As noted above, SB 743 requires CEQA lead agencies to begin using VMT in place of LOS standards to measure traffic impacts in all CEQA documents beginning July 1, 2020.

Attached is a copy of the VMT Threshold study prepared by GHD (Exhibit A to the Resolution, which is Attachment 2). This report summarizes the methodologies, data sources, baseline considerations, screening criteria, proposed new thresholds, and mitigation strategies.

GHD has also developed a new sketch planning tool that will allow the City to measure VMT for proposed projects as well as identify potential mitigation measures, as well as guidance for evaluating traffic safety.

Models/Baseline

Measuring VMT requires estimating or measuring the full length of vehicle trips by purpose, such as commutes to work, deliveries, or shopping trips, which often cross between cities, counties, or states. For this reason, regional travel demand models, “big data,” and household travel surveys that are less limited by local agency boundaries are the preferred tools to estimate VMT under SB 743.

State guidance provides that project-level VMT can be assessed by comparing statewide, regional or local averages, per capita or per employee, depending on the project type. The primary purpose is to identify baseline averages that reflect the travel behavior of residents and employees. Establishing the baseline will determine the measuring stick against which all future projects will be measured, until baselines are updated. Staff and GHD propose that it would be appropriate to update the baseline VMT estimates at the same time as updates occur to the Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) and SBCAG Model. The SBCAG “Fast Forward 2040” is the current RTP/SCS, adopted in August 2017. An updated RTP/SCS, which will use the same regional travel demand model and baseline, is currently under development by SBCAG.

Both the Governor’s Office of Planning and Research (OPR) and the California Department of Transportation (Caltrans) have developed technical advisories regarding the implementation of SB 743. GHD has recommended a variation on the OPR *Technical Advisory* land use type criteria to account for uses commonly found in the City. The VMT

Threshold Study proposes that the City of Goleta assess land development projects according to the primary proposed land use type as follows:

- a) **Residential VMT** – Establish baseline VMT and threshold on a per capita basis. “Residential” uses include, but are not limited to, single-family, multi-family, and mobile homes.
- b) **Work VMT** – Establish baseline VMT and threshold on a per employee basis. “Work” uses include, but are not limited to, office, office parks, light industrial, industrial, warehousing, manufacturing, and business parks.
- c) **Retail VMT** – Measure net VMT within boundary and determine threshold based on net change. “Retail” uses include, but are not limited to, supermarkets, restaurants, gas stations, wineries, agriculture tourism, and hotels. Public and recreational uses, such as parks, hospitals, libraries, and public services, may also be assessed in this way, if needed.
- d) **Mixed-Use Projects** – Evaluate each component independently using the above thresholds, considering credit for internal capture, or evaluate dominant use.
- e) **Redevelopment Projects** - Measured based on net change in VMT for total area.
- f) **Transportation Projects** – Transportation impacts of a transportation project should be calculated based on the change in VMT.
- g) **Land Use Plans** – Transportation impacts should be analyzed over the full area for which the plan may substantially affect travel patterns, including beyond the plan boundary or jurisdictional geography. A general plan, area plan, or community plan may have a significant impact on transportation, if proposed new residential, office, or retail land uses would in aggregate exceed the respective thresholds recommended above.

In order to determine the baseline VMT, GHD has utilized three relevant travel demand model resources to ascertain trip lengths and baseline VMT for Goleta. The three models are the SBCAG regional transportation model (covers Santa Barbara County), the SBCAG regional travel demand model adjusted with Longitudinal Employer-Household Dynamic (LEHD¹) origin and destination data, and the Goleta traffic model (limited to City boundaries). The LEHD-adjusted SBCAG model provides extensive journey to work data, which is useful given the weekday, cross-county migration that occurs.

The stock SBCAG model generates trips based on the land uses and where people will live, work, study and shop, considering forecasted population growth for Santa Barbara County. The model generates and tracks all trip types by all modes originating or ending in each jurisdiction within Santa Barbara County (considered “internal” trips), as well as all trips (not separated by trip purpose) from or into Ventura and San Luis Obispo Counties (considered “External” trips). This area specifically includes the Cities of San Luis Obispo, Ventura, Oxnard, Camarillo, Simi Valley, and Thousand Oaks. The use of the SBCAG model for evaluation of VMT and associated trip distances is limited to the boundary of the three counties. The SBCAG model provides information on travel mode choice (e.g., personal vehicle, bus, bike, etc.).

¹ The data source for LEHD information is from the United States Census.

The LEHD data provides a nearly complete inventory of home-to-work flows covering over 90% of all workers and employers in the United States. The LEHD data does not contain details on work trips, such as mode choice, route, or travel times, and assigns workplace location algorithmically for people who work for a business with multiple locations in a City. Therefore, this data used in combination as an LEHD-adjusted SBCAG model provides many more origin-destination pairs and provides sufficient data for home-to-work flows.

The purpose of using different models is to capture the different types of VMT that are generated, such as home-based VMT, work based VMT, internal trips (within County) and exterior trips (outside the County), etc., and to validate the findings of each model. Table 2.11 in Attachment 1 provides a summary of Goleta Baseline VMT based on the data compiled from the above-referenced models. An excerpt of Table 2.11 as follows:

DATA SOURCE/VMT METRIC	SBCAG MODEL CITY AVERAGE	SBCAG COUNTYWIDE AVERAGE	CITYWIDE AVERAGE BASED ON CITY MODEL	CITYWIDE AVERAGE BASED ON LEHD SHORTEST PATH MODEL
Residential VMT per capita	19.75	15.95	13.00	16.3
Work VMT per employee (model data)	16.77	16.19	9.51	----
Work VMT per employee (LEHD model)	15.73	---	----	58.2

As outlined in the attached report, GHD's recommendation is to utilize the SBCAG model as it is the most accurate data available. GHD also recommends establishing the City of Goleta as the baseline geography, which excluded UCSB and Isla Vista, as these tools are the most accurate available. GHD also recommends following OPR guidance for setting thresholds of significance at 15% below baseline averages for residential and work type projects. The net VMT change is recommended by OPR for all other project types, such as retail and infrastructure. This is because these uses are typically trip destinations and routes as opposed to trip origins. Further, such uses usually have the effect of re-routing or re-distributing existing trips as opposed to generating new trips. The recommended baseline and thresholds are stated later in this report.

Screening Criteria

Under CEQA, a lead agency is required to determine the significance of all environmental impacts (Pub. Resources Code § 21002; State CEQA Guidelines §15064). A threshold of significance for an environmental impact defines the level of effect above which the lead agency will consider impacts to be significant, and below which it will consider

impacts to be less than significant. Section 15064.7 of the CEQA Guidelines defines a threshold of significance to be:

An identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect will normally be determined to be less than significant.

Lead agencies have discretion to formulate their own significance thresholds, which can be formally adopted thresholds consistently applied to all projects. Adopting clearly established thresholds promotes predictability and consistency for the environmental review process and can increase defensibility of significance determinations in City CEQA documents. The VMT thresholds and screening criteria provided in the attached report are recommended based on the most recent guidance on VMT thresholds from OPR and the City's consultants. Further, the VMT analysis and data contained in the attached report demonstrate the validity of the VMT thresholds and screening criteria recommended for the City of Goleta.

OPR's Technical Advisory lists the following screening criteria for land use projects. These types of development projects are presumed to have a less than significant impact on vehicle miles traveled and thus would not require a VMT analysis in a CEQA document. OPR's Technical Advisory suggests that lead agencies consider screening out VMT impacts using project size, maps, transit availability, provision of affordable housing. If a project does not qualify for screening, then a VMT analysis would need to be completed. Based on OPR's guidance documentation and baseline thresholds, the following types of projects are suggested to be screened out: small projects; projects in mapped areas with low VMT; affordable housing projects; transit-adjacent projects; locally serving retail; and non-capacity increasing transportation projects. The actual screening criteria for each type is listed in the next section of this staff report.

Proposed Thresholds and Screening Criteria

Based on GHD's VMT Study, staff and GHD recommend the following thresholds of significance and screening criteria be adopted relating to VMT:

1. Baseline (Section 2.5.1 of VMT Study)

Work Baseline:	16.8 VMT per employee
Work VMT Threshold:	14.3 VMT per employee (15% below Baseline)
Residential Baseline:	19.8 VMT per capita
Residential VMT Threshold:	16.8 VMT per capita (15% below Baseline)

2. Screening Criteria (Sections 3.2-3.8 of VMT Study)

A. Small projects that are consistent with the Sustainable Communities Strategy (SCS) or General Plan and generate or attract fewer than 110 daily trips (per CEQA) would be screened from a VMT analysis.

GHD recommends that the City establish the following policy for screening small projects:

Projects that generate less than 110 automobile trips per day are presumed to have a less than significant VMT impact. Example single use projects that generate less than 110 daily trips based on the most current ITE Trip generation Manual include but are not limited to the following:

- a) 9 Single Family Units.
- b) 20 Multifamily Units.
- c) 1,000 SQFT Retail
- d) 10,000 SQFT Office
- e) 22,000 SQFT Industrial”

B. Map-based screening for residential and office projects located in low VMT areas, and that incorporate similar features (density, mix of uses, transit accessibility). Residential and work-based projects that are located in areas with existing low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. These projects can be presumed to have a less-than-significant VMT impact without the need to conduct a VMT analysis. The areas where projects would be presumed to have a less-than-significant VMT impact are depicted in Figure 3.1 for work-based projects and Figure 3.2 for residential projects. These maps indicate where residential and work-based projects would generate an average VMT of 15% or less below the baselines and would not require a VMT analysis.

GHD recommends that the City establish the following policy for map-based screening:

Typical Residential or Work type projects which are within defined low VMT boundaries are assumed to be less than significant per the California Office of Planning and Research and do not require further VMT analysis.

C. Transit proximity, for certain projects within ½ mile of an existing major transit stop² or an existing stop along a high-quality transit corridor³. However, this criterion will not apply if information indicates that the project will still generate high levels of VMT.

GHD recommends that the City establish the following transit screening policy:

² “Major transit stop” is a site containing an existing rail, a ferry terminal served by bus or rail transit services, or intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and evening peak hour commute (OPR 2018).

³ “High quality transit corridor” means a corridor with fixed route bus service with intervals no longer than 15 minutes during peak commute hours (Pub. Resources Code § 21155).

Projects that are within ½ mile of a transit stop at the intersection of two transit routes or along a major route with service frequencies of less than 15 minutes are presumed to have a less than significant impact and do not require VMT analysis, Unless the project:

- a) Has a floor to area ratio (FAR) of less than 0.75; or*
- b) Includes more parking than required under the City's zoning code; or*
- c) Is inconsistent with the region's Sustainable Communities Strategy, City Zoning Code, or City Land use Policies (i.e. General Plan or Specific Plan); or*
- d) Replaces affordable housing with a smaller number of moderate- or high-income residential units."*

Localized shuttle routes that predominantly serve UCSB without connecting routes that have 15 minute or less headways are excluded from this screening criteria.

D. Affordable housing in infill locations generally improves jobs/housing balance, shortening commutes and reducing VMT. Therefore, a project consisting of a high percentage of affordable housing may be considered a less than significant impact on VMT. Research by the California Housing Partnership concluded that affordability is a factor that affects VMT, primarily due to affordable housing having a higher composition of non-workforce demographics, which generates fewer trips.

Housing projects with a minimum proportion of 20% "low" and/or "very low" affordable, deed-restricted units are presumed to be less than significant.

E. Locally serving retail projects. OPR's Technical Advisory states that lead agencies generally may presume that locally serving retail developments have a less than significant impact on VMT. Locally serving retail is defined as a retail project in an urban environment that improves retail destination proximity, shortens trips and reduces VMT. Regional-serving retail development, on the other hand, can lead to substitution of longer trips for shorter ones and may tend to have a significant impact. OPR suggested defining retail development of less than 50,000 square feet as locally serving. However, this scale of retail is not proportional to the typical scale of retail within the City of Goleta and may have the potential to draw regional trips. Therefore, a more conservative size of retail project is recommended as the screening threshold.

GHD recommends that the City establish the following retail screening policy:

Individual retail units of less than 10,000 square feet may be presumed to have less than significant VMT effects, if they are deemed to be locally serving. Unique land uses less than 10,000 square feet may still have the potential to draw regional traffic; therefore, the City regains the discretion to determine if a retail project is locally serving on a project-by-project basis. Market geography studies may be required to inform this determination. The

City reserves the right to determine if a retail project less than 50,000 square feet is locally serving.

F. Transportation Projects. Automobile capacity-increasing transportation projects may be required to examine induced travel impacts under CEQA. If a project would likely lead to a measurable and substantial increase in vehicle travel, the City should conduct an analysis assessing the amount of vehicle travel the project will either increase or decrease. As noted in Section 15064.3 of the State CEQA Guidelines, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. Criteria for determining the significance of transportation impacts must promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

GHD recommends that the City establish the following capacity-increasing transportation screening policy:

Non-automobile capacity-increasing projects to have less than significant VMT effect. For the purposes of these screening criteria, isolated operational improvements such as intersection lane modifications are not considered as an overall capacity-increasing project.

Potential Mitigation Measures

If a project is identified to have a significant VMT impact, then staff and the project proponent would look for reasonable mitigation measures to reduce impacts. These mitigation measures would be in the areas of land use/location, neighborhood/site design, commute trip reduction; transit system improvements, and direct pricing. CEQA mitigation measures would likely not include roadway widening or traffic signal changes, which had traditionally been used as traffic mitigation measures.

Currently, there are generally two categories of VMT mitigation available. The first is non-programmatic mitigation, which inherently reduces trip generation without the need for ongoing monitoring and regulation. These include physical changes to the project description, such as introducing mixed uses that increase internal capture trips, incorporating multimodal facilities, such as bike parking and showers, and incorporating multimodal infrastructure accessing the project (e.g., transit uses, sidewalks and bicycle paths, etc.).

The second category is programmatic mitigation, which is dependent upon ongoing actions taken by the occupant of the project and requires ongoing monitoring and regulation by the City, such as transit subsidies, carpooling incentives, etc. The VMT Threshold study identifies a menu of mitigation measures (refer to Section 4.1 of the VMT Study) that could be applied to a project and the associated VMT reduction that could be realized with implementation. It is recommended that the City determine mitigation on a project-by-project basis, prioritizing nonprogrammatic mitigation to minimize demand on City staff resources for continuing monitoring during the life of the project.

Another type of mitigation outside of the City's control and not yet available is mitigation banking or exchanges. These types of programs work similarly to air quality Cap & Trade programs. These programs involve a regional agency that manages/ governs an exchange where low VMT-producing developments can sell VMT credits to high VMT producing development. Effectively, both projects are considered together and the overall resulting VMT is within adopted thresholds. This type of program would need a regional governing body and currently does not exist. It is recommended that the City support such a regional program initiative, if one is proposed in the future.

Sketch Planning Tool

Sketch planning tools produce general order of magnitude estimates of travel demand and traffic operations. They allow for the evaluation of specific projects or alternatives without conducting an in-depth engineering analysis. These tools are generally easier to implement and less costly than sophisticated software packages to do in-depth engineering analysis. Often these tools are spreadsheet-based or GIS-based. Sketch planning tools are the simplest and least costly traffic analysis technique.

As part of this VMT threshold project, GHD is developing a user-friendly model sketch planning tool to aid developers and staff in determining the VMT associated with new projects that are subject to CEQA. The tool will be a quick-response tool using the SBCAG and City traffic model for VMT output. Users will select a parcel (or other area) where development is proposed, and the parcel location will aid in determining the corresponding SBCAG model traffic analysis zone to determine travel behavior and VMT.

Safety Thresholds

With the change to VMT as the primary metric for project analysis, there will be more focus on traffic safety analysis for intersections' and segments' project traffic effects. GHD has developed guidance for evaluating traffic safety, which is provided in Appendix D of the VMT Threshold study. GHD recommends that the City retain discretion in determining the scope and methodology for safety analysis based on the circumstance and conditions of each project on a case-by-case basis.

CALIFORNIA ENVIRONMENTAL QUALITY ACT REVIEW

The VMT Thresholds are not a project within the meaning of Public Resources Code Section 21065 and State CEQA Guidelines section 15378. The VMT Thresholds would not lead to a direct or a reasonably foreseeable indirect change in the physical environment. The VMT Thresholds are an administrative activity of the City. Specifically, the VMT Thresholds provide guidance to property owners, project developers, applicants, and proponents for determining the significance of transportation impacts of land use projects under CEQA. The VMT Thresholds do not approve any specific development and would not lead to any particular physical change to the environment. Thus, the VMT Thresholds are not a project under Public Resources Code Section 21065 and State CEQA Guidelines 15378(b)(5). For these reasons, the VMT Thresholds are not subject to further environmental review under CEQA.

PLANNING COMMISSION REVIEW

On June 22, 2020, the Planning Commission reviewed the VMT Threshold information presented in this staff report. The Planning Commission supported the VMT baseline and screening criteria discussed above with one caveat. Projects located within a half mile of a high-quality transit corridor could be screened out. Currently, only the transit lines operating along Hollister Avenue between Fairview and Patterson Avenues meet the State's definition of a high-quality transit corridor. The Planning Commission suggested that areas north of 101 freeway be excluded from the transit screening criteria, given the difficulties of pedestrians and bicyclists crossing the 101 freeway to access Hollister Avenue transit routes. In addition, the Planning Commission strongly supports the retention and use of the LOS metric for policy consistency analysis.

FISCAL IMPACTS:

The costs associated with the development of the VMT thresholds project were previously approved when the Council authorized the contract with GHD on January 16, 2020. The ongoing costs of implementing the new CEQA threshold will be part of Planning and Public Work staff costs routinely budgeted. No additional appropriations are needed.

ALTERNATIVES:

The City Council can continue this matter for additional discussion and/or information.


Reviewed By:

Legal Review By:

Approved By:


Kristine Schmidt
Assistant City Manager


Michael Jenkins
City Attorney


Michelle Greene
City Manager

ATTACHMENTS:

1. City Council Resolution No. 08-40.
2. A Resolution of the City of Goleta City Council, California Adopting Guidelines for the Implementation of Vehicle Miles Travelled, Including Vehicle Miles Travelled Thresholds of Significance, for Land Use And Transportation Projects in the City of Goleta and Finding the Same Is Not A Project Subject to the California Environmental Quality Act.”
3. SB743 and Vehicle Miles of Travel Policy Presentation

ATTACHMENT 1
COUNCIL RESOLUTION 08-40

RESOLUTION NO. 08-40

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GOLETA, CALIFORNIA REPEALING RESOLUTION 03-56 AND ADOPTING ENVIRONMENTAL REVIEW GUIDELINES FOR THE IMPLEMENTATION OF THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

WHEREAS, the California Environmental Quality Act of 1970, as amended ("CEQA"), governs the environmental review and approval process of development within the City; and

WHEREAS, the provisions of CEQA are contained in Public Resources Code Section 21000 and following and in the accompanying State CEQA Guidelines, which are set forth in Title 14 of the California Code of Regulations beginning with Section 15000 and following; and

WHEREAS, Public Resources Code Section 21082 and Section 15022 of the State CEQA Guidelines require that each public agency adopt objectives, criteria, and specific procedures consistent with CEQA and the State CEQA Guidelines for the purpose of administering its responsibilities under CEQA; and

WHEREAS, the City Council adopted Environmental Review Guidelines by Resolution 03-56 as of December 15, 2003; in order to fulfill its obligations under CEQA and the State Guidelines, protect local and regional resources in a manner that reflects local values, and translate the myriad of State laws and judicial interpretations regarding CEQA into a precise guide for use by the City, project proponents, and the general public; and

WHEREAS, the City Council now wishes to amend the Environmental Review Guidelines consistent with local objectives, criteria, and specific procedures.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GOLETA AS FOLLOWS:

SECTION 1:

Resolution 03-56 is hereby repealed.

SECTION 2:

Public Resources Code Section 21082 and Section 15022 of the State CEQA Guidelines require that each public agency adopt objectives, criteria, and specific procedures consistent with CEQA and the State

CEQA Guidelines for the purpose of administering its responsibilities under CEQA.

SECTION 3:

The amended City of Goleta Environmental Review Guidelines attached as "Exhibit A" are hereby adopted and replace the repealed guidelines in their entirety in fulfillment of the City's obligations under CEQA to adopt such guidelines.

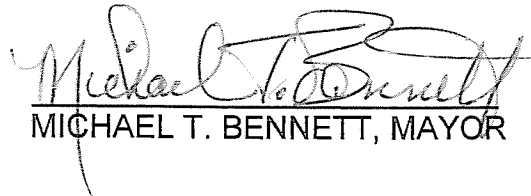
SECTION 4:

The procedures set forth in the City's Environmental Review Guidelines are not meant to replace the State Guidelines or the substantive requirements of CEQA but to implement and tailor the general provisions of the State Guidelines and CEQA to the specific operations of the City. If any section of the City's Environmental Review Guidelines is in conflict or contrary to any of the provisions of CEQA or of the State Guidelines as they now exist or may be amended hereafter, the provisions of CEQA and the State Guidelines shall control.

SECTION 5:

The City Clerk shall certify as to the adoption of this resolution.


PASSED, APPROVED, AND ADOPTED this 19th day of August, 2008.


MICHAEL T. BENNETT, MAYOR

ATTEST:


DEBORAH CONSTANTINO
CITY CLERK

APPROVED AS TO FORM:


TIM W. GILES
CITY ATTORNEY

S TATE OF CALIFORNIA)
COUNTY OF SANTA BARBARA)
CITY OF GOLETA) ss.


I, DEBORAH CONSTANTINO, City Clerk of the City of Goleta, California,
DO HEREBY CERTIFY that the foregoing Resolution No.08-40 was duly adopted
by the City Council of the City of Goleta at a regular meeting held on the 19th day
of August, 2008, by the following vote of the Council:

AYES: MAYOR BENNETT, COUNCILMEMBERS BLOIS AND ONNEN.

NOES: MAYOR PRO TEMPORE ACEVES AND COUNCILMEMBER
 WALLIS

ABSENT: NONE

(SEAL)


DEBORAH CONSTANTINO
CITY CLERK

CITY OF GOLETA

**ENVIRONMENTAL REVIEW
GUIDELINES**

ADOPTED BY RESOLUTION NO. 08-40

AUGUST 19, 2008

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**Attachment 1: State Guidelines for the Implementation of CEQA,
Appendix G: Environmental Checklist Form**

Attachment 2: Environmental Thresholds and Guidelines Manual

I. INTRODUCTION

The California Environmental Quality Act (CEQA) of 1970 (as amended) is California's most fundamental and far-reaching environmental law. CEQA is a procedural act that governs the review and approval process of most developments in California. These policies and procedures are written for the purpose of implementing the requirements of CEQA as contained in California Public Resources Code (PRC) Section 21000 and following and the State CEQA Guidelines (State Guidelines) contained in Title 14, Division 6, Chapter 3, Section 15000 and following of the California Code of Regulations (CCR).

A. BASIC PURPOSES OF CEQA (§15002)¹:

The basic purposes of CEQA are to:

1. Inform governmental decision-makers and the public about the environmental effects of proposed activities;
2. Involve the public in the decision-making process;
3. Identify ways that damage to the environment can be avoided or significantly reduced; and,
4. Prevent environmental damage by requiring changes in projects through the use of alternatives, mitigation measures, or both.

B. PURPOSE OF CITY GUIDELINES:

The City's Environmental Review Guidelines (hereafter "Guidelines") set forth comprehensive procedures for complying with the California Environmental Quality Act. CEQA requires each public agency to adopt guidelines (objectives, criteria, and specific procedures) for administering its responsibilities under CEQA (§15022). The purpose of these Guidelines is to protect both local and regional environmental resources in a manner that reflects local values.

An additional purpose of these Guidelines is to implement CCR Section 15006: to reduce delay and paperwork in determining if CEQA applies to particular projects. Section 15006 enumerates methods for conducting environmental review of projects that are not exempt. The intent of this document is to translate the myriad of

¹ Unless otherwise indicated, all sections references are to applicable section of the State Guidelines as set forth in Title 14, Division 6, Chapter 3, of the California Code of Regulations.

State laws and judicial interpretations into a precise guide for use by the City, project proponents, and general public.

The City's Guidelines summarize State law. Please refer to the State Guidelines (the California Code of Regulations sections in parentheses), which are hereby incorporated by reference, for more detail. These Guidelines are not meant to replace the State Guidelines but to implement and tailor the general provisions of the State Guidelines to the specific operations of the City. If any section of these Guidelines is in conflict with or contrary to any provisions of CEQA or the State Guidelines, as each may be amended, the provisions of CEQA and the State Guidelines shall control.

II. OVERVIEW AND SUMMARY OF PROCEDURES

The following subsections provide the procedures for following CEQA requirements. In all cases determinations shall be by the Director of Planning and Environmental Services ("Director").

A. APPLICABILITY (See also Section V. B., Actions that Constitute a Project):

A proposed activity or application must first be evaluated to determine if it is a "project" and is, therefore, subject to further CEQA review. A project is defined as any discretionary action that may cause a physical change to the environment. A project is the whole of an action that might result in a physical change to the environment, directly or ultimately. However, if the proposed activity is a project under CEQA, it may still be exempt from environmental review (see categorical exemptions and "general rule" exemptions).

B. CEQA PROCESS:

There are three steps in the CEQA process that incorporate environmental documentation. These three separate steps are taken in deciding which environmental document to prepare for a project subject to CEQA.

1. **Preliminary Review.** City staff will conduct a preliminary review of a project to determine whether it is subject to CEQA, or is exempt. If it is exempt, no further work by the applicant is necessary. If the project is not exempt then the applicant must submit a completed environmental information form. (§15060)
2. **Initial Study.** If the proposed activity is a project under CEQA (§15378), and is not exempt from review, the City

will prepare an Initial Study². Where an EIR is clearly required based upon preliminary review, the City may skip further initial review and begin work directly on the EIR. The City, however, at its discretion may elect to complete an Initial Study. The Initial Study determines whether a negative declaration, a mitigated negative declaration, or an Environmental Impact Report (EIR) is needed.

If the Initial Study identifies potentially significant impacts resulting from a project, the City may consult with the applicant to determine if the applicant is willing to modify the project to reduce or avoid the significant effects identified in the Initial Study (§ 15063(g)). The applicant may make changes to the project, or agree to changes suggested by the City in order to avoid or reduce to insignificance potential impacts (§15063(c)(2) and §15070(b)(1)). (For public projects, see Section V.B.(1)(a) below.)

3. **Preparation of a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:**

- a. **Negative Declaration.** If no significant impacts are identified, a Negative Declaration is prepared. A Negative Declaration is a written statement by the City describing why a project will not have a significant impact on the environment and therefore does not require the preparation of an EIR. A Negative Declaration may be prepared when no substantial evidence exists that the project may have a significant environmental effect (§15070).
- b. **Mitigated Negative Declaration.** If the City determines that project revisions or mitigation measures are needed to lessen the impacts to an insignificant level or to avoid significant impacts, then a Mitigated Negative Declaration is prepared (§15041(a)). (See Section VI.G., Formulation of Mitigation Measures, below.)
- c. **Focused EIR.** For certain small residential or commercial projects, where a Master EIR has been prepared, if a significant impact is identified that has not been, or cannot be, adequately mitigated, the Initial Study shall conclude that the project has

² Unless otherwise defined in these Guidelines, all initially capitalized terms shall have the meaning given such term in the State Guidelines.

significant environmental effects and a Focused EIR is required. A Focused EIR shall be required when a specific physical condition, or several physical conditions have been identified within a proposed project area as being potentially impacted. (§§ 15178, 15179.5)

- d. **Project EIR.** A Project EIR shall be required when the physical conditions exist within an area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, objects of historical or aesthetic significance, or historical and unique archeological resources.
- e. **Subsequent EIR.** A Subsequent EIR shall be required when there are substantial changes proposed in the project which would require major revisions to the previous EIR; or that substantial changes in circumstances under which the project is undertaken will require major revisions of the previous EIR; or that new information of substantial importance, which was not known or could not have been known at the time of the previous EIR. (§ 15162)
- f. **Supplemental EIR.** A Supplemental EIR may be prepared where the conditions described above for a subsequent EIR are met and only minor additions or changes would be necessary to make the previous EIR adequate. (§ 15163)
- g. **Addendum.** An Addendum shall be prepared where none of the conditions described above for a subsequent EIR are met and only minor technical changes or additions are necessary. (§ 15164)

C. CONTENTS OF EIRs (§15120 et seq.):

The required contents of EIRs, as set forth in Article 9 of the State Guidelines, are incorporated herein by this reference.

III. AUTHORITY PROVIDED BY CEQA (§15040)

CEQA gives the City, as Lead Agency, authority to mitigate, approve, or disapprove projects despite significant impacts, and to charge fees to recover costs incurred in the preparation of the environmental documentation.

A. MITIGATE (§15041(a)):

The City has authority to require changes in the project to lessen or avoid significant effects on the environment (CCR §§15041(a), 15042 and 15064(b); PRC §§21002 and 21004). The City shall draft mitigation measures to achieve the objective of mitigating or avoiding significant effects on the environment identified in the Initial Study or EIR.

The City has the authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with the applicable constitutional requirements such as the "nexus" and "rough proportionality" standards required by case law.

B. APPROVE PROJECTS DESPITE SIGNIFICANT EFFECTS (§15043):

The City may approve a project despite significant environmental effects identified in an EIR if: the City makes a fully informed and publicly disclosed decision that there is no feasible way to lessen or avoid these effects; and the City adopts, when certifying the EIR, a Statement of Overriding Considerations to address those significant environmental effects. Findings shall be included in the adoption identifying the expected benefits from the project that outweigh the adverse impacts or the costs of mitigating the impacts of the project.

C. DISAPPROVE PROJECTS (§15042):

The City may disapprove a project, if necessary, to avoid one or more significant effects on the environment that would occur if the project were approved.

D. FEES (§15045):

The City, as a Lead Agency, may charge and collect reasonable fees in order to recover the estimated cost in preparing environmental documents and for procedures necessary to comply with CEQA on the project. These fees are subject to periodic review and adjustment in order to assure that City costs are recovered. Litigation expenses, costs and fees incurred in actions alleging noncompliance with CEQA are not recoverable.

Costs for the preparation of contracted documents will be determined on a case by case basis depending upon the scope of the document, and the full amount of the not-to-exceed cost shall be deposited with the City prior to execution of a contract for

services. To begin the document preparation process the applicant shall submit to the Planning and Environmental Services Department a deposit to the City of the not-to-exceed cost of the contracted document.

In the event the applicant fails or refuses to deposit such fees as are determined to be required, the Director may recommend to the decision maker that processing be suspended or the project be denied without prejudice pursuant to State CEQA Guideline Section 15109. In such a case, it shall be presumed that without preparation of adequate environmental documents, required findings for project approval cannot be made.

IV. APPLICABILITY OF CEQA (§15002)

A. TIME OF COMPLIANCE:

Compliance with CEQA procedures as set forth in these Guidelines is required whenever the City proposes to carry out or approve a project. CEQA review, preparation, and certification of appropriate documentation occurs prior to or concurrently with an approval of a private project or authorization of a public project.

B. RESPONSIBILITY FOR COMPLIANCE:

The Director shall ensure that these guidelines are followed for public and private projects. These guidelines apply to all agencies of the City.

C. ADVISORY ROLE OF THE PLANNING AND ENVIRONMENTAL SERVICES DEPARTMENT:

The Director will provide direction, guidance, advice and consultation to other City departments at their request with respect to interpretation of CEQA, State Guidelines or these Guidelines.

V. PRELIMINARY REVIEW

A. INITIAL PROJECT REVIEW:

All activities that are initiated by the City, which are determined to be a project under CEQA, funded in whole or part by the City, or require authorization or entitlement from the City are subject to CEQA review. City staff, with primary responsibility for processing, reviewing, or authorizing activities affecting the environment should be familiar with these guidelines. Activities that are not exempt from CEQA will be reviewed or processed by the Planning and Environmental Services Department.

B. ACTIONS THAT CONSTITUTE A "PROJECT" (§15378; see also Section II.A., APPLICABILITY):

Except as otherwise provided, these Guidelines shall apply to Discretionary Projects (see also §15357 and 15369) proposed to be carried out or approved by the City. A project is defined as:

1. The whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately, and that is any of the following:
 - a. An activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local general plans or elements thereof pursuant to Government Code Sections 65100-65700.
 - b. An activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
 - c. An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.
2. Project does not include:
 - a. Proposals for legislation to be enacted by the State Legislature;
 - b. Continuing administrative or maintenance activities, such as purchases for supplies, personnel-related actions, emergency repairs to public service facilities, general policy and procedure making (except as they are applied to specific instances covered above);
 - c. The submittal of proposals to a vote of the people of the State or of a particular community;
 - d. The creation of government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment.

- e. Organizational or administrative activities of governments which are political or which are not physical changes in the environment (such as the reorganization of a school district or detachment of park land).
- 3. The term "project" refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term "project" does not mean each separate governmental approval.

C. DETERMINING EXEMPTIONS:

Generally, there are two types of exemptions: statutory and categorical. Statutory exemptions apply to projects that the State Legislature has ruled to have insignificant effects. Statutory exemptions include ministerial projects and emergency projects.

The City has 30 calendar days from a completeness determination in which to determine whether a project is exempt or not. The City must act on a project determined to be exempt within 90 calendar days after determination of exemption. Exemptions do not apply where the cumulative impact of successive projects of the same type in the same place over time is significant; where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances; where a project may result in damage to scenic resources; when a project is labeled a hazardous waste site pursuant to Government Code Section 65962.5; or when a project may cause a substantial adverse change in the significance of a historical resource. After approving an exempt project, the City or applicant may file a Notice of Exemption with the County Clerk. All proposed activities must be reviewed to determine if one of the following exemptions is appropriate:

- 1. **Statutory Exemptions:** Certain activities have been exempted from CEQA by the Legislature. These exemptions include feasibility or planning studies, ministerial projects, and emergency actions. A complete list of statutory exemptions is included in Article 18 of the State Guidelines (§15260 and following).
- 2. a. **Categorical Exemptions:** Certain classes or "categories" of projects have been determined by the State's Secretary for Resources to have an insignificant effect on the environment, and are known

as categorical exemptions. Currently, the State Guidelines recognize 32 classes of categorically exempt projects. A complete list of these exemptions is included in Article 19 of the State Guidelines (§15300 and following).

- b. **General Rule:** Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to environmental review. In such cases, the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (§15061(b)(3)).
- 3. **Project Rejection or Disapproval:** The project will be rejected or disapproved by a public agency.
- 4. **Exemption Verification:** If a project falls within a Categorical Exemption category, the Planning and Environmental Services Department shall make an additional inquiry as to whether the Categorical Exemption is inapplicable, because of the existence of any of the following factors:
 - a. There are unusual circumstances creating the reasonable possibility of significant effects (e.g., an otherwise exempt project located in a wetland).
 - b. The project and successive projects of the same type in the same place will result in Cumulative Impacts.
 - c. For Classes 3 (New Construction or Conversion of Small Structures), 4 (Minor Alterations to Land), 5 (Minor Alterations in Land Use Limitations), 6 (Information Collection), and 11 (Accessory Structures), the project may affect an environmental resource of hazardous or critical concern officially adopted pursuant to law (e.g., an otherwise exempt project that would impact habitat of an endangered species).
 - d. The project may result in damage to scenic resources, including but not limited to trees, historic buildings, rock outcroppings, or similar resources within a highway officially designated as a state scenic highway. This exception does not apply to improvements which are

required as mitigation by an adopted negative declaration or certified EIR.

- e. The project is located on a site which is included on any list of hazardous waste sites compiled pursuant to Section 65962.5 of the Government Code.
- f. The project may cause a substantial adverse change in the significance of a historical resource.

If any of these factors cause the Categorical Exemption to be inapplicable, the applicant shall be required to submit an environmental information form and a detailed project description. Additional information, data, studies, and the like, may be required of the applicant in order for the City to make an environmental determination.

D. NOTICE OF EXEMPTION (§15062):

If a determination is made that the activity is exempt from CEQA, a Notice of Exemption (NOE) may be filed with the County Clerk.

- 1. When the City approves or decides to carry out the project, the City or the applicant shall file a Notice of Exemption with the office of the County Clerk. This initiates a 35-calendar day statute of limitations period on legal challenges to the City's determination that the project is exempt from CEQA. If a Notice of Exemption is not filed, a 180-calendar day statute of limitations applies. After the County Clerk has posted the NOE for 30 calendar days, a copy of the posted NOE is sent back to the City. The City is required to keep a copy of the NOE on file for a period of nine months after that time.
- 2. The NOE shall include a brief description of the project, findings of exemption, including citation to the State CEQA Guidelines section under which it is found exempt, and reasons supporting those findings.
- 3. If filed, the notice shall be filed with the County Clerk. If state resources could be affected the NOE shall be filed with the Office of Planning and Research (OPR). Copies of the NOE shall be available for public inspection. The City may also post NOEs at its website on the Internet.

E. CITY PROJECTS - ENVIRONMENTAL REVIEW PROCEDURES (§15378(a)(1)):

When the City is the Lead Agency and any of its departments contemplates any activity resulting in physical change in the environment, including but not limited to construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances initiated by the City, and the amendment of the City of Goleta General Plan or any of its elements, the following procedures shall be followed.

The department which contemplates the activity shall request the Planning and Environmental Services Department to determine whether the activity qualifies for an exemption. If the activity is exempt, no further CEQA review is required and regular processing of plans for the activity may continue without further environmental review.

If the activity is not exempt, the department shall forward its plans and specifications to the Planning and Environmental Services Department. Upon receipt of the plans and specifications for the project, the Planning and Environmental Services Department shall conduct an Initial Study to determine if the project may have a significant effect on the environment. The environmental review process from that point on, including determinations and filing of notices, will be conducted in the same manner as specified herein in the procedures for environmental review of private projects, with the department proposing to carry out the project being treated as the "applicant."

VI. INITIAL STUDY

The Planning and Environmental Services Department shall determine whether it intends to prepare a Negative Declaration or an EIR within 30 calendar days after determining the application complete. The 30 calendar day period may be extended 15 calendar days upon the consent of the City and the project applicant. (For public projects, these time limits do not apply.) The project applicant shall be notified of the determination in writing. Staff recommendations for requiring particular environmental documents may be appealed, in writing, to the approving agency for the project upon payment of proper fees.

A. PURPOSES OF AN INITIAL STUDY:

1. Provide the City with information to use as the basis for deciding whether to prepare an EIR or Negative Declaration (§15063(c)(1));
2. Enable an applicant or the City to modify a project, avoiding, or mitigating adverse impacts thereby enabling the project to qualify for a Negative Declaration;
3. Facilitate environmental assessment early in the design of a project;
4. Determine whether a previously prepared EIR could be used for the project;
5. Eliminate unnecessary EIRs;
6. Assist the preparation of an EIR, if one is required.

B. PROJECT INFORMATION REQUIRED:

The initial source of project information for the Initial Study is the environmental information form (§15063(f)). This form is completed by the applicant and received as part of the project (application) submittal. Any information that the project proponent or City deems relevant and will facilitate the environmental review of a project, should be submitted along with the project application. The City may require the project proponent to provide additional data and information determined necessary for the preparation of the Initial Study (§§15060(b), 15063(e), & 15064(b)).

An unreasonable delay by the applicant in providing information (studies, surveys, maps, etc.) requested by the City shall suspend the running of the time periods as described in §15107 and §15108 (§15109). After a reasonable period of time, if no action has been taken to collect or supply the necessary information the project will be set on the approving agency agenda for denial without prejudice.

C. PREPARATION:

1. Following preliminary review, the City shall prepare an Initial Study for nonexempt projects to determine if the project may have a significant effect on the environment. An environmental assessment or a similar analysis prepared pursuant to the National Environmental Policy Act will meet the requirements of this section.

2. Notwithstanding #1 above, if the City determines that an EIR will be required for a project, the City may skip further initial review of the project and begin work directly on the EIR. However, an Initial Study can prove to be a useful tool in assisting the City in identifying the significant effects of the project upon which the EIR shall focus and provide findings why other effects would not be significant or potentially significant.

D. CONTENT OF INITIAL STUDY:

The Initial Study is prepared, or shall be caused to be prepared, by City staff. An Initial Study may rely upon expert opinion supported by the facts, technical studies, or other substantial evidence to document its findings. However, an Initial Study is neither intended nor required to include the level of detail included in an EIR. An Initial Study includes:

1. Project description,
2. Environmental setting,
3. Environmental checklist,
4. Identification of environmental effects by use of a checklist, matrix, or other method,
5. Discussion of any impacts and ways to avoid or mitigate identified impacts,
6. Examination of consistency with zoning, general plans and other applicable land use controls (§15063(d)).

All phases of project planning, implementation, and operation shall be considered in the Initial Study. Staff shall consult with City departments, public entities that may be a responsible or trustee agency for the project and any individuals or organizations otherwise concerned.

E. DETERMINING ENVIRONMENTAL SIGNIFICANCE:

Critical to the environmental analysis is the determination of significant effect. The State CEQA Guidelines define the term "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." (§15382).

The environmental evaluation must also consider:

Primary or Direct Impacts: such as construction-related impacts of dust and noise (§15064(d)(1));

Secondary or Indirect Impacts: such as those associated with growth resulting from additional infrastructure capacity (§15064(d)(2)); and,

Cumulative Impacts: such as those resulting from the total effect of a group of proposed projects or programs, over time (§15065(c)).

Significance will be judged by the intensity and longevity of the change, the size of the area affected, and deviation from existing conditions. Establishing thresholds of significance is the best way to enable a determination of environmental impacts.

Mandatory Findings of Significance (§15065): The project may be found to have a significant effect on the environment if any of the following findings are made by the City:

- a. The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a threatened or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.
- b. The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- c. The project has possible environmental effects which are individually limited but cumulatively considerable. As

used in this subsection, "cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

- d. The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

The City must prepare an EIR if any of the above findings occur unless, prior to commencement of preliminary review of an environmental document, the applicant agrees to mitigation measures or project modifications that would avoid any significant effect on the environment as specified above, or would mitigate the significant effect to a point where clearly no significant effect on the environment would occur. In such cases, a Negative Declaration or Mitigated Negative Declaration may be prepared instead, as appropriate.

Determining the Significance of the Environmental Effects Caused by a Project (§15064):

In evaluating the significance of the environmental effect of a project, the direct and reasonably foreseeable indirect physical changes in the environment which may be caused by the project shall be considered. (See also Attachment 1: State CEQA Guidelines for the Implementation of CEQA, Appendix G, Environmental Checklist Form for effects that may be significant.)

F. THRESHOLDS:

Determining the significance of environmental impacts is a critical and often controversial aspect of the environmental review process. It is critical because a determination of significance requires that the project be substantially altered, or that mitigation measures be readily employed to avoid the impact or reduce it below the level of significance. If the impact cannot be reduced or avoided, an Environmental Impact Report (EIR) must be prepared.

The State Guidelines define the term "significant impact on the environment" as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project. However, there is no ironclad definition of what constitutes a substantial change because the significance of an

activity may vary according to location. Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable, quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less significant.

Thresholds of significance to be adopted for general use as part of the Lead Agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation and developed through a public review process and be supported by substantial evidence.

The City Council of the City of Goleta, by Resolution No. 03-08 approved on February 3, 2003, has adopted thresholds for evaluating the level of significance of environmental impacts to the extent consistent with City policies. These thresholds are included as Attachment 2 to these Guidelines. The City's adopted "Environmental Thresholds and Guidelines Manual" shall be publicly available for purchase. This document shall be revised periodically as necessary to maintain a standard which will afford the fullest possible protection to the environment, within the reasonable scope of CEQA, by imposing a low threshold requirement for the preparation of an EIR. For issue areas for which there are no thresholds, the guidance provided in State CEQA Guidelines Sections 15064, 15065, 15382, and Appendix G shall provide the basis for determining significance.

G. FORMULATION OF MITIGATION MEASURES (§15370):

Mitigation measures are actions designed to alleviate or avoid the adverse environmental effects of proposed plans and projects. If there is a potential for significant impacts, efforts should be made to identify and incorporate mitigation measures, either into the project design prior to completion of the Initial Study, or staff, in consultation with the applicant, shall incorporate appropriate mitigation measures into the project approval. If identified impacts can be mitigated to a non-significant level, a Mitigated Negative Declaration can be used. Impacts must be reduced to a non-significant level or an EIR is required. Mitigation includes:

1. *Avoiding* the impact all together by not taking a certain action, or parts of an action or redesigning the project;

2. *Minimizing* impacts by limiting the degree or magnitude of the action and its implementation;
3. *Repairing, rehabilitating, or restoring* an impacted environment;
4. *Reducing or eliminating* the impact over time by preservation and maintenance operations during the life of the action;
5. *Compensation* for the impact by replacing or providing substitute resources or environments.

Creativity, reasonableness, and practicality should be used in developing mitigation measures for identified impacts, providing that the mitigation adequately and accurately addresses the impact.

The Mitigation Monitoring and/or Reporting Program shall be submitted during project processing and shall be made a condition of approval of the project subsequent to review and approval by the decision makers. The City shall require a Mitigation Monitoring and/or Reporting Program for each mitigation measure required. For mitigation of complicated or technical impacts, a consultant may need to be hired at the applicant's expense (see Section IX.B., Mitigation Monitoring and/or Reporting Program, below).

When other agencies have jurisdiction over aspects of the project, the developer will have to meet the design, mitigation, and monitoring requirements imposed by those agencies, as well as any additional requirements established by the City of Goleta.

VII. NEGATIVE DECLARATIONS (§15070)

There are two types of Negative Declarations: a (standard) Negative Declaration, and a Negative Declaration with mitigation, or Mitigated Negative Declaration. When the Initial Study shows that the project will not have a significant effect on the environment CEQA allows for a Negative Declaration to be adopted.

CEQA continues to give the City the option of allowing applicants to modify their project so that the City can make a finding that the project would not have a significant effect on the environment as proposed. If the applicant can modify a project to avoid potentially significant effects, the applicant can qualify for a Mitigated Negative Declaration.

A. PREPARATION OF A NEGATIVE DECLARATION (§15070):

A Negative Declaration shall be prepared for nonexempt projects if:

1. The Initial Study shows that there is no substantial evidence of the project having a significant effect on the environment; or
2. The Initial Study identified potentially significant effects but:
 - a. Prior to completion of the Initial Study, the project is revised to avoid or mitigate the effects to a point where no significant effects would occur; and
 - b. There is no substantial evidence that the project, as revised, may have a significant effect on the environment.

B. RESPONSIBILITY FOR PREPARATION

The Planning and Environmental Services Department shall prepare the proposed Negative Declaration, or shall cause it to be prepared by a private consultant. Consultants may be used when workload exceeds available staff resources or when the proposed document requires expertise not available within the Department.

C. CONTENTS OF NEGATIVE DECLARATIONS (§15071):

A Negative Declaration shall include:

1. A brief project description;
2. The location of the project (preferably a location map), and the name of the project proponent;
3. A proposed finding that the project will not have a significant effect on the environment;
4. An attached copy of the Initial Study documenting reasons to support the finding;
5. Mitigation Measures, if any, included in the project to avoid potentially significant effects.

D. PUBLIC NOTICE AND REVIEW (§15072; 15073):

The City shall notify the public of its intention to adopt a Negative Declaration, and provide opportunities to review it and any related documents by direct mail to all landowners within a 500 foot radius of the exterior project boundary for residential projects and a 1000 foot radius of the exterior project boundary for nonresidential projects. The notice shall include a reference as to where all documents are available for review. The notice shall also appear in a newspaper of local circulation and be posted with the County Clerk.

Where one or more state agencies will be a Responsible Agency or a Trustee Agency or will exercise jurisdiction by law over natural resources affected by the project, the City shall send copies of the Negative Declaration to the State Clearinghouse for distribution to the state agencies (§15073).

The public review period for a Negative Declaration shall be at least 20 calendar days. When a proposed negative declaration or mitigated negative declaration and initial study have been submitted to the State Clearinghouse for review by state agencies, the public review period shall be no less than 30 days, and shall be at least as long as the review period established by the State Clearinghouse (§15073). The public review period may be extended at the discretion of the Environmental Hearing Officer.

The Environmental Hearing Officer may hold a public hearing on the Negative Declaration during the public review period. The public hearing shall be held for the purpose of receiving comments by interested and affected agencies, the public, and the applicant on the accuracy and adequacy of the proposed Negative Declaration.

If, upon review of the proposed Negative Declaration and comments received during the public review process, the Environmental Hearing Officer determines that the Negative Declaration is inadequate, the Planning and Environmental Services Department staff shall be directed to make appropriate revisions or to prepare an EIR, pursuant to Section VIII.

E. TIME LIMITS:

When the City is Lead Agency for private projects involving the issuance of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies, the Negative Declaration must be completed and approved within 180 days from the date when the City accepted the application as complete. Any

unreasonable delays resulting from failure of the applicant to provide information requested by the City and necessary to complete the Negative Declaration, shall suspend these limits (§15109).

F. CONSIDERATION AND ADOPTION OF NEGATIVE DECLARATIONS (§15074):

At the time of project approval, the decision-making body responsible for approval of the project shall consider the proposed Negative Declaration with any comments received during the review process.

1. The decision-making body shall adopt the Negative Declaration if it finds on the basis of the Initial Study, and comments received, that there is no substantial evidence of significant effects on the environment.
2. The Negative Declaration shall reflect the City's independent judgment and analysis.
3. The City shall inform, through public notice, the location and custodian of documents or other material which constitutes the record.
4. When a Mitigated Negative Declaration is adopted, the City shall adopt a Mitigation Monitoring and/or Reporting Program (§15097).
5. A Negative Declaration cannot be adopted for a project within the boundaries of a comprehensive airport land use plan without first considering safety and noise issues (§15074).

G. DETERMINATION BY DECISION-MAKER THAT NEGATIVE DECLARATION IS INADEQUATE

If, upon review of the proposed Negative Declaration and comments received during the public review process, the decision-making body determines that the Negative Declaration is inadequate, the decision-making body shall direct Planning and Environmental Services Department staff to make appropriate revisions or to prepare an EIR, pursuant to Section VIII.

H. NOTICE OF DETERMINATION (§15075):

After deciding to carry out or approve a project for which a Negative Declaration has been approved, the City shall file a Notice of

Determination (NOD) with the County Clerk within five (5) working days. After the NOD has been posted for 30 calendar days by the County Clerk, the NOD will be returned to the City. The returned NOD must then be retained for not less than nine months. Filing and posting the NOD starts a 30-calendar day statute of limitations on court challenges to CEQA approvals. Failing to file the NOD within the required time period extends the statute of limitations to 180 calendar days. If the project requires a discretionary approval from any State agency, the notice shall also be filed with the Governor's Office of Planning and Research.

VIII. ENVIRONMENTAL IMPACT REPORTS (EIRs)

The EIR process starts with the decision to prepare an EIR. This decision will be made either during preliminary review (§15060) or at the conclusion of an Initial Study (§15064).

A. DECISION TO PREPARE AN EIR (§15063):

If the Initial Study determines that a project may have a significant effect on the environment, which cannot be eliminated by changing the project or adding mitigation measures, the Planning and Environmental Services Department shall initiate the preparation of an EIR. If the Planning and Environmental Services Department can determine that an EIR will clearly be required for the project, an Initial Study is not required but may still be desirable.

The Planning and Environmental Services Director will determine whether an EIR is required within 30 calendar days of determining the application complete. A 15-calendar day extension may be approved upon consent of the applicant.

B. SCOPE OF AN EIR (§15082):

The breadth of analysis in the EIR shall be determined by one or more of the following: the Initial Study, comments of the City staff, and/or responses to the Notice of Preparation. The EIR should focus on potentially significant impacts, and need not discuss items determined to be insignificant by the Initial Study, or items not raised in response to the Notice of Preparation. When requested by Caltrans for projects under their jurisdiction or for projects of statewide, regional, or area-wide significance, City staff shall hold a community scoping meeting. Scoping meetings for all other projects are at the discretion of the Planning and Environmental Services Department. If a scoping meeting is held, it shall be held during the same time period as the Notice of Preparation.

C. LETTER TO APPLICANT:

Prior to the preparation and distribution of the Notice of Preparation, the Planning and Environmental Services Department shall send to the applicant a certified letter giving notice of the need for an EIR. The applicant shall notify the Department in writing of the applicant's agreement to proceed with an EIR within 20 calendar days of the mailing of such notice letter. Failure of the applicant to respond in writing within this time period may result in the scheduling of the project for hearing before the approving authority with a recommendation of "Denial Without Prejudice."

In the letter to the applicant, the City shall include information regarding appeal procedure, fees for EIR administration, the scope of the EIR coverage (with the Initial Study, if any, attached), and directions to the applicant on how to proceed. These directions shall include a description of the City's consultant selection and contracting process.

D. APPEAL:

If the applicant wishes to appeal the City's finding that an EIR is required, the applicant shall file an appeal within 20 calendar days of the date of mailing the letter. The applicant shall submit, along with the appropriate filing fee as set forth in the Planning and Environmental Services Department's fee schedule, a letter specifying the reasons why an EIR should not be required. The appeal shall be filed with the Planning and Environmental Services Department. Action on these appeals shall be heard by the decision-making body for the project.

E. NOTICE OF PREPARATION (§15082):

After determining that an EIR is required, and upon written confirmation of acceptance by the applicant of the need to prepare an EIR, the Planning and Environmental Services Department shall prepare and distribute a Notice of Preparation (NOP) for an EIR. The NOP shall consist of the Notice of Preparation form and include a copy of the Initial Study, if any. The NOP shall be sent to the Office of Planning and Research and to each Responsible and Trustee Agency. To send copies of the notice of preparation, the Department shall use either certified mail or any other method of transmittal which provides it with a record that notice was received.

Response to Notice of Preparation. Each Responsible Agency shall provide a response within 30 calendar days after receiving the Notice of Preparation. If a Responsible Agency fails to reply within

30 calendar days with, either a response or a request for additional time, the Planning and Environmental Services Department may assume that the Responsible Agency has no response to make.

The response at a minimum shall identify:

1. The significant environmental issues and reasonable alternatives and mitigation measures which the responsible agency will need to have explored in the draft EIR; and
2. Whether the agency will be a responsible agency or a trustee agency for the project.

A generalized list of concerns does not meet the requirements for response.

F. RESPONSIBILITY FOR PREPARATION

The Planning and Environmental Services Department shall prepare an EIR or cause it to be prepared by a private consultant. The option for staff-prepared EIRs is generally only available when workload allows and for analysis that is small in scope, having only one or two potentially significant impact areas to analyze.

G. CONSULTANT SELECTION PROCEDURE:

Once the Planning and Environmental Services Department has determined that an EIR is required in accordance with the process described above, and that preparation will be by private consultant, the consultant selection process can begin.

The City shall maintain an EIR Consultant list. Inclusion on the EIR Consultant list requires the submittal of qualifications for each area of expertise. It should be noted that there are many local consultants who are well qualified to be used as prime and sub-consultants for EIRs.

It is the desire of the City to utilize local consultants when possible and feasible. A selection of three (3) or more consultants will be made from the City's list of EIR consultants, except when a single EIR consultant is deemed appropriate by the Planning and Environmental Services Department and agreed to by the applicant.

Once it has been determined that an EIR will be required, the Planning and Environmental Services Department will request letters of interest/statement of qualifications. Upon determination that at least a group of three consultants desire to make a proposal,

the Department may set and hold a pre-proposal meeting with interested consultants and the applicant. Prior to or at the meeting the Department will provide the consultants with a detailed project description and supporting material and maps, advise them of the areas of concern, and specify the extent of analysis desired. The consultants will have the opportunity to ask questions of the Planning and Environmental Services staff and the applicant at the pre-proposal meeting. Any questions that do arise after the close of the pre-proposal meeting must be directed through City staff. If the questions affect the final content of the request for proposal or the scope of work, Planning and Environmental Services staff will inform all consultants by phone or in writing.

The preparation of the consultant proposal shall conform to the format and content specified in the Planning and Environmental Services Department's Request for Proposal. After EIR proposals are received, staff disqualifies any which are unacceptable. These could include proposals which staff finds non-responsive, or proposals for which staff concludes that substantial revision of the EIR would likely be needed prior to release of the public draft, or proposals from firms which would have a conflict of interest, etc. Upon making the final selection, the City executes and manages the contract with the EIR consultant. Prior to executing any contract, the consultant retained by the City shall file a statement of economic interest with the City Clerk and, demonstrate possession of liability insurance and statutory workers compensation coverage as specified in the City's Professional Services Agreement.

H. EXECUTION OF CONTRACT:

The contract for consultant services shall be between the City and the consultant. The contract shall reference the scope of work, and shall include a schedule for deliverables, the preparation of the Administrative Draft EIR, Draft EIR, and Final EIR, attendance at public hearings, preparation of the response to comments, and expenses.

I. PREPARATION OF ADMINISTRATIVE DRAFT EIR (§15084):

The Administrative Draft of the EIR is considered a working document to be circulated among City staff and any responsible agency, if appropriate. The consultant shall submit a minimum of five (5) copies of the Administrative Draft EIR for staff review. The purpose of staff review is to evaluate the EIR for adequacy and accuracy prior to public circulation. Generally, review of the Administrative Draft EIR is concluded within a few weeks, after

which comments are provided to the consultant, who prepares the Draft EIR for publication and distribution.

J. ANALYSIS OF PROJECT ALTERNATIVES (§15126.6)

All EIRs shall include a discussion of project alternatives. Development of project alternatives should focus on options which have the potential to reduce significant environmental impacts and attain project objectives. The EIR should describe the rationale for selection of alternatives and identify alternatives considered but rejected as infeasible.

K. CUMULATIVE IMPACT EVALUATION (§15130)

An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where an incremental effect is not cumulatively considerable, a brief description of the basis for such a conclusion shall be provided. The potential effects of development not included in baseline data shall include a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the public agency. Unless otherwise specified in the City's adopted "Environmental Thresholds and Guidelines Manual", a project's potential contribution to cumulative impacts is assessed utilizing the same significance criteria as those for project specific impacts.

L. NOTICE OF COMPLETION OF A DRAFT EIR (§15085):

As soon as the draft EIR is completed and ready for public circulation, a Notice of Completion and copies of the draft EIR shall be filed with the Governor's Office of Planning and Research (OPR). This notice of completion may be filed in a printed hard copy or in electronic form on a diskette or by electronic mail transmission. Additionally, public agencies are encouraged to make copies of notices of completion available in electronic format on the Internet.

M. PUBLIC REVIEW OF DRAFT EIR (§15087):

At the time the Notice of Completion is filed with OPR, the City shall provide notice of the availability of a Draft EIR and public hearing date by means of a public notice in a local newspaper. Additional notice shall be provided by direct mailing to property owners within a 500-foot radius of the exterior project boundary for residential projects and within a 1,000-foot radius of the exterior project boundary for nonresidential projects. The notice shall also be posted with the County Clerk for a period of at least 30 days. The

public notice shall include the name of the staff person to contact, length of the review period, and deadline for receipt of comments. The public notice shall inform the public of the presence of hazardous wastes, if any.

Copies of the Draft EIR will be made available at the Goleta Library and at the public counter at the Planning and Environmental Services Department. Copies of the Draft EIR may be made available for purchase at a local printing/copying company. The public review period for a Draft EIR shall not be less than 45 calendar days (30 calendar days when authorized by the State Clearinghouse (§15105)).

N. PUBLIC HEARING ON DRAFT EIR:

A public hearing shall be conducted by the Environmental Hearing Officer to solicit comments on the draft EIR. Notice of the hearing shall be provided by means provided in Subsection M, above, and/or by other additional means as determined by the Environmental Hearing Officer. The public hearing shall be scheduled during the review period, prior to the last week of the review period. For clarity and accuracy of the record, written comments are encouraged in conjunction with, or in lieu of, oral testimony. The Environmental Hearing Officer may extend the comment period and continue the public hearing, if additional time is warranted.

O. EVALUATION OF RESPONSES TO COMMENTS (§15088):

After the review period for the Draft EIR closes, Planning and Environmental Services staff will assemble all written comments and summary minutes of comments made at the public hearing(s) and transmit this package to the consultant for preparation of responses to comments received. Staff will work closely with the consultant to determine:

1. Which comments address environmental impacts and mitigation(s). These comments shall be responded to by the consultant/staff;
2. Which comments address the merits of the project (as distinguished from environmental impacts of the project) and do not require a response, but should be noted for the record;
3. Which comments are beyond the scope of environmental review (such as legal interpretations); and

4. Which comments on impacts are too speculative for evaluation.

Responses shall be provided for all comments. At least ten (10) calendar days before certifying the EIR, the response to comments shall be provided to all agencies or individuals who request response to their comments. If significant new information is added to the EIR after public notice of the availability of the Draft EIR for public review, the City shall recirculate the Draft EIR in accordance with Section 15088.5 (see below).

P. DETERMINATION BY ENVIRONMENTAL HEARING OFFICER THAT AN EIR IS INADEQUATE

If, after review, the Environmental Hearing Officer determines that the Draft EIR is inadequate and requires major revisions, the document will be returned to the lead department for revision. Recirculation of the document for public review may be required (see Section M below). In this case, a new Notice of Completion shall be prepared as provided above.

Q. CRITERIA FOR RECIRCULATION OF AN EIR (§15088.5)

A Draft EIR shall be recirculated for public review prior to certification when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review pursuant to section M above, but before certification. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
4. The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

R. CONTENTS OF THE FINAL EIR (§15132):

If, after the public review period and public hearing, the Environmental Hearing Officer determines that the EIR is adequate, the Environmental Hearing Officer shall direct Planning and Environmental Services staff and the City's EIR consultant to prepare a Final EIR. The Final EIR will consist of the Draft EIR or a revision of the draft, copies of comments received, the response to comments (which includes corrections and error of fact of the Draft EIR), a list of persons, organizations, and public agencies who made comments, and any other information added by the Lead Agency. The Environmental Hearing Officer shall transmit the Final EIR to the decision-making body with recommended findings for certification of the Final EIR (see Section T, below).

S. CHANGES BY A DECISION-MAKER

If the decision-making body disagrees with the conclusions set forth in the EIR regarding the significance of environmental impacts or feasibility of mitigation measures and alternatives, the decision-making body shall correct them and set forth its reasons for the correction.

T. FINDINGS (§15091):

The City shall not approve or carry out a project for which an EIR identifies one or more significant environmental effects unless written findings for each of the significant effects, accompanied by a brief explanation of the rationale for each finding are made. Findings must be supported by substantial evidence in the record of project review. The possible findings are:

1. Changes have been required, or incorporated into, the project that avoid or substantially lessen the significant environmental effects as identified in the certified final EIR. Necessary changes are generally identified after preparing the Initial Study.
2. Changes that would avoid or substantially lessen the significant environmental effects are within the jurisdiction of another public agency or have already been adopted by another agency.

3. Specific economic, social or other considerations make the identified mitigation measures or project alternatives infeasible. This finding shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

A Statement of Overriding Considerations (see Subsection U below) does not substitute for these required findings.

When making findings pursuant to subsection (1) above, the City shall adopt a Mitigation Monitoring and Reporting program pursuant to Section IX below and adopt conditions of approval for the project that ensure such changes will avoid or significantly lessen the significant environmental effects.

U. STATEMENT OF OVERRIDING CONSIDERATIONS (§15093):

If the benefits of a proposed project outweigh the unavoidable adverse effects, such effects may be considered "acceptable." The City shall take into consideration economic, legal, social and technological benefits for consideration when determining if the benefits outweigh the significant effects. If the City approves a project that allows the occurrence of significant effects, it shall adopt a Statement of Overriding Considerations as part of the project approval that states specific reasons to support its action based on the certified final EIR and/or other information in the record. This Statement of Overriding Considerations shall be in writing and shall be supported by substantial evidence in the record. This statement does not substitute for, and shall be in addition to, findings required pursuant to Subsection T above. The consultant who prepared the draft and final EIR shall be responsible for drafting the findings, subject to review and approval by the decision-making body.

V. CERTIFICATION OF THE FINAL EIR AND TIME LIMITS (§15090):

The decision-making body shall certify the Final EIR for private projects within one year of accepting the application for the project as complete. Upon consent of the applicant and the City, the one-year limit may be extended a maximum of an additional 90 calendar days. Delays by the applicant in providing necessary information to complete the Final EIR shall suspend these time periods. In certifying the Final EIR the decision making body shall find that the Final EIR was prepared in compliance with CEQA, was reviewed and considered prior to project approval, and reflects the independent judgment of the City.

W. NOTICE OF DETERMINATION (§15094):

A Notice of Determination (NOD) shall be filed with the County Clerk within five (5) working days of project approval when an EIR has been prepared and certified for a project. After the posting of the NOD for at least 30 calendar days the County Clerk shall send the NOD back to the City. The City shall retain the notice for not less than nine months. If the project requires discretionary approval from a state agency, the Notice of Determination shall also be filed with the Office of Planning and Research.

IX. MITIGATION MONITORING AND/OR REPORTING PROGRAM (§15097):

A Mitigation Monitoring or Reporting Program (MMRP) can monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both.

Mitigation measures are specific requirements which will minimize, avoid, rectify, reduce, eliminate, or compensate for significant environmental effects. A monitoring and/or reporting program's effectiveness depends in large part upon the quality of the mitigation measures themselves. Poorly drafted measures are not only difficult to implement, they are difficult to report on and monitor.

A. PROCESSING OF MITIGATION MONITORING AND/OR REPORTING PROGRAM - ROLES AND RESPONSIBILITIES:

1. **Administrative Responsibilities:** It shall be the overall responsibility of the Director to perform the duties of Compliance Monitor.
2. **Selection of Monitor:** The Director shall be responsible for implementing the MMRP and/or shall be responsible for selecting the person(s) or firm(s) hired by the City, through funding by the project developer, to implement the Mitigation and/or Reporting Program for each project. In all cases, the person(s) or firm(s) responsible for monitoring shall have sufficient expertise to determine whether or not the mitigation measure has been accomplished.

3. **Monitoring Responsibility:** The Compliance Monitor (CM) shall be responsible for:
 - a. Coordinating the monitoring tasks and verification program;
 - b. Ensuring that the project proponent prepares a compliance schedule;
 - c. Coordinating monitoring by various City departments and other agencies;
 - d. Processing and filing compliance reports and verification reports; and
 - e. Preparing an annual environmental monitoring report.

The Compliance Monitor shall submit regular progress and verification reports to the Planning and Environmental Services Director.

4. **Enforcement Responsibility:** The Compliance Monitor is authorized to enforce compliance with the Monitoring Program. When compliance is lacking or incomplete, the Compliance Monitor is empowered to either stop work, temporarily stop work, or allow work to continue while compliance is being achieved.
5. **Exemptions - Limitations:** Any deviation from the adopted mitigation measures can only be amended or deleted by the approving body of the environmental document. All mitigation measures shall be met unless the circumstances or conditions that required the mitigation no longer exist.
6. **Feedback:** The Director shall provide for a process for informing staff and decision makers of the relative success of mitigation measures and using those results to improve future mitigation measures.

B. PREPARATION OF MONITORING AND/OR REPORTING PROGRAM:

A Mitigation Monitoring and/or Reporting Program shall be prepared by the EIR consultant for every project for which an EIR was prepared where mitigation measures were adopted by the approving body. The Mitigation Monitoring and/or Reporting Program shall be reviewed and approved by the decision-making

body prior to its implementation and use. The Program shall contain the following:

1. A statement that the requirements of the adopted Program run with the real property on which the project is located and that successive owners, heirs, and assigns of this real property are bound to comply with all of the requirements of the adopted Program.
2. A statement which specifies the responsibilities of the applicant and the Compliance Monitor as well as any professional expertise required to evaluate any part of the Program.
3. The time requirements, schedule, phases or tasks for each mitigation measure that will, upon completion, result in issuance of a Program Completion letter from the Compliance Monitor.

The Mitigation Monitoring and Reporting Program shall be written to maintain consistency with the project as approved. It shall be the responsibility of the Compliance Monitor to determine that the proposed Mitigation Monitoring Program complies with City requirements.

C. PROGRAM COMPLETION LETTER:

It shall be the responsibility of the Compliance Monitor to determine compliance with each of the required mitigation measures. Once all of the mitigation measures have been met, the CM will prepare and mail a letter to the applicant indicating full compliance with the Mitigation Monitoring and Reporting Program for the project or phase. Should there be an ongoing mitigation measure imposed, the CM shall prepare and mail a letter to the applicant upon completion of all mitigation measures and indicate the ongoing need of the mitigation measure and the necessary time frame for follow-up.

D. COMPLIANCE WITH STATE GUIDELINE SECTION 15097:

At all times, the City's Mitigation Monitoring and/or Reporting Program will be consistent with State Guideline Section 15097 "Mitigation Monitoring or Reporting".

X. SEVERABILITY

If any portion of these Guidelines is held unconstitutional, invalid, or ineffective by any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions.

XI. DEFINITIONS

The following words, where not defined in the State Guidelines, shall have the meaning ascribed to them in these definitions. These definitions are intended to clarify City processes by supplementing definitions used in the State Guidelines.

- A. County Clerk: The Clerk of the Board of Supervisors of the County of Santa Barbara.
- B. Decision-Maker: The decision-making body responsible for taking final action on a project under state law or City ordinances, such as the City Council, Planning Commission, Zoning Administrator, City Manager, or Planning and Environmental Services Director.
- C. Environmental Hearing Officer: The Planning and Environmental Services Director, or his/her designee, in the capacity of holding public hearings to receive comments on environmental documents and other duties as described in the City's CEQA Guidelines.
- D. Planning and Environmental Services (PES): The planning department of the City of Goleta.

ATTACHMENT 1

**STATE GUIDELINES FOR THE IMPLEMENTATION OF CEQA, APPENDIX G:
ENVIRONMENTAL CHECKLIST FORM**

Appendix G

Environmental Checklist Form

1. Project title:

2. Lead agency name and address:

3. Contact person and phone number:

4. Project location:

5. Project sponsor's name and address:

6. General plan designation: _____ 7. Zoning: _____
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

9. Surrounding land uses and setting: Briefly describe the project's surroundings:

10. Other public agencies whose approval is required (e.g., permits, financing approval, or

participation agreement.)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____	_____
Signature	Date
_____	_____
Printed Name	For

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR

or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

- a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
- a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance

SAMPLE QUESTION

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</p>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>IV. BIOLOGICAL RESOURCES -- Would the project:</p>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
filling, hydrological interruption, or other means?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VIII. HYDROLOGY AND WATER QUALITY -				
- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
river, in a manner which would result in substantial erosion or siltation on- or off-site?				
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XI. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

XIII. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

XIV. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

ATTACHMENT 2

ENVIRONMENTAL THRESHOLDS AND GUIDELINES MANUAL

County of Santa Barbara

Environmental Thresholds and Guidelines Manual

Published May 1992

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Planning and Development Department

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1. INTRODUCTION

This manual has been prepared to assist the public, the applicant, environmental consulting firms, and County decision makers in understanding the use and application of various environmental impact thresholds as they relate to project proposals.

The Emergence of the Environmental Impact Assessment Process in California

At the height of the environmental movement, the California State legislature passed the Environmental Quality Act of 1970 (C.E.Q.A.)¹. The California law, closely patterned after the National Environmental Policy Act (NEPA), included a requirement that assessments be made of the environmental impact of all proposed, publicly sponsored projects. These assessments were to take the form of "Environmental Impact Reports," (EIR's) nearly identical to the "Environmental Impact Statements" (EIS) of NEPA. Like the EIS, the EIR was intended to be a source of data which would better inform the decision maker of the implications of approving or disapproving a publicly undertaken or funded project.

The EIR, which environmentalists considered a rather limited document in 1970, became one of their principal tools when in 1972, the State Supreme Court handed down its "Friends of Mammoth" decision.² The court held that an EIR is required before state or local government may grant a permit authorizing the construction of privately undertaken projects which may have a significant effect on the environment.

Subsequently, the State Secretary for Resources devised procedures for the writing and processing of EIR's. These County Guidelines are available for purchase or review at the Division of Environmental Review, 105 East Anapamu Street, Santa Barbara, CA 93101.

Additionally, the state guidelines set out what decisions and tasks have to be performed by local government in the processing of EIR's. First of all, local governments are charged with the duty of determining if a proposed project has the potential to significantly affect the environment. In typically legalistic fashion, the guidelines define "significant effect" as "a substantial adverse impact on the environment", and "environment" as "the physical conditions which exist in the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, objects of historical or aesthetic significance." (CEQA, Sec. 15382).

1. CAL. PUB. RES. CODE §§21000-21151.
2. Friends of Mammoth v. Board of Supervisors of Mono County, 8 Cal. 3d 1, 500 P.2d 1360, 104 Ca. Rptr. 16 (1972), modified, 8 Cal. 3d 247, 502 P.2d 1049, 104 Cal. Rptr. 761 (1972)

Secondly, the local governments must determine if the proposed activity is a "project" as defined by the state. The guidelines define "project" as: the whole of an action, resulting in physical impact on the environment, directly or ultimately, that is any of the following:

1. an activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption of local General Plans or elements thereof;
2. an activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance for one or more public agencies;
3. an activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies. (CEQA §15378)

The local governments must also determine if the proposed project calls for a discretionary decision or merely ministerial approval or non-approval. The guidelines define a discretionary project as one "which requires the exercise of judgment, deliberation, or decision on the part of the public agency or body in the process of approving or disapproving a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

Determining whether or not a proposed project is "categorically exempt" from CEQA is also a function of the local governments. The state has listed a number of project types to which CEQA does not apply. In general, these "categorically exempt" projects include: construction or replacement of single structures in environmentally non-crucial areas, minor alterations to the land, and governmental regulatory action intended to manage resources.

Determining whether or not a project will have a "significant effect" on the environment is an additional decision to be made by local government. This is the first important decision in that it involves the discretion of the agency. A positive finding commits the agency to request that the project description (i.e. plans/proposals) be substantially revised to avoid significant impact, or failing in that, to have prepared an EIR. If no possible significant effect is foreseen, a "negative declaration" is prepared and the proposed project is processed as it would have been prior to CEQA's enactment.

It is the responsibility of the local government to commission the drafting of an EIR. Most local agencies do not have the staff to prepare an EIR, consequently the task is normally contracted to a consulting firm.

Lastly, local government is charged with the duty of reviewing and finalizing the EIR. The state guidelines require that all interested agencies have the opportunity to review and comment on the adequacy of a draft EIR. Before the agency can make a decision regarding the project at hand, the draft EIR has to be finalized by including and responding to, if necessary, the comments made during review. Once the EIR is finalized, it is considered an official document containing data for the decision maker.

Several state and federal court decisions have defined the terms: substantial, potentially adverse, adverse, and significant. The following narrative is a brief sketch of conclusions related to only one of the court cases which have a substantial bearing upon the Guidelines and Thresholds used in this manual to determine levels of significant impact.

California Supreme Court Decision in the case of No Oil, Inc. v. City of Los Angeles, (12/10/74): "The important feature of this decision was that an EIR must be prepared whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact. Further, the interpretation of significant effect "which will afford the fullest possible protection to the environment within the reasonable scope of the statutory language is one which will impose a low threshold requirement for preparation of an EIR."

As a consequence, many California cities and counties use guidelines or thresholds of significance to determine whether or not a project proposal may have a significant effect on the environment.

In terms of addressing potentially significant adverse environmental impacts, the following thresholds are used as guidelines to determine the level of significance for any given impact. The discussions which follow are designed to provide an understanding of how thresholds of significance are applied to projects under review by the Planning and Development Department. Should projects exceed these thresholds, an Environmental Impact Report may be warranted.

These environmental thresholds and guidelines are intended to supplement provisions in the State Guidelines for determination of significant environmental effect including Sections 15064, 15065, 15382 and Appendix G.

2. RULES FOR USE AND CRITERIA FOR AMENDMENT

The following passages from Santa Barbara County's Guidelines for the Implementation of CEQA describe how thresholds are to be used and amended.

Rules for Use

P&D's determination on whether or not a project may have a significant effect on the environment shall be based in part on thresholds of significance. These thresholds are measures of environmental change which are either quantitative, or as specific as possible for topics which are resistant to quantification such as aesthetics, cultural resources, and biology. A project which has no effect above threshold values individually or cumulatively shall be determined not to have any significant effect, and a negative declaration shall be prepared as provided by Article IV. Projects which have a potential effect above a threshold of significance will require an EIR.

Thresholds of significance are intended to supplement provisions in the State Guidelines for determination of significant environmental effect including Sections 15064, 15065, 15382 and Appendix G incorporated herein. P&D shall maintain detailed descriptions of current thresholds; which shall be publicly available, and which shall be revised periodically as necessary to maintain a standard which will afford the fullest possible protection to the environment, within the reasonable scope of CEQA, by imposing a low threshold requirement for the preparation of an EIR. For issue areas for which there are no thresholds, the guidance provided in CEQA Sections 15064, 15065, 15382 and Appendix G shall provide the basis for determining significance.

Criteria for Amendment

A. General

Several threshold methodologies include a mechanism to enable them to respond automatically to environmental change. For example, changes in attainment status relative to air quality standards, changes in traffic levels on roads, and changes in the balance between water supplies and water use all affect how thresholds determine significance. However, other changes in environmental conditions or environmental information may require an alteration to the methodology used to evaluate significance.

B. Change of Scientific Basis and Criteria

The underlying basis of threshold criteria may change with the discovery of new data or theories about relationships between environmental change and environmental quality. When data from scientific publications, reports, or conference proceedings, etc. suggest the need for such a change, DER shall review these data and determine the justification for threshold revisions.

C. Change in Environmental Circumstances

Environmental characteristics such as groundwater levels, traffic counts and sensitive biological habitat acreage are subject to constant change due to development trends. In order to ensure reasonable significance determinations, thresholds will be changed to reflect changes in environmental carrying capacity, resource scarcity and resource use. Information on such changes may come from resource managers (e.g. water purveyors, Air Pollution Control District), applicants, or the public.

D. Workshops

P&D will hold public workshops on environmental thresholds at least once a year. The workshops have several purposes: to advise the public of the technical basis for thresholds and how they are used in the environmental review process; to propose revisions as necessary; to obtain public comment on each threshold and the need for revisions; and to gather relevant data from the public for inclusion in threshold data bases.

These workshops and threshold revisions will occur annually unless new information suggests that the purpose of a threshold can only be served by immediate revision. Any changes in thresholds made without opportunity for comment at a public workshop shall be posted in a public area of P&D for at least 30 days following adoption of the changes and shall be reviewed at the next workshop. A determination by DER to revise a threshold may not be appealed.

E. Application of Threshold Revisions to Projects in the Review Process

When thresholds are revised due to new information, updated cumulative impact assessment, an improved methodology, or any other reason that provides a more accurate response to or reflection of existing conditions, the revised threshold shall be applied to projects in process up until an environmental document is found to be adequate and complete by the environmental hearing officer. Alternatively, if a threshold revision is ~~simply~~ a matter of applying a different standard, such a revision shall only be applied to any projects which are found to be complete after the threshold is revised.

3. RELATIONSHIP BETWEEN THRESHOLDS AND POLICIES

Environmental thresholds are often but not always based on policies and standards from the Comprehensive Plan. The agricultural resources guidelines, biological resources guidelines, and noise thresholds are examples of thresholds that are partially derived from and consistent with Comprehensive Plan policies. Although consistency between thresholds and policies is a general goal, there are situations in which strict consistency is not desirable. For example, due to concerns about the existing severity of these problems, policies relating to water and traffic are in many cases more restrictive than the thresholds for these issues. Lowering the thresholds to make them consistent with restrictive policies would greatly increase the burden of complying with CEQA on both applicants and the County. Instead, the County's thresholds for water and traffic impacts are designed to indicate cutoff points at which a project's contribution to these cumulatively significant problems become substantial. Achieving planning goals through the use of strict policies is both justifiable and efficient and does not undermine the use of CEQA and environmental thresholds to move toward those same goals.

4. AGRICULTURAL RESOURCE GUIDELINES

A. Introduction

The State: California's 36,000,000 acres of agricultural land produce important economic and environmental benefits to the people of the state, nation, and world. Covering one-third of the state, agricultural land supports one of California's major industries and is responsible for the production of an important portion of the nation's food and fiber. The state is also a major exporter of produce to the rest of the world. A unique combination of geography, climate and soils enables California agriculture to produce many crops that are produced nowhere else in the United States.

The state's agricultural land also plays a critical environmental role. Farmland is an important filter for rain and snowfall runoff, allowing groundwater basins to recharge themselves. Farms and ranches are wildlife habitats for many common game and endangered species. Agricultural land provides valuable open space, giving visual relief for urban dwellers, and protecting the rural way of life important to farmers, ranchers, and small-town residents. Because of these great public benefits, the unnecessary and/or premature conversion of agricultural lands to urban uses should be discouraged.

Achieving the goal of agricultural land conservation requires wise and efficient land use, and a strong commitment to that goal by local officials. A California appeals court in Cleary vs. County of Stanislaus (1981) 118 Cal. App. 3d 348, has indicated that the conversion of agricultural land to nonagricultural uses may in itself be considered a significant environmental impact. To assure that the impacts of agricultural land conversion are considered in project decisions, environmental documents should contain information about the impacts of projects on agricultural land. Government officials can make better decisions affecting agricultural land when they have complete data about the land and its relationship to the agricultural economy.

The County: Agriculture continues to be Santa Barbara County's major producing industry with a gross production value for 1991 of more than \$500 million. This is an increase of nearly two hundred million dollars from the 1981 total. Santa Barbara County's agricultural industry includes vegetable, field, fruit and nut, and seed crops, nursery products, livestock, poultry, and aviary products. (Santa Barbara County 1991 Agricultural Report)

The diversity of our agriculture continues to provide a strong economic base through its multiplier effect on our local economy. With thirty-seven different commodities exceeding a million dollars in value, our local agricultural diversity provides stability against the cyclic nature of weather, pests, and especially market fluctuations which currently are plaguing agriculture in other parts of the nation. (Op cit)

Agricultural preservation in the County has been extremely successful to date in placing lands adjacent to urban areas, as well as more remote lands, under Williamson Act agreement which provides for taxation according to agricultural rather than market value of the land.

Qualifications for lands to be designated as agricultural preserves are found in "Criteria for Agricultural Preserves", adopted by the Santa Barbara County Board of Supervisors. The land must either be in a Class I or II Soil Capability classification, as prescribed by the U.S. Soil Conservation Service, or qualify for an 80 to 100 rating in the Storie Index System to be designated prime land, in which case the minimum size of a preserve is 40 acres. Land also can qualify as prime if it fulfills one of the following: it supports livestock at a density of one animal per acre; is in orchard use that can return at least \$200 per acre; or is devoted to other agricultural production that generally would return \$200 per acre. Farm land not meeting these qualifications is classified as non-prime, and the minimum size for an agricultural preserve is 100 acres. However, in certain instances, super prime land of at least 5 acres in a separate ownership may be combined with adjacent prime land to meet the 40-acre minimum requirements.

B. Determination of Significant Effect

CEQA Section 15064 states that:

- (b) The determination of whether a project may have a significant effect on the environment calls for careful judgement on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.
- (d) In evaluating the significance of the environmental effect of a project, the Lead Agency shall consider both primary or direct and secondary or indirect consequences.
 - (1) Primary consequences are immediately related to the project such as the dust, noise, and traffic of heavy equipment that would result from construction of a sewage treatment plant and possible odors from operation of the plant.
 - (2) Secondary consequences are related more to effects of the primary consequences than the project itself and may be several steps removed from the project in a chain of cause and effect. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution.

CEQA Appendix G states that a project will normally have a significant impact on the environment if it will:

- (a) Conflict with adopted environmental plans and goals of the community where it is located.
- (b) Convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land.

C. Comprehensive Plan Policies and Goals

The following agricultural goals and policies are taken from the County's Comprehensive Plan Land Use Element, the Environmental Resources Management Element (ERME), the Local Coastal Plan, the Agricultural Element, and adopted Community Plans.

Land Use Element

Agriculture: In the rural areas, cultivated agriculture shall be preserved and, where conditions allow, expansion and intensification should be supported. Lands with both prime and non-prime soil shall be reserved for agricultural uses.

Carpinteria-Summerland Area Goals

The agricultural economy and the semi-rural qualities of the area should be preserved. Every effort should be made to preserve fertile lands for agriculture.

Santa Ynez Valley Area Goals

Agriculture should be preserved and protected as one of the primary economic bases of the Valley.

Goleta Area Goals

Existing orchards and groves should be preserved, and expansion of agricultural land use, particularly orchards and grazing, should be encouraged.

Lompoc Area Goals

Prime agricultural lands should be preserved for agricultural use only. Preservation of lesser grades of presently producing or potential agricultural land should be actively encouraged.

Environmental Resource Management Element (ERME)

The Santa Barbara County Comprehensive Plan Environmental Resources Management Element (ERME) states that existing croplands on prime soils should be preserved. For agricultural lands on less than prime soil, is should be preserved insofar as possible.

Under Category A, Urbanization should be prohibited in:

- Existing croplands with a high agricultural suitability rating (within study areas) or a Class I or II soil capability classification. Modification to permit urban uses may be made, within Urban areas, on parcels of ten (10) acres or less.
- Agricultural preserves subject to Williamson Act agreements.

Under Category B, Urbanization should be prohibited except in a relatively few instances in:

- Existing croplands with a moderate or low agricultural suitability rating (in urban areas) or a Class III or IV soil capability classification.
- Lands highly suitable for expansion of cultivated agriculture.

It will be noted that agricultural preserves, although not subject to environmental constraints, are included in Category A. The reason is that in entering into Williamson Act agreements, the County has made a legal commitment that the land will remain in agricultural use for a minimum of ten years, subject to automatic annual renewal.

Agricultural Element

The Agricultural Element Goals and Policies can be found on pages 7-14 of this document. These goals and policies are briefly summarized below:

Goal I speaks to the preservation, encouragement, and enhancement of agriculture. This is accomplished through policies which discourage incompatible uses, promote an agriculturalist's freedom for determining methods of operation, encouraging land improvement programs, supporting the Williamson Act, recognizing certain nuisances are part of agricultural operations, protecting the availability of resources for agriculture, and encouraging sustainable agricultural practices on agricultural land.

Goal II calls for agricultural land to be protected from adverse urban influence. This is accomplished through policies which prevent flooding and silting from urbanization, protect agricultural property from being illegally violated, discourage expansion of urban spheres of influence, and discouraging conversion of highly productive agricultural lands.

Goal III calls for the preservation of remaining agricultural lands in cases where it is necessary to convert agricultural lands to other uses. This accomplished through policies which discourage expansion of urban development into active agricultural lands, and to promote and retain productive agricultural land within urban boundaries.

Goal IV recognizes that agriculture can enhance and protect natural resources, and therefore these operations should be encouraged to incorporate resource protection techniques. This is accomplished through policies which encourage range improvement and fire reduction programs, the use of agriculture on certain slopes to prevent erosion, and preventing grading and brush clearing on hillsides which would cause excessive erosion.

Goal V calls for the County to allow for areas and installations of uses supportive to agriculture. It accomplishes this through policies allowing the installation of commercial support uses on-farm, and allowing areas for supportive agriculture services within a reasonable distance to the farm user.

Goal VI calls for making provisions to allow for effective access to agricultural areas. This includes a policy which encourages the County to design roads in agricultural areas with agricultural vehicles in mind.

Local Coastal Plan

Agricultural policies in the Local Coastal Plan (LCP) are found on pages 106-113 of that document, and are listed as Policies 8-1 through 8-10. Briefly, these policies speak to the following issues:

- * Defining the criteria for assigning agricultural land use designations in rural areas.
- * Defining the criteria for allowing conversion of agriculturally designated land not contiguous with an urban/rural boundary.
- * Defining the criteria for allowing conversion of agriculturally designated land contiguous with an urban/rural boundary.
- * Defining the finding which must be made for approving a land division of any land designated as Agriculture I or II.
- * Setting the criteria and findings for environmental review of greenhouse projects of 20,000 or more square feet.
- * Setting setback and maximum lot coverage requirements for greenhouses, hothouses, and accessory structures.

- * Setting landscaping and screening requirements for greenhouses and/or accessory buildings.
- * Setting the criteria for the protection of large, non-prime agricultural operations of 10,000 acres or more in the Gaviota Coast or North Coast planning areas or large, non-prime operations in the Channel Islands planning area, including the findings and conditions which must be made/required in order to approve any development/land division on such property.
- * Setting the criteria for subdivision of legal parcels of non-prime agricultural land in excess of 2,000 acres which are designated as AG-II-320.

Goleta Community Plan

Policy LUA-GV-1: Land designated for agriculture within the urban boundary shall be preserved for agricultural use, unless the County makes findings that the land is no longer appropriate for agriculture or there is an overriding public need for conversion to other uses for which there is no other land available in the Goleta urban area.

Policy LUA-GV-2: New development adjacent to agriculturally zoned property shall include buffers to protect agricultural operations.

Policy LUS-GV-4: In consideration of conversion of any agricultural land within the urban boundary to urban uses, the County shall first consider smaller, more isolated parcels with greater urban/agricultural conflicts prior to larger blocks of agricultural land.

Summerland Community Plan

Policy LUA-S-1: Existing land designated for agriculture shall be preserved for agricultural use.

Policy LUA-S-2: New development adjacent to agricultural zoned property shall include buffers to protect the viability of agricultural operations adjacent to the community.

Montecito Community Plan

Policy LUG-M-2.1: Agricultural activities on residential parcel that are consistent with the provisions of the applicable residential zone district shall be supported and encouraged by the County.

D. Methodology in Determining Agricultural Suitability and Productivity

The County Initial Study form contains two questions pertaining to impacts on agricultural resources. The first is as follows:

- 10.d. Will the proposal result in the conversion of prime agricultural land to non-agricultural use, impairment of agricultural land productivity (whether prime or non-prime), or conflict with agricultural preserve programs?

The following weighting system is provided to perform a preliminary screening of a project's agricultural impacts during the initial study process. The initial study screening looks at the value of a site's agricultural suitability and productivity, to determine whether the project's impact on loss or impairment of agricultural resources would be a potentially significant impact. These are guidelines, to be used with flexibility in application to specific sites, taking into account specific circumstances and specific agricultural uses.

The weighted point system is utilized to assign relative values to particular characteristics of a site's agricultural productivity (e.g. soil type, water supply, etc.).

Where the points from the following formula total 60 or more, the following types of projects will be considered to have a potentially significant impact:

- A division of land (including Parcel and Tract Maps, etc.) which is currently considered viable but would result in parcels which would not be considered viable using the weighting system.
- A Development Plan, Conditional Use Permit, or other discretionary act which would result in the conversion from agricultural use of a parcel qualifying as viable using the weighting system.
- Discretionary projects which may result in substantial disruption of surrounding agricultural operations.

If a potentially significant impact is identified using these criteria, further more detailed, site-specific evaluation of agricultural impacts is completed in an EIR. This analysis should focus upon the factors and criteria, but not the points, in the weighting system of these guidelines, and any other relevant factors such as the history of agricultural use on the site, land use trends, etc. Final determination of the project's level of impact will be based on this analysis.

As a general guideline, an agricultural parcel of land should be considered to be viable if it is of sufficient size and capability to support an agricultural enterprise independent of any other parcel. To qualify as agriculturally viable, the area of land in question need only be of sufficient size and/or productive capability to be economically attractive to an agricultural lessee. This productivity standard should take into consideration the cultural practices and leasehold production units in the area, as well as soil type and water availability. For dry land farming and grazing operations the production or carrying capacity should be based upon normal rainfall years only, not periods of drought or heavy rainfall. It should be noted that the Santa Barbara County Cattlemen's Association has stated that an appropriate threshold for impacts to grazing land in the County is the displacement or division of land capable of sustaining between 25 to 30 animal units per year. This "threshold" utilizes a carrying capacity threshold similar to the weighting system below. Because of this, on grazing projects, detailed information of the number of animal units supportable on a particular parcel should also be considered in the project's environmental document.

The Agricultural Threshold is weighted toward physical environmental resources rather than economics. This emphasis is in keeping with CEQA's emphasis on physical environmental impacts and not social or economic impacts (State CEQA Guidelines Section 15131). Given high land values in the County and the subdivision and turnover of agricultural lands in some areas of the County, agricultural production on some lands may be economically marginal. Because of these factors, economics is considered primarily a planning issue and will not be addressed in environmental documents.

The following determination of agricultural land value is divided into nine components which are weighted according to their estimated resource value. These nine areas are:

- Parcel size
- Adjacent Land Uses
- Water Availability
- Comprehensive Plan Designation
- Agricultural Preserve Potential
- Existing Land Use
- Soil Classification
- Agricultural Suitability
- Combined Farming
- Operations

1. Parcel Size

Large parcel size is, in general, an important indicator of potential agricultural suitability and productivity. However, because of the wide variability in the value of various agricultural products, suitable and productive parcel sizes also vary. Smaller parcels may be viable for high value crops, while significant acreage is necessary for viable grazing operations.

<u>Project Parcel Size:</u>	<u>Points Assigned</u>
a. less than 5 acres	0- 3
b. 5 acres to less than 10 acres	4- 6
c. 10 acres to less than 40 acres	7- 8
d. 40 acres to less than 100 acres	9-10
e. 100 acres to less than 500 acres	11-12
f. 500 acres to less than 1000 acres	13-14
g. 1000 acres or greater	15

2. Soil Classification

Points in this category are based primarily upon soil capability classes from the US Soil Conservation Services Soil Surveys.

The Soil Conservation Service has defined eight soil capability classes. Classes I and II are considered to be prime agricultural soils because they impose few limitations on agricultural production, and almost all crops can be grown successfully on these soils. More limited agricultural soils are grouped into Classes III and IV either because fewer crops can be grown on these soils, special conservation and production measures are required, or both these conditions exist. Classes V, VI, and VII include soils that are suited primarily for rangeland. (Class V is not found in the County.) Finally, soils and landforms that are unsuited for agricultural use are placed in Class VIII.

Where a variety of soil types are present on a site, weight should depend upon extent of useable prime/non-prime acreage. As appropriate, points may be assigned according to approximate percentages of site area containing various soil classifications.

Application of points within the ranges should be based on area and site-specific considerations. For grazing land, the SCS survey should be checked for opinion on soil suitability, and site vegetation should be inspected for forage value. Sites with soils

which can support good forage should be assigned higher points within the range. Similarly, sites with soils classified as non-prime, but which can support specialized high cash crops (eg. strawberries, avocados and specialty crops) should be assigned higher points within the ranges.

In addition, initial studies should note whenever a site contains large, contiguous areas of prime soil, as this may constitute a separate significant impact.

	<u>Soil Classification</u>	<u>Points Assigned</u>
a.	Class I (prime)	14-15
b.	Class II (prime)	11-13
c.	Class III	8-10
d.	Class IV	6- 7
e.	Class V	1- 5
f.	Class VI	1--5
g.	Class VII	1- 5
h.	Class VIII	0

3. WATER AVAILABILITY

Availability of water of suitable quantity and quality is a critical component of agricultural suitability and productivity. Assignments of points within the ranges should take into account suitability of water resources for the type of agriculture practiced (i.e. crops or grazing).

	<u>Water Availability</u>	<u>Points Assigned</u>
a.	Land has an adequate Water Supply from on/offsite sources suitable for crops or grazing.	12-15
b.	Land has water, but may be marginal in quantity or quality suitable for crops or grazing.	8-11
c.	Land does not have developed water supply but an adequate supply is potentially available.	3-7
d.	Land does not have developed water and potential sources are of poor quality/quantity	0-2

4. Agricultural Suitability

Based upon the Conservation Element of the Comprehensive Plan (p. 195) County lands were assessed and mapped for agricultural suitability classifications based on a computer model which applied weighted factors, including soil classification, water availability, slope, and environmental constraints (flood hazard, local water resources, biological tolerance-intensity, and high groundwater).

Because the Conservation Element does not fully account for the effects of weather on crop suitability, the assessment of suitability should account for the approximate frequency and intensity of frosts and other climactic factors in applying points within the ranges. Parcels which are relatively frost free and may accommodate multiple croppings may be considered more suitable than those which can support only a single crop or limited crop types due to climactic factors.

<u>Agricultural Suitability</u>		<u>Points Assigned</u>
<u>Crops</u>		
a.	Highly suitable for irrigated grain, truck and field, orchard, or vineyard crops	8-10 6- 8
b.	Highly suitable for irrigated ornamentals, pasture, alfalfa, or dry farming.	
c.	Moderately suitable for irrigated crops, orchard, ornamentals or dry farming.	4- 5
d.	Low suitability for irrigated crops, orchard, ornamentals or dry farming.	1-3
e.	Unsuitable for crop production because of of soil capabilities, environmental constraints, etc.	0
<u>Grazing</u>		
f.	Highly suitable for pasture or range.	6-10
g.	Moderately suitable for pasture or range.	3- 5
h.	Low suitability for pasture or range.	1- 2
i.	Unsuitable for pasture or range.	0

5. Existing and Historic Land Use

Current or previous use of a property for agriculture can provide a practical measure of its suitability for agriculture, while urban development generally indicates a lack of suitability.

<u>Existing and Historic Land Use</u>		<u>Points Assigned</u>
a.	In active agricultural production	5
b.	In maintained range/pasture	5
c.	Unmaintained, but productive within last ten years	3-5
d.	Vacant land: fallow or never planted with range of suitabilities of agricultural potential	1-3
e.	Substantial urban or agricultural industrial development onsite.	0

6. Comprehensive Plan Designation

The County general plan land use maps designate property for long-range uses. Agricultural and open space designations generally provide an indicator of agricultural suitability. However, some older land use designations provide for smaller agricultural parcel sizes than are suitable or viable for sustaining agriculture today. Designations applied more recently by the County as part of community plan updates establish agricultural designations with more realistic parcel sizes. This should be taken into account in assessing suitability with this factor.

<u>Comprehensive Plan Designation</u>		<u>Points Assigned</u>
a.	A-II	5
b.	A-I	4
c.	MA	3-4
d.	Existing public/private open space or rec.	3-4
e.	Proposed public/private open space or rec.	3-4
f.	Open lands	3-4
g.	Rural residential 40-100 acres	3-4
h.	Residential Ranchette 5-20 acres	2
i.	Residential 5 acres or less	0
j.	Commercial, Industrial, Community Facility	0

7. Adjacent Land Uses (existing)

Adjacent land uses can play an important role in the continuing suitability and productivity of a property for agricultural uses. In general, being surrounded by agricultural or open space is conducive to continued agricultural use, while encroachment of urban uses may be problematic. However, applying points within the ranges should be based on specific circumstances and uses, recognizing that some urban uses are more compatible with agricultural, (e.g., industrial, public facilities), while others conflict (e.g., residential). In addition, the existence or ability to create buffers between incompatible uses should be considered in assessing agricultural suitability with this factor. The adequacy of agricultural support in the vicinity may be another factor affecting agricultural suitability.

Adjacent Land UsesPoints Applied

- | | | |
|----|---|------|
| a. | Surrounded by agricultural operations or open space in a region with adequate support uses. | 9-10 |
| b. | Surrounded by agricultural operations or open space in a region without adequate agricultural support uses | 7-8 |
| c. | Partially surrounded by agriculture/open space with some urban uses adjacent, in a region with adequate agricultural support uses ^{1,2} | 7-8 |
| d. | Partially surrounded by agriculture/open space with some urban uses adjacent, in a region without adequate agricultural support uses ^{1,2} | 3-6 |
| e. | Immediately surrounded by urban uses, no buffers | 0-2 |
8. Agricultural Preserve Potential
 Qualifying for agricultural preserve designation under State Williamson Act agreement for prime and non-prime preserves entails meeting criteria for soil type, parcel size [individually or jointly with adjacent parcel(s)], and/or productivity/value on return. Agricultural preserves have constituted one of the most successful means of sustaining and preserving land in agriculture in California.

Agricultural Preserve PotentialPoints Applied

- | | | |
|----|--|-----|
| a. | Can qualify for prime agricultural preserve by itself, or is in a preserve | 5-7 |
| b. | Can qualify for non-prime agricultural preserve by itself | 2-4 |
| c. | Can qualify for prime agricultural preserve with adjacent parcels | 3-4 |
| d. | Can qualify for non-prime agricultural preserve with adjacent parcels | 1-3 |
| e. | Cannot qualify | 0 |

¹ Various types of urban uses create more potential conflicts than others (e.g., residential could create more spraying problems than light industrial).

² If project is well buffered, it may be agriculturally viable even with adjacent urban uses (e.g., stream, roadway).

9. Combined Farming Operations³

This section is designed to award bonus points to parcels which provide a component of a combined farming operation. The reason these points are assigned as a bonus is to address cumulative impacts and to recognize the importance of combined farming operations in Santa Barbara County.

<u>Bonus Points for Combined Farming Operations</u>	<u>Points Applied</u>
a. Provides a significant component of a combined farming operation.	5
b. Provides an important component of a combined farming operation.	3
c. Provides a small component of a combined farming operation.	1
d. No combined operation	0

E. Use of State Important Farmlands Map

A second question on agricultural land resources is included in the Initial Study under Land Use-e: "Will the proposal result in any effect [potentially significant adverse effect] upon any unique or other farmland of State or Local Importance?" The State Important Farmlands Map is used in answering this question. The map is also considered in applying points under the "Agricultural Suitability" category.

The map identifies lands in the following categories:

Prime Farmland (Land with the best combination of physical and chemical features for the production of agricultural crops)

Farmland of Statewide Importance (Land with a good combination of physical and chemical features for the production of agricultural crops)

Unique Farmland (Land of lesser quality soils used for the production of the State's leading agricultural cash crops)

Farmland of Local Importance (All dry land farming area and permanent pasture)

³ Combined farming operation refers to more than one separate parcel managed as a single agricultural operation.

Grazing Land (Land on which the existing vegetation is suited to the grazing of livestock)

Urban and Built-up Land (Land occupied by structures or infrastructure to accommodate a building density of at least one unit to one and one-half acres, or approximately six structures to ten acres)

Other Land (Land which does not meet the criteria of any other category)

5. AIR QUALITY THRESHOLDS

A. Introduction

Air quality thresholds of significance are intended to help local agencies determine whether a discretionary project will individually or cumulatively have a significant effect on air quality. Santa Barbara County does not meet the state clean air standards for ozone and the state standard for fine particulate matter. Unmitigated air pollution emissions from the operation of some development projects could impair the region's progress in meeting the ozone and fine particulate matter standards.

These thresholds are designed to be used by environmental professionals preparing documents under the California Environmental Quality Act (CEQA) and the land use decision makers who rely on these documents. The goal is to identify projects which may have a significant affect on air quality in Santa Barbara County, so that measures to reduce the impact can be incorporated into the project.

A separate implementation document, Air Quality Analysis for EIRs, explaining how to apply the air quality thresholds of significance is available from the County Planning and Development Department.

1. Resource Setting

The federal government and the state of California have established ambient air quality standards to protect public health. California's standards are more protective of public health than the federal standards. State and federal standards have been established for the following pollutants, known as "criteria pollutants":

- ozone (O₃)
- carbon monoxide (CO)
- nitrogen dioxide (NO₂)
- sulfur dioxide (SO₂)
- suspended particulate matter 10 microns or less in diameter (PM₁₀)
- lead

In addition, California standards have been established for:

- sulfates (SO₄)
- hydrogen sulfide (H₂S)
- vinyl chloride
- visibility reducing particles.

Table 1 shows the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for ozone, CO, H₂S, NO₂, and PM₁₀. The table also shows whether the air in Santa Barbara County meets these standards (attainment) or violates them (nonattainment).

Sulfur dioxide, lead, sulfates, vinyl chloride, and visibility reducing particles are not generally a problem in this region and are not discussed further in this document. However, these and other pollutants are regulated by the APCD under their rules and regulations.

The entire County of Santa Barbara violates the federal and state standards for ozone and the state standard for PM₁₀ (particulate matter with an aerodynamic diameter of less than 10 microns). Ozone air pollution is formed when reactive organic compounds (ROC) and nitrogen oxides (NO_x) react in the presence of sunlight. Ozone is a regional pollutant; ozone concentrations throughout the county do not always correspond with the location of sources of the ozone precursors ROC and NO_x. The major sources of ozone precursor emissions in Santa Barbara County are motor vehicles, the petroleum industry and solvent usage (paints, consumer products and certain industrial processes). Sources of PM₁₀ include mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust. Additional information on ozone, PM₁₀, and other pollutants of concern is provided in the 1991 Air Quality Attainment Plan.

2. Air Pollution Control District Rules and Regulations

The Santa Barbara County Air Pollution Control District (APCD) is the agency responsible for regulating stationary sources (businesses and industry) of air pollution in Santa Barbara County. Examples of businesses that emit air pollution include gasoline stations, auto body shops, dry cleaners, oil and gas facilities, and water treatment plants. The APCD regulates these and other businesses by issuing permits and adopting rules, as required by state and federal air pollution control laws.

The air quality thresholds are intended to provide guidance in evaluating the significance of adverse long-term air quality impacts from all sources, including businesses not regulated by the APCD and motor vehicles. These thresholds of significance are unrelated to the permitting requirements of the APCD and cannot be used to determine whether a project will need an APCD permit. For information on whether a project will require an APCD permit, please contact the Permitting Section Supervisor of the APCD. For assistance in applying the thresholds in this manual please contact the Supervisor of the Interagency Review Section of the APCD. Both section supervisors may be reached at (805) 961-8800.

Table 1

**Federal and State Ambient Air Quality Standards
and Attainment Status of Selected Pollutants in Santa Barbara County**

Pollutant & Averaging Time	Standard		Attainment Status	
	Federal	State	Federal	State
Ozone 1 hour	0.12 ppm	0.09 ppm	Nonattainment ^a	Nonattainment ^a
NO ₂ Annual Average 1 hour	0.053 ppm -	- 0.25 ppm	Attainment	Attainment
CO 1 hour 8 hours	35 ppm 9 ppm	20 ppm 9 ppm	Attainment ^b Attainment	Attainment ^b Attainment
H ₂ S 1 hour	-	0.03 ppm	-	Attainment ^c
PM ₁₀ 24 hours AGM ^d AAM ^e	150 ug/m ³ - 50 ug/m ³	50 ug/m ³ 30 ug/m ³	Attainment - Attainment	Nonattainment Nonattainment

Notes

- a. Nonattainment for entire County. Based on monitoring data as of 1993, the County has achieved the Federal ozone standard and the APCD will be applying to the USEPA for redesignation to an "attainment area".
- b. "Hot spots" at congested intersections may violate standards during the peak hour.
- c. Recently designated as attainment.
- d. Annual Geometric Mean.
- e. Annual Arithmetic Mean.

3. The California Environmental Quality Act (CEQA)

The air quality impact analysis in an environmental document required under CEQA should include the elements described in the APCD's Scope and Content of Air Quality Sections in Environmental Documents. This document is available upon request from the Interagency Review section of the APCD. Briefly, the air quality impact analysis in an Environmental Impact Report (EIR) should include:

- existing environmental setting of the area affected by the project, in terms of climate and current air quality;
- a discussion of all direct and indirect, long term and short term, air quality impacts of the proposed project and the classification of the significance of long-term impacts using established criteria;
- significant cumulative air quality impacts of the project;
- consistency of the project with local and regional plans, including the Air Quality Attainment Plan;
- mitigation measures to reduce or avoid potentially significant air quality impacts, including effectiveness of mitigation measures and discussion of residual impacts;
- feasible alternatives to the project which would reduce air quality impacts, including the air quality impacts of the "No Project" alternative and the environmentally superior alternative;
- potential growth inducing effects of the project on air quality;
- required air quality mitigation measures in the Mitigation Monitoring and Reporting Plan (MMRP).
- appendices containing all calculations and assumptions used in assessing long-term air quality impacts.

The air quality sections of Negative Declarations (NDs) should include a brief description of the air quality setting as it relates to project impacts, mitigation measures and inclusion of all air quality mitigation measures in the MMRP.

B. Determining Significance of Air Quality Impacts

The two major criteria for determining if a project will have a potentially significant adverse air quality impact are listed below. These criteria are based on Appendix G of the State CEQA Guidelines. If the project meets either of the two listed criteria, the impacts must be discussed and analyzed in detail and appropriate mitigation measures must be identified. Section 3 provides the quantitative emission thresholds and screening tables to determine the significance of long-term (operational) impacts of the project. Sections 4 and 5 discuss cumulative impacts

and consistency with the AQAP. Section 6 provides guidance on how other air quality considerations should be described.

A significant adverse air quality impact may occur when a project, individually or cumulatively, triggers any one of the following:

- interferes with progress toward the attainment of the ozone standard by releasing emissions which equal or exceed the established long-term quantitative thresholds for NO_x and ROC;
- equals or exceeds the state or federal ambient air quality standards for any criteria pollutant (as determined by modeling);

Cumulative air quality impacts and consistency with the policies and measures in the Air Quality Supplement of the Comprehensive Plan, other general plans, and the Air Quality Attainment Plan (AQAP) should be determined for all projects (i.e., whether the project exceeds the AQAP emission projections or growth assumptions).

The following issues should be discussed only if they are applicable to the project.

- Emissions which may affect sensitive receptors (e.g. children, elderly or acutely ill);
- Toxic or hazardous air pollutants in amounts which may increase cancer risk for the affected population; or
- Odor or another air quality nuisance problem impacting a considerable number of people.

C. Quantitative Emission Thresholds

CEQA requires that the significance of a project's direct and indirect emissions be determined for both short-term (construction) and long-term (operational) impacts. If a project's air quality impacts are found to be significant, then mitigation measures will be required. Numeric emission thresholds of significance have been established for the ozone precursors NO_x and ROC. Criteria for triggering modeling have been established for carbon monoxide (CO). In order to determine if a project exceeds these quantitative thresholds, the expected emissions of these pollutants from the project must be calculated. Because calculations can be time consuming, the APCD has developed screening tools to identify projects not likely to exceed the thresholds. These sizes of projects are based on simple calculations that show the relationship between the size of a project and potential emissions.

If a project is smaller in size than the project sizes listed, project-specific emission calculations are generally not required. **If the project is equal to or larger than any size listed, is not similar to any of the categories listed, or is subject to an APCD permit, then emission calculations may be required.** Emission calculations in the environmental document must provide the methodology used to estimate the emissions, including input data, assumptions, and all calculations. Emission calculation methods or modeling inputs using URBEMIS, EMFAC, CALINE or other air quality analysis tools must be fully documented so that the calculations or modeling can be duplicated and confirmed by the APCD. In order to be given emission

reduction credits for mitigation measures which can be quantified, emission calculations must be approved by the APCD.

1. Short-term/Construction Emissions

Short-term air quality impacts generally occur during project construction. CEQA requires a discussion of short-term impacts of a project in the environmental document. The reasoning for considering short-term impacts insignificant is provided below.

No quantitative threshold has been established for short-term, construction related PM_{10} (which is 50% of total dust). However, this impact should be discussed in all environmental documents for projects involving ground disturbance. Dust control measures are required under the County of Santa Barbara's Grading Ordinance for most projects. Some projects have the potential for construction-related dust to cause a nuisance. Also, Santa Barbara County violates the state standard for PM_{10} . Therefore, dust mitigation measures are required for all discretionary construction activities. The standard dust mitigation measures are based on policies in the 1979 AQAP and are listed in a separate implementation document, Air Quality Analysis for EIRs, available from Planning and Development.

The short-term thresholds for NO_x and ROG emissions from construction equipment were not established. Emissions of NO_x from construction equipment in the County are estimated at 1000 tons per year of NO_x . When compared to the total NO_x emission inventory for the County of approximately 17,000 tons per year, construction emissions comprise approximately six percent of the 1990 county-wide emission inventory for NO_x (Santa Barbara County 1993 Rate-of-Progress Plan). In general, this amount is considered insignificant.

2. Long-term/Operational Emission Thresholds

Long-term air quality impacts occur during project operation and include emissions from any equipment or process used in the project (e.g., residential water heaters, engines, boilers, operations using paints or solvents) and motor vehicle emissions associated with the project. These emissions must be summed in order to determine the significance of the project's long-term impact on air quality.

a. Ozone Precursors (NO_x and ROC)

The long-term air quality threshold of significance is **25 pounds per day** of either nitrogen oxides (NO_x) or reactive organic compounds (ROC). Long-term project emissions primarily stem from motor vehicles associated with the land use project and stationary sources which may require permits from the APCD. Examples of stationary emission sources include: gas stations, auto body shops, dry cleaners, oil and gas production and processing facilities, and water treatment facilities. Some stationary sources such as residential heating and cooling equipment, wood burning stoves and fireplaces, or other individual appliances do not require permits from the APCD. Emissions from wood burning stoves may be significant for housing developments of 250 homes or more. Emissions from appliances may be significant for developments of about 1000 homes or for commercial projects. These emissions should be included in the operational phase emission evaluation. The APCD should be contacted for assistance with estimating direct emissions from stationary sources. Stationary source emissions must be added to

transportation source emissions prior to applying the project-specific threshold of significance.

Project screening for long-term impacts: Table 2 is a screening table showing size estimates of the types of land use projects that may exceed 25 lbs per day of NO_x and ROC. The screening table, Table 2, is based on trip generation rates from the Institute of Traffic Engineers (ITE). If the levels in the screening table are exceeded, then specific details about the project location, surrounding uses, linked and pass-by trips, etc., will need to be evaluated. Currently, there is no universally accepted model or procedure to account for diverted trips. Until such time as new methodologies have been developed, staff recommends that diverted trip assignments be made on a case-by-case basis using site specific data. A general methodology for calculating emissions from vehicles and a description of several sources of information for emission factors are discussed in the Air Quality Analysis for EIRs document available from Planning and Development. The air quality analysis tools are revised periodically so Table 2 is subject to change when the URBEMIS 3 model is updated.

Table 2
Screening Table to Determine Potentially
Significant Long-Term Air Quality Impacts

*Approximate Project Sizes with a Potential to Exceed 25 Pounds/Day ROC or NO_x Emissions
(based on URBEMIS 3 modeling; subject to change when model is updated)*

PRIMARY LAND USE	DAILY TRIP RATES	PROJECT SIZE
<u>RESIDENTIAL</u>		
Single Family Housing	10.0/unit	125 units
Apartment <10 units/acre	6.1/unit	230 units
10-20 units/acre	5.4/unit	260 units
>20 units/acre	3.7/unit	350 units
Condominium (Family)	8.9/unit	150 units
(Adult)	6.4/unit	200 units
Mobile Home	5.4/unit	240 units
Retirement Community	3.3/unit	250 units
<u>COMMERCIAL & INDUSTRIAL</u>		
Discount Store	64.6/1000 sq. ft.	25,000 sq. ft.
Shopping Center - Regional	296.0/1000 sq. ft.	7,500 sq. ft.
-	71.0/1000 sq. ft.	30,000 sq. ft.
Community	117.0/1000 sq. ft.	18,000 sq. ft.
-	553.0/1000 sq. ft.	4,000 sq. ft.
Neighborhood	21.3/1000 sq. ft.	95,000 sq. ft.
Convenience Market (24-Hour)	22.7/1000 sq. ft.	75,000 sq. ft.
Commercial Strip Business	20.7/1000 sq. ft.	76,000 sq. ft.
Commercial Office	90.5/1000 sq. ft.	24,000 sq. ft.
Office Park	7.3/1000 sq. ft.	220,000 sq. ft.
Medical Office Building	4.0/1000 sq. ft.	330,000 sq. ft.
Industrial Park		
Manufacturing		
Restaurant		
- Quality	56.3/1000 sq. ft.	36,000 sq. ft.
- High Turnover	200.9/1000 sq. ft. ^(b)	10,500 sq. ft.
- Fast Food	652.0/1000 sq. ft.	3,500 sq. ft.
- Fast Food w/ Drive Thru	632.1/1000 sq. ft. ^(b)	3,500 sq. ft.
Bank - Walk In	169.0/1000 sq. ft.	1,200 sq. ft.
- Drive In	192.0/1000 sq. ft.	1,100 sq. ft.
Hospital	14.4/bed	125 beds
<u>ASSUMPTIONS USED IN THE URBEMIS PROGRAM:</u>		
Air Basin: South Coast Central		
Year: 1995		
Temperature: 50 degrees Fahrenheit		

- (a) Trip rates are from the URBEMIS 3 program unless otherwise noted. ARB documentation indicates that URBEMIS trip rates are from ITE's Trip Reduction manual (Institute for Transportation Engineers, 1987).
- (b) Trip rate from the ITE Trip Generation manual (5th ed.).

b. Carbon Monoxide (CO)

A project will have a significant air quality impact if it causes, by adding to the existing background CO levels, a carbon monoxide "hot spot" where the California one-hour standard of 20 parts per million carbon monoxide is exceeded. This typically occurs at severely congested intersections.

Project Screening for CO Impacts:

- 1) If a project contributes less than 800 peak hour trips, then CO modeling is not required.
- 2) Projects contributing more than 800 peak hour trips to an existing congested intersection at level of service (LOS) D or below, or will cause an intersection to reach LOS D or below, may be required to model for CO impacts. However, projects that will incorporate intersection modifications to ease traffic congestion, are not required to perform modeling to determine potential CO impacts.

CO concentrations at congested intersections can be estimated using air quality impact modeling such as CALINE4 or similar models. The CALINE4 model requires intersection-specific, operational data on vehicles per hour and hourly departure volumes obtained from a project-specific traffic study. The methodology is described in the Air Quality Analysis for EIRs, available from Planning and Development.

D. Cumulative Impacts

Cumulative air quality impacts are the effect of long-term emissions of the proposed project on the projected regional air quality or localized air pollution problems in the County. As discussed in the County's 1993 CEQA Guidelines (Guidelines for the Implementation of the California Environmental Quality Act of 1970, as amended (revised 12/21/93)), the cumulative contribution of project emissions to regional levels should be compared with existing programs and plans, including the AQAP. To evaluate the cumulative impacts of localized pollutants, the contribution of the project's emissions to background levels should be considered. Due to the county's nonattainment status for ozone and the regional nature of the pollutant, if a project's total emissions of the ozone precursors, NO_x or ROC, exceed the long-term threshold of 25 lbs/day, then the project's cumulative impacts will be considered significant. For projects that do not have significant ozone precursor emissions or localized pollutant impacts, emissions have been taken into account in the AQAP growth projections and therefore, cumulative impacts may be considered to be insignificant.

E. Consistency With The APAQ and Other Planning Documents

Consistency with local and regional plans, such as the Air Quality Attainment Plan (AQAP), the Congestion Management Plan (CMP) and the Regional Transportation Plan (RTP) is required under CEQA. Under the Federal Clean Air Act, projects which receive federal funding or are subject to federal approval must show conformity with the State Implementation Plan, of which the AQAP is a part. Proposed projects subject to AQAP consistency determinations include a wide range of activities such as commercial, industrial, residential, and transportation projects. By definition, consistency with the AQAP, for the projects subject to these guidelines, means

that stationary and vehicle emissions associated with the project are accounted for in the AQAP's emissions growth assumptions. The AQAP generally relies on the land use and population projections provided in the Santa Barbara County Association of Governments' Regional Growth Forecast. The current criteria for determining consistency of these projects are explained in the implementation document, Air Quality Analysis for EIRs.

Consistency with the Air Quality Supplement of the County's Land Use Element must also be analyzed. The air quality policies in the Comprehensive Plan encourage mixed use development and alternative transportation modes. Specifically, project alternatives for proposed housing projects should consider land development design policies aimed at reducing air pollutant emissions, such as pedestrian-oriented and transit-oriented development (TOD). The TOD concept involves a mixed-use community within a typical 2,000-foot walking distance of a transit stop and core commercial area. The design, configuration and mix of uses emphasize a pedestrian-oriented environment and reinforce the use of alternative modes of transportation. TOD designs can help to reduce the number of auto trips and vehicle miles traveled by creating opportunities to walk and bike, while enhancing the area's quality of life and protecting affordable housing goals. The APCD may be contacted for reference material on these concepts. The APCD also encourages early consultation prior to the CEQA determination by the lead agency.

F. Other Air Quality Issues Which May Be Applicable

The following issues should be discussed if they are applicable to the project.

1. Siting Criteria for Schools

CEQA Section 21151.8 requires school districts to consider the impacts of siting a new school within one-quarter mile of existing facilities that emit toxic or hazardous air pollutants. The Interagency Review Section of the APCD should be contacted in writing for assistance in identifying the locations of such facilities within the proximity of proposed school sites. The APCD should also be contacted for assistance with health risk assessment methodology, if necessary.

2. Toxic or Hazardous Air Pollutants

Some classifications of projects are more likely than others to emit toxic pollutants. Table 5 lists examples of commercial or industrial activities that may be associated with toxic air pollutants. This list is not all inclusive.

TABLE 3

Examples of Projects Which May Emit Toxic Air Pollutants

ACTIVITY	CHEMICAL
Gas Stations	Benzene
Dry Cleaning	Tetrachloroethylene (Perchloroethylene) Carbon Tetrachloride
Medical Sterilization	Ethylene Oxide
Rubber/ Plastic Fabrication	Xylene
Electronic and Parts Manufacturing	1,1,1 Trichloroethylene and other chlorinated hydrocarbon solvents
Landfills	Vinyl chloride, Benzene, etc.

If any of these or other projects which emit toxic air pollutants, such as auto body shops, funeral homes etc., are involved, the APCD should be contacted for information. For most of these projects an APCD permit will be required. Health risk management decisions regarding the project will be addressed during the APCD-permitting process to ensure that toxic emissions from the project are reduced to the maximum extent feasible.

3. Nuisance

Construction projects have a high probability of creating objectionable dust impacts. Also fugitive dust from construction is roughly 50 percent particulate matter that is 10 microns (or less) in diameter (PM_{10}). PM_{10} is a criteria pollutant with adverse health impacts. Sensitive receptors may be affected because of their location downwind. Dust mitigation measures are required under the County's Grading Ordinance for all projects involving earth moving activities over 50 cubic yards regardless of location.

If a project has the potential to cause an odor or other long-term air quality nuisance problem impacting a considerable number of people, the environmental document (Initial Study, ND or EIR) should describe the history of complaints from pre-existing conditions, the number of people affected and other relevant information so that the impacts can be mitigated where feasible. This information may be available in APCD files for certain areas. New projects that have a high probability of emitting objectionable odors or new developments that may be affected because of their location downwind should be identified early in the Initial Study. This may prevent nuisance problems after the project is built. Odor issues can sometimes be resolved by changing the location of the equipment or the process. **Nuisance impacts need not be quantified at the initial study stage and may be analyzed qualitatively on a case by case basis.**

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6. BIOLOGICAL RESOURCES

A. INTRODUCTION

Federal and State laws and adopted County policies require the protection of natural habitats and associated wildlife and vegetation in recognition of their many values, including maintaining a healthy balance between urban built areas and supportive natural environment, nutrient recycling, providing for watershed protection, protection against erosion, cleansing of air and water, food chain support, scientific and medical research, education, recreation, aesthetics, and for the intrinsic value of wildlife and vegetation and their natural ecosystems.

Santa Barbara County has a wide diversity of habitat types, including chaparrals, oak woodlands, wetlands and beach dunes. Preservation of large contiguous habitat areas is the key to preserving biodiversity and avoiding additional species becoming rare, endangered or extinct.

Due to the complexities of ecosystems and the many factors involved in assessing the value of biological resources and project impacts, general qualitative guidelines rather than numerical thresholds are provided.

B. LEGAL AUTHORITY

1. CEQA Guidance for Biological Impact Assessment

The following sections of the State CEQA Guidelines provide general direction for the evaluation of biological resource impacts as a part of the environmental review of proposed projects.

California Environmental Quality Act (CEQA) §15065 states that a Lead Agency shall find that a project may have a significant effect on the environment and thereby require an Environmental Impact Report (EIR) to be prepared for the project where the project has the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

CEQA Appendix G states that a project will normally have a significant effect on the environment if it will:

- (a) Conflict with adopted environmental plans and goals of the community where it is located;

- (c) Substantially affect a rare or endangered species of animal, plant or the habitat of the species;
- (d) Interfere substantially with the movement of any resident or migratory fish or wildlife species; and
- (e) Substantially diminish habitat for fish, wildlife or plants.

2. Federal and State Requirements for Protection of Biological Resources

Environmental impact analysis and mitigation needs to take into account Federal and State biological resource regulations. The Federal Endangered Species Act and California Endangered Species Act formally list plant and animal species determined to be rare, threatened or endangered, or candidate species, and establish regulations for protecting these species and their habitats. Additional information regarding these statutes is provided in a separate technical document (RMD Biological Resources Technical References, 1994).

Other federal statutes include the National Environmental Policy Act (NEPA), the Clean Water Act Section 404 (for protection of wetlands), Bald Eagle Protection Act, Migratory Bird Treaty Act, Executive Order 11990 (wetlands protection), Rivers and Harbors Act Section 10, Marine Protection, Sanctuary and Research Act, Marine Mammal Protection Act, and Section 1601 and 1603 Stream Alteration Agreements.

3. County Biological Resources Policies

Requirements for the protection of biological resources in the unincorporated area of Santa Barbara County are provided by the Comprehensive Plan Conservation Element, Environmental Resource Management Element (ERME), Land Use Element, Community Plans, and the Local Coastal Plan. These documents identify sensitive habitats and species, and provide measures to direct project design and policies to protect biological resources.

C. GUIDELINES FOR ASSESSMENT OF BIOLOGICAL RESOURCES IMPACTS

1. Initial Study Review Process

The term "biological resources" refers to plant and animal species and habitats that support plant and animal species.

The value of a habitat and the resources present on the project site and potential project impacts are assessed preliminarily during the initial study review process. The first task in the assessment of biological impacts is an evaluation of the plant and animal resources on the project site and the second focuses on the project impact itself, using a series of assessment factors. The initial study evaluation determines whether an EIR or Mitigated Negative Declaration should be prepared based upon substantial evidence (not public controversy) that there is the potential for significant adverse biological impacts to occur as a result of a proposed project.

Based on a preliminary site assessment and review of existing historical resource information (designated environmentally sensitive habitat (ESH) areas, biological resource maps, reports, surveys, and Natural Diversity Data Base maps, available in RMD), staff utilizes the methodologies described below to determine whether resources on a site are biologically valuable, and whether a project may result in a significant impact to biological resources. In some instances a biological consultant survey of the site is required to determine the presence or absence of sensitive species and the value of habitat on and surrounding the project site, and to identify potential project impacts and feasible measures which could be incorporated into the project design to avoid or minimize the potentially significant impacts. Guidelines for performance of biological studies and sensitive resource definitions are provided in a separate technical document.

The determination of impact is done on a case-by-case basis. Because of the complexity of biological resource issues, substantial variation can occur between cases. The following sections identify questions and factors used in assessing the value of biological resources, and the significance of project impacts.

2. Evaluation of Resources on the Project Site

(1) Resources Inventory

- a. What biological communities are on the site? What size area?
- b. Is the habitat type relatively common? Is it rare and occurring in only a few places in the region, or significantly declining in extent and/or quality? Is the habitat designated as an ESH area on County planning documents, or designated as "critical habitat" for listed species by Federal or State agencies?
- c. Is the site in an urban, rural or outlying area? What are the uses surrounding the site? Is the habitat isolated or is it contiguous with adjacent habitat or close enough to provide a link between habitats?
- d. Does the habitat support resident species or migratory species? Are there protected species (eg., endangered or threatened), or species of candidate, special, or local concern or healthy rare species?

(2) Condition and Quality

- a. Is the habitat pristine or disturbed? How much or to what degree?
- b. How biologically productive is it? Does it support an especially rich and diverse plant and/or wildlife population?
- c. Is the habitat resource (including the surrounding area if it is related) large enough to be viable?

3. Evaluation of Project Impacts

Assessment of impacts must account for both short-term and long-term impacts. Thus the assessment must account for items such as immediate tree removal and longer-term, more subtle impacts such as interruption of the natural fire regime or interference with plant or animal propagation.

(1) Types of Impacts to Biological Resources

Disturbance to habitats or species may be significant, based on substantial evidence in the record (not public controversy or speculation), if they substantially impact significant resources in the following ways:

- a. Substantially reduce or eliminate species diversity or abundance
- b. Substantially reduce or eliminate quantity or quality of nesting areas
- c. Substantially limit reproductive capacity through losses of individuals or habitat
- d. Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources
- e. Substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes)
- f. Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

(2) Less Than Significant Impacts

There are many areas in the County where there is little or no importance to a given habitat and it is presumed that disruption would not create a significant impact. Examples of areas where impacts to habitat are presumed to be insignificant include ¹

- a. Small acreages of non-native grassland if wildlife values are low.
- b. Individuals or stands of non-native trees if not used by important animal species such as raptors or monarch butterflies.
- c. Areas of historical disturbance such as intensive agriculture.
- d. Small pockets of habitats already significantly fragmented or isolated, and degraded or disturbed.
- e. Areas of primarily ruderal species resulting from pre-existing man-made disturbance.

¹ Pursuant to CEQA, a presumption based upon County thresholds that a project's impact is insignificant is rebutted if there is substantial evidence in light of the whole record before the lead agency that the project may have a significant impact on the environment (Pub. Res. Code §21082.2).

(3) Impact Assessment Factors

In addition to the criteria listed in (1) "Types of Impacts to Biological Resources" above, the following questions and factors are used in assessing the significance of project impacts on biological resources.

(a) Size

How much of the resource in question both on and off the project site would be impacted? (percentage of the whole area and square footage and/or acreage are both useful to know)

How does the area or species that would be impacted relate to the remaining populations off the project site? (% of total area or species population, either quantitatively or qualitatively.)

(b) Type of Impact

Would it adversely indirectly affect wildlife (light, noise, barriers to movement, etc.)?

Would it remove the resource or cause an animal to abandon the area or a critical activity (e.g., nesting) in that area?

Would it fragment the area's resource?

(c) Timing

Would the impact occur at a critical time in the life cycle of an important plant or animal (e.g., breeding, nesting, or flowering periods)?

Is the impact temporary or permanent? If it is temporary, how long would the resource take to recover?

Would the impact be periodic, of short duration, but recur again and again?

D. HABITAT-SPECIFIC IMPACT ASSESSMENT GUIDELINES

The following section provides additional impact assessment guidelines specific to several biological communities. These guidelines are to be used in conjunction with the general impact assessment guidelines described in Section III. (Note: Not all habitat types found in Santa Barbara County are addressed by these habitat-specific guidelines. Habitat types not addressed here are assessed with the general impact assessment guidelines in Section III.)

1. Wetlands

(1) **Description:** Wetlands are among the most biologically productive of habitats, and the County's wetlands have been diminished both in areal extent and quality from the historic condition. As a result, naturally-occurring wetlands are an important resource, and projects with potential impacts to wetlands must be carefully evaluated. Examples of wetlands include coastal salt and brackish marshes, fresh water marshes, and vernal pools. Special cases include seasonal wetlands, vegetated flats, interdunal swale wetlands, and vegetated river bars and flats (riparian areas).

(2) **Definition:** For the purposes of determining potentially significant effect, Santa Barbara County uses the following wetland definition that has been adopted by most resource protection agencies (U.S. Fish and Wildlife Service, the California Coastal Commission, the California Fish and Game Commission and the California Department of Fish and Game) ² This definition reads:

"For purposes of this classification wetlands must have one or more of the following three attributes:

- a) *at least periodically, the land supports predominantly hydrophytes, that is plants adapted to moist areas.*
- b) *the substrate is predominantly undrained hydric soil, and*
- c) *the substrate is non soil and is saturated with water or covered by shallow water at some time during the growing season of each year. (Cowardin 1979)"*

In order to ensure that wetland protection standards are applied equitably to affected property owners, wetlands which have only one of the defining three characteristics, especially those defined only by seasonal ponding, require careful review to ensure that highly disturbed areas with artificially compacted soils which do not have true wetland characteristics are not mistakenly identified as wetlands.

(3) **Wetland/Upland Boundary Definition:** The same category used to delineate wetland is used to delineate the boundary between wetland and upland.³ The upland limit of wetland is designated as 1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic (semi-dry) or xerophytic (dry) cover; or 2) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or 3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not.

² It is the goal of Santa Barbara County to maintain a definition of wetlands consistent with Federal and State resources agencies listed above.

³ Methodologies used in delineating wetlands are consistent with those utilized by Federal and State resources agencies referenced above.

- (4) **Wetland Impact Assessment Guidelines:** The following types of project-created impacts may be considered significant:
- a. Projects which result in a net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, or would threaten the continuity of wetland-dependant animal or plant species are considered to have a potentially significant effect on the environment (California Environmental Quality Act: Guidelines, Appendix G; items c, d, and t).
 - b. Wildlife access, use, and dispersal in wetland habitats are key components of their ecosystem value. For example, many upland species of wildlife could not persist without access to water. Movement between contiguous habitats through riparian areas (e.g.: from mountainous chaparral to valley grassland or coastal mesa) allows for many species to continue to persist and prevents genetic isolation. Projects which substantially interrupt wildlife access, use and dispersal in wetland areas would typically be considered to have potentially significant impacts.
 - c. The hydrology of wetlands systems must be maintained if their function and values are to be preserved. Therefore, maintenance of hydrological conditions, such as the quantity and quality of run-off, etc., must be assessed in project review.
- (5) **Coastal Salt Marsh Impact Assessment Guidelines:** Project-created impacts may be considered significant due to the potential to change species composition and habitat value as outlined below.
- a. Substantial alteration of tidal circulation or decrease of tidal prism.
 - b. Adverse hydrologic changes (eg: altered freshwater input), substantial increase of sedimentation, introduction of toxic elements or alteration of ambient water temperature.
 - c. Construction activity which creates indirect impacts such as noise and turbidity on sensitive animal species, especially during critical periods such as breeding and nesting.
 - d. Disruption of wildlife dispersal corridors.
 - e. Disturbance or removal of substantial amounts of marsh habitats. Because of the high value and extremely limited extent of salt marsh habitat in the County, small areas of such habitat may be considered significant.
- (6) **Vernal Pools Impact Assessment Guidelines:** The following types of project-related impacts may be considered significant:
- a. Direct removal of vernal pool or vernal pools complex.

- b. Direct or indirect adverse hydrologic changes such as altered freshwater input, changes in the watershed area or run-off quantity and/ or quality, substantial increase in sedimentation, introduction of toxic elements or alteration of ambient water temperature.
- c. Disruption of larger plant community (eg: grassland) within which vernal pool occurs, isolation or interruption of contiguous habitat which would disrupt animal movement patterns, seed dispersal routes or increase vulnerability of species to weed invasion or local extirpation. For example, fragmentation of habitat may interrupt interaction between the habitat and the organisms within the pools (pollination, seed, invertebrate and vertebrate dispersal, provision of drinking and bathing water, etc.). These types of direct and indirect impacts are potentially significant.

2. Riparian Habitats

- (1) **Description:** Riparian habitat is the terrestrial or upland area adjacent to freshwater bodies, such as the banks of creeks and streams, the shores of lakes and ponds, and aquifers which emerge at the surface such as springs and seeps (Bowland and Ferren 1992). A rich assemblage of wildlife series, including birds, mammals and amphibians are found in riparian habitats. In Santa Barbara County, riparian habitat occurs in and along the County's four major rivers (Santa Ynez, Santa Maria, Cuyama and Sisquoc) and in and along the County's many creeks and streams. This habitat can also occur along arroyos and barrancas, and other types of drainages throughout the County.
- (2) **Riparian Impact Assessment Guidelines:** The following types of project-related impacts may be considered significant:
 - a. Direct removal of riparian vegetation.
 - b. Disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation.
 - c. Intrusion within the upland edge of the riparian canopy (generally within 50 feet in urban areas, within 100 feet in rural areas, and within 200 feet of major rivers listed in the previous section), leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion.
 - d. Disruption of a substantial amount of adjacent upland vegetation where such vegetation plays a critical role in supporting riparian-dependent wildlife species (eg: amphibians), or where such vegetation aids in stabilizing steep slopes adjacent to the riparian corridor, which reduces erosion and sedimentation potential.

- e. Construction activity which disrupts critical time periods (nesting, breeding) for fish and other wildlife species.

3. Native Grasslands

- (1) **Description:** Native Grassland in California once occurred over 8 million acres in the Central Valley and in scattered patches along the Coast Ranges (Heady, 1977). Few stands of native grasslands remain in the state and the habitat is considered rare both in the state and within the county.
- (2) **Native Grassland Habitat Impact Assessment Guidelines:**
 - a. For purposes of resource evaluation in Santa Barbara County, a native grassland is defined as an area where native grassland species comprise 10 percent or more of the total relative cover.^{4,5}
 - b. Removal or severe disturbance to a patch or patches of native grasses less than one-quarter (1/4) acre, which is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant.

4. Oak Woodlands and Forests

- (1) **Description:** There are three primary types of oak woodlands in Santa Barbara County: Valley Oak, Coast Live Oak, and Blue Oak woodlands. The number, type, and density of oak trees, and the relationship between trees and understory are principal characteristics which define the various types of woodlands. Oak habitats support a diverse wildlife population, and offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites.
- (2) **Impact Assessment Guidelines for Woodlands and Forest Habitat Areas:** Project-created impacts may be considered significant due to changes in habitat value and species composition such as the following:
 - a. Habitat fragmentation
 - b. Removal of understory
 - c. Alteration to drainage patterns

⁴ The California Department of Fish and Game, Natural Heritage Division uses the 10% relative cover figure in determining acreages of remaining native grasslands (Keeler-Wolf, Natural Diversity Data Base, personal communication May 1992). (Relative cover is the cover of a particular species as a percentage of total plant cover of a given area. [Barbour, Burk & Pitts 1980].)

⁵ Native grasslands which are dominated by perennial bunch grasses such as purple needlegrass (*Stipa pulchra*) tend to be patchy (the individual plants and groups of plants tend to be distributed in patches). Therefore, for example, where a high density of small patches occur in an area of one acre, the whole acre should be delineated if native grassland species comprise 10 percent or more of the total relative cover, rather than merely delineating the patches that would sum to less than one acre.

- d. Disruption of the canopy
- e. Removal of a significant number of trees that would cause a break in the canopy or disruption in animal movement in and through the woodland

5. Impact Assessment for Individual Native Trees

- (1) **Description:** Native specimen trees, regardless of size, are potentially significant, and rare native trees, which are very low in number or isolated in distribution (such as Island Oak) may be particularly significant. This significance evaluation is done on a case-by-case basis and considers tree size, numbers, location, relationship to habitat, etc.
- (2) **Definition:** Specimen trees are defined, for biological assessment purposes, as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species.
- (3) **Native Tree Impact Assessment:** In general, the loss of 10% or more of the trees of biological value on a project site is considered potentially significant.⁶

E. GENERAL MITIGATION GUIDELINES FOR BIOLOGICAL IMPACTS

1. Mitigation Hierarchy

The following general approaches to reducing biological impacts are presented in the order of their effectiveness.

a. Avoidance

Avoid direct or indirect impacts to significant biological resources through project design.

Focus on maintaining large, contiguous habitat areas and animal movement corridors. A project design which clusters development on a relatively limited portion of the project site may reduce the habitat area disturbed by the project.

b. Onsite Mitigation

Minimize or reduce impacts through on-site design and resource protection measures.

⁶ The number of trees present onsite from which the 10% is measured may be calculated either by counting individual trees or by measuring the area of the tree canopy with a planimeter.

Measures may include vegetative spatial buffer between project and habitat areas; revegetation; habitat enhancement; erosion and water quality protection; on-site replacement/compensation; maintenance and management measures such as fencing, weed control, use of building envelopes, and dedication of areas through open space or conservation easements or grant deed of development rights; short-term measures to protect against construction impacts (e.g., fencing, timing of construction to avoid nesting season).

c. Off-Site Mitigation

Compensate for on-site impacts through off-site measures.

When avoidance or on-site mitigation is infeasible or inadequate to reduce impacts, measures such as those listed under on-site mitigation can be considered in off-site locations, or may be accomplished through in-lieu fees. Off-site approaches may be appropriate at times if a greater ecological value may be clearly gained than with on-site mitigation. (i.e., where on-site habitat is of low quality or highly fragmented).

2. Habitat Replacement/Compensation Guidelines

The mitigation approach of replacing habitat either on-site or off-site, to compensate for habitat loss, is generally not a preferred approach because it always results in some habitat loss (either short-term or long-term), and because prospects for successful habitat replacement are problematic.

Replacement mitigation should involve the same habitat type, location(s) within the same watershed and as close as possible to the site of impact, and should result in comparable and compensating size and habitat value.

3. Consultation on Mitigation and Project Design

a. Biological Information

County biological information available to project applicants, consulting biologists and the public by appointment includes resource and wetland maps, historical aerial photographs, and a library of previous biological surveys and reports. More specific mitigation guidance is provided in a separate technical document augmenting these Guidelines.

b. Consultants

County staff is available through consultations and pre-application meetings to advise project applicants on project design measures to minimize biological impacts.

Project sponsors may consult informally with California Department of Fish and Game and/or area consulting biologists at the preliminary review or initial study stage to determine what wildlife and vegetation resource information is available or needed and how the necessary information can be obtained.

F. TECHNICAL BACKGROUND DOCUMENT

A separate technical document contains the following additional information:

- A. Summary of Biological Resources Statutes
- B. Biological Survey Guidelines
- C. Detailed Biological Habitat Descriptions
- D. Biological Mitigations

7. COASTAL RESOURCES

(Seawall/Coastal Protection Policy)

INTRODUCTION

On April 10, 1990 the Board of Supervisors unanimously approved a new policy which requires that EIRs be prepared for seawalls and other coastal protection structures. These documents would include extensive analysis of cumulative effects and regional issues for which a given project would be involved. Concern over a potential proliferation of seawalls along the south coast led to the adoption of this policy. Note that infill structures would not be subject to the EIR requirement unless warranted by site specific impacts.

I. Administrative Policy

a. Coastal Units

For purposes of seawall review, it is proposed that the unincorporated portion of the South Coast be divided into ten units as shown on the attached map and listed below:

<u>Coastal Unit</u>	<u>Location</u>
Pt. Conception	VAFB to Gaviota
Gaviota	Gaviota to Eagle Canyon
Ellwood	Eagle Canyon to Coal Oil Point
Isla Vista	Coal Oil Point to UCSB
Goleta	UCSB to More Mesa
Hope Ranch	More Mesa to the City of S.B.
Montecito	City of S.B. to Sheffield Drive
Summerland	Sheffield Dr. to Loon Point
Sandyland	Loon Point to Carpinteria
Rincon Point	Carpinteria to Ventura County line

Note: No coastal units were defined north of the southern boundary of Vandenberg Air Force Base (VAFB) because the presence of VAFB, the State Park at Point Sal and the Guadalupe Dunes will preclude private coastal development under County jurisdiction for the foreseeable future. Additionally, no coastal unit was defined for UCSB because they are a separate state jurisdiction.

Each unit was chosen primarily on the basis of similar geologic/geomorphic character.

b. Infill Structures

The administrative policy requiring extensive analysis of cumulative effects and regional coastal issues would not apply to infill coastal protection structures. A limited infill seawall or coastal protection structure is one which is limited in length and would be connected to an existing similar structure on each end. Infill

protective structures, due to the potential for environmental impacts, would still require preparation of a site specific environmental document.

c. Scope of Review

Cumulative impact analysis for the identified stretches of beach would address geologically similar areas, would contain consistent design criteria, and would analyze the full range of alternatives to the construction of seawalls and other coastal protection structures to address coastal process/bluff retreat issues. These options could include sand replenishment, coastal protection structures, phased relocation or abandonment of bluff top homes, etc. The goal of requiring extensive cumulative analysis would be to address the potential for regional impacts, insure the implementation of a consistent approach to coastal processes for each section of coast, and to implement standard mitigation measures. An additional goal would be to integrate the policies and findings of all seawall EIR's in order to provide the most consistent approach possible for the County as a whole. In the ideal situation, an EIR addressing a given stretch of beach could be used as a base environmental document for the processing of future coastal process/bluff retreat measures required along that stretch of coast. Each seawall EIR should address the potential impacts for the full range of alternatives (sand replenishment, seawalls, home relocation/abandonment, etc.), cumulative impacts, and specifically discuss the following:

1. Geology of the rocks which underlie a 500 foot wide strip along the coast.
2. Sea bluff retreat rates.
3. Potential for large-scale landslides.
4. Effects of coastal protection structures on littoral sand supply.
5. Effects of sea level rise due to global warming.
6. Impacts on beach access.
7. Aesthetic impacts.
8. Biological Impacts (offshore, coastal strand and bluff, etc.).
9. Coastal protection alternatives.
10. General design criteria and standard mitigation measures for seawalls.
11. Available on and offshore sand sources.

Procedurally, seawall EIRs would provide general guidelines for implementation of the particular coastal process/bluff retreat program for a given section of coast. The findings of each seawall EIR would provide guidance to County decision-makers and coastal homeowners on the acceptable methods of addressing coastal process issues within a given coastal unit. Actions taken by homeowners or the County to address coastal process issues that are consistent with the findings of the EIR for a previously reviewed coastal unit would not require major additional environmental review. Alternatively, should an application for the alteration of coastal processes contain design features which are inconsistent with those provided in a seawall EIR previously prepared for that coastal unit, the application would be subject to additional environmental review through an Addendum or a Supplement to the previous EIR.

This process will allow the decision-makers to adequately evaluate the regional issue of coastal processes/bluff retreat from a long term and regional perspective.

Santa Barbara County Resource Management Department

EVALUATION CRITERIA FOR TEMPORARY FOUNDATION IMPROVEMENTS
ON SEACLIFF PARCELS IN ISLA VISTA

Prepared by Brian R. Baca
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December 1, 1992

These "Evaluation Criteria" (formerly named "Design Guidelines") have developed over the past several months during the review of several proposed projects located on Del Playa Drive in Isla Vista. Each of these projects involved the installation of underground foundation improvements with the primary feature being 35-40 foot long vertical caissons (a caisson is a cylindrical, steel-reinforced concrete piling). These criteria identify design parameters and mitigation measures which, if incorporated into the project description by the applicant, may allow for the preparation of a Negative Declaration for the project (i.e. the potential for significant impacts and the need for an EIR would be avoided). These criteria follow the intent of State CEQA Guidelines section 15070(b) which describes the Mitigated Negative Declaration process. Numerous applications similar to the cases now under review are expected to be filed with the County within the next several years. The Evaluation Criteria are intended to be a standard under which each is to be reviewed. The permitting process would involve a discretionary Special Use Permit which would authorize installation and subsequent removal followed by implementing ministerial Coastal Development Permits at the time of construction and at the time of removal.

INTRODUCTION

These evaluation criteria address two distinct areas of County review of proposed temporary foundation improvements including:

1. **Review of Environmental Impacts.**

The assessment (and avoidance) of environmental impacts on the bluff face and the beach upon the exposure of the improvements due to continuing retreat of the sea cliff.

2. **Safety Hazards.**

The removal of elements of the proposed improvements which are undermined by ongoing erosional processes such that they become unstable and hazards to public safety.

The below listed criteria (or guidelines) are intended to allow an applicant to design a project such that significant environmental impacts could be avoided for the following issue areas *in the absence of evidence of unique circumstances indicating a potential for project-specific or cumulative significant impacts*:

- Aesthetics
- Increased erosion of adjacent properties
- Long-term loss of beach width (i.e. lateral access impacts)
- Erosion of the bluff face during construction and removal activities

The principles underlying these criteria is that the proposed foundation improvements (caissons and related structures) would be temporary and that they would not substantially alter the rate of seacliff retreat (i.e. at no time would they protect the cliff from erosion). These criteria also specify the regulatory process which would be followed in the event that the improvements are found to create a safety hazard after exposure on the seacliff. This process is considered to adequately address potential impacts on public safety.

EVALUATION CRITERIA

1. **Caisson spacing along the bluff face**

The proposed caissons shall be at least five feet apart, measured edge to edge. (For example: Caissons which are 2 feet in diameter would be 7 feet apart measured from the center of the caissons.)

Monitoring: The P&D Geologist shall review and approve the final construction plans prior to the issuance of the CDP.

2. Caisson spacing perpendicular to the bluff face

Caissons or other foundation support structures constructed on or along a line approximately perpendicular to the general trend of the seacliff (e.g. at Isla Vista Beach this would be approximately perpendicular to Del Playa Drive) shall be constructed a minimum distance of 5 feet apart (7 feet on center for 24 inch diameter caissons) with the following exception: They may be constructed as close as 3 feet apart (5 feet on center for 24 inch diameter caissons) if designed and approved by a Registered Engineer or Certified Engineering Geologist. In no case shall they be closer than 3 feet apart (5 feet on center for 24 inch diameter caissons). This criteria applies, in general, to caissons located along the side property lines on coastal parcels. *(This criteria is intended to prevent undermining or weakening of support of a caisson during removal of an adjacent caisson.)*

Monitoring: The P&D Geologist shall review and approve the final construction plans prior to the issuance of the CDP.

3. Maximum coverage of the bluff face

The caisson support system shall be designed such that upon exposure due to continuing erosion, the bluff face shall at a minimum be composed 70% of native material. (For example: Two foot diameter caissons constructed 7 feet apart on center would cover a maximum of 30% of the area of the bluff face if the system were fully exposed.)

Monitoring: The P&D Geologist shall review and approve the final construction plans prior to the issuance of the CDP.

4. Setback from adjacent property

Foundation support structures shall be located at least three feet from a property boundary except as follows: The support structures may be located as close as one foot from a property boundary if designed and approved by a Registered Engineer or Certified Engineering Geologist. In no case shall any portion of a foundation support structure be closer than one foot from a property boundary. This setback provision is considered adequate to assure that an adjacent property is not encroached upon or subject to erosion during the installation of a caisson. Removal of caissons due to environmental impacts or safety hazards would occur only after they were no longer in contact with the bluff face. Thus, the bluff face on the adjacent property would not be affected by caisson removal activities.

(This criteria does not pertain to boundaries between two properties which are both part of the proposed project.)

Monitoring: Prior to the issuance of the CDP, the following shall occur: 1) the P&D Geologist shall review and approve the final construction plans and 2) the applicant shall submit a letter from a Registered Engineer or Certified Engineering Geologist that states

that the location of the subject caisson meets the above setback and that the adjacent property will not be encroached upon or subject to erosion during the installation of the caisson(s).

5. Caisson setback from the bluff face

Caissons shall be constructed a minimum of 10 feet landward of all parts of the bluff face in order to avoid potential erosion of the bluff face during construction. This setback was established by the P&D Geologist based on observations of the character of the weak rocks exposed on the bluff face at Isla Vista Beach. A lesser setback distance for one or more caissons may be used if the P&D Geologist determines that substantial construction-related impacts are not reasonably foreseeable based on site-specific conditions. In no case shall any construction occur within 5 feet of the bluff face (Ordinance required setback).

Monitoring: The P&D Geologist shall review and approve the final construction plans prior to the issuance of the CDP. The applicant shall clearly mark the locations of the proposed caissons and Permit Compliance shall conduct a site inspection during the pre-construction meeting required under the CDP to assure that the locations of the caissons meet the setback requirement.

6. Tieback design

Angled tiebacks may be incorporated into the design of the foundation improvements if the proposed tieback design allows for removal in a manner which is safe for workers and unlikely to result in bluff face erosion or a public safety hazard in the opinion of the County Building Official and the P&D Geologist. Tiebacks shall be removed at the time of caisson removal to the extent feasible without causing substantial erosion of the bluff face. (Note: *DYWIDAG Systems International* Threadbar Rock Anchors have been reviewed by the P&D Geologist and County Building Official and are considered at this time acceptable for use as tiebacks.)

Angled tiebacks which do not meet the above criteria shall not be incorporated into the design. Lateral support for the caissons may be obtained through structures at the top of the bluff. (For example: Caissons may be tied to patios and building foundations located on the elevated marine terrace landward of the top edge of the bluff face.)

Monitoring: The P&D Geologist and County Building Official shall review and approve the proposed tieback design and the proposed removal method prior to issuance of the CDP.

7. Notification and Removal to avoid environmental impacts

The project description shall incorporate the following procedures regarding the removal of the caissons in order to prevent the occurrence of significant

environmental impacts on beach width (lateral access) and increased (or accelerated) erosion of adjacent properties.

- a) **Advisory Letter to Property Owner:** The property owner may receive an advisory letter from the Resource Management Department or the County Building Official (Public Works Department) upon exposure of one or more caissons on the bluff face. This letter would inform the current owner of the apparent condition of the caissons (i.e. the level of caisson exposure on the bluff face) and the procedures outlined in the *Evaluation Criteria* (this document) which will be followed by P&D and the County Building Official as erosion of the bluff face continues. "Exposure" of a caisson is defined as the full width of the caisson(s) being visible over the lowermost three feet of the bluff face or the full width of the caisson(s) visible for a total of 10 feet (measured vertically) on the bluff face. This letter would not require any action but would provide early notification to the property owner of upcoming removal requirements.
- b) **Notice to Remove to Avoid Environmental Impacts:** A "*Notice to Remove*" letter may be provided by the Resource Management Department to the property owner which calls for removal of one or more caissons to avoid impacts on beach width (lateral access) or increased erosion of adjacent properties. Removal shall be accomplished by the property owner within one year of the date of the *Notice to Remove* letter using the procedures specified in the Removal Plan prepared in accordance with the parameters listed in paragraph c) below. The physical parameters which would result in the preparation of a *Notice to Remove* letter are listed below.

Beach Width and Lateral Access Impacts: Significant impacts on beach width and lateral access will be considered to begin when seacliff retreat has proceeded to the point that the caisson(s) are located more than three feet seaward from the base of the bluff. At this point the caissons would not be in contact with the bluff face. (According to studies incorporated into the environmental impact report for the Del Playa Seawall, certified by the Santa Barbara County Board of Supervisors on July 28, 1992, the emplacement of seawall (i.e. a fixed structure similar to an exposed caisson) 3 to 4 feet seaward of the base of the bluff would result in an estimated loss of up to 24% of the remaining average daily lateral access time.) The property owner shall receive a *Notice to Remove* letter from the Resource Management Department that states that the caisson(s) are three feet or more from the bluff face and calls for removal. The caisson(s) shall be removed by the property owner within one year of the date of this notification.

Erosion of Adjacent Properties Impacts: Erosion of adjacent properties due the presence of caissons would occur if the caissons served to reduce the rate of seacliff retreat such that a promontory was formed. Wave reflection off a promontory could cause increased erosion of an adjacent property. This effect is not anticipated to occur due to the spacing between caissons specified in criteria 1 and 2 above. These criteria (if followed) result in at least 70% of the bluff face being exposed to wave energy. When a majority of the bluff face is protected from wave energy, the rate of seacliff retreat is reduced, as can be observed at the

existing seawalls at Isla Vista Beach. Isolated obstructions such as the support timbers for the access stairways on Isla Vista Beach which are several feet apart (similar in geometry to caissons exposed in front of the bluff face) have not discernably reduced the retreat rate of the bluff face. However, if increased erosion of an adjacent property occurred due to a caisson-related promontory effect, it would happen after the caissons were no longer in contact with the bluff face and could be readily observed during the annual site inspection by the P&D Geologist or County Building Official. If this effect is observed during the annual inspections, the property owner shall receive a *Notice to Remove* letter from the Resource Management Department that includes a description of the evidence of increased erosion. The caisson(s) shall be removed by the applicant or current property owner within one year of the date of this notification.

- c) **Removal Plan to avoid environmental impacts:** A detailed description of the process by which the caissons would be removed shall be included in the project description submitted in the application for a Special Use Permit. This description should include a discussion of the following:
- 1) the physical procedure for cutting and removing the caissons,
 - 2) access to the property,
 - 3) equipment to be used,
 - 4) the estimated duration of removal activities,
 - 5) transport of the removed material from the beach to a disposal site,
 - 6) worker safety and
 - 7) an estimate of the future cost of caisson removal.
 - 8) the project description shall include a proposed financial security adequate to assure implementation of the provisions for caisson removal. (Security will be required prior to the issuance of the Coastal Development Permit for the installation of the caissons.)
 - 9) In addition, the removal of structures (i.e. buildings, patios) supported by the caissons or other measures to assure structural stability should be similarly discussed. The feasibility associated with the described process will be evaluated by P&D and the Building Division of the Public Works Dept.
- d) **Removal Process:** "Removal" of a caisson refers to the caisson in its entirety including tiebacks and any other supported structures. The portion of a caisson which would extend below the surface of the bedrock terrace shall be removed and the resulting hole backfilled with erodible material (fragments of Sisquoc Shale, if available, or gravel). A Coastal Development Permit (CDP) issued by the Resource Management Department will be required to conduct removal activities. Issuance of the permit will be based on conformance with the conditions of subject Special Use Permit and the project description.
- e) **Monitoring:** The County Building Official (Public Works Department) or the P&D Registered Geologist shall conduct annual inspections of the properties along the seacliff at Isla Vista Beach to monitor the level of exposure of foundation structures (i.e. the visibility of the caissons and the distance that they

extend seaward of the bluff face). The P&D Geologist shall prepare a *Notice to Remove* letter to the property owner which calls for removal of the exposed structure if the caissons have become exposed such that they are located three feet or more seaward of the base of the bluff or are causing increased erosion on an adjacent property.

Funding for County staff time associated with the annual inspections and notification shall be provided from the accrued earnings from a interest-bearing account set up by the applicant to be reviewed and approved by P&D and County Counsel prior to issuance of the CDP for the construction of the caissons. Upon removal of the last foundation component associated with the current application, the principal and any remaining accrued interest shall be released to the applicant. The signature of the Director of P&D or his designated representative will be required before release of this account.

In order to assure implementation of the removal provisions included in these evaluation criteria, the applicant shall provide a financial security to be reviewed and approved by the Resource Management Department and County Counsel prior to issuance of the CDP for construction of the foundation improvements. (Note that this financial security would be separate from the "interest-bearing account" discussed above.)

8. Notification and Removal for Public Safety Hazards

The project description shall incorporate the following procedures regarding the removal of the caisson(s) and related structures which are undermined by ongoing erosional processes such that they become hazards to public safety.

- a) Advisory Letter to Property Owner: The property owner may receive an advisory letter from the Resource Management Department or the County Building Official (Public Works Department) upon exposure of one or more caissons on the bluff face. This letter will inform the current owner of the apparent condition of the caissons (i.e. the level of caisson exposure on the bluff face) and the procedures outlined in the *Evaluation Criteria* (this document) which will be followed by P&D and the County Building Official as erosion of the bluff face continues. "Exposure" of a caisson is defined as the full width of the caisson(s) being visible over the lowermost three feet of the bluff face or the full width of the caisson(s) visible for a total of 10 feet (measured vertically) on the bluff face. This letter would not require any action but would provide early notification to the property owner of upcoming removal requirements.
- b) Notice to Remove due to public safety hazards: Upon identification of a potential hazard, the County Building Official or the P&D Geologist shall prepare a *Notice to Remove* letter to the applicant/property owner which identifies the potentially hazardous condition. Upon receipt of this notification, the applicant will have 45 days to submit a report by a Registered Engineer or a Certified Engineering Geologist which documents the condition of the structure with regards to safety. After 45 days from notification, the hazardous components of

the project shall be subject to hazard abatement (e.g. removal) procedures established by the County Building Official if no report is submitted, the report indicates that a safety hazard exists or if the County Building Official determines that a hazard exists despite contrary opinion expressed in the submitted report.

- c) Removal Process: The timing and method of removal shall be determined by the County Building Official during the hazard abatement process. The hazard abatement procedures are independent of these evaluation criteria and are based on standard engineering practice and applicable building regulations.
- d) Monitoring: The County Building Official (Public Works Department) or the P&D Registered Geologist shall regularly conduct annual inspections of the properties along the seaciff at Isla Vista Beach to monitor the level of exposure of foundation structures (i.e. the visibility of the caissons and related structures and the distance that they extend seaward of the bluff face). If the caissons (or other foundation improvements) are determined by the County Building Official to represent a potential safety hazard, the P&D Geologist or the County Building Official shall prepare a *Notice to Remove* letter to the property owner which calls for removal of the exposed structure. The procedures discussed in 8b) and 8c) above would then be implemented.

Funding for County staff time associated with the annual inspections and notification shall be provided from the accrued earnings from a **interest-bearing account** set up by the applicant to be reviewed and approved by P&D and County Counsel prior to issuance of the CDP for the construction of the caissons. Upon removal of the last foundation component associated with the current application, the principal and any remaining accrued interest shall be released to the applicant. The signature of the Director of P&D or his designated representative will be required before release of this account. Note that this account would be the same one as discussed in section 7e) of these evaluation criteria.

Note that the **financial security** to be provided by the applicant to assure implementation of removal for environmental effects (see section 7c and 7e) is not intended to cover hazard abatement costs and would be available only to the Resource Management Department. Funding of required hazard abatement work not performed by the property owner would be obtained by the County Building Official from the property owner through established legal procedures.

IMPACT ANALYSIS SUMMARY

Aesthetics

Criteria 1 and 3 above would assure that no more than 30% of the bluff face would be covered with concrete. This design parameter would avoid significant visual impacts. The white vertical lines which would be formed by the caissons would, however, still be visually dominant when exposed. For the following reasons the aesthetic impact of the caissons (upon exposure) would be considered less than significant:

1. Maximum 30% concrete coverage of the bluff face (as stated above).
2. The temporary nature of the caissons and the variability in the time of exposure due to the non-linear trend of the bluff edge would generally preclude all of the caissons on a particular parcel from being exposed at the same time.
3. The sea bluff at Isla Vista is not an undeveloped, pristine area. The caissons would only incrementally degrade the visual character of the area. Because of the existing densely-developed nature of the bluff top on the particular properties, exposure of the caissons, as designed pursuant to these evaluation criteria, would not constitute a significant visual effect.

Erosion of the adjacent unprotected properties

Evaluation criteria 1,3,7 and 8 would be considered to avoid significant erosion impacts based on the following reasons:

1. The caissons are not anticipated to substantially reduce the rate of landward erosion of the seacliff. Thus, a promontory would not develop with the exception of the caissons themselves. If a promontory did develop behind the caissons, the caissons would be removed pursuant to Criteria 7.
2. Each caisson would become separated from the bluff face within a short time after its initial exposure. Waves would wash behind the caissons and not be reflected onto the adjacent properties. Wave reflection and wave refraction effects which would occur with a free-standing caisson would not substantially change the wave energy impinging on the adjacent property.
3. The setback from property lines (Criteria 4) would allow for the installation of the caissons without substantial erosion impacts to the adjacent property.

Long-term loss of beach width (lateral access impacts)

Impacts would be less than significant due to the implementation of the procedures included in criteria 7. Removal of the caissons within a year of the time that potentially significant impacts

could *begin* to occur would prevent a substantial long-term effect on beach width and lateral access.

Erosion of the bluff face during caisson removal activities

Erosion of the bluff face is not anticipated to occur during the removal of the caissons to avoid environmental impacts as specified in criteria 7 because removal would not be required until after the caissons had been separated by natural processes from the bluff face. Removal of caissons due to public-safety hazards as specified in criteria 8 would also be anticipated to occur after separation from the bluff face. Loss of bluff material by accidental contact with the bluff face during the process of caisson removal would constitute a short-term impact and would not alter the long-term rate of seacliff retreat.

Erosion of the bluff during removal of the tiebacks

Criteria 6 would prevent the potential of an ongoing erosion problem either by requiring a design which would not result in such impacts during tieback removal. Tieback components remaining after initial caisson removal would be periodically cut back as they became safety hazards (Criteria 8).

Near-term erosion due to caisson construction

Criteria 5 would minimize the potential of erosion of the bluff during construction of foundation improvements. With this provision, substantial erosion due to construction activities is not anticipated.

8. CULTURAL RESOURCES GUIDELINES¹

ARCHAEOLOGICAL, HISTORICAL, AND ETHNIC ELEMENTS

Introduction

This document discusses in general the cultural resource review process used by DER. A technical document, Regulations Governing Cultural Resource Projects Undertaken in Conformance with Federal and State Environmental Protection Acts, provides procedures for cultural resource consultants to follow in preparing their investigations. These Regulations are available at DER.

A. Phase 1: Literature Search and Preliminary Assessment

As part of the environmental review process, DER reviews archaeological site maps to determine if a recorded cultural resource is located within the project site or whether there is a high potential for its presence onsite based on recorded site distribution patterns or historical accounts. If this determination is positive and the project site is not developed, a Phase I archaeological investigation including a systematic inspection of the ground surface is carried out by DER staff or a County approved professional archaeologist (depending on the size of the parcel) and sub-surface testing to define the presence of archaeological artifacts or site boundaries when vegetation obscures ground visibility. If historical remains are suspected, a professional historian will be retained to evaluate more fully the resource. The Phase I investigation and report will follow the specifications defined in the Cultural Resource Regulations defined above.

B. Phase 2: Cultural Resource Significance Determination

If an archaeological or historical site is observed, DER will work with the applicant to modify project plan descriptions such that direct impacts on cultural resources are avoided. Avoiding damage may be accomplished by many approaches, including the following:

1. Planning construction to miss cultural resource sites;
2. Planning parks, greenspace or other open space to incorporate archaeological or historical sites;
3. "Capping" or covering prehistoric or historic archaeological sites with a layer of fill soil before building tennis courts, parking lots, or similar facilities. Capping may be used in the following cases:
 - a. The soils to be covered will not suffer serious compaction.

¹ Santa Barbara County Department of Resource Management, Division of Environmental Review, 1989.

- b. The covering materials are not chemically active.
- c. The site is one in which the natural processes of deterioration have been effectively arrested; and
- d. The site has been recorded.

Although the placement of fill on top of an archaeological site may reduce direct impacts of construction, indirect impacts will possibly result from the loss of access to the site for research purposes and scarification and compaction of soils. To mitigate this impact, a sample of the cultural resource shall be excavated and appropriately curated for research purposes.

4. Deeding archaeological or historical sites into permanent conservation easements.

If the above avoidance measures cannot be used, a Phase 2 excavation program is funded by the applicant and performed by a County approved archaeologist and/or historian if necessary to determine if the cultural resource is "important" as defined in Appendix K of CEQA. If the project would cause damage to an important cultural resource, the project is considered to have a significant effect on the environment. For the purposes of CEQA, an "important archaeological resource" can be defined by one of several criteria listed below. Such a resource may have the following characteristics:

- a. Is associated with an event or person of:
 - 1. Recognized significance in California or American history; or
 - 2. Recognized scientific importance in prehistory.
- b. Can provide information which is of both demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions,
- c. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.
- d. Is at least 100 years old and possesses substantial stratigraphic integrity; or
- e. Involves important research questions that historical research has shown can be answered only with archaeological methods.

The Archaeological Element of the County Guidelines provides a variety of relevant research questions for use in addressing significance criterion 4.e.

The Phase 2 investigation and report must follow the specifications defined in the Cultural Resource Guidelines defined above. The report must include significance assessments and propose ways to avoid impacting the important

resource. The report shall also include a suggested excavation plan for mitigating the effect of the project on the qualities which make the resource important if avoidance is considered infeasible.

The excavation plan shall include the following:

- a. A brief summary of the excavation proposed as part of a mitigation plan.
- b. Be available for review only on a need-to-know basis;
- c. Shall not include the specific location of any archaeological resources if the plan would be made known to the general public.

An excavation plan shall also mention the following:

1. List and briefly discuss the important information the archaeological or historical resources contain or are likely to contain;
2. Explain how the information should be recovered to be useful in addressing scientifically valid research questions and other concerns identified in subdivision (a);
3. Explain the estimated cost of time required to complete all activities undertaken under the plan.

A list of significance criteria for evaluation of historical resources is found in the Historic Element of the County Guidelines and is summarized below. Any structure 50 years or older is considered potentially significant and shall be subjected to the following criteria:

A significant resource a) possesses integrity of location, design, workmanship, material, and/or setting; b) is at least fifty years old²; and c) demonstrates one or more of the following:

- 1) Is associated with an event, movement, organization, or person that/who has made an important contribution to the community³, state, or nation;
- 2) Was designed or built by an architect, engineer, builder, artists, or other designer who has made an important contribution to the community, state, or nation;
- 3) Is associated with a particular architectural style or building type important to the community, state, or nation;
- 4) Embodies elements demonstrating a) outstanding attention to design, detail, craftsmanship, or b) outstanding use of a particular structural material, surface material, or method of construction or technology;

² A historic resource less than fifty years old may be considered significant if it is unique or possesses extraordinary elements of integrity, design, construction, or association.

³ Community is defined as a neighborhood, town, city or district.

- 5) Is associated with a traditional way of life important to an ethnic, national, racial, or social group, or to the community-at-large;
- 6) Illustrates broad patterns of cultural, social, political, economic, or industrial history;
- 7) Is a feature⁴ or a cluster of features which convey a sense of time and place that is important to the community, state, or nation;
- 8) Is able to yield information important to the community or is relevant to the scholarly study of history, historical archaeology, ethnography, folklore, or cultural geography.

The level of significance for these criteria are established by rating each significance attribute of the resource (detailed below) according to the following scale:

E = exceptional
 3 = high; very good
 2 = good
 1 = little

A rating of E for any significance attribute marks a resource as possessing extraordinary or exceptional importance and indicates that it should receive special consideration in the planning process regardless of the numeric rating for other significance attributes. For instance, a resource may be of extreme antiquity,

And therefore be rated E in the aspect of age, but achieve an average numeric rating of, say, 1.7 in all other attributes of significance.

The following guidelines shall govern the assignment of significance level ratings for each aspect:

- a. Integrity
 E = pristine integrity in all 5 categories
 3 = good integrity in at least 3 categories
 2 = good integrity in at least 1 category
 1 = fair to poor integrity in all categories

Integrity means that the resource retains the essential qualities of its historic character. These guidelines recognize five components of integrity: location, design, setting, materials, and workmanship.

Integrity of location means that the resource remains at its original location.

⁴ A feature may be defined as a structure, building, structural element, object, tree, garden, etc.

Integrity of design, strictly applied, means that the resource accurately reflects its original plan. However, it is rare to find intact structures that have never undergone change. Thus, design integrity often infers that the components of the structure as a whole reflect design compatibility. For example, building additions that accurately incorporate design elements found in the original structure (e.g., roof pitch and covering, window placement and form, or exterior wall treatment) would not compromise integrity of design.

Integrity of setting means that buildings, structures, or features associated with a later development period have not intruded upon the surrounding area to the extent that the original context is lost. For instance, an old barn now in the midst of suburban residential development might retain integrity of setting if the immediately surrounding area still reflects a rural setting (e.g., open space, fencing, water troughs, etc.).

Integrity of materials means that the physical elements present during the historic period are still present or, if materials have been replaced, the replacement(s) have been based on the original. For instance, a Victorian style wood-frame dwelling that has been covered with stucco has lost its integrity of materials. Conversely, an adobe wall that has been reconstructed with similar adobe mud, as opposed to adobe-simulate concrete, would retain its integrity of materials.

Integrity of workmanship means that the original character of construction details is still present. These elements cannot have deteriorated or been disturbed to the extent that their value as examples of craftsmanship has been lost. For example, if the surface of a carved sandstone gate post has been seriously eroded, the feature will have lost much of its integrity of workmanship because its ability to provide information concerning older designs and techniques of stonecarving has been lost. Conversely, a steel superstructure may hide unreinforced brick walls of an old commercial building which can provide a valuable record of 19th century solid-wall brick construction techniques.

b. Age

E = 125 years old or older

3 = 100 " " " "

2 = 75 " " " "

1 = 50 " " " "

Comment: An E designation is based on the premise that any manmade feature which survives for 125 years or more is intrinsically exceptional and therefore subject to special consideration by virtue of its age, irrespective of other ratings.

c. Association

1. Association with an event, movement, organization, or person important to the community, state or nation:

E = resource has a central or continuous association with an event. . .

3 = resource has a direct association with. . .

2 = resource has an indirect association with. . .

1 = resource has a distant association with. . .

Comment: The significance of the event, movement, organization, or person must be established before this criterion is applied.

2. Designer

- E = a designer who has made important contributions to the community and to the state or nation
- 3 = a designer who has made important contributions to the community
- 2 = an "attributed to" designer who has made important contributions to the community
- 1 = the designer is unknown.

Comment: This significance attribute focuses on overall designer contributions rather than on the aesthetic merits of the design itself.

3. Architectural Style or Building Type

- E = retains all the attributes associated with its style or type or is a good example of its style or type if few survive
- 3 = retains most of the attributes associated with its style or type or is remodeled in a recognizable style that does not destroy the original style or type
- 2 = retains few, but sufficient attributes associated with its style or type
- 1 = undecipherable as a style or type or is one of many examples of its style or type

Comment: Vernacular building types and industrial architecture are equal in resource value to well-defined and studied architectural styles.

4. Construction materials

- E = outstanding or very early example if few survive
- 3 = outstanding or very early example if many survive; good example if few survive
- 2 = good example if there are many examples of any material(s) and/or method(s) not generally in current use
- 1 = common example of any method(s) and/or material(s)

Comment: Examples of outstanding construction methods or structural materials include those which successfully address challenging structural problems, or which are treated as visible elements that contribute significantly to the resource's overall design quality, or which exhibit fine craftsmanship.

5. Traditional Lifeways

- E = resource has a central association with a tradition spanning three or more generations
- 3 = resource has a direct association with a tradition spanning three or more generations
- 2 = resource has a direct association with a tradition spanning two generations or an indirect association with a tradition spanning two or more generations
- 1 = resource has a distant association with a tradition spanning two or more generations

Comment: Traditional lifeways, as used here, pertain to cultural patterns which have attained antiquity commensurate with the age requirement to which tangible resources are held. A central association ("E" rating) implies a quality of uniqueness between the resource and the tradition.

6. Association with Broad Themes of Local, State, or National History.

- E = resource has a central association with theme(s)
- 3 = resource has a direct association with theme(s)
- 2 = resource has an indirect association with theme(s)
- 1 = resource has a distant association with theme(s)

Comment: The theme and its significance must be established before this criterion is applied. A helpful measure of this criterion is to consider how useful the resource would be for teaching or writing about cultural history.

7. Conveys Important Sense of Time and Place

- E = an individual resource or a unified urban or rural landscape which defines a period of 100 or more years ago
- 3 = an individual resource or a unified urban or rural landscape which defines a period of 75 or more years ago
- 2 = an individual resource or a unified urban or rural landscape which defines a period of 50 or more years ago
- 1 = a unified urban or rural landscape which is less than 50 years old

Comment: A useful measure of this criterion is to consider whether the resource(s) has/have a prominence which contributes to a historic, visual, or environmental continuity. Would a typical resident of the area notice the resource(s) and remember it/them?

8. Ability to Yield Important Information

This attribute of significance is not quantifiable. Generally, when this criterion is invoked, it is an indication that the resource under study

requires further examination by a professional from a related discipline. Nevertheless, it is incumbent upon the historical specialist to consider what qualities of the resource or the project area might enable it to yield information that is important to another scholarly discipline.

For instance, the presence of building foundations or of a well, privy, trash pit, drain, sump, or cistern indicates that the project area may possess historic archaeological research potential. Similarly, is there archival evidence (maps, written documents, etc.) that the project area was occupied before or during some transitional period, either naturally occurring (e.g., fire, flood, drought, or earthquake) or culturally induced (e.g., highway or city street construction, the laying of water or sewer mains, or new building construction)? As a corollary, is there evidence that these earlier features may have survived to the present as subsurface resources?

In a different vein, is there evidence, gained through archival research, site inspection, or consultation with community groups or individuals, that the project area has a tangible or intangible quality of tradition that is important to an identifiable cultural group? For instance, there might be evidence that Italian immigrant stonemasons had cut stone from a sandstone outcropping occurring in the project area or that the area might be the site of a legendary event. If so, even if the data are sufficient, to determine a significance level under C-5, it would be appropriate to discuss additional research potential here.

If a cultural resource is determined not to be "important", both the resource and the effect on it shall be noted in the project file Initial Study or EIR but need not be considered further in the CEQA process. The project applicant is responsible for the complete funding of Phase 2 investigations. Phase 2 investigations are not limited by cost; however, costs are limited to providing services defined in scopes of work which are developed by DER.

C. Phase 3: Mitigation

1. Introduction

Once it is determined that an important archaeological or historical site may be significantly impacted by a project, the County may require preparation of an EIR.

The EIR discussion must include the following work: (1) document the justification for the "importance" determination; (2) determine what type of information is necessary to evaluate the "scientifically consequential information from and about the resource," and if this information has already been gathered during previous investigation phases. The consultant developing the mitigation program consider that excavation as part of a mitigation plan shall be restricted to areas of direct and indirect impact unless special circumstances require limited

excavation or an immediately adjacent area in order to develop important information about the part of the resource that would be destroyed.

2. Mitigation of Important Archaeological or Historical Sites and Timing

There are special timing and deadline issues on mitigation programs required in CEQA Appendix K. Important timing issues state that unless special or unusual circumstances warrant an exception, the field excavation phase of an approved mitigation plan shall be completed within 90 days after final approval necessary to implement the physical development of the project, or, if a phased project, the excavation should take place in connection with the phased portion to which the specified mitigation measures are applicable, provided that the project applicant may extend that period if he/she so elects. A mitigation plan shall not authorize violations of any law protecting Native American cemeteries. This means that the County must apply a standard condition to insure that the applicant performs all applicable archaeological mitigation within 90 days after receiving approval on final development plans, or after subdivision (TPM or TM) map records unless phasing or special circumstances change this "deadline." The County has the responsibility to wait at least 60 days after the EIR is completed before making a final decision on the project. This time is required in order that persons interested in providing funding agree to do so before the decision is made which would implement any specific mitigation measure.

3. Information Regarding Project Costs and Mitigation

CEQA Appendix K designates limits on an applicant's responsibility to fund mitigation programs. These limits follow:

- a. An amount equal to one-half of one percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a commercial or industrial project.
- b. An amount equal to three-fourths of one percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a housing project.
- c. If a housing project consists of more than a single unit, an amount equal to three-fourths of one percent of the project cost of the project for mitigation measures undertaken within the site boundaries of the project for the first unit plus the sum of the following:
 - (1) Two hundred dollars (\$200) per unit for any of the next 99 units.
 - (2) One hundred fifty dollars (\$150) per unit for any of the next 400 units.
 - (3) One hundred dollars (\$100) per unit in excess of 500.

Where an important archaeological site is involved, the applicant must provide the County with documented, itemized, and projected total project

costs, and if applicable, any project phasing information which could more adequately accommodate the timing and implementation of the field excavation portion of the work beyond the 90 day deadline.

The applicant must also provide an itemized cost estimate of all project design expenditures necessary to preserve portions of all or any archaeological site from disturbance. The County may give credit for these costs in computing the applicant's mitigation costs.

The archaeological consultant must provide several sets of mitigation programs. One will be the estimate of the excavation costs and timing along with the laboratory analysis and report preparation costs and time necessary to fulfill the requirements of the research design. In addition, the consultant should present an alternative mitigation program in case funds guaranteed by the applicant and voluntarily guaranteed by any other persons or persons are less than the original mitigation estimate.

4. Land Use Element and Local Coastal Plan Policies and Mitigation

Historical and Archaeological sites policies in the County Land Use Element and Local Coastal Plan specify that if "sufficient planning flexibility does not permit avoiding construction on.... cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historical Preservation and The Native American Heritage Commission." It is possible that adequate mitigation costs based on this policy may exceed limits imposed by CEQA Appendix K defined above. In these cases, use of the Appendix K funding limit would cause an inconsistency with these County Land Use Element and Local Coastal Plan policies.

5. Sites Discovered During Construction

CEQA Appendix K provides for an archaeological evaluation of the "surprise" find during construction. Construction shall cease in the area of the find but may continue on other parts of the building site while evaluation and necessary mitigation takes place. The applicant would be responsible for funding an immediate evaluation of the find's potential importance. If the find is determined to be an important archaeological resource under CEQA Appendix K, contingency funding and a time allotment sufficient to allow recovering a data recovery sample or to employ one of the avoidance measures shall be implemented.

These provisions shall be included as project conditions where there is some likelihood of an archaeological impact during construction. For example, this would apply to an area near an adjacent recorded site or where no cultural resources were discovered during a field survey, or within a site area previously tested and mitigated by a sample excavation.

D. Curation of Collections

All non-burial related artifacts collected during Phase 1, 2, and 3 investigations must be curated at an institution within Santa Barbara County. Qualified institutions are those with proper facilities and staffing for insuring research access to the collections. The UCSB Department of Anthropology is currently the only qualified local institution providing this service to the public and scientific community. In addition to artifacts, all supporting archaeological documentation must be submitted with the artifact collection. Curation arrangements with a qualified institution must be established prior to archaeological proposal preparation. Artifacts curated at the institution may be borrowed by qualified individuals and groups for educational use, display, ceremonies, etc.

The disposition of burial-related artifacts is covered by state law concerning burial remains (see Ethnic Impacts, Discovery of Human Remains).

E. Ethnic Impacts

1. Ethnic Impact Assessment

Appendix G, Significant Effects, of CEQA defines the need for evaluating the impacts a project may have on a community, ethnic, or social group.

A project will normally have a significant effect on the environment if it will cause one of the following:

- j. Disrupt or adversely affect a prehistoric or historical archaeological site or a property or historical or cultural significance to a community or ethnic or social group.
- w. Conflict with established recreational, educational, religious, or scientific uses of the area.

In order to evaluate these potential impacts, the County requires that appropriate representatives of affected community groups be contacted to assess their concerns and viewpoints concerning measures to mitigate those impacts. Ethnologists approved by DER are to carry out this research in accordance with requirements and procedures for assessing ethnic cultural resources and concerns in compliance with the California Environmental Quality Act (Susan Brown n.d.) adopted by the DER, and the Native American Heritage Commission's Guidelines for the Protection of the Native American Heritage Resources. Contact should be made early in the evaluation process during the Phase I investigation as well as subsequent phases of work.

If the affected community does not consider to mitigation measures proposed by consulting archaeologists and incorporated in the project description by the applicant, the project may be considered to result in a significant impact and an EIR (or EIR section) may be prepared.

There are currently four recognized Native American groups in Santa Barbara County representing local Native American individuals of Chumash descent. The United Chumash Council represents various Chumash groups of the South Coast. The Santa Ynez Federally Recognized Elders Council represents Chumash living on the Santa Ynez Reservation. The Santa Ynez Kit Wo' N' Unio represents particular families on the Reservation, and the Candelaria American Indian Council represents South Coast documented Chumash. DER will contact all groups if prehistoric archaeological sites are to be impacted to evaluate this effect on their ethnic values.

2. Discovery of Human Remains

The County policy regarding disposition of human remains disturbed during project construction is defined in CEQA Appendix K, Section VIII. If remains are encountered at any time, the County Coroner shall be contacted to determine the age and the origin of the bones. A qualified physical anthropologist will assist the coroner to make the determination whether human remains are prehistoric or not. If human remains are considered Native American, the individuals most likely to have descended from the individuals represented by the remains will then be contacted who will make recommendations regarding the treatment and reinterment of the remains and associated grave goods. If no descendants can be identified, the Native American Heritage Commission shall select the representative responsible for the disposition of the remains. These arrangements will be made with the landowner and will include an appropriate period of time for a DER approved physical anthropologist to analyze and record the remains and a DER approved archaeologist to analyze the associated grave goods.

3. Native American Consulting

Native Americans are retained during all sub-surface investigations and disturbances of archaeological sites to insure compliance with Appendix K, Section VIII. They may be involved in Phase I fieldwork investigation as well.

F. Sequential Steps for Implementation of CEQA Appendix K.

1. Determination by DER staff during Initial Study process that a project site may have a potential archaeological, or historical, or Native American culturally significant resource.
2. Professional fieldwork and documentation that a project will or will not have a direct or indirect physical impact on such a resource (Phase 1 investigation).
3. If the project does not have such potential, a finding of "significant impact" is not made and EIR is not prepared (specifically for "cultural resource reasons"). The project may also be redesigned or "self conditioned" at this stage to avoid the resource or to guarantee its protection.

4. If the project does have the potential to impact significantly a resource and the project cannot be revised to avoid the resource, the site must be evaluated in order to determine whether it meets the criteria to be defined as important (Phase 2 investigation). Evaluations are performed by DER approved archaeologists, historians, and/or ethnographers and may or may not require field excavation as well as laboratory analysis but such reports do require, at a minimum, a historical records search when the site has been previously disturbed.
5. If the resource is found to be unimportant, no further professional work is required and a negative declaration may be issued if the only issue is cultural resource impacts.
6. If a determination is made that the resource is important, the applicant will be requested to work closely with the County and the cultural resource consultant to provide for appropriate mitigation either by avoidance of the deposit, adoption of development restrictions to preserve them, or special construction techniques (e.g., covering, etc.) to protect them. To the extent that direct impacts cannot be avoided, mitigation measures shall be required. The development of such measures will be the task of the consultant working in conjunction with the county and the applicant, which would require additional archaeological excavation of a sample of the area to be impacted (Phase 3 investigation).
7. The consultant will need to be provided the cost-estimates of each project if the analysis reaches this stage. According to CEQA the amount paid by a project applicant for mitigation depends upon the kind of project and the number of units. The mitigation cost formula are the following:

- a. Commercial or industrial projects:

$$\text{Mitigation Costs (MC)} = \text{Total project cost (TPC)} \times 0.005$$

- b. Residential Projects:

- (1) One Unit: $MC = TPC \times 0.0075$

- (2) One - 99 units : $MC = \text{Project costs for one unit (PC1)} \times 0.0075 + \$200 \times (\text{total number of units less one (TNU-1)})$

- (3) 99-499 Units: $MC = PC1 \times 0.0075 + \$200 \times TNU-1 \text{ (up to 99)} + 150 \times (\text{number of units from 99 up to 499})$

- (4) Over 500 units: $MC = \text{formula (3) above} + \$100 \times (\text{number of units in excess of 500})$

This total may be determined to be inadequate to fully mitigate cultural resource impacts and be inconsistent with the County Land Use Element and Local Coastal Plan policies.

8. After the consultant prepares a report substantiating the importance of the resource together with an appropriate mitigation program(s) detailing full mitigation costs and maximum applicable costs to the applicant (using (7) above), the County will enter the data into an EIR to allow for full public and applicant comment, and certify the document.

The consultant must state and the County must decide whether previous studies of the resource have "... adequately recovered the scientifically consequential information from and about the resource." The County and the consultant are required to present the evidence for such a finding in the EIR. In such a case, no further mitigation would be required. In some cases, previous information concerning a site may provide only partial information and more research may be needed.

9. If necessary, the County must seek out private donations for the unpaid one-half of the proposed mitigation program within 60 days of the certification of the EIR and before the discretionary decision on the project application.

G. References

These references are available through the County of Santa Barbara, Division of Environmental Review.

County Resource Management Department, Conservation Element of the County Comprehensive Plan, April 1979. pp. 13 - 14, 224 - 256.

County Resource Management Department, Land Use Element of the County Comprehensive Plan, August 1982. pp. 89 - 90, 109.

County of Santa Barbara, Coastal Plan. Section 3.10, Archaeological and Historical Resources, pp. 140-143, March 1981

County of Santa Barbara, Zoning Ordinance. Article III of Chapter 35, Zoning of the Santa Barbara County Code. Sec. 35 - 211.

9. ELECTROMAGNETIC FIELDS THRESHOLD

INTRODUCTION

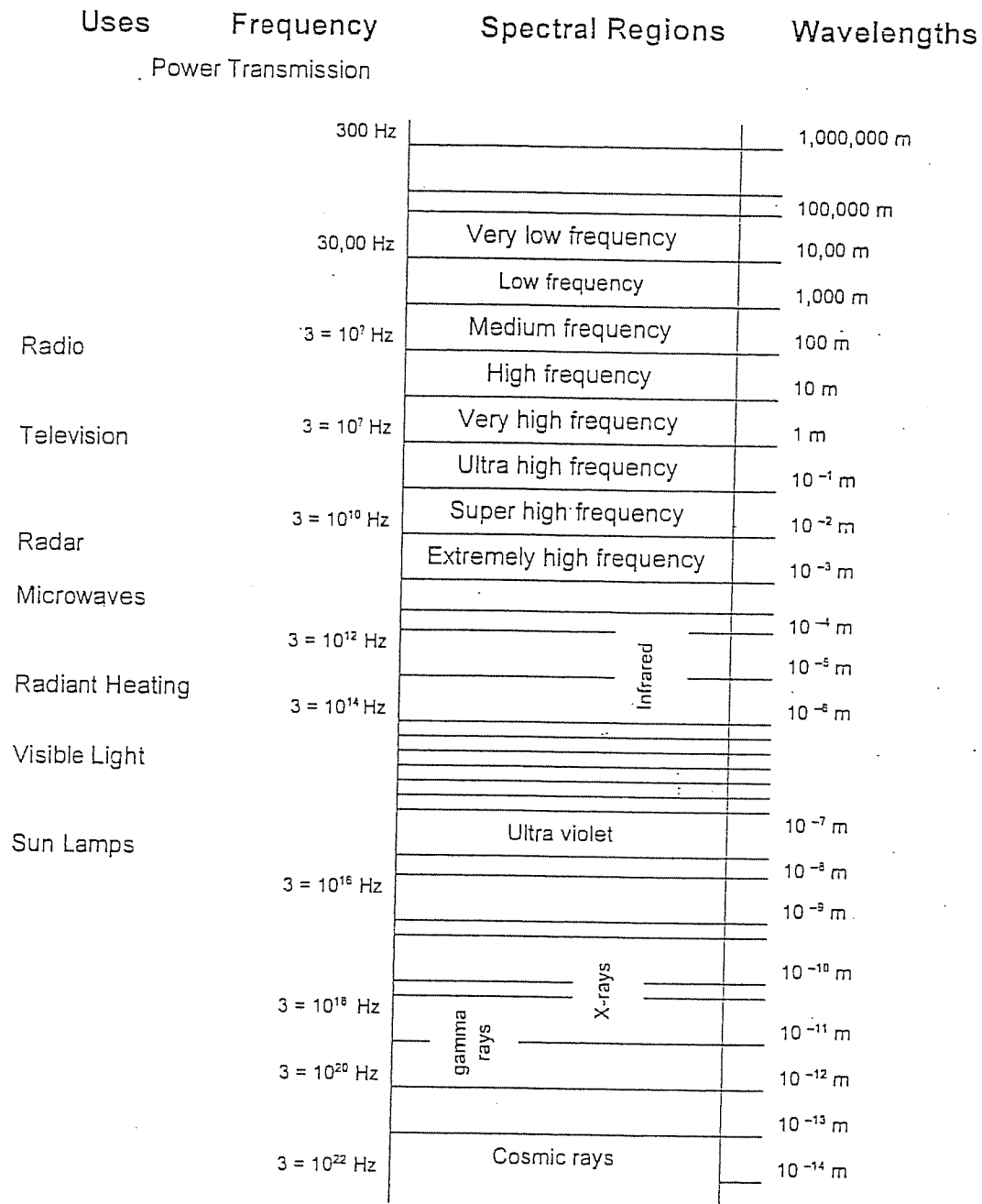
Due to the proliferation of sources of electrical energy with their associated electromagnetic fields (EMFs) and increasing public awareness over the potential health affects associated with these sources, the need to address these potential health effects through disclosure of potential environmental impacts has arisen. Although scientific evidence is inconclusive, this document briefly summarizes the information known regarding EMFs, identifies guidelines for evaluating impacts, sets a threshold to trigger project-level environmental review, and suggests mitigation approaches where possible to reduce exposure to electromagnetic fields.

BACKGROUND

Electromagnetic fields are composed of both electric fields and magnetic fields. Both types of fields occur in nature and in all living things. Electromagnetic energy occurs over a broad range of frequencies known as the electromagnetic energy spectrum (see figure 1). The frequency, or Hertz (Hz), that we are concerned with in this County, ranges from extremely low frequency (60 Hz) associated with power transmission facilities to 3×10^{10} Hz associated with microwaves. In between these frequencies are EMFs generated by radio, television, and radar transmissions. EMFs generated by these sources have similar properties in that they all contain electric and magnetic fields. However, the types of EMFs generated by extremely low frequency sources have different and distinct properties than those generated by higher frequency sources associated with communication facilities. These differences are discussed in more detail below.

Electric and magnetic fields are present wherever there is an electric current and voltage. Electric fields come from the amount of the charge, or voltage. They represent the forces that electric charges, which are either positive or negative, exert on each other. Electric fields are measured in volts per meter (V/m), or kilovolts per meter (kV/m). As electric charges move, they create additional forces on each other. These forces are carried through space by magnetic fields. Magnetic fields, therefore, result from the motion of an electric charge, or current. Magnetic fields are measured in milligauss (mG). When most people think of EMFs, they probably think of power transmission and distribution lines, however, they are present in household wiring and appliances and are propagated by communications facilities.

The physical characteristics of radiofrequency radiation (RFR) and extremely low frequency (ELF) EMFs from electric power differ in their function, frequency, wavelength, power levels and EMF characteristics. The function of communication facilities is to radiate energy away from an antenna outward over long distances, providing a broadcast signal for reception at another point. This is in direct contrast to electric power transmission, where the goal is to minimize any radiation away from the power cable itself (minimize power loss), while maximizing efficient energy movement along the power line. Thus, communications systems broadcast energy out through space, while power transmission attempts to minimize energy loss in space by sending energy along a cable (Wong, 1991).



Source: EFRI, Undated

Figure 1. The electromagnetic spectrum shown by frequency and wavelength. At a frequency of 60 Hz and a wavelength of 5,000,000 meters power transmission is at the top of the figure. Frequencies less than 300 Hz are designated as the ELF (extremely-low-frequency) range.

Regarding the characteristics of frequency, wavelength, and power levels, ELF's differ from radio waves in that they are much lower in frequency, have extremely long wavelengths compared to very short wavelengths of radio waves, and the power levels are generally much higher in power transmission facilities than in communication facilities.

In the case of EMF from communication facilities, the electric and magnetic fields travel, or propagate long distances from their sources. The electric and magnetic fields are linked and are considered together as a radiating electromagnetic field, thus creating what is known as radiofrequency radiation. In contrast, low frequency EMFs found in power lines project fields around the power line itself and do not propagate. In the case of electric power, the electric and magnetic portions are considered to be independent, and are not linked. Thus, when studying power-frequency fields, the separate electric and magnetic fields must be considered, not just the radiating electromagnetic fields or RFR which is typically studied in the case of radio waves (Tenforde and Kaune, 1987).

Radiation associated with EMFs is considered non-ionizing radiation. That is, the energy associated with these types of electromagnetic fields do not have the ability to ionize electrons and molecules. Ionization refers to the breakdown of chemical bonds between molecules, which results in tissue damage (Wong, 1991).

Common sources of EMFs (both low and higher frequency sources) and their field strength characteristics are discussed in Appendix A.

HEALTH & SAFETY ISSUES

In recent years, involuntary exposure of the general public to elevated EMFs has become a growing concern. This attention centers on a growing body of evidence, some of which suggests that 60-Hertz (Hz) magnetic fields at low intensities have been shown to produce adverse biological effects, in addition to factual proof that thermal heating of body tissue associated with RFR can have harmful effects.

Studies regarding ELF's to date have primarily been focused in three categories. These include cellular level studies, whole animal and human studies, and epidemiological studies. Cellular level studies have been focused on calcium efflux, cancer promotion, endocrine secretion and immune response. Animal and human studies have been focused on the nervous system, behavior patterns, reproduction and development; and cancer progression. Epidemiological studies have looked at the hypothetical relationship between human exposure to EMFs produced by power systems and human cancers occurring in children, adults and workers in occupations where extensive exposure to EMFs is an issue. Studies in each of these three categories indicates that there is evidence that 60-Hz magnetic fields can produce biological effects. A summary of these effects is included in Appendix A. What is not clear, however, is whether and how those biological effects can cause public health problems (Wong, 1991).

Effects of RFR have been primarily linked to thermal responses as a result of exposure to RF sources of energy. In general, exposure of humans and animals have the potential to interact with body tissue such that water molecules become excited, causing friction and concomitant rises in body temperature, albeit slight in most instances. This effect is similar to that which is experienced within a microwave oven, where the water molecules within the food substance are excited to

create heat, thus resulting in the warming of food. Other effects, include RF burns, in which in the very near field, especially in the microwave frequencies, a person has the potential to receive a burn similar to a sunburn. The standards for RFR discussed below deal primarily with thermal effects, as many of the athermal effects are still unknown and are similar to those discussed above for ELF sources. Some of the potential ill-effects include behavior changes, abnormal hormone production, and ocular changes.

THRESHOLDS

ELFs

While some evidence supports the fact that there may be some biological effects which may result from low frequency EMFs, there are no standards or guidelines to govern the public's involuntary exposure to ELFs. Some jurisdictions throughout the nation and internationally have tried to address the problem by establishing setbacks based upon field strengths from high voltage power lines. However, none of the setbacks established are based on any causal relationship between field strengths and adverse health effects.

Standards for ELFs are based upon the measurements of Kv/m for electric fields, and mG for magnetic fields. At the present time, most attempts at establishing standards or dosimetric relationships have focused on the limitation of magnetic fields since it is generally impossible to shield individuals from these fields. In general, it is relatively easy to shield individuals from electric fields as they do not readily penetrate buildings, structures, fencing, trees, etc.

At this time, given the current information regarding potential health impacts and the uncertainty surrounding these impacts, the Board of Supervisors did not adopt a specific threshold for ELF exposure. Instead, the Board of Supervisors directed staff to evaluate ELF exposure on a case by case basis, using the most current scientific data.

RFR

For RFR, standards have been established for effects resulting from thermal heating of body tissue. The most widely used conservative standards are the IEEE-ANSI C95.1-1992 Standards, which are based on power densities, as shown in Figures 2 and 3. Power density is the rate at which electromagnetic energy radiates through space in terms of watts per square meter (W/m^2) or milliwatts (1/1,000th of a watt) per square centimeter (mW/cm^2) and is customarily used in addition to the specification of the strengths of electric and magnetic fields by kV/m and mG when defining standards. It is important to note that the IEEE-ANSI standards are frequency dependent. That means that for sources of RF below and above the 30-300 MHz range, the standard is relaxed in accordance with the graph in Figure 2 and 3. The most stringent standard is for the 30-300 MHz range, and is represented by the power density level of $0.2 mW/cm^2$ for general population exposure and $1.0 mW/cm^2$ for occupational exposure. These standards do not address the athermal effects which are also associated with ELFs.

RFR Threshold

"If humans would be exposed to radiofrequency radiation (RFR) in excess of the IEEE-ANSI C95.1-1992 standard, through the siting of new projects next to RFR sources or through the siting of new RFR sources adjacent to sensitive receptors , then a potentially significant impact would occur. (If the FCC rulemaking committee adopts a revised standard, said standard shall apply).

MITIGATION STRATEGIES

In order to mitigate potential impacts from electromagnetic fields, mitigation should be designed to prevent exposure of individuals to elevated electromagnetic fields. For ELFs, this means that projects should be designed such that no living spaces are exposed to elevated magnetic fields. For RFR, individuals should not be exposed to levels exceeding the IEEE-ANSI Standards. Mitigation may take the form of setbacks, prohibitive/restrictive fencing, warning signs, disclosure statements, reconfiguration of power lines, reduction of power inputs to transmitting facilities, etc..

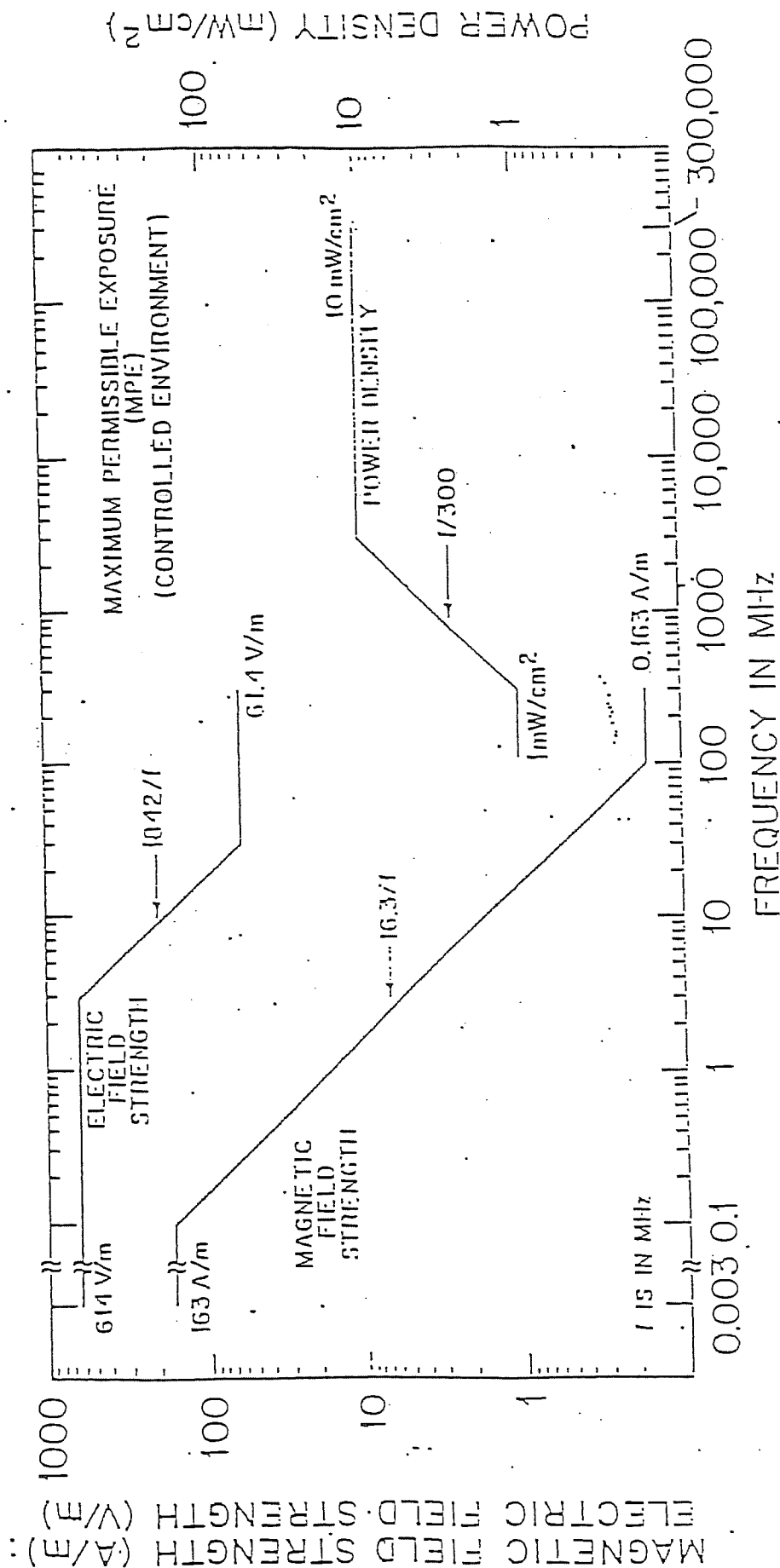


Fig. 2
Graphic Representation of Maximum Permissible Exposure in Terms of Fields and Power Density for a Controlled Environment.

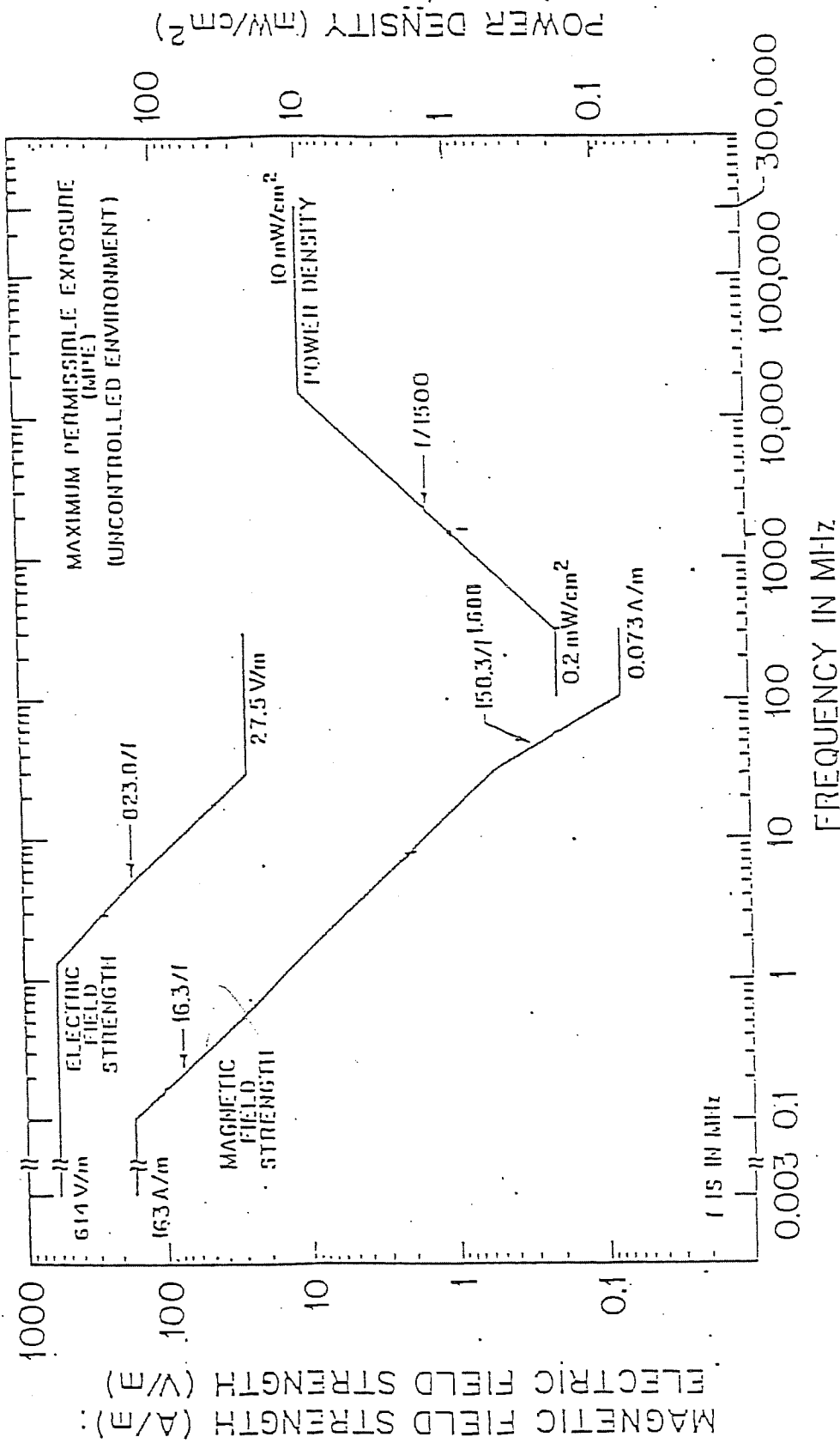


Fig. 3
Graphic Representation of Maximum Permissible Exposure in Terms of Fields and Power Density for an Uncontrolled Environment.

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APPENDIX A
SOURCES OF EMF AND THEIR FIELD STRENGTH CHARACTERISTICS
HEALTH EFFECTS SUMMARY

SOURCES OF ELECTROMAGNETIC FIELDS

Sources of ELF's are found throughout our daily lives, in and around our homes. It is virtually impossible to live in modern society without exposing one's self to some of these sources of EMF's.

Higher frequency EMF sources which generate potentially harmful effects are not as common in our day-to-day lives, and in general expose fewer people. The reason for this is that transmitting communications facilities, such as radio and microwave broadcast facilities, are generally sited in sparsely populated areas. It is also important to note, that in the case of both low and high frequency EMF's, the energy/fields or power density radiated (both electric and magnetic) will generally decrease sharply with distance from any radiating source in keeping with the inverse square law. That is, each time distance from the source is doubled, the power density will decrease by a factor of four (S.B. County RMD, 1992). Figures 1 and 2 illustrate the decreasing electric and magnetic fields associated with transmission, distribution, and household appliances.

As mentioned previously, there are two types of EMF's that are of primary concern: 1) the non-linked electric and magnetic fields associated with extremely low frequencies (ELF's), and 2) the linked electric and magnetic fields constituting radiofrequency radiation (RFR) that is associated with the higher frequencies used for communications, radar, and microwave equipment.

Common sources of Extremely Low Frequency fields include the following:

- Power lines
- Motors & generators
- Transformers, electrical distribution panels, switchgear
- Electrical appliances
- Electric blankets, heating pads, water bed heaters
- Electric resistance heating
- Florescent lighting
- Electric (Analog) clocks
- Home and commercial building wiring
- Metal water pipes, gas line, cable TV, telephone cables (grounds)

Common sources of Radio Frequency emissions include the following:

- Radio and television transmission facilities
- Microwave and cellular facilities
- Radios, TV's, computers & computer monitors, etc.
- Microwave ovens, induction cook tops

HEALTH EFFECTS SUMMARY

Sykes and Li, 1990, have briefly summarized the four effects that are currently under discussion based upon scientific research currently available. These include:

Changes in cell activity. Exposure to ELF fields can cause changes in calcium flow through the cell membrane, changes in the immune response by cells, and changes in RNA transcription.

Interactions with the nervous system. Animal studies have shown a consistent effect of electric fields on the secretion of certain neurohormones which administer the circadian rhythms, but the effect is demonstrated only at certain field frequencies and intensities. Some studies have reported altered sensory response and stress response.

Variations in reproduction and development. ELF field exposure may be associated with abnormal embryo development for some specific circumstances and may affect brain development.

Effects on cancer promotion. No evidence of initiating cancer by exposure to ELF fields has been found. Laboratory studies on immune response, RNA transcription and circadian rhythms, and epidemiological surveys have suggested that ELF fields might play some role in promoting cancer, but the kind of cancer promotion is still inconclusive.

10. GEOLOGIC CONSTRAINTS GUIDELINES

The purpose of these guidelines is to provide preliminary criteria for determining whether a particular activity could have a potentially significant impact on the environment as described in Section 15064 of the State CEQA Guidelines. Because geologic conditions are highly variable within Santa Barbara County, these guidelines are not fixed thresholds upon which a determination of significant impact would be made. They serve to point out when further study of site-specific conditions is required in order to assess geologic impacts. The level of project geologic impacts (i.e. potentially significant, potentially significant but subject to effective mitigation or not significant) is made by P&D staff (in consultation with licensed geologists and engineers as necessary) upon review of project plans, proposed mitigation measures and site-specific geologic information.

Impacts are considered potentially significant if the proposed development activity, including all proposed mitigation measures, could result in substantially increased erosion, landslides, soil creep, mudslides and unstable slopes (Appendix G(q), CEQA Guidelines). In addition, impacts are considered significant when people or structures would be exposed to major geologic hazards upon implementation of the project (Appendix G(r), CEQA Guidelines).

Impacts related to geology have the potential to be significant if the proposed project involves any of the following characteristics:

1. The project site or any part of the project is located on land having substantial geologic constraints, as determined by P&D or PWD. Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils or susceptible to landslides or severe erosion. "Special Problems" areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.
2. The project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to 1 vertical.
3. The project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.
4. The project is located on slopes exceeding 20% grade.

Mitigation measures may reduce impacts to a less than significant level. These measures would include minor project redesign and engineering steps recommended by licensed geologists and engineers subsequent to detailed investigation of the site.

11. GROUNDWATER THRESHOLDS MANUAL

for

Environmental Review of Water Resources
in Santa Barbara County

Revised and updated
August 20, 1992

Brian R. Baca
Registered Geologist

Resource Management Department
County of Santa Barbara

INTRODUCTION

THRESHOLD OF SIGNIFICANCE

The Threshold of Significance is the point at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse. This manual documents the methods used to establish the threshold values for groundwater extractions from the various alluvial basins and consolidated rock aquifers in Santa Barbara County. Note that the California Supreme Court has ruled that an EIR must be prepared whenever it can be fairly argued on the basis of substantial evidence that a project may have a significant environmental impact. Implementation of CEQA requires that a lead agency (such as the county) determine what constitutes a potentially significant effect.

In the past, thresholds for the alluvial basins have been determined based on a fixed number of acre-feet per year (AFY), a percentage of existing overdraft, or a percentage of safe yield. In the most recent editions of this manual, the threshold has been calculated from a standard formula which included factors of available storage and overdraft. In this update of the manual, a new methodology developed by the Division of Environmental Review is used. A threshold was chosen for an idealized "Standard Reference Basin" based on a percentage loss of the remaining life of the available storage. Thresholds for the other basins are proportional to this value based on relative size and remaining life. This method was developed to simplify the calculations and more clearly link the various threshold levels to the environmental circumstances specific to each basin.

The Threshold of Significance for consolidated rock ("bedrock") aquifers is considered the amount of new pumpage by a proposed project which would place the aquifer in a state of overdraft. This criteria has remained the same since adoption of the first thresholds manual in 1983.

The groundwater Thresholds of Significance apply to all projects subject to discretionary review by the County of Santa Barbara.

WATER RESOURCES IN SANTA BARBARA COUNTY

Water supplies in Santa Barbara County come from two sources:

1. Surface water impounded behind dams on the Santa Ynez River augmented by infiltration into delivery tunnels drilled through the Santa Ynez Mountains.
2. Groundwater pumped primarily from the fourteen alluvial basins. Additional water is produced from bedrock aquifers in the hills which surround the alluvial basins.

These supplies are limited. Long-term average annual yields of the surface reservoirs, as currently constructed, are fixed values subject only to downward adjustment due to siltation or the occurrence of a new worst-case drought. Groundwater supplies are limited in terms of the annual amount of water which can be withdrawn without causing a long term drop in water levels ("Safe Yield") and in the amount of total storage of a basin which can be removed without

significant environmental effects ("Available Storage"). These limits make conservative use of water a necessary policy in Santa Barbara County in order to avoid or minimize significant and lasting adverse environmental effects.

Figures 1a and 1b illustrate the location of the major alluvial basins in Santa Barbara County. Also shown are the Ellwood/Gaviota and Gaviota/Point Conception areas dominated by bedrock pumpage.

ENVIRONMENTAL CONCERNS IN ALLUVIAL BASINS

Adverse environmental effects which can be caused by overdraft of an alluvial groundwater basin include:

1. Degradation of water quality
2. Saltwater intrusion
3. Land subsidence
4. Loss of well-yield
5. Well interference
6. Reduction of surface water available to support biological resources.

Degradation of Water Quality

Water quality varies considerably from one basin to another. In general, water quality in the groundwater basins of Santa Barbara County is declining with continued use of the resource, particularly in areas where the water table has been significantly lowered. Factors attributable to man which contribute to continuing degradation include pollution by agricultural runoff waters laden with fertilizers and pesticides, percolation of water from public and private sewage treatment systems, use of imported water which increases the salt load on a basin, percolation of polluted urban runoff, the reduction of the natural "flushing" effect of water through-flow caused by lowered water levels and the upward or lateral influx of connate brines by over-pumping of the freshwater aquifers. Preventive measures are the best way to address the ongoing deterioration. In general, the amount of pollutants placed in the ground, and the level of overdraft in the basins, should be minimized.

Salt Water Intrusion

Intrusion of marine salt water is a problem which could affect all of the coastal basins of Santa Barbara County. Unfortunately, few data are available on its occurrence in the past. Recent USGS studies have shown that salt water has intruded a few hundred feet onshore in Storage Unit #1 of the "Santa Barbara City Basin." Computer modeling conducted as part of this work indicated that the rate of salt water advance was four times greater than the rate at which the salt water could be flushed out by natural processes. Prevention of salt water intrusion is thus a key concern of projects supported by coastal pumpage.

Land Subsidence

Land subsidence can occur in alluvial basins where water levels have dropped due to pumpage. Substantial evidence has not been reported in Santa Barbara County. Subsidence in the

overdrafted Goleta Basin has undoubtedly occurred but most of it probably took place many decades ago when the lower aquifers were first penetrated (according to the County Water Agency). Land subsidence can be a significant problem which can damage structures erected above a local cone-of-depression caused by extensive pumping.

Loss of Well Yield

Dropping water levels in a basin due to overdraft will reduce the rate at which individual wells will be able to produce water. Drilling more wells or deeper wells are the two methods of maintaining groundwater production to service a particular municipal or agricultural demand. There are, however, technical, legal and economic limitations on the ability of individuals or public or private purveyors to use these methods. With these limitations, it is likely that continued drop in water levels due to overdraft will cause loss of agriculture and a reduction in the ability of water districts to serve existing demand.

Well Interference

New pumpage as part of a proposed project may cause a loss of well yield in nearby wells due to 1) a drop in water level as a cone-of-depression develops, or 2) a drop in water level due to storage depletion in a small isolated area. This could result in the current use on adjacent parcels being no longer supportable by the existing well(s).

Effects on Biological Resources

Pumpage of groundwater causes fluctuations over time in the elevation of the groundwater table. Lowering of the water table can effect biological resources on the land surface by reducing access to water by deep-rooted native vegetation or by reducing discharge of groundwater (baseflow) in streambeds. Even if a basin were pumped at a hydrologic "safe yield" rate (long-term water levels remain stable) a drop in water levels during a drought could adversely affect biologic resources.

In nearly all cases, an individual project's effect on biological resources would not have a discernable local effect - the new pumpage would add incrementally to the regional change in water levels. Thus, the thresholds of significance included herein would adequately address this impact. Under certain conditions, however, a local pumping depression could adversely affect a specific habitat area. In this case, the effects would need to be analyzed in the biologic resources section of the project environmental document.

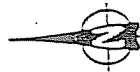
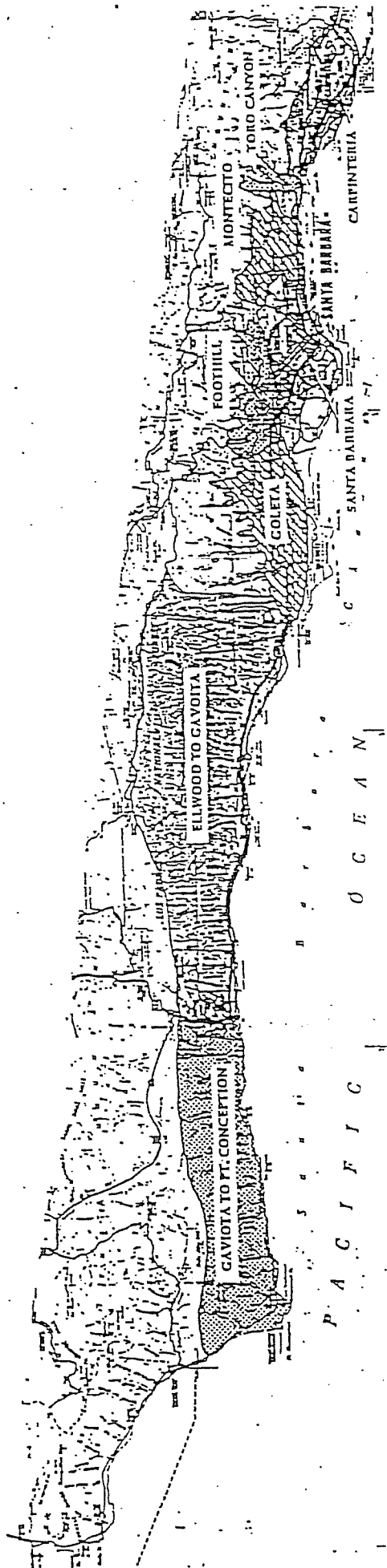
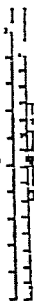
ENVIRONMENTAL CONCERNS IN CONSOLIDATED ROCK AQUIFERS

Consolidated rock aquifers are generally less extensive and have much smaller annual safe yield values than the alluvial basins. Environmental concerns associated with these aquifers include degradation of water quality, long-term loss of well yield, well interference and effects on biological resources. The discussion of these concerns presented above for alluvial basins applies to consolidated rock aquifers except for biological resources. Pumpage of consolidated rock aquifers has a direct effect on average annual flows downstream of the well site. This is because a pumpage-related drop in water levels (from native conditions) will lessen or eliminate baseflow out of the aquifer and induce groundwater recharge by stream flows. The reduction in

SANTA BARBARA COUNTY

LEGEND

1	1000'	1000'
2	2000'	2000'
3	3000'	3000'
4	4000'	4000'
5	5000'	5000'
6	6000'	6000'
7	7000'	7000'
8	8000'	8000'
9	9000'	9000'
10	10000'	10000'
11	11000'	11000'
12	12000'	12000'
13	13000'	13000'
14	14000'	14000'
15	15000'	15000'
16	16000'	16000'
17	17000'	17000'
18	18000'	18000'
19	19000'	19000'
20	20000'	20000'
21	21000'	21000'
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24	24000'	24000'
25	25000'	25000'
26	26000'	26000'
27	27000'	27000'
28	28000'	28000'
29	29000'	29000'
30	30000'	30000'
31	31000'	31000'
32	32000'	32000'
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35	35000'	35000'
36	36000'	36000'
37	37000'	37000'
38	38000'	38000'
39	39000'	39000'
40	40000'	40000'
41	41000'	41000'
42	42000'	42000'
43	43000'	43000'
44	44000'	44000'
45	45000'	45000'
46	46000'	46000'
47	47000'	47000'
48	48000'	48000'
49	49000'	49000'
50	50000'	50000'



Approximate Groundwater Basin Boundaries

FIGURE 1a

Groundwater Basins
In Southern
Santa Barbara County

Dames & Moore

TABLE 1 - SUMMARY OF GROUNDWATER BASIN CONDITIONS

Data from County Water Agency and Division of Environmental Review as of March 1992
By Brian R. Baca, 6/92 (File "thresh4.wk3") REVISED 8/92

Basin	Return flow Factor (Gross-to-net)	Available Storage	Gross Pumpage (AFY)			Net Pumpage (AFY)		
			Current Use	Estimated Safe Yield	Surplus (Overdraft *)	Current Use	Estimated Safe Yield	Surplus (Overdraft *)
Carpinteria	.90	50000	4230	4294	56	3014	3065	51
Montecito	.90	16000	1023	1350	473 *	1641	1215	426 *
Yoro Canyon	.90	650	242	300	50 *	218	270	52
Foothill	.95	5000	1095	953	142 *	1040	905	135 *
City of Santa Barbara	.95	10000	619	847	220	500	805	217
Goleta North/Central	.95	18000	5167	3600	1567 *	4908	3420	1408 *
Goleta West	.95	10000	See note below					
More Ranch	.90	600	24	84	60	22	76	54
Buellton Uplands	.74	153000	2090	1766	1132 *	2133	1300	833 *
Santa Ynez Uplands	.70	900000	14100	11500	2600 *	10908	8970	2020 *
Lompoc	.67	170000	31007	20537	2550 *	23306	21460	1910 *
San Antonio	.75	800000	19441	8667	10774 *	15431	6500	8931 *
Santa Maria	.70	1100000	149300	118500	30800 *	103000	83000	20000 *
Cuyama	.75	1500000	48700	10667	30033 *	36525	8000	28525 *
S. Y. River Riparian	N/A	90000	Not subject to overdraft.					

Note on the Goleta North/Central Basin:

The overdraft status of the Goleta North/Central Basin is based on pumpage by various private and public entities over the last decade. Overdraft of this basin is not projected to continue as a result of the court judgement in the Wright vs. Goleta Water District lawsuit and the efforts of the GWD to comply with the judgement. The judgement requires that the GWD return the basin to a state of hydrologic balance by 1998. GWD actions to meet this mandate include:

1. Adoption of a Water Supply Management Plan
2. Adoption of Ordinance 91-2 ("WET" Initiative ; Desalination Supply)
3. Voter approval of revenue bonds for the State Water Project.
4. Construction of the GWD/GSD waste water reclamation plant.
5. Permanent water conservation programs.

On July 14, 1992 the Board of Supervisors determined that water service to Wright litigants and other holders of Can-and-Will-Serve letters from the Goleta Water District does not have the potential to cause overdraft. Projects fitting in this description are therefore exempt from environmental review as it pertains to questions of groundwater overdraft.

Note on the Goleta West Basin:

The status of the Goleta West Basin (or Subbasin) has not yet been resolved. This is because of uncertainty associated with several well exchange/service agreements between the GWD and landowners in the West Basin. The issue is the subject of ongoing discussions between RWD and GWD staff and is anticipated to be resolved by late 1992.

TABLE 2 - GROUNDWATER THRESHOLDS 1992 UPDATE

Revised methodology for determining Threshold of Significance
by Brian R. Uaca, 6/92 (File "thresh2b.wk3") REVISED 8/20/92

METHODOLOGY

An Idealized reference basin having overdraft and storage characteristics similar to the overdrafted basin with the greatest remaining life (Santa Ynez Uplands) was chosen as a standard. The Threshold of Significance for this reference basin was set at an amount (61.9 AFY) that if added to the assumed overdraft would result in the loss of 3 % of the remaining life of the Available Storage. The Threshold values for the actual basins are proportional to the Threshold for the reference basin based on the relative length of remaining life and the relative size of the basin. Remaining life is weighted at 75 %; size at 25 %. Threshold values are rounded to the nearest 1 AFY for use in project environmental review.

STANDARD REFERENCE BASIN

Net Overdraft (AFY)	Available Storage (AF)	Remaining Life of Av. Strg. (Years)	Threshold of Significance based on loss of remaining life of Avail. Stor.	Formula for calculation of reference basin Threshold of Significance (x) in AFY. (3 % loss of remaining life)
2000.000	900000.000	450.000	3.000 %	900000 AF
a	b	c	d	2000 AFY + (x)
				450 years * .97

OVERDRAFTED / OVERCOMMITTED BASINS

Basin	Net Overdraft (AFY)	Available Storage (AF)	Remaining Life of Av. Strg. (Years)	Ratio to Standard Reference Basin		Combined Ratio (1) @ 75% (2) @ 25%	Calculated Threshold of Significance (Combined ratio times 61.056)	Applied Threshold of Significance (AFY)
				(1) Remaining Life (R.L. / c)	(2) Available Storage (A.S. / b)			
Santa Ynez Uplands	2020.000	900000.000	443.707	0.986	1.000	0.990	61.215	61
Buellton Uplands	833.000	153000.000	104.634	0.410	0.171	0.350	21.677	22
San Antonio	8931.000	800000.000	89.576	0.199	0.089	0.372	22.900	23
Lompoc	1910.000	170000.000	88.634	0.197	0.109	0.195	12.058	12
Santa Maria	20000.000	1100000.000	55.000	0.122	1.222	0.397	24.570	25
Cuyama	20525.000	1500000.000	52.505	0.117	1.667	0.504	31.194	31
Montecito	426.000	160000.000	37.559	0.083	0.010	0.067	4.147	4
Foothill	135.000	5000.000	37.037	0.082	0.006	0.063	3.904	4
Goleta No./Central	1488.000	18000.000	12.097	0.027	0.020	0.025	1.556	2

BASINS IN SURPLUS (No Threshold of Significance applies)

Basin	Net Overdraft (AFY)	Available Storage (AF)
Carpinteria	0.000	50000.000
City of Santa Barbara	0.000	10000.000
Toro Canyon	0.000	650.000
More Ranch	0.000	1200.000

flows represented by typical safe yield (potential average annual recharge) values estimated for hardrock aquifers is usually only a small proportion of the total average annual streamflows and would not likely result in substantial impacts on downstream riparian habitat. In certain cases where the proposed pumpage would cause a substantial reduction (as determined by the P&D geologist) in streamflow and an environmentally sensitive habitat were present downstream, the effects on that habitat should be addressed in the biological resources section of the environmental document. The existence of a local critical habitat supported by aquifer baseflow and occupied by a rare or endangered species would also need to be addressed in the biologic resources section.

The basis for the assessment of impacts on groundwater resources due to pumpage of consolidated rock aquifers is the avoidance of overdraft (see discussion on Thresholds, this document).

ENVIRONMENTAL REVIEW OF WATER RESOURCES

ALLUVIAL BASINS

The relative significance of proposed new withdrawals from a groundwater basin must be assessed in the preparation of an environmental document (ND, EIR) pursuant to the California Environmental Quality Act. This is done through calculation of specific "Thresholds of Significance" for each of the overdrafted basins in Santa Barbara County. No threshold is established for a basin in a state of surplus. A project in such a basin would be subject to a threshold only if it would use more than the remaining surplus. In an overdrafted basin, projected net new consumptive water use of a project which exceeds the calculated threshold for that particular basin is deemed a significantly adverse environmental impact. This determination during the initial study would require the preparation of an Environmental Impact Report. If the estimated water use remains above the Threshold of Significance in the final analysis, the impact of the project on water resources, would, as stated above, be considered significant (Class I) and the project would require a finding of Overriding Considerations by the Decision-makers for approval.

Thresholds of Significance are calculated from hydrologic parameters for each of the basins in a state of overdraft. The size of the basin and the level of net annual overdraft are the key factors upon which the threshold is based. Current status of the basins is summarized in Table 1. The method used to establish the appropriate values for each basin involves setting a threshold for an idealized "Reference Basin" having overdraft and storage characteristics similar to the overdrafted basin with the greatest remaining life (Santa Ynez Uplands) based on a percentage loss of the estimated remaining life of the available storage. Thresholds for the other basins are proportional to this value based on the relative size and remaining life. A detailed explanation and a worksheet illustrating all the figures used in the calculation and the results are included on Table 2. Threshold values of 2 AFY to 61 AFY are herein established for the eight overdrafted/overcommitted basins in Santa Barbara County.

Definitions of the key parameters are as follows:

Safe Yield - The maximum amount of water which can be withdrawn from a basin (or aquifer) on an average annual basis without inducing a long-term progressive drop in water level.

Available Storage - Available storage is the volume of water in a particular basin which can be withdrawn without substantial environmental effects. This storage reflects the amount of water in the basin on a long-term basis (a point on a long-term trend line) not the current storage level in the basin. The number will be periodically updated by DER and the County Water Agency as new information becomes available.

Net Annual Overdraft - The amount by which average long term demand on a basin exceeds the safe yield of the basin after allowances have been made for return flows. The "demand" figure will generally include commitments of supply such as approved projects not yet constructed with the estimated current level of pumpage.

Portions of Santa Barbara County, especially the South Coast, are served by water districts which distribute both surface water from the Santa Ynez River watershed and groundwater pumped from local basins. For environmental review purposes, the surface supplies are considered to be the first element of supply committed to existing demand. Thus, the water use of a new development is assumed to come entirely from the groundwater basin.

New supplemental supplies of water in the process of development in Santa Barbara County include desalination of sea water, wastewater reclamation and importation of water through the State Water Project. Upon determination that a new source is available over the long term, a project supported by that source would not be subject to the groundwater thresholds of significance. If water from a new source were to offset current pumpage on a long-term basis, the Threshold of Significance would be revised to reflect the lowered pumpage.

CONSOLIDATED ROCK AQUIFERS

The methodology for determining the threshold of significance for water use in consolidated rock (bedrock) aquifers is based on whether the proposed usage would place the aquifer in a state of overdraft. In order to make this determination it is necessary to define the boundaries of the aquifer and to estimate the potential average annual recharge (i.e. Safe Yield) available within the defined boundary.

Aquifer boundaries

Bedrock aquifers in Santa Barbara County generally extend for long distances along bedding strike. On the south flank of the Santa Ynez Mountains, the Miocene and Eocene bedrock formations crop out in a continuous band crossing the intermontane watersheds from the Santa Barbara area to near Point Conception. The sandstone (and sometimes fractured shale) aquifers in these formations are variable in their hydrologic characteristics but are generally far less permeable and productive than unconsolidated alluvial sediments. They are also interbedded with relatively impermeable marine and non-marine shales and mudstones. Clearly, a well pumping at any one point cannot access the water in storage and the potential recharge (i.e. safe yield) over the entire trend. Pumping effects extending further than a few thousand feet cannot

be assumed. For purposes of analysis it is necessary to divide these aquifers into units in which the storage and potential recharge attributable to that unit can be presumed to be accessed from a single location. The watershed divides (ridgelines) are designated as aquifer boundaries for purposes of environmental review. Using watershed areas to define and analyze the bedrock aquifers have several advantages: 1) the boundaries are clearly delineated, 2) most wells are drilled in canyon bottoms and, thus, the topographic divide would occur at the approximate midpoint between pumping centers and 3) the watershed area is directly related to a major source of potential recharge, stream seepage. It must be recognized, however, that the watershed boundaries, a surface feature, do not represent barriers to subsurface groundwater flow. For this reason a well located near a watershed boundary could draw water from an adjacent watershed and access the yield attributable to that watershed. Based on observed well drawdown effects in the Vaqueros Formation at two locations in the Ellwood/Gaviota area, it will be assumed in the analysis of Vaqueros aquifers that a well located within 800 feet of a watershed boundary will access the yield attributable to the adjacent watershed. The combined safe yield of the affected watersheds (and the combined existing demands) will be used to assess a project's impact on groundwater resources. A "radius of influence" greater or less than 800 feet may be used if justified based on site-specific geologic or hydrologic data. In other formations, the ridgeline boundary criteria will be used unless site-specific data is available which better defines the aquifer limits.

The boundary of the "aquifer" in the stratigraphic sense is also necessary to define. In a geologic formation or subunit predominated by sandstone (presumably fractured) a well in any part of that unit is assumed capable of accessing all of the potential recharge to that unit. Specific examples on the South Coast would be the Vaqueros and Coldwater Formations. Note that site specific geologic information could require that these formations be divided into subunits (as determined by the DER Geologist). In a unit comprised of interbedded permeable and non-permeable units the aquifer is defined as the stratigraphic interval to which the well is hydrologically connected (i.e. the screened or gravel packed interval). The Sespe Formation is an example of the type of geologic unit which would be subject to this definition.

As a reasonable worst case, faults are considered to be barriers to groundwater flow. The aquifer boundaries used in environmental review would reflect this assumption.

Safe Yield

Introduction

In past Thresholds manuals, potential average annual recharge to an aquifer, or "safe yield", was estimated based on a percentage of total average annual precipitation in the watershed above the aquifer under study. A figure of 4.75% of the total precipitation was assigned to the aquifer as safe yield based on values obtained from the USGS study of the Ellwood to Gaviota area by Miller and Rapp (1968). The 4.75% figure was, however, taken out of context and used incorrectly. This figure is an estimate of field recharge (direct percolation of rainwater) over an entire watershed area and does not reflect the field recharge attributable to the outcrop area of a single aquifer (or group of aquifers) within the watershed. The field recharge of any single aquifer is generally far less than that for the entire watershed. This method also did not account for induced recharge (stream seepage and subsurface underflow) due to the drop in aquifer water level with pumpage. A new methodology which accounts for sources of direct recharge (field

recharge and stream seepage) and indirect recharge (subsurface underflow) is described below. This methodology was jointly developed by the Division of Environmental Review and the County Water Agency. *(A program diskette including instructions is available from the P&D Geologist.)*

Direct Recharge

Direct recharge refers to the infiltration of surface water into the aquifer. This can occur as either field-recharge (the direct penetration of rainfall) or as seepage from flowing streams.

Field recharge

Field recharge has been estimated by a variety of methods. Miller and Rapp (1968) made their estimate of 4.75% of total average annual rainfall based on groundwater discharge or baseflow out of the watersheds from Ellwood to Gaviota. Blaney (1933) measured actual recharge in an alluvial setting in Ventura County for several years and developed graphic curves ("Blaney curves") which relate annual rainfall to infiltration. Another method developed by the Soil Conservation Service involves modeling of a "soil reservoir." When the inputs to the reservoir (rainfall) exceed output (evapo-transpiration of vegetation and runoff) and soil reservoir storage capacity deep penetration to groundwater is assumed to occur. This "Soil Moisture Balance" methodology involves the use of monthly rainfall data and allows for input of site specific parameters such as vegetation type, soil type and the amount of irrigation water applied to the surface outcrop. The Blaney Curve method uses only annual rainfall data and does not allow for input of site specific data. Miller and Rapp's figure is very general and averages together aquifers and non-aquifers with different vegetation, soil types and average rainfall. Given these comparisons, Soil Moisture Balance analysis is considered the best method for estimating field recharge and will be applied to aquifer outcrop area when adequate (as determined by DER) monthly rainfall data is available. In the absence of such data one of the other two methods (Blaney Curves, Miller and Rapp) will be used.

Estimates of field recharge using the soil moisture balance method involve preparation of a computer spreadsheet which applies monthly values of rainfall, applied water (if any), runoff and potential vegetation evapo-transpiration to a model of the "soil reservoir" based on rooting depth and soil moisture holding capacity. An example of this spreadsheet is presented as Table 3. Key parameters used in this analysis are described below:

Applied water: Monthly irrigation amount applied to crop planted on top of aquifer outcrop. Monthly amounts based on 1) total annual use divided proportional to the monthly values for plant potential ET or 2) crop irrigation schedule according to Cooperative Extension or California Dept. of Water Resources.

Rainfall: Values from an appropriate nearby rain gauge(s) monitoring by the Santa Barbara County Flood Control District. (Refer to Precipitation Data Report, 1990).

Runoff Factor: The portion of precipitation which goes to runoff is not available for deep percolation. Until detailed studies are completed an average figure of 20% (80% effective rainfall) will be used. This figure is rounded from the 19% cited by Miller and Rapp (1968).

TABLE 3
Example Soil Moisture Balance Analysis Spreadsheet

YAQUEROS FORMATION, ELLWOOD CANYON
SOIL MOISTURE BALANCE ANALYSIS
Rainfall data 1941-1979 (modified from Dos Pueblos Ranch)
Oaks and brush veg. cover (Rooting depth = 14')
Sandy soil (Moisture Capacity = .07 in./in. from SC5)
Soil reservoir capacity = 11.76 inches (14' x 12"/ft x .07"/in.)
Runoff as % of precipitation = 20

Month	Applied Water	Rainfall (Inches)	Runoff factor (.9 = 10% runoff)	Effective rainfall (inches)	Initial Soil Moisture (Inches)	Total Available Moisture (Inches)	Potential ET (Inches)	Final Soil Moisture (Inches)	Water Yield
1940 Aug	0	0	0.8	0	0	0	8.71	0	0
Sept	0	0	0.8	0	0	0	5.25	0	0
Oct	0	0.95	0.8	0.76	0	0.76	2.07	0	0
Nov	0	0.54	0.8	0.432	0	0.432	1.21	0	0
Dec	0	11.26	0.8	9.008	0	9.008	1.21	7.798	0
Jan	0	12.22	0.8	9.776	7.798	17.574	1.64	15.934	4.174
Feb	0	10.37	0.8	8.296	11.76	20.056	2.87	17.186	5.426
Mar	0	14.79	0.8	11.832	11.76	23.592	4.54	19.052	7.292
Apr	0	6.94	0.8	5.552	11.76	17.312	6.17	11.142	0
May	0	0.01	0.8	0.008	11.142	11.15	8.33	2.82	0
June	0	0	0.8	0	2.82	2.82	7.79	0	0
Jul	0	0.04	0.8	0.032	0	0.032	8.64	0	0
1941 Aug	0	0.01	0.8	0.008	0	0.008	8.71	0	0
Sept	0	0	0.8	0	0	0	5.25	0	0
Oct	0	1.12	0.8	0.896	0	0.896	2.07	0	0
Nov	0	0.56	0.8	0.448	0	0.448	1.21	0	0
Dec	0	6.31	0.8	5.048	0	5.048	1.21	3.838	0
Jan	0	1.01	0.8	0.808	3.838	4.646	1.64	3.006	0
Feb	0	0.95	0.8	0.76	3.006	3.766	2.87	0.896	0
Mar	0	2.22	0.8	1.776	0.896	2.672	4.54	0	0
Apr	0	4.03	0.8	3.224	0	3.224	6.17	0	0
May	0	0	0.8	0	0	0	8.33	0	0
June	0	0	0.8	0	0	0	7.79	0	0
Jul	0	0	0.8	0	0	0	8.64	0	0
1942 Aug	0	0	0.8	0	0	0	8.71	0	0
Sept	0	0.04	0.8	0.032	0	0.032	5.25	0	0
Oct	0	1.82	0.8	1.456	0	1.456	2.07	0	0
Nov	0	0.78	0.8	0.624	0	0.624	1.21	0	0
Dec	0	1.72	0.8	1.376	0	1.376	1.21	0.156	0
Jan	0	16.21	0.8	12.968	0.156	13.134	1.64	11.494	0
Feb	0	5.32	0.8	4.256	11.494	15.75	2.87	12.88	1.12
Mar	0	3.69	0.8	2.952	11.76	14.712	4.54	10.172	0
Apr	0	1.16	0.8	0.928	10.172	11.1	6.17	4.93	0
May	0	0.04	0.8	0.032	4.93	4.962	8.33	0	0
June	0	0	0.8	0	0	0	7.79	0	0
Jul	0	0	0.8	0	0	0	8.64	0	0
1977 Aug	0	0	0.8	0	0	0	8.71	0	0
Sept	0	0	0.8	0	0	0	5.25	0	0
Oct	0	0	0.8	0	0	0	2.07	0	0
Nov	0	0	0.8	0	0	0	1.21	0	0
Dec	0	6.1	0.8	4.88	0	4.88	1.21	3.67	0
Jan	0	11.39	0.8	9.112	3.67	12.782	1.64	11.142	0
Feb	0	14.81	0.8	11.848	11.142	22.99	2.87	20.12	8.36
Mar	0	14.77	0.8	11.816	11.76	23.576	4.54	19.036	7.276
Apr	0	2.83	0.8	2.264	11.76	14.024	6.17	7.854	0
May	0	0	0.8	0	7.854	7.854	8.33	0	0
June	0	0	0.8	0	0	0	7.79	0	0
Jul	0	0	0.8	0	0	0	8.64	0	0
1978 Aug	0	0	0.8	0	0	0	8.71	0	0
Sept	0	1.12	0.8	0.896	0	0.896	5.25	0	0
Oct	0	0	0.8	0	0	0	2.07	0	0
Nov	0	3.55	0.8	2.84	0	2.84	1.21	1.63	0
Dec	0	1.58	0.8	1.264	1.63	2.894	1.21	1.684	0
Jan	0	6.16	0.8	4.928	1.684	6.612	1.64	4.972	0
Feb	0	6.81	0.8	5.448	4.972	10.42	2.87	7.55	0
Mar	0	5.95	0.8	4.76	7.55	12.31	4.54	7.77	0
Apr	0	0	0.8	0	7.77	7.77	6.17	1.6	0
May	0	0	0.8	0	1.6	1.6	8.33	0	0
June	0	0	0.8	0	0	0	7.79	0	0
Jul	0	0	0.8	0	0	0	8.64	0	0

TOTAL = 918.21
ANN.AVG. = 23.5438462 inches/yr

TOTAL = 52.674
ANN. AVG. in./year 1.60702564
RECHARGE AFY/acre 0.1339188

Moisture Capacity: This figure refers to the ability of a particular soil type to hold water by capillary force. It is measured in inches of water per inch of soil. The figure used in the analysis will be that listed for the aquifer outcrop area in the SCS soil survey for Santa Barbara County. If an SCS value is unavailable, a value determined by the DER geologist will be used.

Rooting Depth: Vegetation rooting depth equals the thickness of the soil reservoir. The values used are based on USGS reports, information provided by the farm advisor and other studies.

Soil reservoir capacity: This figure is the product of the moisture capacity times the rooting depth. It represents the total amount of water (in inches) that can be held in the soil reservoir. If additional water is added beyond this amount it is presumed to percolate to groundwater.

Potential ET: The potential evapo-transpiration (ET) annual curve used in the analysis will be based on USGS reports, evapo-transpiration measurements at CIMIS stations, vegetation water use studies by the State Department of Water Resources or other related studies.

Water yield shown in the last column on Table 3 represents the amount of water available to the soil reservoir in excess of the moisture holding capacity of the soil reservoir and the potential ET of the vegetation. The monthly values are averaged over a long period of time (decades) to obtain a figure for average annual recharge in AFY per acre of aquifer outcrop. This figure is multiplied times the aquifer acreage and rounded to the nearest 1 AFY to obtain average annual field recharge.

Stream Seepage: Under native conditions (no pumping) bedrock aquifers in mountain areas (e.g. the Santa Ynez Mountains) have water levels at or near the elevation of the streambed. During and after the rainy season, water which has infiltrated into the aquifer as field recharge, discharges into the creek (baseflow). Seepage from streams does not occur because the aquifer is full and, at times, spilling. A drop in aquifer water level due to well pumpage will induce recharge from stream flows as well as reducing (or eliminating) baseflow out of the aquifer.

Magnitude of potential stream seepage depends on stream flow rates, streambed geometry, a seepage rate and the length of stream which crosses the aquifer outcrop. The County Water Agency (CWA) has developed a model which relates all of these factors and provides an estimate of long-term average annual recharge attributable to stream seepage. This model is based on 39 years of daily flows recorded at the USGS gauging station in San Jose Creek. It contains a function which calculates daily stream width (wetted surface width) at various flow rates over the 39 year period for a given channel geometry. Using this function and a stream seepage rate in gallons per day per square foot of wetted surface area a potential annual average seepage figure (in AFY) can be obtained. The information needed to perform this analysis on any particular aquifer is listed below:

TABLE 4a - Example of Recoverable Water Worksheet

SAN JOSE CREEK WATERSHED RECOVERABLE WATER WORKSHEET (FOLLOWS PROCEDURE DEVELOPED IN USGS PROFESSIONAL PAPER 417-E)

Altitude Range (ft. MSL)	Wtrshd Area (Acres)	Area % of Wtrshd	Rainfall (P) (in Inches)	Potential ET (E, in.)	P/E	R/E	Recoverable Water (R)	Adjusted R (= K*R)	Watershed Loss (L)
2500 - 3000	510	14.5%	30.00	54.00	0.56	0.103	5.54	7.20	22.80
2000 - 2500	1020	20.9%	29.00	55.50	0.52	0.085	4.74	6.16	22.84
1600 - 2000	637	10.1%	20.00	56.00	0.50	0.075	4.18	5.43	22.57
1200 - 1600	361	10.2%	27.00	56.00	0.48	0.067	3.73	4.86	22.14
800 - 1200	297	8.4%	25.50	55.20	0.46	0.058	3.22	4.19	21.31
400 - 800	404	11.5%	24.00	53.50	0.45	0.053	2.84	3.70	20.30
150 - 400	297	8.4%	22.00	51.00	0.43	0.047	2.39	3.11	18.89
TOTALS	3526	100.0%							
Weighted Avgs.			27.30	54.79			4.11	5.34	21.96

ADJUSTED RECOVERABLE WATER = 5.34 inches (weighted average over watershed).
WATERSHED AREA = 3526 acres.
WATERSHED RUNOFF IS ESTIMATED @ 1569 Acre Feet / Year.

GEOLOGIC INDEX:

Category	% of wtrshd	Index	The TOTAL GEO INDEX Indicates a K value of (see CHART on page E21 of 417-E).
A (* 10)	7%	70	1.3
B (* 100)	0%	0	
C (* 0)	92%	0	
D (* 100)	1%	100	
E (* 10)	0%	0	
F (* 20)	0%	0	
G (* 40)	0%	0	
TOTAL GEO INDEX =		170	

TABLE 4b - Example of Recoverable Water Worksheet

SAN ONOFRE CREEK WATERSHED RECOVERABLE WATER WORKSHEET (FOLLOWS PROCEDURE DEVELOPED IN USGS PROFESSIONAL PAPER 417-E) (File "onofre2.wk3")

Altitude Range (ft. MSL)	Wtrshd Area (Acres)	Area % of Wtrshd	Rainfall (P) (in Inches)	Potential ET (E, in.)	P/E	R/E	Recoverable Water (R)	Adjusted R (= K*R)	Watershed Loss (L)
2000 - 2600	264	20.8%	22.00	55.40	0.40	0.036	1.99	2.59	19.41
1600 - 2000	222	17.5%	21.00	56.00	0.38	0.030	1.67	2.17	18.83
1200 - 1600	271	21.3%	20.00	56.00	0.36	0.025	1.42	1.05	18.15
800 - 1200	305	24.0%	19.00	55.20	0.34	0.022	1.24	1.61	17.39
400 - 800	158	12.4%	18.00	53.50	0.34	0.021	1.12	1.45	16.55
150 - 400	51	4.0%	17.00	51.00	0.33	0.020	1.03	1.34	15.66
0 - 150	0	0.0%	16.00	51.00	0.31	0.017	0.85	1.10	14.90
TOTALS	1271	100.0%	19.98	55.17			1.49	1.93	18.05
Weighted Avgs.									

ADJ. RECOVERABLE WATER = 1.93 Inches (Watershed weighted mean runoff depth).
 WATERSHED AREA = 1271 Acres.
 CALCULATED WATERSHED RUNOFF IS 205 Acre Feet / Year.
 WATERSHED RUNOFF IS ESTIMATED @ 215 Acre Feet / Year.

GEOLOGIC INDEX:

Category	% of wtrshd	Index	The TOTAL GEO INDEX indicates a K value of (see CHART on page E21 of 417-E).	1.3
A (* 10)	7%	70		
B (* 100)	0%	0	SAN JOSE CREEK MULTIPLIER =	0.136243
C (* 0)	93%	0	Aquifer name	Vaqueros
D (* 100)	0%	0	Aquifer length along stream (L) =	300
E (* 10)	0%	0	Effective aquifer length along stream =	600
F (* 20)	0%	0	(Up to 300' added to (L) for subsurface underflow)	
G (* 40)	0%	0	POTENTIAL STREAM RECHARGE =	11.80314
TOTAL GEO INDEX =		70	Team Seepage Curves	

1. Stream flows: Average annual runoff in the watershed above the aquifer under analysis is estimated using the procedure developed by Crippen in USGS Professional Paper 417-E (1965). This method accounts for elevation, watershed area, potential evapotranspiration, the isohyetal distribution of rainfall and rock type. The average annual runoff ("recoverable water") estimated by this method for San Jose Creek in Goleta was compared to the actual average runoff measured by the USGS daily flow gauge on that creek over a 39-year period (1940-79). The "Crippen estimate" of 1569 AFY (Table 4a) was very close to the 1576.8 AFY measured by the gauge. However, the gauged values are approximately 5% lower than they would be under native conditions because of stream diversions and minor percolation losses to the Goleta Groundwater Basin upstream of the gauging station. Thus, the average annual flows used for the seepage analysis will be the Crippen calculated value increased by 5%. Table 4b is an example recoverable water worksheet for San Onofre Creek. The estimated average annual flows for a watershed are distributed on a daily basis over the 39-year modeling period using the daily gauged flows at San Jose Creek. The runoff at a watershed under study (Crippen plus 5%) is divided by the 1576.8 AFY measured at the San Jose gauge to obtain a "San Jose Creek Multiplier". This multiplier is applied to the gauged daily flows at San Jose Creek to obtain a model of daily flows at the aquifer under analysis.

The point along the stream where flows are estimated (the downstream limit of the "watershed") will be placed near the downstream contact or limit of the aquifer 20% of the distance from that point to the upstream contact of the aquifer. This location is incorporated into the seepage modeling discussed below.

2. Streambed geometry: The streambed geometry incorporated into the model is based on field measurements of the creek in Ellwood Canyon at the northern outcrop of the Vaqueros Formation. This channel geometry is considered representative of creeks on the South Coast. Narrower channels occur in some areas which would allow for less seepage per unit of flow. Ellwood Canyon geometry will, however, be used unless site specific data is available.
3. Seepage factor: A seepage factor of 10 gallons per day per square foot of wetted surface area is used in the analysis. This factor is based on measurements of seepage made during controlled releases down Mission Creek in the City of Santa Barbara (Martin, 1984). This factor is used as the best available information but may be higher than the actual rate for consolidated rock aquifers. A figure of 15 gpd/ft² was measured in river gravels by the County Water Agency. Such gravels are far more permeable (orders of magnitude) than bedrock aquifers or the alluvial sediments in Mission Creek.
4. Streambed length: This length is measured from the upper to the lower geologic contacts of the aquifer along the streambed as delineated on the USGS topographic map.

A table of monthly flow values calculated with the stream flow model for San Onofre Creek is presented in Table 5 based on the multiplier determined with the recoverable water worksheet. A table of seepage values is presented in Table 6. The seepage figures are generated from the estimated flows, the stream length and the seepage factor and streambed geometry parameters discussed above. The relationship between average annual potential stream seepage and the San

Jose Creek multiplier is presented graphically on Figure 2. The stream seepage curves shown on this graph plot the multiplier versus the average annual potential seepage per 100 feet of aquifer exposed along the stream for various total effective exposure lengths. The different curves required for each value of effective aquifer exposure length reflects the fact that the stream flows in the downstream parts of an aquifer are reduced by percolation into the upstream parts the aquifer. As aquifer exposure length increases the average percolation per 100 feet of that exposure length progressively declines. The curves shown on Figure 2 are based on estimated flows at a point located 20% of the distance from the downstream contact or limit of the aquifer to the upstream contact of the aquifer. All analyses will incorporate this parameter.

In summary, once the appropriate multiplier and stream length are known, the potential seepage is readily estimated from the curves on Figure 2. For purposes of environmental review all values are rounded to the nearest 1 AFY.

A geologic circumstance which occurs in some canyons is where a thin body of alluvium partially fills the valley over the bedrock aquifer under study. It can be reasonably argued that clay layers within the alluvium prevents seepage of stream water into an underlying aquifer. It can also be reasonably argued that the alluvium enhances the potential recharge by increasing the area of hydrologic connection through which stream flow or underflow in the alluvium could recharge a bedrock aquifer. It would require detailed long term records of stream flows, water levels and pumpage along with several monitoring wells to document either effect. This data is rarely, if ever, available. For purposes of environmental review, the model-derived value will be used as the estimate of potential seepage from stream flow and underflow.

Indirect Recharge

A drop in aquifer water level due to pumpage can induce underflow from adjacent consolidate rock units. Given that most of the sandstone aquifers in the county are either bounded by or interbedded with generally impermeable shales and mudstones, underflow cannot be counted on to provide substantial amounts of recharge. The stratified nature of the bedrock formations requires that water would have to flow across the bedding planes and through the least permeable stratigraphic layers. Increments of safe yield would be added by dropping water levels over an area of the adjacent formation such that additional direct recharge from rainfall or stream seepage be accessed. To account for potential recharge due to subsurface underflow, the area accessed by a well will be considered to extend 300 feet (measured horizontally) into the formation upgradient of the aquifer, as defined using the guidelines in this manual, if that formation contains water-producing horizons (e.g. fractured sandstones). The estimation of field recharge and potential stream seepage will be adjusted to allow for larger aquifer surface area and greater effective aquifer stream length.

TABLE 5

Estimated monthly flows @ San Onofre Creek
based upon SBCWA San Jose Creek flow model.

Estimated monthly STREAM FLOW at San Onofre Creek, Vaqueros Formation:

San Jose multiplier = .13624

Formation exposure length (feet) = 600; Channel Geometry = Ellwood Creek.

WtrYear	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
1940-41	0	0	52	159	255	306	201	22	11	7	5	4	1022
1941-42	3	4	31	11	4	6	34	7	2	1	0	1	104
1942-43	2	3	3	246	49	76	13	6	2	2	1	1	404
1943-44	2	2	8	3	71	43	6	6	2	1	1	1	146
1944-45	2	30	4	4	56	15	6	3	1	1	0	0	121
1945-46	0	1	29	2	4	24	5	3	0	0	0	0	69
1946-47	0	41	30	1	1	3	1	1	0	0	0	0	79
1947-48	0	0	0	0	0	3	2	0	0	0	0	0	4
1948-49	0	0	2	1	1	24	1	9	1	0	0	0	38
1949-50	0	2	6	7	16	3	2	1	0	0	0	0	37
1950-51	0	1	1	2	1	2	1	1	0	0	0	0	9
1951-52	0	0	13	298	8	125	20	8	3	1	3	2	483
1952-53	3	10	33	21	3	4	4	4	2	0	0	1	84
1953-54	0	3	3	20	10	13	6	5	1	0	0	0	62
1954-55	0	2	7	16	6	5	8	11	2	0	0	0	58
1955-56	0	1	99	128	18	7	21	23	3	1	1	0	303
1956-57	0	0	1	22	36	12	19	14	2	1	0	0	107
1957-58	1	2	44	31	167	158	235	12	4	3	2	1	659
1958-59	1	1	2	15	37	4	2	2	2	1	0	0	63
1959-60	0	0	1	8	10	5	8	2	0	0	0	0	35
1960-61	0	11	4	6	2	2	1	0	1	1	1	0	28
1961-62	0	3	8	5	404	25	5	3	2	1	1	0	458
1962-63	2	2	2	3	35	12	10	5	4	1	1	1	77
1963-64	1	10	3	7	3	4	9	2	1	1	0	0	42
1964-65	1	4	30	11	2	6	79	4	3	1	1	1	143
1965-66	1	172	114	27	11	5	3	2	1	1	1	0	337
1966-67	1	11	196	192	25	32	72	15	5	2	3	2	556
1967-68	2	7	6	4	4	17	11	2	1	1	0	0	54
1968-69	1	2	3	273	203	65	42	12	10	3	3	3	620
1969-70	2	5	4	13	33	60	3	1	2	1	0	0	125
1970-71	1	16	21	8	4	5	3	4	3	1	0	0	66
1971-72	1	2	51	7	3	2	1	1	1	0	0	0	71
1972-73	1	26	2	88	180	84	12	11	5	2	1	1	413
1973-74	1	4	7	62	5	26	8	3	3	2	1	1	123
1974-75	1	2	44	3	94	97	9	5	3	2	0	0	261
1975-76	1	1	2	1	32	14	3	3	1	0	0	4	63
1976-77	4	3	2	18	2	3	1	10	1	0	0	0	46
1977-78	0	0	20	205	213	312	62	17	7	4	5	10	855
1978-79	7	8	8	16	31	54	13	5	4	3	1	1	149
Average	1	10	23	50	52	43	24	6	2	1	1	1	215

NEWSEEP: HTB revision of 06/02/92.

TABLE 6

Estimated monthly stream seepage (percolation)
based upon SBCWA San Jose Creek flow model.

Estimated monthly STREAM PERCOLATION, San Onofre Creek Vaqueros Formation:

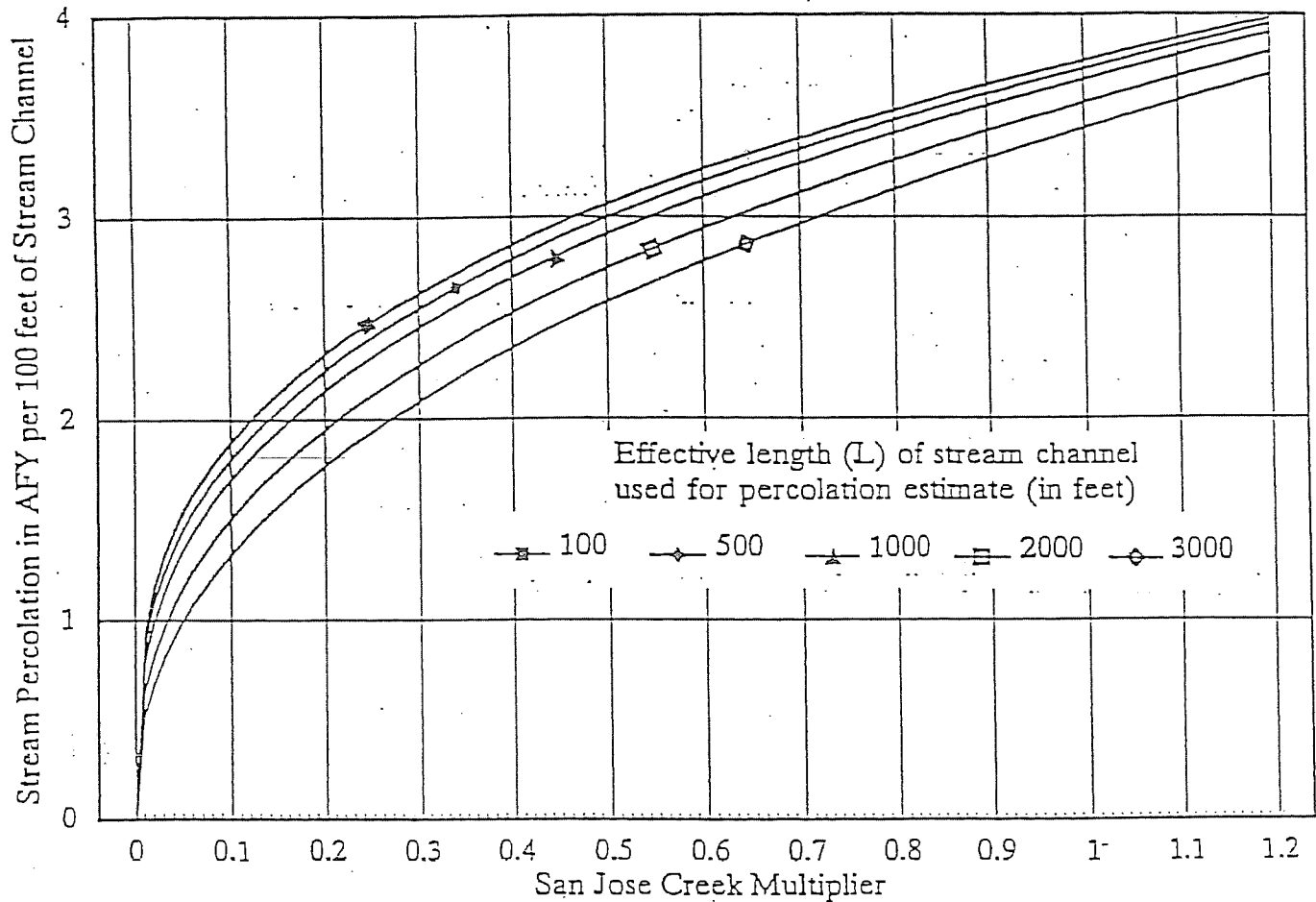
San Jose multiplier = .13624

Formation exposure length (feet) = 600; Channel Geometry = Ellwood Creek.

WtrYear	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
1940-41	0.0	0.0	1.1	2.7	3.5	3.9	3.4	2.0	1.6	1.4	1.2	1.1	22.0
1941-42	1.1	1.1	1.7	1.6	.9	1.1	1.9	1.4	.8	.7	.4	.7	13.3
1942-43	.7	1.0	1.1	2.3	2.0	2.7	1.7	1.3	.9	.9	.5	.6	15.6
1943-44	.9	.8	1.2	1.0	2.0	1.9	1.2	1.3	.9	.6	.5	.4	12.8
1944-45	.8	1.4	1.2	1.2	1.3	1.4	1.3	1.1	.4	.6	0.0	.1	10.9
1945-46	.1	.7	1.4	.8	.8	1.1	1.1	1.0	0.0	0.0	0.0	0.0	7.0
1946-47	0.0	1.2	1.5	.6	.4	1.0	.7	.7	0.0	0.0	0.0	0.0	6.1
1947-48	0.0	0.0	0.0	0.0	.1	.4	.6	0.0	0.0	0.0	0.0	0.0	1.1
1948-49	0.0	0.0	.3	.7	.4	1.3	.5	.7	.5	0.0	0.0	0.0	4.4
1949-50	0.0	.1	.8	1.1	1.1	1.1	.9	.4	.2	0.0	0.0	0.0	5.7
1950-51	0.0	.4	.8	.9	.7	.8	.3	.6	0.0	0.0	0.0	0.0	4.6
1951-52	0.0	0.0	.8	3.1	1.4	2.7	1.9	1.5	1.0	.5	1.1	.9	14.7
1952-53	1.0	1.4	1.9	1.8	.8	1.2	1.1	1.1	.8	.1	.3	.6	12.1
1953-54	.1	.9	1.1	1.1	1.0	1.2	1.3	1.3	.3	.1	0.0	0.0	8.5
1954-55	0.0	.8	1.3	1.4	1.1	1.2	1.1	1.5	.7	.1	0.0	0.0	9.3
1955-56	0.0	.7	1.9	2.1	1.7	1.4	1.8	1.8	1.0	.8	.6	.2	14.1
1956-57	0.0	.3	.6	1.5	1.4	1.3	1.4	1.6	.7	.5	0.0	0.0	9.4
1957-58	.4	.9	1.4	1.5	2.8	3.2	3.3	1.6	1.1	1.1	.9	.7	18.8
1958-59	.7	.7	.8	1.4	1.8	1.1	.9	.8	.8	.5	0.0	.3	9.8
1959-60	.2	.4	.6	1.3	1.3	1.2	1.0	.9	.2	.1	.2	.1	7.5
1960-61	0.0	1.3	1.1	1.2	.8	.8	.5	.4	.5	.5	.4	0.0	7.4
1961-62	.1	.7	1.2	1.1	3.5	2.1	1.3	1.0	.9	.7	.6	.3	13.7
1962-63	.9	.8	.8	1.0	1.5	1.5	1.4	1.3	1.1	.8	.7	.6	12.4
1963-64	.8	1.2	1.1	1.2	1.0	1.1	1.2	.8	.7	.6	.1	0.0	9.8
1964-65	.6	1.0	1.5	1.5	.9	1.1	2.3	1.1	1.0	.7	.6	.6	12.9
1965-66	.4	2.1	1.9	1.9	1.5	1.2	1.1	1.0	.7	.6	.6	.4	13.5
1966-67	.7	1.1	2.5	2.4	1.9	2.0	2.8	1.7	1.2	.9	1.0	.9	19.2
1967-68	.9	1.2	1.3	1.1	1.0	1.5	1.5	.9	.7	.5	.2	.3	11.1
1968-69	.7	.9	1.1	2.8	3.2	2.7	2.2	1.7	1.5	1.1	1.0	1.0	19.9
1969-70	.8	1.2	1.2	1.6	1.7	1.9	1.0	.8	.9	.6	.2	.3	12.1
1970-71	.5	1.0	1.5	1.4	1.1	1.2	1.0	1.2	1.0	.6	.3	.2	10.9
1971-72	.6	.9	1.8	1.4	1.0	1.0	.7	.7	.6	.2	.2	.3	9.2
1972-73	.6	1.4	1.0	2.0	3.0	2.9	1.6	1.6	1.2	1.0	.7	.8	17.7
1973-74	.4	.8	1.0	2.1	1.2	2.0	1.4	1.0	1.1	.9	.7	.7	13.4
1974-75	.5	.8	1.5	1.1	2.3	2.4	1.4	1.3	1.0	.9	.3	.1	13.6
1975-76	.5	.7	.9	.8	1.4	1.5	1.0	1.0	.5	.2	.2	.8	9.6
1976-77	1.1	1.0	.9	1.4	.8	1.1	.7	1.2	.7	.3	.1	.1	9.5
1977-78	0.0	.1	.5	2.8	3.1	3.8	2.6	1.9	1.4	1.2	1.3	1.6	20.3
1978-79	1.4	1.4	1.5	1.7	1.9	2.1	1.6	1.3	1.1	1.0	.8	.4	16.2
Average	.5	.8	1.2	1.5	1.5	1.7	1.4	1.1	.8	.5	.4	.4	11.80

NEWSEEP: HTB revision of 06/02/92.

STREAM SEEPAGE CURVES



Curve Formulas

Symbols: Y = Average stream percolation per 100 feet of stream channel.
 X = San Jose Creek Multiplier
 L = Effective length of stream channel

$$Y = A(X^B)$$

$$A = aL^2 + bL + c \quad (a = -6.27 \times 10^{-9}; b = -9.54131 \times 10^{-5}; c = 3.7822)$$

$$B = aL + b \quad (a = 3.896525 \times 10^{-5}; b = .296611)$$

Figure 2 - Stream seepage curves based on the San Jose Creek flow model.

Summary and Discussion

The safe yield value assigned to a consolidated rock aquifer will be the sum of the estimated field recharge and potential stream seepage as calculated by the above methods. An alternative to the above "inventory" analysis is the Pumpage vs. Change-in-Storage method. This method involves observing change in the amount of water stored in an aquifer over a long-term base period representing average hydrologic conditions. The change in storage is compared to the amount pumped and the difference is attributed to recharge. If sufficient site-specific, long-term water level and pumpage data is available for the aquifer under study (as determined by the DER geologist) the Pumpage vs. the Change-in-Storage method will be used. Desired data for a Pumpage vs. Change-in-Storage analysis would include detailed records of pumpage volumes and water levels at several points in the watershed for a period of at least ten years. This data is rarely available. Meaningful information on yield can be obtained, however, with detailed records over a shorter period. Three years of such records could allow for analysis of one or more of the three elements of recharge (field recharge, stream seepage and underflow). As an example, three years of data during a drought may only provide information on subsurface underflow. The estimated underflow would be added to the field recharge and stream seepage values calculated by the standard methods to obtain a safe yield figure. Available information on recharge obtained from site-specific geologic or well data will be considered in all analyses.

WELL INTERFERENCE THRESHOLD

The impact of a net increase in pumpage, either from an existing well or a new well is potentially significant if:

1. The production rate of a pre-existing nearby well as presently constructed would drop as a result of interference (cone of depression) to a level which would not support the existing use on that parcel or would not support a planned use for which a discretionary or ministerial permit has been granted.
2. The proposed new pumpage would result in a substantial degradation of water quality such that an existing use on a nearby parcel or a planned use for which a discretionary or ministerial permit has been granted could no longer be supported.

This impact will be analyzed by the DER geologist during case review using standard hydrogeologic methods (e.g. Theis Equation).

WATER DEMAND ESTIMATIONS

Introduction

A proposed project's future water use can be estimated using either of two methods. The first involves water duty factors. These factors, listed in Table 7 are averages of water demand for particular categories of users based on historical records or land use surveys. The categories are defined by lot size, type of use, zoning, and rarely, soil type. A project with a proposed land use which falls within the listed categories will have its demand estimated by this method. A second method is to estimate the future water use of a project based on a summation of each specific indoor and outdoor use. This method is used if an appropriate water duty factor is not in Table 7 or can not be feasibly generated during project review. Table 8a lists estimated indoor uses per person per year. Table 8b present estimates of water demand for various outdoor and unusual uses. If specific use factors are used to estimate both the interior and exterior demand of a project, the calculated demand must be increased by 10% to account for emergency and unusual uses. The factors are to be used without the 10% contingency if a portion of the project's demand is based on a water duty factor. For example, in the case of an unusual lot size, a standard water duty factor for a smaller lot can be used. An amount of demand calculated for the additional lot area with a specific use factor would be added to the duty factor for the smaller lot. Another example would be in estimating the proportion of interior use included in a water duty factor.

In some cases, the water demand of certain agricultural crops is needed in the analysis of the net increase in water demand due to a proposed project. Table 9 lists water duty factors published by the U.C. Cooperative Extension (Farm Advisor) in 1991 for various crops grown in Santa Barbara County.

Demand Calculations

A project's net new consumptive use is the figure which is compared to the Threshold of Significance to determine level of impact on groundwater resources. This figure represents the gross demand (i.e. water duty factor demand) adjusted for return flows to the groundwater basin, loss of natural recharge due to construction of impervious surfaces, increased recharge due to irrigated area or recharge basins and historic use on the site. "Historic use" is defined as the demonstrated average water use on the project site during the most recent ten years, excluding years prior to availability of water to the site. Both high and low water use years would be counted in the average. A "Project Water Demand Worksheet" is included as Figure 3. This worksheet accounts for all of the adjustments listed above and is designed for use in all areas of the County. Each of the factors used are explained on the attached instructions.

MITIGATION MEASURES

Measures that can be applied to projects in order to minimize withdrawals from a groundwater basin (i.e. conserve water resources) or reduce impacts in an overdrafted basin are listed below. These measures are modified from the *Standard Conditions of Approval and Standard Mitigation Measures* manual available from the Resource Management Department.

1. Outdoor water use shall be limited through the measures listed below.

[Planner: This is a menu; select only those conditions that apply. You may also use some of these measures as water conservation conditions without requiring a landscape and irrigation plan.]

- a) Landscaping shall be with native and/or *[planner specify]* drought tolerant species.
- b) Drip irrigation or other water saving irrigation shall be installed.
- c) Plant material shall be grouped by water needs.
- d) Turf shall constitute less than 20% of the total landscaped area.
- e) No turf shall be allowed on slopes of over 4%
- f) Extensive mulching (2" minimum) shall be used in all landscaped areas to improve the water holding capacity of the soil by reducing evaporation and soil compaction.
- g) Soil moisture sensing devices shall be installed to prevent unnecessary irrigation.
- h) Permeable surfaces such as turf block or intermittent permeable surfaces such as french drains shall be used for all parking areas and driveways.
- i) The applicant shall plumb each lot for a grey water system. Each dwelling shall contain a grey water system plumbed to front and rear yard irrigation systems.
- j) The applicant shall contract with an agency that sells reclaimed water to provide water for all exterior landscaping. Non-reclaimed water shall not be used to water exterior landscape. Prior to _____ the applicant shall deliver the above contract to County Counsel for review and approval. The applicant shall renew the contract annually and send copies of the contract and all receipts for reclaimed water received to permit compliance staff. These documents shall be due on _____ of every year commencing _____.
- k) Separate landscape meters shall be installed.

Plan Requirements: Prior to _____, a landscape and irrigation plan shall be submitted to P&D for review and approval. The applicant/owner shall enter into an agreement with the County to install required landscaping/irrigation and maintain required landscaping for the life of the project [*Planner: see Bond Condition # 11*].
Timing: The applicant shall implement all aspects of the landscape and irrigation plan prior to occupancy clearance.

MONITORING: P&D shall conduct site visits to ensure installation prior to occupancy.

2. Indoor water use shall be limited through the following measures [*Planner: This is a menu; select only those conditions that apply*]:
 - a) All hot water lines shall be insulated.
 - b) Water pressure shall not exceed 50 pounds per square inch (psi). Water pressure greater than 50 pounds per square inch shall be reduced to 50 psi or less by means of a pressure-reducing valve.
 - c) Recirculating, point-of-use, or on-demand water heaters shall be installed.
 - d) Water efficient clothes washers and dishwashers shall be installed.
 - e) Self regenerating water softening shall be prohibited in all structures. [*Required in Laguna Sanitation District.*]
 - f) Lavatories and drinking fountains shall be equipped with self-closing valves [*Commercial only*]
 - g) Pool(s) shall have electronic pool cover(s).

Plan Requirements: Prior to _____, indoor water-conserving measures shall be graphically depicted on building and/or grading plans, subject to DEV REV review and approval. **Timing:** Indoor water-conserving measures shall be implemented prior to _____.

MONITORING: P&D shall inspect for all requirements prior to occupancy clearance.

3. The existing facility shall be retrofitted with water conserving showerheads (2 gpm) and toilets (1.6 gallons per flush). **Timing:** Prior to land use clearance the retrofitting shall be completed by the applicant.
4. High water consumption businesses (defined by P&D), including: _____, shall be prohibited from operating on the subject property. **Plan Requirements and Timing:** Prior to _____, the applicant shall record an covenant agreeing to the prohibition with P&D for County Counsel approval to be included as a note on building plans, on lease agreements and in CCR's.

MONITORING: P&D shall ensure no such businesses occupy building prior to issuing LUC.

5. Reclaimed water shall be used for all dust suppression activities during grading and construction. **Plan Requirements and Timing:** This measure shall be filed as a note with the final map and included as a note on the grading plan. Prior to the commencement of earth movement, the applicant shall submit to the Resource Management Department an agreement/contract with a company providing reclaimed water stating that reclaimed water shall be supplied to the project site during all ground disturbances when dust suppression is required. *[Planner: see RECLAIMED WATER section]*

MONITORING: Resource Management staff shall inspect activities in the field to ensure non-potable water is being used in water trucks.

6. All new development shall provide for on-site recharge basin(s) or shall contribute fees to an area wide program to provide for a Specific Plan Area Recharge System *[planner specify]*. On-site recharge vs. contribution of the area wide system shall be based upon on-site recharge conditions and shall be determined by DER Registered Geologist. Basin(s) shall be maintained for the life of the project by a Homeowners' Association. Recharge systems shall be developed in conjunction with the FCD. **Plan Requirements:** Installation and maintenance for two years shall be ensured through a performance security provided by the applicant. **Timing:** Recharge basins shall be installed (landscaped and irrigated subject to DER and FCD approval) prior to _____.

MONITORING: Permit Compliance shall site inspect for installation and maintenance of landscape. Flood Control sign off is required on final grading plans, and Permit Compliance sign off is required to release security.

WATER WELL SPECIFIC CONDITIONS

7. Water wells used on-site shall be monitored by the use of a flow meter or by analysis of electric meter records and recorded semi-annually (May 15-June 1 and November 15- December 1). Static water level shall be recorded for each well at the same time as the water production is recorded. *[Planners: Use only for salt water intrusion or when requested by the County hydrologist/geologist.]* **Plan Requirements and Timing:** Prior to _____ the applicant shall record an agreement subject to P&D and County Counsel approval which agrees to the above condition and describes any future mitigation necessary should water quality degrade. The applicant shall maintain a record of meter readings and water levels, available to P&D upon request, for the life of the project.

MONITORING: Resource Management shall review reports and determine if future mitigation is necessary.

8. A water quality test shall be completed by the applicant. **Plan Requirements:** The applicant shall submit test to Environmental Health Services and Resource

Management for review and approval. **Timing:** Test shall be completed and submitted and approved prior to well permit issuance.

9. A pump test for the water well shall be completed by the applicant. **Plan Requirements:** The applicant shall submit test to Environmental Health Services and Resource Management for review and approval. **Timing:** Test shall be completed and submitted and approved prior to well permit issuance.
10. The owner shall complete a water quality analysis on a semiannual basis to avoid the possibility of salt water intrusion into groundwater. Pumping shall cease if the following conditions occur [*P&D Geologist specify*]. **Plan Requirements:** A copy of the report shall be furnished to Environmental Health Services and to DER semiannually. **Timing:** Prior to _____, the first water quality analysis shall commence.
11. All drilling effluent shall be collected in an earthen sump (approx. 300 s.f. area, 1½ to 2 feet deep) and disposed of at a location acceptable to P&D and EHS. **Plan Requirements:** Prior to _____, plans for the sump and disposal areas shall be submitted to P&D and EHS for review and approval. Sump and disposal areas shall be depicted on _____ plans. **Timing:** Sump and disposal areas shall be constructed prior to _____.
12. Water well shall be solely exploratory. Any development, except for the exploration and testing thereof, is NOT approved under this Coastal Development Permit.
13. A water meter shall be installed for the non-exploratory well(s). **Timing:** Prior to the use of the well for any non-exploratory purpose, the applicant shall install a water meter.

MONITORING: The applicant shall provide proof of meter installation to P&D.

14. Water well use shall be used solely for parcel _____. Water use on a separate parcel shall require further review and a Special Use Permit and Coastal Development Permit.
15. The well head including all accessory equipment, shall be screened from all viewsheds and neighboring properties within 45 days of well installation. **Plan Requirements:** A landscape plan indicating same shall be submitted prior to issuance of land use clearance for DER approval. [*Planner: use landscape bond condition*]. **Timing:** Landscape plan shall be implemented prior to _____.

MONITORING: P&D shall inspect site prior to _____.

16. The applicant shall install a coastal water quality monitoring well and monitor water quality per measure #10 above.

MONITORING: The P&D Geologist shall review the completion report of the well. (to be included with reporting under measure 10. above)

Measures suggested to mitigate the potential of certain projects to degrade water quality include the following:

17. Preparation of a fertilizer/pesticide application plan which minimizes deep percolation of chemical-laden water to be reviewed and approved by DER and EHS.
18. Installation of subsurface percolation basins and traps which would allow for detection and removal of fertilizers, pesticides and other chemicals.
19. Biannual or annual water quality analysis for the detection of organic or inorganic contaminants in production or monitoring wells.

REFERENCES

- Miller, G.A. and Rapp, J.R., 1968: Reconnaissance of the groundwater resources of the Ellwood-Gaviota area, Santa Barbara County, California; U.S.G.S. Open File Report, 50p.
- Crippen, J.R., 1965: Natural water loss and recoverable water in mountain basins of Southern California; U.S. Geological Survey Professional Paper 417-E.
- Gibbs, D.R. and Holland, P.R., 1990: County of Santa Barbara, Flood Control and Water Conservation District, Precipitation Data Report.

PROJECT WATER DEMAND WORKSHEET

(Page 1 of 4)

Environmental Thresholds and Guidelines Manual (1992 Edition)
 County of Santa Barbara
 Resource Management Department, Division of Environmental Review
 By Brian R. Baca, 4/92
 (File "threshl.wk3")

Project Name: _____

Case Number: _____

APH(s):	Parcel size (Ac)	Zone District
_____	_____	_____
_____	_____	_____
_____	_____	_____

Project Description: _____

DEMAND CALCULATIONS (Refer to instructions on pages 3 and 4)

	Water Duty Factor (AFY/Unit)	# Units	Gross Demand	Consum. Use Fac.	Net Consum. Use (AFY)
	-----	-----	-----	-----	-----
Residential					
Combined	_____	_____	_____	_____	_____
Interior	_____	_____	_____	_____	_____
Exterior	_____	_____	_____	_____	_____
Irrigation (Refers to potential agricultural activities on large lots in addition to residential demand associated with the homesites)					
AFY/parcel	_____	_____	_____	_____	_____
AFY/acre	_____	_____	_____	_____	_____
Commercial					
Combined	_____	_____	_____	_____	_____
Interior	_____	_____	_____	_____	_____
Exterior	_____	_____	_____	_____	_____

Total demand = _____ AFY

PROJECT WATER DEMAND WORKSHEET

(Page 2 of 4)

RECHARGE ADJUSTMENTS

* These adjustments are made only for projects which are located north of the Santa Ynez Mountains (i.e. the North County). This is because most of the basin area on the South Coast is in confined conditions. Note that there is not universal agreement as to the location and size of the recharge area of each basin. All projects will be treated as if overlying a confined basin. Any recharge credit which might be due an individual project located in an identified recharge area of a South Coast basin is considered accounted for in the increase of the Threshold of Significance from previous manuals.

Credits (Instructions on page 4)

Field recharge increase

(Irrigated infiltration rate (AFY/acre)	-	(Non- Irrigated Infil. rate (AFY/acre)	=	(New Irrigated Area (Ac.)	=	_____
--	---	---	---	-------------------------------------	---	-------

Recharge basin

(Rainfall Feet/year	-	(Acres Impervious Surfaces	=	(System Eff.	=	_____
----------------------------	---	--------------------------------------	---	---------------------	---	-------

Debits

Loss of natural recharge

(_____ acres impervious surfaces	-	(_____ AFY/acre infiltration rate	=	(_____)
--	---	---	---	--------------

Total adjustments = _____ AFY

HISTORIC USE CREDIT

(Water demand of historic land use which will be discontinued due to proposed project	-	(Consum. Use Fac.	=	(Historic Use	=	_____ AFY
---	---	--------------------------	---	----------------------	---	-----------

SUMMARY

(Total demand	+	(Recharge Adjustment	-	(Historic Use	=	(Net new Consumptive Use	=	_____ AFY
-------------------	---	-----------------------------	---	----------------------	---	------------------------------------	---	-----------

Threshold of Significance

(Groundwater Basin	=	(T.O.S.	=	_____ AFY
------------------------	---	-------------	---	-----------

Notes: _____

Worksheet Instructions (calculation parameters)

Demand

1. Water Duty Factors: Included in the DER Thresholds manual (Table 3) for a variety of land uses. In some cases appropriate water duty factors may be generated by the DER geologist during case review. Note that the term "Units" can refer to parcels, dwelling units, 1000's of sq.ft. of building coverage or acres.
2. Number of Units: Only the residential units or other land uses which will be added as a result of the project are evaluated. Existing land uses which would continue after project approval are not included in project demand.
3. Gross demand: (Water Duty Factor * # of Units)
4. Consumptive Use Factor: This factor adjusts the gross water demand to account for return flows to the groundwater basin (A C.U. Factor of .6 equals 40 % return flows). Listed below are C.U. Factors to be used:

Basin	CUF	Explanation
Montecito	1.00	Gross water demand in the South Coast Basins is considered equal to consumptive use. This is because the recharge area is a small portion of the area of the of the basins(aquifers are confined) and interior effluent is ultimately conveyed to the ocean. (Wastewater reclamation is considered a new source of supply available to the purveyor.)
Foothill	1.00	
Goleta	1.00	
Santa Ynez	0.75	Average consumptive use factor estimated by RMD Registered Geologist and County Water Agency Senior Hydrologist.
Buellton	0.75	
Lompoc	0.75	
San Antonio	0.75	
Cuyama	0.75	
Santa Maria	0.75	

Exceptions:

0.60	Areas with sandy soils (Orcutt, Careaga or equivalent formation)
0.70	Orcutt area on the Orcutt Fm. (Clay layers impede infiltration)
0.75	Vandenberg Village (area of sandy soil but some of infiltrated landscape irrigation water discharges into creek and is consumed by riparian vegetation)
0.50	Wastewater disposed in the Santa Ynez River riparian basin.
"	Long-term pumpage offsets due to acceptance of treated wastewater will be counted as a direct return to the basin. (Must be demonstrated to the satisfaction of the DER Geologist)
1.00	Projects served by consolidated rock aquifers.

5. Net Consumptive Use: (Gross demand * C.U.Factor)
6. Residential Demand: Separate factors for interior and exterior use are only used when the consumptive use factors for each are different. Generally, interior use will be based on average occupancy figures from the most recent census (3.01 people/SFD) times the per person use for the type of plumbing fixtures involved. A 10 % contingency will be added to this figure.
7. Irrigation demand: Estimated by developing a water duty factor from similar land uses in the vicinity (AFY/parcel) or by an assessment of likely uses of the onsite soil types. This analysis can be performed by the applicant and reviewed for adequacy by the DER Geologist or may be prepared entirely by the DER Geologist.
8. Commercial Demand: Based on water duty factors (AFY/1000 sq.ft.) from the Thresholds Manual or as developed during case review.

Recharge Adjustments

* These adjustments are made only for projects which are located north of the Santa Ynez Mountains (i.e. the North County). This is because most of the basin area on the South Coast is in confined conditions. Note that there is not universal agreement as to the location and size of the recharge area of each basin. All projects will be treated as if overlying a confined basin. Any recharge credit which might be due an individual project located in an identified recharge area of a South Coast basin is considered accounted for in the increase of the Threshold of Significance from previous manuals.

9. Loss of Natural Recharge: The Infiltration rate will be calculated by the DER Geologist using the Soil Moisture Balance method or Blaney Curve method. (See listing of infiltration rates in 10. below)
10. Field recharge increase: Irrigated and non-irrigated infiltration rates are calculated by the DER Geologist (listed below). Absent a detailed site plan, the proportion of impervious area and the percentage of the remaining area to be irrigated will be estimated as follows:

Lot size (sq.ft./unit)	% Impervious Area	% of yard area irrig.
7000 - 21780	35	75
21781 - 43560	30	60

Infiltration Rates (AFY/acre)

Area	Non-Irrigated		Analysis Method
	Irrigated	Non-Irrigated	
Orcutt	.19	.05	Blaney
Buellton	.26	.09	Blaney
Santa Ynez	.30	.11	Blaney
Los Alamos	.25	.08	Blaney
Lompoc	.21	.07	Blaney

11. Recharge Basin: System efficiency is set at a maximum of .80 to account for system losses due to evaporation, leaks, loss of permeability of recharge basin over time and spills during peak flow events. A lower figure may be used if analysis by the DER Geologist, or other technical information, indicates that 80% efficiency cannot be achieved in the long term. Figure for annual average rainfall to be obtained from the Precipitation Data Report (Gibbs and Holland, 1990). To obtain this credit, the runoff from the impervious surfaces of the project must be conveyed to the recharge basin through impervious drains (not an unlined drainage channel).

Historic Use Credit

12. Historic use credit is only given for existing land uses that will be discontinued upon approval of the proposed project. (Examples: Removal of orchard for a new dwelling, elimination of landscaped area through enlargement of a structure, retrofitting a older onsite structure with low flow fixtures)
13. Consumptive Use Factor: Same as figure used for the demand calculation.

Summary

14. Total consumptive demand adjusted for recharge less discontinued historic use equals net new consumptive use. This figure is compared to the Threshold of Significance established for the groundwater basin to assign the impact level disclosed in the environmental document.

TABLE 7
1992 Groundwater Thresholds Manual - Water Duty Factors

Area	Land Use Designation	Minimum Acres or Sq. Ft./Unit	AFY/Unit	AFY/Acre	AFY/1000sf	Explanation
CARPINTERIA VALLEY	1 DU/3 acre	3.00	1.64	0.55		Data from the Carpinteria Water District, 7/00. (Refer to 00-EIR-12)
	1 DU/acre	1.00	0.06	0.06		
	1.0 DU/acre	24200.00	0.60	1.08		
	3.3 DU/acre	13200.00	0.40	1.32		
	4.6 DU/acre	9470.00	0.34	1.56		
	Condominiums		0.25			
	Apartments		0.20			
	Mobile homes		0.16			
	Office/Retail Hotel			0.95		
	Restaurant Industrial			0.70		
MONTECITO	Schools			4.50		Data from the Montecito Water District, 1909. (01-08 average water use)
	Parks, Irrigated Open Space			2.30		
	Greenhouses			0.36		
	Open nurseries, field crops			2.64		
				3.00		
				1.00		
	1-E-1	43500.00	1.02	1.02		
	20-R-1	20000.00	0.68	1.40		
	3-E-1	3 acres	1.70	0.56		
	7-R-1	7000.00	0.45	2.00		
SUNHERLAND	7-R-2	3500.00	0.26	3.18		Data from SCHO. (79-00 average water use)
	Less than 2500	0.20				
	2501-5000	0.21				
	5001-10500	0.27				
	15001-30000	0.30				
	30001-50000	0.40				
	50001-105000	0.71				
	1.10					
	Restaurant Other					
	Public Schools Irrigation	1.40				
		1.10				

TABLE 7 (Cont'd)

Area	Land Use Designation	Minimum Acres or Sq.Ft./Unit	AFY/Unit	AFY/Acre	AFY/1000sf	Explanation
CITY OF SANTA BARBARA	SFD "Small"	Up to 9999 sf/lot	0.32			Data from City of Santa Barbara Water Demand Factor and Conservation Study "USER'S GUIDE" Document No. 2
	SFD "Medium"	10000-22000	0.51			
	SFD "Large"	22000-1 Acre	0.85			
	SFD "over 1 acre lot"	More than 1 Acre	1.44			
	Multi-Family Apartment		0.24			
	Auto Repair/Auto Body Shop					
	Bank				0.11	
	Church				0.17	
	Church w/School				0.17	
	Condominium				0.10	
	Convalescent Hospital		0.20			
	Gas Station				0.11	
	Gas Station/Mini Market				0.29	
	General Office				0.49	
	Grocery Store				0.10	
	Health Club				0.42	
	Hotel/Hotel				0.32	
	Hotel/Hotel/Restaurant				0.13	
	Industrial Assembly & Manufacturing				0.15	
	Industrial R&D				0.09	
	Medical Office				0.15	
	Mixed Medical/Dental				0.15	
	Multi-Family Apartment				0.23	
	Restaurant, 24 hour		0.24			
	Restaurant, Fast Food					
	Restaurant, Sit Down					
	Retail, Large-over 20,000 s.f.				0.04	factor in AFY/seat
	Retail, Small-under 20,000 s.f.				1.26	
	Retirement Facility				0.02	
	Senior Apartment				0.07	
	School-Elementary				0.11	
	School-Junior High				0.10	
	Theater		0.12			
	Warehouse/Industrial Storage				0.02	
	Turf-grass				0.03	
	Cool-Season				0.0047	
	Warm-Season				0.07	
	Orchards					
	Avocados			2.40	0.06	
	Citrus			2.10	0.05	
				1.35	0.03	
				1.53	0.04	

TABLE 7 (Cont'd)

Area	Land Use Designation	Minimum Acres or Sq. Ft./Unit	AFY/Unit	AFY/Acre	AFY/1000sf	Explanation
CITY OF SANTA BARBARA	Non-Water Conserving Groundcovers			1.00	0.04	
	Shrubs			1.00	0.04	
	Trees			1.50	0.03	
	Low Water Using (1/2 of above figures)					
GOLETA VALLEY	Groundcovers			1.00	0.04	
	Shrubs			1.00	0.04	
	Trees			1.50	0.03	
	1 DU/3+ acres (202 #)*	3.00	1.81	0.60		Data from the Goleta Water District, 1988. (1973-86 average use)
	1 DU/1.5 acres (20 #)*	1.50	1.22	0.01		
	1 DU/1 acre (698 #)*	1.00	0.70	0.70		
	20-R-1 (200 #)*	20000.00	0.50	1.09		
	15-R-1 (151 #)*	15000.00	0.44	1.28		
	12-R-1 (930 #)*	12000.00	0.36	1.31		
	10-R-1 (1202 #)*	10000.00	0.33	1.44		
	8-R-1 (2015 #)*	8000.00	0.30	1.63		
	7-R-1 (3092 #)*	7000.00	0.27	1.68		
	10-R-2 (66 #)*	5000.00	0.22	1.92		
	7-R-2 (87 #)*	3500.00	0.22	2.74		

*SFD water duty factors are shown reduced by .10 AFY because all examples were pre-1900 construction and not subject to water efficiency ordinances currently in effect.

DR 1, 1.0, 2	43560-24200-21700	0.73	.73-1.31-1.46
DR 3.3, 3.5	13200-12446	0.41	1.35-1.44
DR 4, 4.6, 6	10890-9470-7260	0.30	1.20-1.30-1.80
DR 8, 10	5445-4356	0.30	2.40-3.00
DR 12, 12.3, 16	3630-3541-2723	0.26	3.12-3.2-4.16
DR 20, 25	2178-1742	0.23	4.60-5.75
DR 30	1452	0.13	3.900

Highway C., Neighbrhd C.,
 CH, CH, C2, C3, Retail C.,
 General C.,
 Shopping Center-SC
 Rest.-2100(Assrs.UsrCde)
 Hotel/Motel 0700
 Gas Station 2500

0.30
 0.23
 0.53
 0.40
 0.33

TABLE 7 (Cont'd)

Area	Land Use Designation	Minimum Acres or Sq.Ft./Unit	AFY/Unit	AFY/Acre	AFY/1000sf	Explanation
GOLETA VALLEY	Retail (store)	1100-1200			0.13	
	Office	1700, 1800, 2400			0.15	
	Research Park HRP				0.14	
	Light Industry H-1****				0.28	
	Heavy Industry H-2*****				0.10	
	Light/Heavy Industry					
	H-1/H-2					
	Prof. Institutional P/1*****				0.23	
	Chrch.-7100(Assrs.UsrCd)				0.14	
	Chrch. - 7100(Assrs.UsrCd)				1.1/CHURCH	
** Does not include parking lot and driveways *** Includes engineer/construction/food/publishers **** Includes auto repair/painting/trucking/builder's supply ***** Includes professional office/hospital/library/resrch. & dev.						
SANTA YNEZ VALLEY	Residential					
	1 DU/10 acres	10.00	1.15	0.12		
	1 DU/5 acres	5.00	0.90	0.20		
	1 DU/1-4 acres	1-4	0.82	.82-.205		
	1 DU/1000-20000 ft2	10000-20000	0.52	2.27-1.13		
	1 DU/2180-7000 ft2	2180-7000	0.14	2.79-.07		
	Commercial					
	Industrial			1.64		
	Institutional			0.62		
	Agricultural			3.30		
Duellton Area	0-R-1	8000	0.57	3.10		
	7-II-1	7000	0.57	3.50		
Data from the Duellton Community Services District. (1982-91 average use)						
LOMPOC VALLEY	Residential					
	1 DU/1-3 acres	1-3	.62	0.31		
	1 DU/20,000-1 ac.	1 ac.-20000 ft2	.52-.62	1.20		
	1 DU/10,000-19,999	10,000-19,999	.30-.52	1.19		
	1 DU/3500-7000	3,500-7,000	.20-.30	2.07		
Data from City of Lompoc, 1977 ; Park Water, 1972						

Data from SYNACD, Improvement District #1 1977

Data from the Duellton Community Services District. (1982-91 average use)

Data from City of Lompoc, 1977 ; Park Water, 1972

TABLE 7 (Cont'd)

Area	Land Use Designation	Minimum Acres or Sq.Ft./Unit	AFY/Unit	AFY/Acre	AFY/1000sf	Explanation
LDHPOC VALLEY	Commercial			2.46		
	Industrial			0.98		
	Public Facility			0.33		
						Data from the Mission Hills CSD. (1982-90 water use records)
Hesa Daks Area	1 DU/12500	12500	0.82			
	DR-1.0	15000	0.87			
	1 DU/25000 ft.2	25000	1.00			
LDS ALAMOS VALLEY	Ag. (Non-prime soil; Irrigation demand)	100-150 ac.	25.00	.25-.17		Figure based on land use survey by DER, 1989.
	RR-5	5 ac.	0.98	0.20		
	3-E-1	3 ac.	0.91	0.30		
	1-E-1	1 ac.	0.84	0.04		
	DR-1.0	24,200	0.73	1.31		
	10-R-1	10,000	0.62	2.70		
	7-R-1	7,000	0.57	3.55		
	DR-0	5,445	0.30	2.40		
	DR-12.3	3,540	0.26	3.20		
	PRO	15,000	0.67			
	Commercial (H-1)				0.28	
	Commercial (C1, C-2, C-3)				0.30	
						Data from the LACSD, 1991 and modified from other sources. Refer to the Los Alamos Community Plan EIR.
ONCUTT AREA	Residential		0.41	1.64		
	4 DU/acre		0.33	1.65 - 2.64		
	5-8 DU/acre		0.25	2.25 - 3.00		
	9-12 DU/acre		1.64	2.13 - 3.61	10,090	
	13-22 DU/acre (Includes trailers)					
	Commercial Industrial		2.05			
			3.20			
						Data from So Cal. Water Co., 1977.

TABLE 7 (Cont'd)

Area	Land Use Designation	H in Incom Acres or Sq. Ft./Unit	AFY/Unit	AFY/Acre	AFY/ 1000sf	Explanation
ORCUTT (1992 Update)	10-R-1	10000.00	0.86			Data from Cal. Citiles Water Co., 1-90 to 2-92 use records.
	-	13400.00	0.94			
	20-R-1	20000.00	1.08			
	-	40000.00	1.40			
CITY OF SANTA MARIA	Residential					Data from the City of Santa Maria, 1902-03 records.
	Single family					
	Condominium	3.4 pers./unit			0 133 gcps	
	Less than 4 rooms/unit	2.0 pers./unit			0 117 gcps	
	4 or more rooms/unit	1.7 pers./unit			0 117 gcps	
	Apartment	2.5 pers./unit			0 117 gcps	
	Mobile home	2.1 pers./unit			0 87 gcps	
	H.H. without children	2.5 pers./unit			0 125 gcps	
		2.0 pers./unit			0 125 gcps	
	Commercial				0.06	
	Industrial				0.08	

TABLE 8a
Water Demand Estimations Based on Individual Indoor Uses For
Santa Barbara County Including Limitations of Ord. 2948
 (Applies to all areas of Santa Barbara County)

Indoor Use Per Person	gal/yr. w/5.5 gal. Toilet* 3.9 gpm shwr.	gal/yr. w/3.5 gal. Toilet* 3 gpm shwr	gal/yr. w/1.6 gal. toilet* 2 gpm shwr
Toilet 4 flushes/day - gallons/flush 5.5/3.5/1.6	8030	5110	2336
Shower .7/day - 3.9 gal/3 gal/2 gpm x 10 min.	9965	7665	5110
Tub bath .2/day tub 1/2 full = 24 gallons	1752	1752	1752
Brush teeth 1.3/day x 2.5 gal	1186	1186	1186
Shaving 1/day 25% of pop. X 4.5 gal.	411	411	411
Washing hands 5/day wet and rinse @ .2 gal/wash	365	365	365
Drinking and cooking x 1 gallon/day	365	365	365
Clothes washing .29 x 35 gallons/wash	3704	3704	3704
Dishwashing (calc. 1 person assume 2 person/household) auto wash .5 wash/day x 18 gallons inc. rinse	3285	3285	3285
Garbage disposal (calc. one person assume 2 person/ house .5 use/day x 1 gallon	183	183	183
Gallons/Year/Person	29,246	24,026	18,697
AFY/person	.0898 AFY	.0737 AFY	.0574 AFY

* Pre-ordinance toilets have mostly 5.5 gal tanks, Larry Farwell GWD 4/15/88 and Pre-ordinance standard pipe output (showers and faucets) was 3.9 gpm Ed Justus, Co., Bldg. Dept. 4/15/88.

** Further reductions in these indoor uses can be achieved through the installation of higher efficiency plumbing fixtures, for example, changing a 3.5 gallon flush toilet to a 1.6 gallon flush toilet.

TABLE 8b

Outdoor Use Per Unit (Applies county wide but some areas have a higher landscaping use).

Sauna/swimming pool	1 AFY
Sauna/swimming pool with evaporation inhibitor	.05 AFY
Washing cars - soap and rinse with running water	15 gals/wash
Washing cars - 3 gallon bucket and brief rinse	105 gals/wash
Washing driveways	25 gals/wash
Green lawns, ornamental gardens	1.5-2 AFY/acre
Not so green lawns, ornamental gardens	1-1.5 AFY/acre
Drought resistant trees and shrubs and ivy	1 AFY/acre
Household gardens - beans, tomatoes, carrots, strawberries	1-4 AFY/acre
Commercial type orchards - avocados, lemons, walnuts	
New plantings 1-3 years	1.5-2 AFY/acre
Mature trees by flooding	1.5 AFY/acre
Mature trees by drip system	1.2 AFY/acre
Dust control/rider safety in horse arenas	1.2 AFY/acre

Unusual Water Uses (per unit)

Pets - drinking - 1 gal/day bathing - .33 gal/day	1.33 gal/day
Water beds	100 gal/year
Dark room	20 gal/use
Washing floors and household cleaning	10 gal/week
Aquaria	1 gal/week 5 gal/day

If individual use factors (from Table 8) are applied by themselves, a contingency factor of 10% of the total indoor/outdoor use calculated should be added for darkrooms, , mopping floors, leaks in the water pipes, hoses left running accidentally, washing down the house or a boat, other occasional uses or future conversion of landscaping to higher water use plants.

TABLE 9

Agricultural water duty factors in Santa Barbara County.
Compiled by Cooperative Extension, University of California,
Santa Barbara County (9-16-91)

IRRIGATION WATER USE BY CROPS IN SANTA BARBARA COUNTY (AFY/acre)

CROP	South Coast Area		Santa Maria & Lompoc Valleys		Santa Ynes, Los Alamos, & Sisquoc Valleys		Cuyama Valley	
	Range	Ave	Range	Ave	Range	Ave	Range	Ave
<u>Field Crops</u>								
Beans			.5-1.3	1.0	.9-1.5	1.3	1.0-1.7	1.5
Corn, field			1.5-2.2	1.8	2.0-2.8	2.2	2.4-3.2	2.8
Grain, irrigated			.3- .7	0.5	.6-1.0	.8	1.0-1.8	1.5
Sugar Beets			2.6-3.2	3.0	3.0-3.6	3.2	3.6-4.6	4.0
<u>Forages & pastures</u>								
Alfalfa			2.6-3.3	3.0	3.0-4.0	3.5	4.0-4.6	4.3
Pasture/irrigated			2.8-3.3	3.0	3.3-4.0	3.7	4.0-4.6	4.3
Sudangrass			1.0-1.8	1.5	1.3-2.0	1.7	2.0-3.0	2.5
<u>Ornamentals</u>								
Cut Flowers/field	1.5-2.3	1.8	1.5-2.3	1.8				
Flower seeds			1.5-3.0	2.3	2.0-3.5	2.7		
Greenhouse-								
-Carnations	2.0-3.0	2.5						
-Mums, pompom	3.0-4.5	4.0						
-Mums, potted	4.5-5.5	5.5						
Turfgrass	2.5-2.8	2.7	2.5-2.8	2.7	3.0-4.0	3.5	3.5-4.5	4.0
<u>Trees and Vines</u>								
Avocados	1.0-2.0	1.6	1.1-2.1	1.7				
Deciduous Fruits			1.2-2.0	1.7	1.5-3.0	2.5	3.0-4.5	3.8
Grapes			.7-1.8	1.2	1.0-3.0	2.0		
Lemons	.8-1.8	1.5	1.0-2.0	1.6				
Walnuts	1.0-2.0	1.5	1.3-2.5	1.8	2.0-3.5	3.3		
<u>Vegetables</u>								
Broccoli/Cabbage			1.3-1.5	1.4 *	1.5-2.0	1.7		
Cauliflower			1.5-2.0	1.7 *	2.0-3.0	2.5		
Carrots			1.5-3.0	2.3	2.0-2.5	2.2	2.5-3.5	3.0
Celery			2.0-2.5	2.2 *	2.0-2.5	2.2		
Lettuce			1.0-1.3	1.1 *	1.0-2.0	1.5		
Potatoes			1.5-2.0	1.7	2.0-3.0	2.5		
Strawberries	2.5-3.5	3.0	2.5-3.0	2.7				
Tomatoes	1.0-2.0	1.5	1.5-2.0	1.7				

* Average two crops per year in Santa Maria Valley (multiply factor shown by 2 to obtain AFY/acre)

12. NOISE THRESHOLDS¹

A. NOISE: PROPERTIES AND MEASUREMENT

Noise is defined as unwanted or objectionable sound. Sound is a form of energy detectable by the human hearing system, and it is commonly produced when some object is set into vibration. The vibration is transmitted to any surrounding media, such as air, causing pressure variations or "sound waves" among the air particles. These waves spread outward from the source, and along their path the waves can reflect off surfaces, they can bend around obstacles, and they can be absorbed by insulative materials. If sound waves reach one's ears, the membranes at the end of the ear canal begin vibrating. The vibration is transmitted by small bones in the middle ear to the cochlea, where the inner ear's sensory organ is located. Nerve impulses originating in the cochlea are interpreted by the brain as "sound."

Measurement of sound involves determining three variables: (1) magnitude; (2) frequency; and (3) duration.

1. Magnitude

The magnitude of variations in air pressure associated with sound wave results in the quality commonly referred to as "loudness". Human ears respond to a very wide range of sound pressures, producing numbers of awkward size when sound pressures are related on an arithmetic (1, 2, 3, ...) scale. It has therefore become customary to express sound magnitude in decibels (dB) which are logarithmic (1, 10, 100 ...) ratios comparing measured sound pressures to a reference pressure. The reference pressure commonly used in noise measurement is 20 micro-Pascals, which is considered to be the quietest sound normal ears can hear.* This sound level is assigned the value zero dB, and each increment in sound level of 20dB represents a relative change in sound pressure of ten times. A 3 dB increase in sound level represents a doubling of sound energy, but it will not be experienced as a doubling of loudness. Loudness refers to how people judge the volume of sound. As a rule of thumb, a 1 dB change in sound level requires close attention to notice a change in loudness; a 3 dB

change is clearly noticeable; and a 10 dB change will be nearly twice (or one-half) as loud. A noise of 70 dB sound is about twice as loud as 60 dB and four times as loud as 50 dB. The 50 dB noise will be twice as loud as 40 dB, and so on. Figure 1 illustrates the relationships among sound level, relative sound pressure, and relative loudness.

Sound level diminishes as distance from the source increases. For a point source of sound in free space, the rate at which the sound attenuates is inversely proportional to the square of distance from the source. This means the sound level will drop 6 dB each time the distance from the source is doubled. A stream of vehicles on a busy highway represents a "line" source of sound and the rate of attenuation is different from a point

¹ County of Santa Barbara Resource Management Department, Comprehensive Plan Noise Element and Division of Environmental Review, 1989.

source. The sound level from a busy highway will drop only about 3 dB for each doubling of distance. Sound attenuation from a train resembles a line source near the railroad tracks and at further distances (beyond about 3/10 the length of the train) can be considered a point source.

Because decibels are logarithmic ratios, they cannot be manipulated in the same way as arithmetic numbers. Addition of decibels produces such results as $70 \text{ dB} + 70 \text{ dB} = 73 \text{ dB}$. Thus, if a single automobile produces a sound level of 73 dB, two such automobiles would produce a total sound level of 73 dB. Twice as much acoustic energy is being generated, and this is represented in decibels as a 3 dB change. As a second example of decibel addition, if one automobile produces a sound level of 70 dB and the other 60 dB, the combined sound level will be 70.4 dB. When the difference between two sound levels is greater than about 10 decibels, the lesser sound is negligible in terms of affecting the total level.

Air and ground absorption of sound waves will further attenuate sound levels. The rate at which these factors attenuate sound depends on frequency content of the sound, air temperature, relative humidity, terrain, and type of ground cover.

2. Frequency

A second characteristic of sound which must be included in the measurement is frequency. Typical community sounds consist of a wide range of frequencies, from the low roar of a diesel engine to the high-pitched whine of jet aircraft. Frequency refers to the number of times per second the object producing the sound vibrates, or oscillates. The unit of measurement of frequency is Hertz - one vibration per second being equal to one Hertz (Hz).

The human ear responds to sounds whose frequencies are in the range from 20 Hz to 20,000 Hz. Frequencies above or below this range are inaudible to humans and are referred to as ultrasound and infrasound, respectively. Within the audible range, subjective response to noise varies. People generally find higher pitched sound to be more annoying than lower pitched sounds. Sensitivity of the ear also varies. While "loudness" depends primarily on sound pressure, it is also affected by frequency; and while "pitch" is closely related to frequency, it also depends on sound pressure. Thus, a 2,000 Hz tone at 5 dB sound pressure level sounds just as loud as a 20 Hz tone at 70 dB sound pressure level; 20 Hz at 70 dB sound pressure level is quiet to the ear; 2,000 Hz at 70 dB sound pressure level is quite loud.

Because of these variations, a great deal of effort has gone into the development of systems which relate physical measurements of noise to subjective human response. Most of these depend on calculations based on sound pressure levels in various frequency bands "weighted" to correspond with human response. These procedures are cumbersome for most community noise assessment needs. Presently, the most widely used measure of "loudness" for community noise evaluation is the A-weighted sound level. The primary advantage of this descriptor is simplicity, and it has fair correlation with subjective assessments of loudness and annoyance². Sound levels in this report are A-weighted and referred to as "dB(A)".

3. Duration

The third characteristic of noise that must be accounted for to describe human noise response is duration. Noise-induced hearing loss, for example, is directly related to magnitude, frequency content, and duration of noise exposure. Annoyance due to noise is also associated with how often noise is present and how long noise persists.

Environmental noise at any location is usually fluctuating from quiet one moment to loud the next. To adequately describe a noise environment, it is necessary to quantify the variation in noise level over time. One way to do this is to use a statistical approach and specify noise levels that are observed to be exceeded a given percentage of time. Commonly used exceedance levels are:

L_{90} - That level exceeded 90 percent of the time, sometimes referred to as the Residual Noise Level.

L_{50} - That level exceeded 50 percent of the time, the median sound level.

L_{10} - That level exceeded 10 percent of the time, representing higher level, shorter duration noise.

Another approach to quantifying time-varying noise levels is to calculate the Energy Equivalent Sound Level (L_{eq}) for the time period of interest. L_{eq} represents a sound level which, if continuous, would contain the same total acoustical energy as the actual time-varying noise which occurs during the observation period.

Time-Weighted Noise Measures; CNEL, L_{DN} .

Noise in a residential, or other noise-sensitive setting, is often more bothersome at night than during daytime. At night, background noise levels outdoors are generally lower than during the day. Also, the activity in most households decreases at night, lowering internally generated noise levels. Individual noise events are therefore more intrusive at night, since they stand out against the background more sharply than during the daytime.

Community Noise Equivalent Level (CNEL) and Day-Night Average Level (L_{DN}) are noise indices that attempt to take into account differences in intrusiveness between daytime and nighttime noises. CNEL and L_{DN} values result from the averaging of hourly Energy-Equivalent Sound Levels for a 24-hour period, with a weighting factor applied to evening and nighttime L_{eq} values.

For CNEL and L_{DN} calculations, the day is divided into time periods with the following weightings:

Community Noise Equivalent Level

Daytime: 7 a.m. - 7 p.m. - weighting factor of 1

Evening: 7 p.m. - 10 p.m. - weighting factor of 5 dB

Nighttime: 10 p.m. - 7 a.m. - weighting factor of 10 dB

Day-Night Average Level

Daytime: 7 a.m. - 10 p.m. - weighting factor of 1

Nighttime: 10 p.m. - 7 a.m. - weighting factor of 10 dB

CNEL and L_{DN} have been shown to have good correlation with group responses to long-term noise exposure. In practice, CNEL and L_{DN} are virtually identical. Experience with highway, railroad, airport, and general community noise in this County has shown that the two measures consistently agree with 1.0 dB. In this report they are used interchangeably.

Noise Exposure Contours

Noise exposure contours are the mapped expressions of points of equal average noise level, analogous to topographic contours which are the mapped expression of points of equal elevation. Noise contours can be drawn with respect to any noise measure; to satisfy State requirements for the Noise Element, L_{DN} and CNEL have been used in this report. Noise contours usually refer to a single source of noise such as a freeway, although they sometimes combine multiple sources.

4. Ambient Noise

Ambient noise refers to background noise. It is the composite of noise from all sources which impact a given location. It is the normally existing noise environment at a particular place. Ambient noise levels are measured as described in the previous sections, using weighted noise measurement systems.

Noise impacts associated with proposed projects may involve ambient noise in several ways. A project may involve a significant noise impact if it generates noise that creates a substantial increase in ambient noise levels affecting noise-sensitive uses in the project vicinity. A project may also have significant noise impacts if the project involves siting of a noise-sensitive land use in a location with high ambient noise levels.

B. NOISE THRESHOLD CRITERIA

1. Controlling Noise

Significant noise impact problems in Santa Barbara County are primarily associated with transportation facilities. Noise in the vicinity of airports, railroads, and major trafficways exceeds health and welfare criteria for noise exposure in relation to residential use. While noise from commercial, industrial, agricultural, and "population" activities may be part of the ambient noise at any location, rarely do these generate noise of the same magnitude as transportation sources.

In the unincorporated County, it is estimated that as many as 8,000 housing units and 21,000 persons are potentially exposed to transportation noise at Day-Night Average Levels exceeding 60 dB. The exposure level of 60-65 dBA is considered to be the maximum outdoor noise level compatible with residential and other noise-sensitive land uses. In locations outside the immediate influence of a major transportation noise source, ambient Day-Night Average Levels typically range from 46 dB(A) to 57 dB(A). Although localized noise problems will exist in these areas, generally ambient noise levels are acceptable, based on health and welfare criteria.

Controlling the impact of transportation noise must be approached both by quieting vehicles and by protecting sensitive land uses in locations where noise impact is excessive. The first of these approaches is beyond the legal jurisdiction of the County

because Federal and State legislation is preemptive in the field of noise source control. The County's primary opportunities to manage transportation noise impact lie in:

- a. Planning for compatible uses near existing transportation facilities.
- b. Imposing design standards on proposed sensitive development near existing transportation facilities.
- c. Incorporating noise control features into the design of new or expanded trafficways to protect existing sensitive areas.

2. Planning Policies

- a. In the planning of land use, 65 dB(A) Day-Night Average Sound Level is regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.
- b. Noise-sensitive land uses are considered to include:
 1. Residential, including single- and multi-family dwellings, mobile home parks, dormitories, and similar uses.
 2. Transient lodging, including hotels, motels, and similar uses.
 3. Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care.
 4. Public or private educational facilities, libraries, churches, and places of public assembly.
- c. Noise-sensitive uses proposed in areas where the Day-Night Average Sound Level is 65 dB(A) or more should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dB(A) L_{DN} when doors and windows are closed. An analysis of the noise insulation effectiveness of proposed construction should be required, showing that the building design and construction specifications are adequate to meet the prescribed interior noise standard.
- d. Residential uses proposed in areas where the Day-Night Average Sound Level is 65 dB(A) or more should be designed so that noise levels in exterior living spaces will be less than 65 dB(A) L_{DN} . An analysis of proposed projects should be required, indicating the feasibility of noise barriers, site design, building orientation, etc. to meet the prescribed exterior noise standard.
- e. The Resource Management Department, Public Works Department's Building and Safety Division, and Health Department's Environmental Health Services Division have administrative procedures for determining project compliance with the State Noise Insulation Standards related to interior noise levels.
- f. For protection of sensitive activities, as well as the airports, noise-sensitive land uses, other than hotels and motels insulated to the level prescribed in the State Noise Insulation Standards, should not be permitted within the 65 dB(A) CNEL contour of any airport.

- g. Residential use should be avoided within the 65 dB(A) CNEL contour of any airport and under airport traffic patterns.
- h. Zoning ordinance noise level provisions for the M-1 and M-2 zone districts require that noise generated by any use on the property shall not exceed seventy-five (75) dB L_{10} at or beyond any point along the property boundary upon which such use is located. In no case shall the volume of sound exceed sixty-five (65) dB L_{dn} at the location of any nearby noise sensitive uses. The M-RP zone district requires that the volume of sound generated or resulting from any use, other than motor vehicles, operated in any lot shall not exceed fifty (50) decibels at any point along the boundary of or outside of the lot upon which such use is located. All of these requirements assume measurements are taken during calm air conditions.
- i. In the planning and design of major transportation routes and facilities, noise impacts on existing or planned land uses are carefully considered so that noise-related land use conflicts are minimized.
- j. The Goleta Community Plan (Policy N-GV-1) requires that interior noise-sensitive uses (e.g., residential and lodging facilities, educational facilities, public meeting places and others specified in the Noise Element) shall be protected to minimize significant noise impacts.
- k. The Montecito Community Plan requires that noise-sensitive uses, as defined in the Noise Element, shall be protected from significant noise impacts.
- l. The Summerland Community Plan requires that interior noise sensitive uses, noise-sensitive uses as defined in the Noise Element, shall be protected from significant noise impacts.

3. Noise Thresholds

The following are thresholds of significance for assisting in the determination of significant noise impacts. The thresholds are intended to be used with flexibility, as each project must be viewed in its specific circumstances.

- a. A proposed development that would generate noise levels in excess of 65 dB(A) CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.
- b. Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dB(A) CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dB(A) CNEL or less.
- c. A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise-sensitive receptors adjoining areas. Per item a., this may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dB(A) CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dB(A) CNEL, as determined on a case-by-case level.

- d. Noise from grading and construction activity proposed within 1600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to EPA guidelines (see Figure 2) average construction noise is 95 dB(A) at a 50' distance from the source. A 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1600' of the construction site would be affected by noise levels over 65 dB(A). To mitigate this impact, construction within 1600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 AM to 5 PM only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dB(A) may require additional mitigation.

All noise studies evaluating ambient noise levels and changes resulting from project development should be prepared by licensed acoustical engineers.

FIGURE 1: SOUND LEVEL OF COMMON SOUNDS

<u>Sound</u>	<u>Sound Pressure Level</u>	<u>Relative Sound Pressure</u>	<u>Relative Loudness (approximate)</u>
Jet Take-Off, 200 feet	120	1,000	64
Riveting Machine	110		32
Power Mower, 5 feet	100	100	16
Motorcycle, 50 feet	90		8
Inside Sports Car (50 mph)	80	10	4
Vacuum Cleaner	70	3	2
Ordinary Conversation, 3 feet	60	1	1
Private Business Office	50		1/2
Inside Average Residence	40	.1	1/4
Soft Whisper, 5 feet	30		1/8
Inside Recording Studio	20	.01	1/16
Rustle of leaves	10		1/32
Threshold of Hearing	0	.001	1/64

*Reference 20 microPascals, adapted from several sources

References

1. U.S. Department of Transportation, Transportation Noise and Its Control (Washington, D.C. US GPO) 1972
2. U.S. Environmental Protection Agency, Public Health and Welfare Criteria For Noise (Washington, D.C. US GPO) 1973
3. U.S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety (Washington, D.C. US GPO) 1974

FIGURE 2

Noise Levels for Typical Construction
Equipment Referenced to 50 Feet

		NOISE LEVEL (dba) AT 50 FEET					
		60	70	80	90	100	110
EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINE	EARTH MOVING	COMPACTERS (ROLLERS)					
		FRONT LOADERS					
		BACKHOES					
		TRACTORS					
		SCRAPERS, GRADERS					
		PAVERS					
		TRUCKS					
	MATERIALS HANDLING	CONCRETE MIXERS					
		CONCRETE PUMPS					
		CRANES (MOVABLE)					
		CRANES (DERRICK)					
	STATIONARY	PUMPS					
		GENERATORS					
		COMPRESSORS					
	IMPACT EQUIPMENT	PNEUMATIC WRENCHES					
		JACK HAMMERS AND ROCK DRILLS					
		PILE DRIVERS (PEAKS)					
	OTHER	VIBRATOR					
		SAWS					

Note: Based on limited available data samples.

Source: EPA, 1971: "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," NTID 300-1.

13. QUALITY OF LIFE GUIDELINES

Quality of life can be broadly defined as the aggregate effect of all impacts on individuals, families, communities, and other social groupings and on the way in which those groups function. The quality of life subsumes what others label as the psychological, psychosocial, well-being, or satisfactional impacts. Quality of life has implications for mental health and well-being, social structure, and community well-being:

- * Mental health and well-being encompasses changes in the mental states of individuals, including their attitudes, perceptions, and beliefs as well as the associated psychological and physiological consequences of those changes.
- * Social structure encompasses changes in the social organization of families and groups, their collective postures over the impacts, and how impacts affect the cohesion and viability of the group.
- * Community well-being encompasses changes in community structure that relate to non-economic factors, such as desirability, social cohesion, livability, attractiveness, and sense of place.

Quality of life issues, while hard to quantify, are often primary concerns to the community affected by a project. Examples of such issues include the following:

- Loss of privacy;
- Neighborhood incompatibility;
- Nuisance noise levels (not exceeding noise thresholds);
- Increased traffic in quiet neighborhoods (not exceeding traffic thresholds);
- Loss of sunlight/solar access.

The County interprets the CEQA mandate for maintaining a high quality environment strictly, and considers the maintenance of a high quality human environment an important responsibility.

The State CEQA Guidelines clearly support the use of local standards in determining what constitutes a significant effect on the environment. Therefore, on a case by case basis, the elements comprising "quality of life" shall be considered. Where a substantial physical impact to the quality of the human environment is demonstrated, the project's effect on "quality of life" shall be considered significant.

14. PUBLIC SAFETY THRESHOLDS

A. PURPOSE

The thresholds contained within this chapter assist the County in classifying the significance of impacts to public safety in a consistent and comprehensive manner when considering a discretionary land-use action. These thresholds focus on involuntary public exposure to acute risks that stem from certain types of activities with significant quantities of hazardous materials. Such activities include installations or modifications of facilities that handle hazardous materials (hereinafter referred to as hazardous facilities), and the transportation of hazardous materials. However, the thresholds also assist in identifying potentially significant impacts to non-hazardous land uses proposed in proximity to existing hazardous facilities.

The thresholds employ quantitative measures of societal risk during the environmental review of a proposed development to indicate whether the annual probability of expected fatalities or serious injuries is significant or not. Measuring societal risk must comply with County-approved guidelines; however, it is not necessary to complete a quantitative risk analysis in order to determine whether an environmental impact report is required or not during preparation of an initial study. Both unmitigated risk estimates and the effectiveness of options to mitigate significant risk should be tested against the threshold. If a proposed project exposes the public to significantly high risks despite all feasible measures to mitigate the impact, then approval of the project requires a statement of overriding considerations, adopted by the approving authority and supported by substantial evidence in the record. Upon project approval, the risk estimates should be adjusted and charted on the thresholds to reflect the risk accurately, based on accepted mitigation, for future land-use planning and permitting purposes.

As described below, these thresholds should not function as the sole determinants of significance for public safety impacts. Rather, they must be used in concert with applicable County policy, regulation, and guidelines to address other qualitative factors specific to the project which also help determine the significance of risk. For example, highly sensitive land uses (e.g., hospitals or schools) are generally given greater protection from hazardous situations overall. Also, long-term significant risks (e.g., natural gas production) generally are treated more conservatively than relatively short-term risks (e.g., natural gas exploration).

B. DEFINITIONS

ACUTE RISK -- Chance of fatality or serious injury due to a single, short-term, involuntary exposure to a release of hazardous gas, liquid, or solid, or to a fire or explosion.

FATALITY -- Death, including exposure to an accident that produces escape-impairing symptoms and considering nearly all individuals that could be exposed (i.e., not just healthy workers, but the elderly, the young and individuals with preexisting health problems).

FEASIBLE -- Capable of being accomplished in a successful manner with a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

OCCUPATIONAL SAFETY -- Applies to employees and contractors (not including construction crews) of a hazardous facility (including people who visit the hazardous facility to provide services or conduct business).

QUALITATIVE FACTORS -- Consideration of special characteristics of risk not generally included in its quantification but being sufficiently important to influence the identification and analysis of significant public safety effects, directly or indirectly.

QUANTITATIVE FACTORS -- Use of relevant empirical data, in raw form or modified as necessary by expert judgment, and employed in scientifically or technically accepted methodologies, to predict the probability and consequences of an accident with regard to a potentially vulnerable individual or group of people.

SAFETY -- A judgment of the acceptability of risk, recognizing that there is always some chance of an accident that may adversely affect someone, no matter what precautionary steps are taken to prevent the accident or protect against its consequences.

SERIOUS INJURY -- Physical harm to a person that requires significant medical intervention.

SOCIETAL RISK -- Risk to a group of people, expressed in terms of the distributed frequency of events that cause multiple casualties or, when appropriate, the likelihood of casualties at a specific location or area.

C. APPLICABILITY

These thresholds apply to risks stemming from the following facilities and activities if (a) they are subject to a discretionary land-use action (or would communicate its concerns for public safety to another jurisdiction that is making a discretionary decision such as routes for shipping hazardous materials), and (b) initial analysis reveals substantial evidence to support a fair argument that the potential of a significant impact to public safety could result from approval of the project subject to such action.

1. Oil wells and gas wells (unless abandoned or undergoing abandonment), and associated production.
2. Gas and hazardous liquids pipelines, including oil if a significant risk is expected, but exempting existing natural gas pipelines owned by a Californian public utility regulated by the California Public Utilities Commission and operated for the purpose of delivering gas directly to the Goleta storage field or consumers (except activities related to liquefied natural gas), and exempting new low pressure distribution pipelines (125 psig or lower) operated by a Californian public utility and regulated by the California Public Utilities Commission.
3. Oil and/or gas processing and storage facilities, including facilities for removing sulfur, removing gas liquids, and compressing gas.
4. Oil refineries.

5. Handling, storage, and transport of compressed natural gas or methanol related to facilities for refueling motor vehicles with these materials.
6. All handling, storage, and transport of chlorine in containers with a capacity of one ton or more, or an equivalent amount of chlorine in bottles or cylinders connected through a common header.
7. Handling, storage, and transport of anhydrous ammonia in containers with a capacity of one ton or more, or an equivalent amount of anhydrous ammonia in bottles or cylinders connected through a common header.
8. Handling, storage, and transport of acutely hazardous rocket propellants such as nitrogen tetroxide (including instances where the County would communicate with other jurisdictions about discretionary actions that affect public safety in this County such as designation of routes for transporting hazardous materials).
9. Handling, storage, and transport of spent radioactive fuel and other high-level, radioactive materials (including instances where the County would communicate with other jurisdictions about discretionary actions that affect public safety in this County such as the designation of route for transporting hazardous materials).
10. Storage of natural gas liquids, including liquified petroleum gas, unless such storage is limited to a single container with a maximum capacity of 10,000 gallons or less and does not require refilling more than once weekly.
11. Facilities of a type not addressed in 1-10 above, and not exclusively dedicated to retail distribution of consumer products (such as gasoline stations, or hardware, paint, and dry-cleaning stores) that:
 - (i) use a classified Class A or B explosive (per Title 49, Code of Federal Regulations, 171-179); or
 - (b) use substances classified as high-level radioactive materials; or
 - (c) use specified quantities of regulated substances (pursuant to Title 19 of the California Code of Regulations, Division 2, Chapter 4.5) and meet all of the following criteria:
 - (i) The regulated substance(s) is stored as a compressed gas or liquified compressed gas, or is expected to vaporize or evaporate quickly upon release (e.g., through failure of container, piping, or valve), or is stored as a liquid at a temperature that exceeds its boiling point;
 - (ii) The regulated substance(s) has the potential to cause a significant risk to public safety according to the County's environmental thresholds. (For example, the regulated substance(s) exists as a gas or vapor upon accident release, and will either release into the open atmosphere or become dangerously explosive in a confined environment.)
 - (iii) The regulated substance(s) is associated with a specific activity that is generally considered to be incompatible with surrounding land uses.

12. All development proposed in proximity to one or more existing hazardous facilities as described above, unless (a) the hazardous facility(ies) are inoperative for the purpose of abandonment, or (b) the proposed development is a single family residential unit which the County considers to be a voluntary exposure to the hazardous facility, or (c) the proposed development does not require a discretionary land-use action.

In cases 1 through 11 listed above, these thresholds apply to risks imposed on present and reasonably projected future land use, considering principally permitted uses under current zoning along with any conditional uses that are permitted or under review.

With regard to land uses with transitory populations (e.g., parks, roads, pedestrian and bike paths), these thresholds apply only when these populations are considered to be often present often or to often flow continuously (e.g., a frequently used recreational park or frequently traveled road). They do not apply when transitory populations are considered to be sporadic or often absent (e.g., hiking trails and other uses where the infrequent presence of people renders inclusion herein as overly speculative).

These thresholds do not apply to occupational safety (i.e., employees of the hazardous facility or people who visit the hazardous facility to provide services or conduct business). Occupational risk, which is governed by State and Federal OSHA, is considered to be more voluntary characteristically and, as such, is generally judged according to more lenient standards of significance than those used for involuntary exposure.

Additionally, these thresholds do not address impacts other than public safety, although accidents that involve hazardous materials potentially impact communities and the environment in other ways (e.g., ecological damage, ground/surface water contamination, demand on fire and police services, economic disruption, interruption to surrounding land uses). These thresholds may be used to address the probability of such impacts occurring. The determination of significance of all such impacts is left to other applicable thresholds and the judgment of specialists that address those impacts in environmental reviews.

Lastly, these thresholds do not address issues of chronic risks which adversely impact public health as a result of long-term or repeated exposure to a hazardous material or situation. Issues of chronic exposure to air toxins are covered under the thresholds for air quality, and the Air Pollution Control District advises on appropriate methodology for modeling air quality. Air quality modeling and methods of health risk assessment to address soil and water contamination differ from those applied to acute risks. Consequently, any application of this threshold to determine the significance of chronic risk should be done so cautiously, making necessary adjustments to the threshold as necessary.

D. DETERMINING WHEN TO DO QUANTITATIVE RISK ANALYSIS

The thresholds of significance on pages 8 and 9 are designed for use during the preparation of an environmental impact report if the initial study reveals substantial evidence of a potentially significant risk to public safety due to exposure to hazardous materials. Comprehensive quantitative analysis of societal risk is necessary at this stage; however, this level of analysis is not required to prepare an initial study.

Instead, a 4-step screening methodology is used during the preparation of the initial study for determining the potential of a project to have a significant effect on public safety.

1. Certain facilities, such as major sour gas pipelines and gas processing facilities that support offshore oil and gas facilities, would automatically be subject to quantitative risk analysis and the risk thresholds.
2. For facilities not included in step 1, staff first determines the hazard zone based on the threshold levels of concentration for the particular hazardous materials involved and reasonably worst-case accidents. Levels of concentration for most chemicals are identified by the state. The hazard zones for materials commonly used in the county will be determined. Any hazard zone that encompasses other potentially inhabitable land uses triggers step 3, inclusive of non-hazardous development (other than a single-family residence) proposed within the hazard zone of an existing hazardous facility. Otherwise, the proposed project is not considered to have a significant impact due to acute exposure to hazardous materials.
3. If the hazard zone encompasses off-site receptors, staff then calculates the Individual Risk for the hazardous material(s) involved, based on the probability of an accident occurring, and proceeds to step 4. Calculations may be pre-determined based on existing information or will be accomplished through a qualified risk analyst.
4. Staff adjusts the Individual Risk to reflect conditional probabilities, called the Individual Specific Risk. Such probabilities address factors such as number of hours in the day in which someone is present in the hazard zone. A measurement of one in a million (1×10^{-6}) on an annual basis indicates sufficient evidence to trigger the risk thresholds and a comprehensive risk analysis.

E. USING THESE RISK THRESHOLDS

When an Environmental Impact Report is required, the CEQA Guidelines stipulate that it identify and focus on significant environmental effects of a proposed project. Such efforts include health and safety problems caused by the physical changes to the environment and any significant effects the project might cause by bringing development and people into the area affected by a significant hazard (section 15126). In so doing, the report must also identify and describe any significant environment effects which cannot be avoided if the proposed project is approved and implemented (generally referred to as unavoidable impacts). The Governor's Office of Planning and Research recommends that CEQA lead agencies establish thresholds of significance. These thresholds may be qualitative, quantitative, or both, whichever form best fits their purpose of providing an analytical method to gauge the significance of a particular environmental effect in a consistent, efficient, and predictable manner.

For identifying the significance of impacts to public safety for purposes of CEQA compliance, the County has consistently focused on quantifying societal risk. In general, risk is a compound measure of the probability and consequences of an adverse effect. Common expressions of risk include individual risk and societal risk. Individual risk is somewhat restricted in its ability to reflect actual risk; it only expresses the risk to a single individual without consideration of the total vulnerable population in a hazardous zone (e.g., a remotely located facility carries an equivalent individual risk as one located next to a hospital). Societal risk, illustrated as a risk

spectrum, expresses a continuous variation in risk as a relationship of probability and consequence, the latter measuring the number of estimated fatalities and serious injuries.

The thresholds illustrated in figures 1 and 2 require quantitative risk analysis to determine the total societal risk attributable to the full set of possible accidents that can occur from the operation of a hazardous facility or undertaking of an activity that involves handling of hazardous materials. The analysis must consider both the significance of the risk and the beneficial effect of mitigation. It must also comply with County guidelines for risk assessment to ensure compatibility with the thresholds and consistency over time. When these thresholds are applied to proposed development in proximity to an existing hazardous operation, the risk measurement must be adjusted to reflect reductions in risk due to mitigation and to reflect societal risk to the newly proposed development.

These thresholds refine previous, quantitative thresholds by employing the entire risk spectra of a project and they refine the qualitative character of previous thresholds by employing qualitative factors into the determination of significance. The thresholds provide three zones -- green, amber, and red -- for guiding the determination of significance or insignificance based on the estimated probability and consequence of an accident. Risk analysis is based on best available data and modeling techniques but still requires informed assumptions to compensate for gaps in data, shortfalls in modeling, or ability to predict future outcomes with 100% accuracy. Given the unavoidable margin of error associated with any projection, the amber zone represents an area where caution is recommended, particularly considering the presence or absence of relevant qualitative factors; meanwhile, the overall goal should remain focused on maximizing public safety, using feasible mitigation to achieve a risk spectrum that falls solely within the green zone.

Risk spectra plotted on the thresholds should be interpreted as follows for purposes of determining the potential significance of an adverse impact to public safety.

1. Class I Impact. Class I applies to adverse impacts that, following environment review, the County considers to be unavoidable and significant (i.e., cannot be mitigated to insignificance via feasible measures).

Regarding public safety, the County considers a societal risk spectrum that falls in the red or amber zones after application of all feasible mitigation to be an unavoidable, significant impact on public safety.

Class I impacts to public safety may constitute an unreasonable risk, considering how far the risk spectrum penetrates into the red zone, the feasibility of alternative locations with lesser risk, other qualitative factors, and applicable law and guidelines. Unreasonable risk shall be determined for each project individually, based on policies provided in the Safety Element and other relevant policies and codes. Lacking any such determination, project approval requires a statement of overriding considerations by the applicable land-use authority, showing that the benefits of the proposed development exceed its adverse impacts to public safety.

2. Class II Impact. Class II applies to adverse impacts that, following environmental review, the County considers to be significant but avoidable through application of feasible mitigation (i.e., mitigation can render the impact to be insignificant).

Regarding public safety, the County considers a societal risk spectrum that falls in either the red or amber zones to be a significant impact to public safety. Such risk shall be considered a Class II impact for purposes of compliance with CEQA if application of feasible mitigation is sufficient to lower the risk spectrum so that it falls fully within the green zone.

3. Class III Impact. Class III applies to adverse impacts that, following environmental review, the County considers to be insignificant for purposes of complying with CEQA.

Regarding public safety, the County considers a societal risk spectrum that falls completely in the green zone to be a Class III, insignificant impact to public safety and no mitigation (or additional mitigation) is required for purposes of compliance with CEQA.

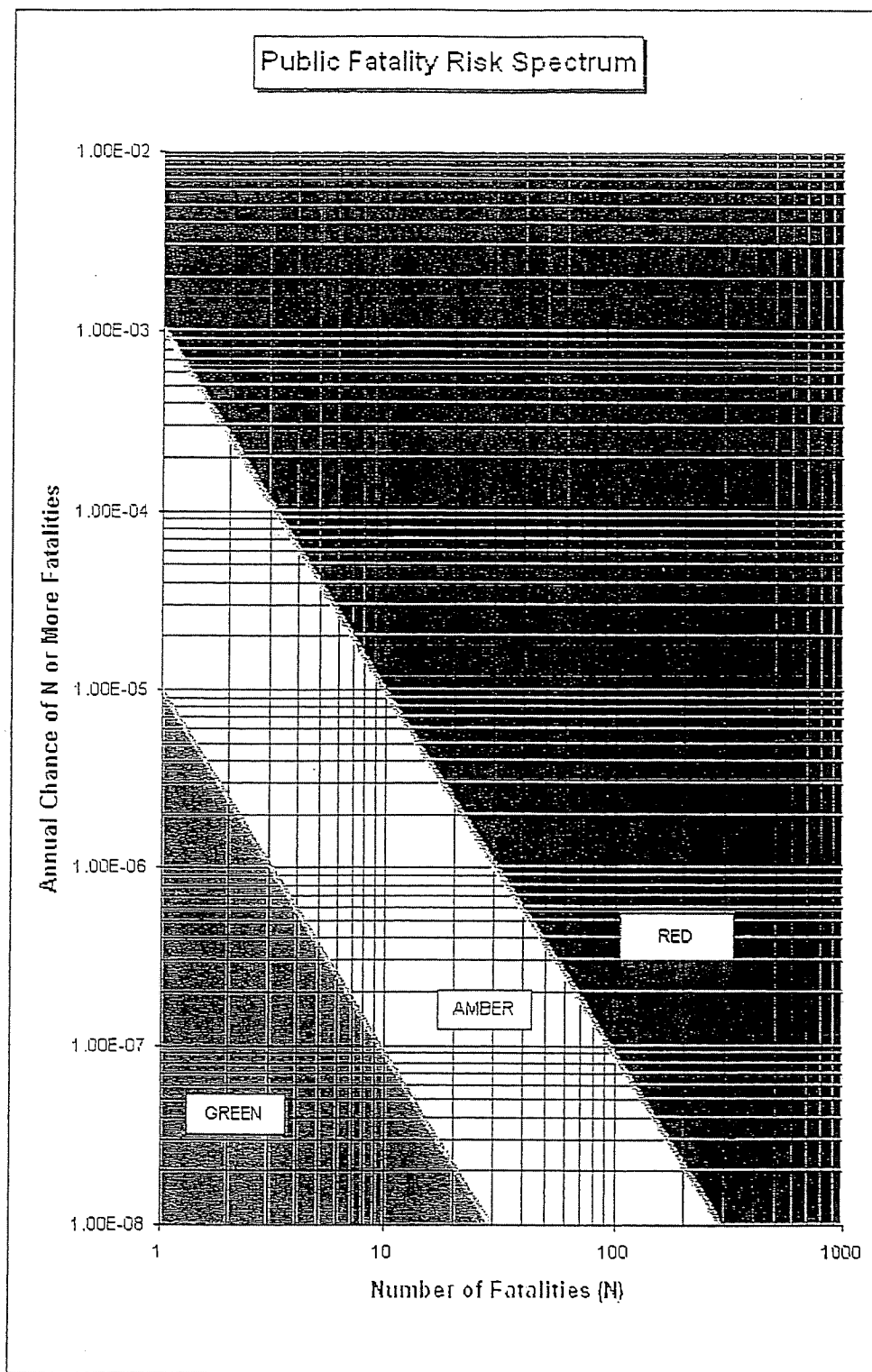


Figure 1
Santa Barbara Fatality Risk Thresholds

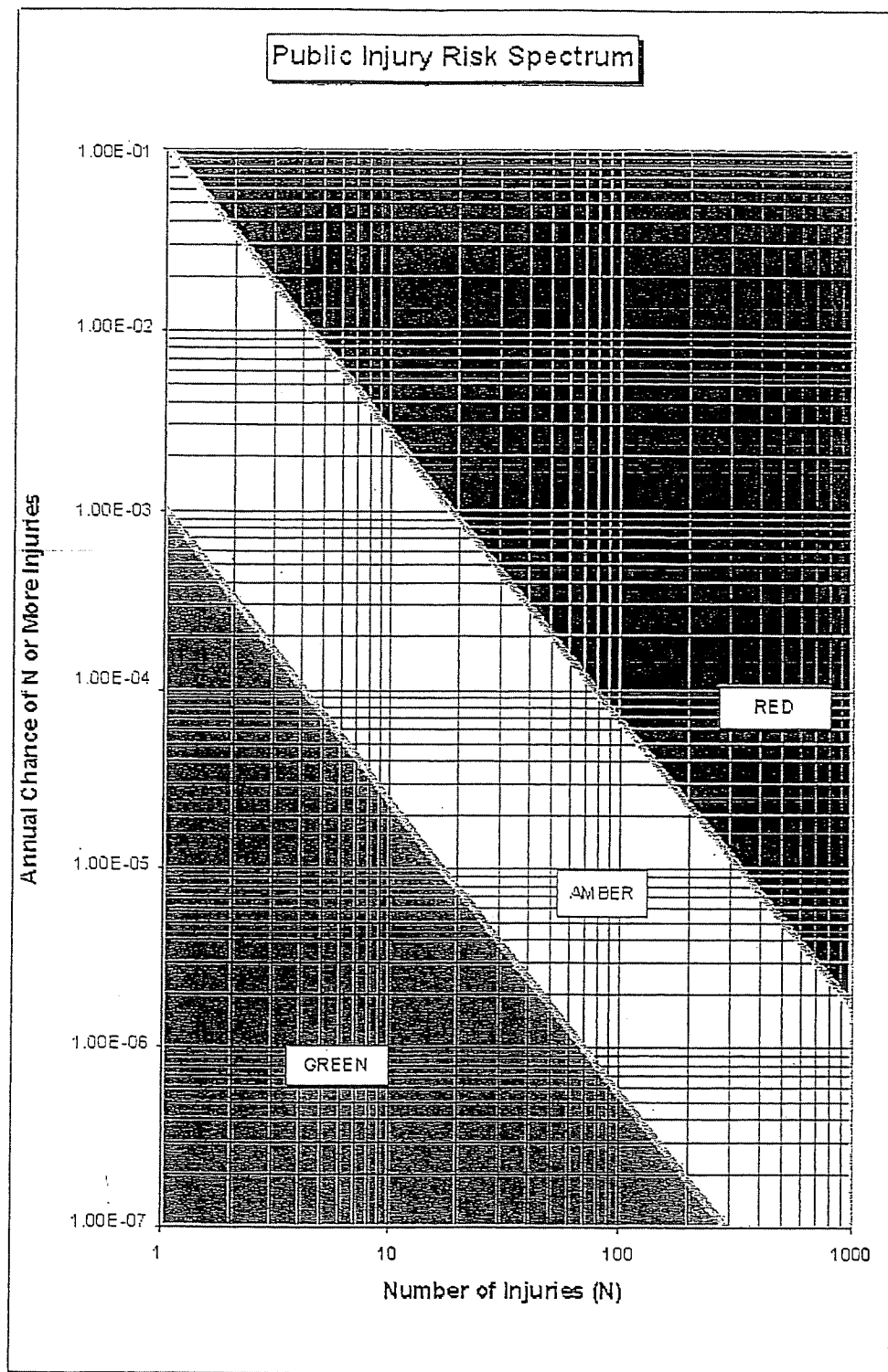


Figure 2
Santa Barbara Injury Risk Thresholds

15. SCHOOLS THRESHOLDS (INTERIM)

Issue Summary

The issue of existing and potential overcrowding of school facilities is of concern both locally and State-wide given the overall fiscal situation throughout the State of California and given the legal constraints regarding collection of funds and other mitigation on a project specific level. Several of the school districts in the County are currently experiencing overcrowding, including the Orcutt Union School District, Santa Maria Joint Union High School, and Hope School District, among others. Increased enrollment is difficult for the districts to deal with for a number of reasons which vary by district, including lack of existing facilities, lack of funding to construct new facilities and fund additional teachers, and lack of land to accommodate expanding campuses.

Under existing state law, a local jurisdiction cannot require mitigations or apply conditions which exceed the fees as allowed by state law for a development project which is consistent with its General Plan Designation. In many instances, this creates a situation where overcrowding may result from a project without the opportunity for mitigation through project conditions attached to a County permit. However, there are other measures, beyond the authority of the County, which may be used by the State and the school districts to address school facility impacts. These may include the use of temporary/portable classrooms, intra- or inter-district student transfers to less crowded schools, double session or year-round school schedules, and combination of classes of students on several grade levels. In the situation where the County is not able to recommend project specific mitigation which may reduce impacts to school facilities, the focus of CEQA is to disclose the impacts and to discuss the options which the school districts may use to address the overcrowding issue.

Determination of Significant Impact

A significant level of school impacts is generally considered to occur when a project would generate sufficient students to require an additional classroom. This assumes 29 students per classroom for elementary/junior high students, and 28 students per classroom for high school students, based on the lowest student per classroom loading standards of the State school building program. This threshold is to be applied in those school districts which are currently approaching, at, or exceeding their current capacity.

A project's contribution to cumulative schools impacts will be considered significant if the project specific impact as described above is considered significant.

Methodology for Determining Significance

At the present time, RMD has very little countywide information regarding school capacity status. Until we have compiled information on the various school districts in the County, the project planner should individually contact districts which may be affected by their project. A

form has been developed which includes relevant questions to ask the affected districts regarding capacity, enrollment projections, and facility information. This form should be used to ensure that adequate information is received from the districts to determine if a significant impact would occur from the project.

Context of Analysis

Based upon Corona-Norco USD v. City of Corona, an ND rather than an EIR may be prepared for development projects having Class I impacts only on schools (schools impacts are the only cause for preparation of an EIR) for which mitigation is limited by law to payment of standard fees.

Mitigation Measures

The following mitigation measures may be used to address impacts to affected schools. However, mitigation is limited by state law. For projects which do not involve a legislative act, payment of standard fees, as specified in the second mitigation measure, is the maximum mitigation allowed. *Staff is currently reviewing mitigation options for projects which do involve a legislative act based upon the outcome of the recent election and other possible changes in applicable law. Staff will provide mitigation language for the Planning Commission's review during the hearing process on the thresholds.*

1. The applicant shall notify the *[Planner insert appropriate school district]* of the expected buildout date of the project to allow the District to plan in advance for new students.
Plan Requirement: A copy of the notice shall sent to RMD prior to land use clearance for the project.

MONITORING: RMD shall ensure letter is sent prior to issuing land use clearance.

2. The applicant shall pay the adopted fees per square foot of livable space being created by the project to the appropriate school district(s). These fees are used by the districts to construct temporary or permanent classroom space, but are not used to provide additional teachers. **Plan Requirements and Timing:** The applicant shall submit final square footage calculations and a copy of the fee payment to the school district(s) prior to

MONITORING: RMD shall ensure payment made prior to issuance of building permits.

16. SURFACE AND STORM WATER QUALITY SIGNIFICANCE GUIDELINES

A. Introduction

The following information is excerpted from several EPA publications including the preamble to the NPDES Phase II rules as published in the Federal Register¹ and EPA storm water fact sheets and guidance documents².

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, oxygen-demanding substances, and floatables. After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in "first flush" discharges, which occur during the first major storm after an extended dry period. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction. Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans. Although water quality problems also can occur from agricultural storm water discharges and return flows from irrigated agriculture, this area of concern is statutorily exempted from regulation as a point source under the Clean Water Act and is not addressed in these guidelines.

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loading in storm water that is discharged to receiving waterbodies. Urban development increases the amount of impervious surface in a watershed as farmland, forests, and other natural vegetation with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water runoff washes over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows from more pervious areas, which have more natural vegetation and soil to filter the runoff. Studies reveal that the level of imperviousness in an area strongly correlates with decreased quality of the nearby receiving waters. Research conducted in numerous geographical areas, concentrating on various variables and employing widely differing methods, has revealed that stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent).

¹ 64 FR 68722

² Available on the Internet at www.epa.gov/npdes.

Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking.

Relationship of Sources to Primary Pollutants of Concern

Pollutant Source/Activity	Primary Pollutants of Concern in Urban Runoff ^a								
	Physical Parameters ^a	Synthetic Organics ^b	Petroleum Hydrocarbons ^c	Heavy Metals ^d	Nutrients	Pathogens	Sediments	Oxygen-Demanding Substances ^e	Floatables ^f
Vehicle Service Facilities		•	•	•					
Gas Stations		•	•	•					
Metal Fabrication Shops		•	•	•					
Restaurants									•
Auto Wrecking Yards	•	•	•	•					
Mobile Cleaners		•							
Parking Lots	•		•	•					•
Residential Dwellings	•	•		•	•	•	•	•	
Parks/Open Spaces					•	•	•	•	•
Construction Sites	•						•	•	
Corporation Yards	•	•	•	•					
Streets & Highways	•		•	•				•	•
Marinas									•
Golf Courses		•			•		•	•	
Sewer Overflows	•					•		•	

a. salinity, pH, temperature. b. pesticides, herbicides, PCBs. c. oil, grease, solvents. d. lead, copper, zinc, cadmium. e. plant debris, animal waste. f. litter, yard wastes.

* adapted from *Model Urban Runoff Program*. July 1998. City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde and Central Coast Regional Water Quality Control Board. EPA Assistance Agreement No. C9-999266-95-0.

In addition to impervious areas, urban development creates new pollution sources as population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by storm water discharges into storm sewer systems.

The first national assessment of urban runoff characteristics was completed for the *Nationwide Urban Runoff Program (NURP)* study. The NURP study is the largest nationwide evaluation of storm water discharges undertaken to date. EPA conducted the NURP study to facilitate understanding of the nature of urban runoff from residential, commercial, and industrial areas. One objective of the study was to characterize the water quality of discharges from separate storm sewer systems that drain residential, commercial, and light industrial (industrial parks) sites. Storm water samples from 81 residential and commercial properties in 22 urban/suburban

areas nationwide were collected and analyzed during the 5-year period between 1978 and 1983. The majority of samples collected in the study were analyzed for eight conventional pollutants and three heavy metals. Data collected under the NURP study indicated that discharges from separate storm sewer systems draining runoff from residential, commercial, and light industrial areas carried more than 10 times the annual loading of total suspended solids (TSS) than discharges from municipal sewage treatment plants that provide secondary treatment. The NURP study also indicated that runoff from residential and commercial areas carried somewhat higher annual loadings of chemical oxygen demand (COD), total lead, and total copper than effluent from secondary treatment plants. Study findings showed that fecal coliform counts in urban runoff typically range from tens to hundreds of thousands of most probable number (MPN) per hundred milliliters (ml) of runoff during warm weather conditions, with the median for all sites being around 21,000 MPN/100 ml.

B. Construction Site Runoff

Polluted storm water runoff from construction sites often flows to storm drains and ultimately is discharged into local rivers and streams. Of the pollutants listed below, sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters. The siltation process described previously can (1) deposit high concentrations of pollutants in public water supplies; (2) decrease the depth of a waterbody, which can reduce the volume of a reservoir or result in limited use of a water body by boaters, swimmers, and other recreational enthusiasts; and (3) directly impair the habitat of fish and other aquatic species, which can limit their ability to reproduce. Excess sediment can cause a number of other problems for waterbodies. It is associated with increased turbidity and reduced light penetration in the water column, as well as more long-term effects associated with habitat destruction and increased difficulty in filtering drinking water.

Pollutants Commonly Discharged From Construction Sites

Sediment	Pesticides
Solid and sanitary wastes	Concrete truck washout
Nitrogen (fertilizer)	Construction chemicals
Phosphorous (fertilizer)	Construction debris

C. Post Construction Runoff

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the waterbody during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of

water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include stream bank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

D. Federal and State Regulations

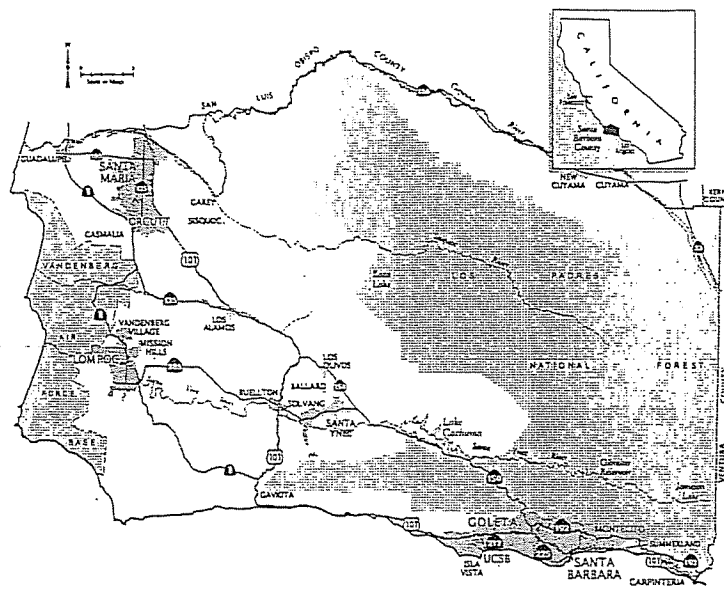
The Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act or CWA) requires that discharges do not substantially degrade the physical, chemical or biological integrity of the Nation's waters. Specifically Section 402 established the National Pollutant Discharge Elimination System (NPDES) Regulations for wastewater and other pollutant discharges.

Congress amended the CWA in 1987 to require the implementation of a two-phased program to address storm water discharges. Phase I, promulgated by the U.S. Environmental Protection Agency (EPA) in November 1990, requires NPDES permits for storm water discharges from municipal separate storm sewer systems (MS4s) serving populations of 100,000 or greater, construction sites disturbing greater than 5 acres of land, and ten categories of industrial activities.

Despite the comprehensiveness of the NPDES Phase I program, the EPA recognized that smaller construction projects (disturbing less than 5 acres) and small municipal separate storm sewers (MS4s³) were also contributing substantially to pollutant discharges nationwide. Therefore, in order to further improve storm water quality, the EPA promulgated the NPDES Phase II program (*Federal Register* Vol. 64, No. 235, December 8, 1999). The Phase II regulations became effective on February 7, 2000, and require NPDES permits for storm water discharges from regulated small MS4s and for construction sites disturbing more than 1 acre of land. The Phase II regulations published by the EPA designated the urbanized areas⁴ of Santa Barbara County as a regulated small MS4.

³ Those generally serving less than 100,000 people and located in an urbanized area as defined by the Bureau of the Census.

⁴ An *urbanized area* is a land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (the urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.



In addition, Section 401 and 404 established regulations for the discharge of dredged or fill material into waters of the United States and water quality impacts associated with these discharges. In California, the Porter-Cologne Water Quality Control Act establishes waste discharge standards pursuant to the Federal NPDES program, and the state has the authority to issue NPDES permits to individuals, businesses, and municipalities.

E. County Water Quality Issues

Because the EPA has determined that the urbanized areas of Santa Barbara County are subject to the Phase II NPDES regulations, it is presumed that the county has a general urban runoff water quality problem. In addition to this general presumption, over the last three years Project Clean Water has collected analytical water quality data and identified the water quality concerns in county streams, creeks and beach areas. These concerns include:

- Bacteria levels consistently above applicable standards during storm events,
- Levels of metals (copper, chromium, zinc, and lead) approaching or exceeding Regional Water Quality Control Board Basin Plan objectives,
- Elevated levels of nitrogen and phosphorus in all creeks during storm events, and
- Detection of pesticides in all watersheds.

The Regional Water Quality Control Board has also identified that the quality of several important recreational water bodies and water supplies have been impaired. These water bodies and their contaminants include:

- San Antonio Creek (northern) – sediments.
- Santa Ynez River – nutrients (e.g., phosphorus and nitrogen), salinity, total dissolved solids, chlorides and sediments.
- Goleta Slough – metals, pathogens, and sediment.

- Arroyo Burro Creek – pathogens (e.g., bacteria).
- Mission Creek – pathogens.
- Carpinteria Salt Marsh – nutrients and sediment.
- Carpinteria Creek - pathogens
- Rincon Creek – pathogens and sediment.

F. County Water Quality Protection Policies

Policies regarding the protection of water quality in the unincorporated areas of Santa Barbara County are provided in the Comprehensive Plan Land Use Element, various Community Plans, and the Local Coastal Plan. The overarching policy which applies to both construction and post-construction is Land Use Element Hillside and Watershed Protection Policy 7 (Coastal Plan Policy 3-19), which states:

Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste shall not be discharged into or alongside coastal streams or wetlands either during or after construction.

Project approval requires a finding of consistency with this and all other applicable water quality policies in the Comprehensive and Community Plans.

G. Significance Guidelines for Assessment of Water Quality Impacts

Guidelines for assessing project-specific and cumulative water quality impacts are presented below. The assessment of impacts must account for construction-related impacts (i.e., vegetation removal, erosion, use of construction materials on the site, and staging of construction activities) and post-construction (or post-development) impacts (i.e., increases in impervious surfaces and increased runoff, entrainment of pollutants, and effects of discharges on aquatic habitats and biota).

G.1 *Project Specific Potential Significance Impacts*

- (a) A significant water quality impact is presumed to occur if the project:
- Is located within an urbanized area of the county and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
 - Increases the amount of impervious surfaces on a site by 25% or more;
 - Results in channelization or relocation of a natural drainage channel;
 - Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks or wetlands;

- Is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works;; and light industrial activity);
- Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses⁵ of a receiving waterbody; or
- Results in a discharge of pollutants into an "impaired" waterbody that has been designated as such by the State Water Resources Control Board or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act).
- Results in a discharge of pollutants of concern to a receiving water body, as identified in by the RWQCB.

(b) Projects that are not specifically identified on the above list or are located outside of the "urbanized areas" may also have a project-specific storm water quality impact. Storm water quality impacts associated with these projects must be evaluated on a project by project basis for a determination of significance. The potential impacts of these projects should be determined in consultation with the county Water Agency, Flood Control Division, and RWQCB. The issues that should be considered are:

- the size of the development;
- the location (proximity to sensitive waterbodies, location on hillsides, etc.);
- the timing and duration of the construction activity;
- the nature and extent of directly connected impervious areas;
- the extent to which the natural runoff patterns are altered;
- disturbance to riparian corridors or other native vegetation on or off-site;
- the type of storm water pollutants expected; and
- the extent to which water quality best management practices are included in the project design.

(c) All projects determined to have a potentially significant storm water quality impact must prepare and implement a Storm Water Quality Management Plan (SWQMP) to reduce the impact to the maximum extent practicable. The SWQMP shall include the following elements:

- identification of potential pollutant sources that may affect the quality of the discharges to storm water;

⁵ Beneficial uses for Santa Barbara County are identified by the Regional Water Quality Control Board in the Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, and include (among others) recreation, agricultural supply, groundwater recharge, fresh water habitat, estuarine habitat, support for rare, threatened or endangered species, preservation of biological habitats of special significance.

- the proposed design and placement of structural and non-structural BMPs to address identified pollutants;
- a proposed inspection and maintenance program; and
- a method of ensuring maintenance of all BMPs over the life of the project.

Implementation of best management practices identified in the SWQMP will generally be considered to reduce the storm water quality impact to a less than significant level.

G.2 Less than Significant Impacts

The following land uses and projects are generally presumed to have a less than significant project-specific water quality impact. These include:

- Redevelopment projects that do not increase the amount of impervious surfaces on the site nor change the land use or potential pollutants;
- New development and redevelopment projects that incorporate into the project design construction BMPs for erosion, sediment and construction waste control and incorporate post-construction BMPs to protect sensitive riparian or wetland resources, reduce the quantity of runoff, and treat runoff generated by the project to pre-project levels;
- Lot line adjustments that do not alter the development potential of the lots involved;
- Development of a single family dwelling (and associated accessory uses including but not limited to roads and driveways, septic systems, guesthouse, pool, etc.) disturbing less than one acre on existing legal lot.

G.3 Cumulative Impacts

Because of the county's designation under the Phase II NPDES regulations, all discretionary projects (except those that do not result in a physical change to the environment) within the urbanized area whose contributions are cumulatively considerable must implement one or more best management practices to reduce their contribution to the cumulative impact.

H. General Mitigation Guidelines for Water Quality Impacts

If water quality impacts are considered from the beginning stages of a project more opportunities are available for water quality protection. Best management practices (mitigation measures) chosen for a project should minimize water quality impacts and attempt to maintain pre-development runoff conditions. Best management practices are divided into two main categories, non-structural BMPs and structural BMPs.

Non-structural BMPs are preventative actions that involve management and source controls such as protecting and restoring sensitive areas such as wetlands and riparian corridors, maintaining and/or increasing open space, providing buffers along sensitive water bodies, minimizing impervious surfaces and directly connected impervious areas, and minimizing disturbance of soils and vegetation. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips;

and infiltration practices such as infiltration basins and infiltration trenches. In many cases combinations of non-structural and structural measures will be required to reduce water quality impacts.

Non-structural and structural BMPs most applicable to the development projects in the county are included in "A Planner's Guide to Conditions of Approval and Standard Mitigation Measures" and the county's adopted BMP manuals for construction site runoff control. Additional guidance on best management practices is available from the State⁶, the EPA⁷ and from other sources such as BASMAA "Starting at the Source"⁸. Storm water technologies are constantly being improved, and staff and developers must be responsive to any changes, developments or improvements in control technologies.

⁶ *California Storm Water Best Management Practice Handbooks* (California Stormwater Quality Task Force, 1993).

⁷ On the Internet at www.epa.gov/npdes/menuofbmps/menu.htm.

⁸ *Start at the Source: Design Guidance Manual for Stormwater Quality Protection* (Bay Area Stormwater Management Agencies Association, 1999).

17. SOLID WASTE THRESHOLDS

I. BACKGROUND

Santa Barbara County generates in excess of 2,000 tons of solid waste per day. This waste stream contains valuable resources such as glass, paper, metals and plastics which can be recycled, reducing environmental impacts associated with the production of new materials, and extending the life expectancy of rapidly diminishing landfill space. In addition, environmentally acceptable landfill replacement sites are scarce, politically sensitive, and expensive to bring into operation.

Currently, most of the county waste stream is buried on a daily basis in seven landfills located around the county. Estimates of the current life expectancy for six of the seven County landfills range from less than 1 to 39 years (Table 1).

A countywide average of 48.6% of the total solid waste stream is generated by residential users, while 51.4% is generated by commercial/industrial related development (Table 2). Reduction of this waste stream through source reduction practices and recycling efforts must be considered when evaluating solid waste impacts from new projects in the County. In addition, emphasis needs to be placed on encouraging the use of recycled products containing high percentages of post-consumer waste. The following is a discussion of the policies, statistics relating to solid waste generation and landfill space, and solid waste significance thresholds for projects in Santa Barbara County, as established by P&D and Public Works Solid Waste Division.

II. POLICIES

The justification for requiring recycling programs for new projects is based on the environmental impacts associated with landfill operation, expansion, relocation, and closure, as well as impacts associated with production of raw materials. The California Integrated Waste Management Act of 1989 requires city and county governments to be responsible for planning and overseeing solid waste management and recycling activities. This legislation requires each city and county to develop a Source Reduction and Recycling Element (SRRE) that provides strategies for diverting 25% of all solid waste from landfills by 1995 and 50% by 2000. These reductions are to be reached, in order of priority, by source reduction, recycling and composting, and environmental transformation (incineration, pyrolysis, or biological conversion), with land disposal as a final option. Santa Barbara County Board of Supervisors adopted the County's SRRE in February 1992. In order to meet the SRRE goals and objectives stringent thresholds and mitigation to reduce solid waste generation for new development projects will be required. Other source reduction and recycling measures would be instituted on Statewide or County basis through various mechanisms as indicated in the SRRE (i.e. variable can rates.)

In addition, Land Use Development Policy 4 of the County Comprehensive Plan, requires a finding that there are adequate public services (in this case landfill capacity) to serve new development. This Policy can also serve as justification for requiring waste reduction mitigation as conditions of project approvals.

III. WASTE STREAM CHARACTERISTICS

Of the total amount of solid waste disposed of in county landfills per year (594,045 tons), approximately 49.7% is comprised of recyclable glass, paper, metals, and plastics. An additional 195,000 tons per year (32.9%) of yard waste (grass clipping, tree trimmings, etc.), food, and wood wastes can potentially be composted and/or chipped (Table 3). Thus over 80% of the solid waste stream is comprised of recyclable and compostable material. County and private sector efforts to compost yard, food, and wood waste may be implemented on a countywide basis, and if successful, could significantly reduce the total waste stream. With an effective solid waste management program (as discussed in section VI), the solid waste stream of new development projects can be reduced by over 50%, nearly doubling the life expectancy of County landfills and reducing environmental impacts associated with landfill operations and replacement, and resource recovery.

IV. THRESHOLDS OF SIGNIFICANCE

Project Specific:

The following thresholds are based on the projected average solid waste generation for Santa Barbara County from 1990-2005. The goals outlined in the SRRE assume a 1.2% annual increase, which equates to approximately 4,000 tons per year increase in solid waste generation over the 15 year period. A project is considered to result in significant impacts to landfill capacity if it would generate 5% or more of the expected average annual increase in waste generation thereby using a significant portion of the remaining landfill capacity. Based on the analysis conducted (as illustrated in table 5), the numerical value associated with this 5% increase is 196 tons per year. As indicated above, source reduction, recycling, and composting can reduce a project's waste stream by as much as 50%. If a proposed project generates 196 or more tons per year after reduction and recycling efforts, impacts would be considered significant and unavoidable (Class 1). Project approval would then require adoption of overriding considerations. A typical single family residential project of 68 units or less would not trigger the threshold of significance.

Cumulative Thresholds:

Projects with a project specific impact as identified above (196 tons/year or more) would also be considered cumulatively significant, as the project specific threshold of significance is based on a cumulative growth scenario. However, as landfill space is already extremely limited, any increase in solid waste of 1% or more of the estimated increase accounted for in the SRRE would be considered an adverse contribution (class III) to regional cumulative solid waste impacts. One percent of the SRRE projected increase in solid waste equates to 40.0 tons per year. To reduce adverse cumulative impacts and to be consistent with the SRRE, mitigation (as discussed in section VI) should be recommended for projects which generate between 40 and 195 tons of solid waste. Projects which generate less than 40.0 tons per year of solid waste would not be considered to have an adverse effect due to the small amount of waste generated by these projects and the existing waste reduction provisions in the SRRE. A typical single family residential project of 14 units or less would not trigger this adverse impacts level.

Potential Future Development Mitigation Fees: The SRRE identifies development impact fees as a potential funding source to offset waste management costs. Proposed measures to reduce the waste stream include development of waste diversion facilities, which process mixed commercial, industrial and residential wastes to recover recyclables. Development, implementation and maintenance of proposed waste diversion facilities could be partially funded through impact fees. The Solid Waste Division of Public Works is considering this option, which would require ordinance adoption by the Board of Supervisors. If a fee program were to be adopted, the thresholds of significance would be revised to reflect the added mitigation provided by the fee program.

V. IMPACT ASSESSMENT/THRESHOLD APPLICATION

Residential projects:

The annual per capita waste generation rate for Santa Barbara County is currently 2.11 tons. Of this 2.11 tons, residential per capita waste generation rate is 0.95 tons (1,900 pounds) (includes interior and exterior waste). Waste generation rates are based on the County of Santa Barbara Waste Generation Study (February, 1991) and the Area Planning Council Forecast '89 (Table 4).

The County average residents per household rates are:

Single Family Residences: 3.01 people per household

Attached Residences (condos, townhomes, apts, duplex, triplex): 2.65 people per household

(from the 1990 census information, C. Pauley Comprehensive Planning, P&D.)

To calculate a residential project's solid waste generation the following formula is used:

for SFR: $3.01 \text{ people/unit} \times \# \text{ of units} \times 0.95 \text{ tons/year} = \text{tons/yr/project}$

for attached units: $2.65 \text{ people/unit} \times \# \text{ of units} \times 0.95 \text{ tons/year} = \text{tons/yr/project}$

Commercial/Industrial/Institutional Projects:

Commercial/industrial users are the largest source of solid waste, generating approximately 51% of all solid waste deposited in county landfills. This waste stream is primarily comprised of paper products, metals, and plastics, resources which have a high recovery value. Commercially generated waste products can be successfully recycled with relative ease. Many recycling businesses have established service agreements with commercial/industrial businesses to provide recyclable material pickup on a regular basis. Due to the high degree of value and relative ease in recovering commercial waste resources, recycling of these products is desirable. To determine the waste stream for a specific project the following information is provided:

ESTIMATED ANNUAL COMMERCIAL WASTE GENERATION RATES¹

<u>Commercial/Industrial</u>	<u>Annual Generation Rate</u>
<u>Retail</u>	(in tons)
Neighborhood Center(30,000-100,000 sq.ft)	sq.ft. x 0.0009
Regional Shopping Center (100,000-300,000 sq.ft.)	sq. ft. anchor x 0.0012 sq. ft.
tenant x 0.0048 General Retail & Misc Services	sq. ft. x 0.0057
Eating and Drinking Establishment	sq. ft x 0.0115
Auto Dealer & Service Station	sq. ft. x 0.0016
Hotel and Motel	# of rooms x 0.80
Warehouse	sq. ft. x 0.0016
Health Services	sq. ft. x 0.0013
Hospital	# of rooms x 1.90
Office	sq. ft. x 0.0013
Educational Institutions	sq. ft. x 0.0010
Transportation, Communication & Utilities	sq. ft. x 0.0026
Manufacturing	sq. ft. x 0.0026

¹ Figures based on Industry and National Standards as discussed in the Ventura County Solid Waste Thresholds, 1992)

For project types that are indicated above, the estimated waste stream can be determined by surveying similar uses, ideally within Santa Barbara County. If possible, three such uses should be included in the survey.

Residual Impact Calculation:

Waste generation * 0.50 (or other waste reduction %)= tons/year
(tons/year) (% of waste reduction)

VI. MITIGATION MEASURES

The following mitigation measures are suggested for projects which would exceed County solid waste thresholds. This is a partial list of measures and does not preclude measures which may be applicable on a project specific basis.

The applicant shall develop and implement a solid waste management plan to be reviewed and approved by Public Works Solid Waste Division and P&D and shall include one or more of the following measures:

- o Provision of space and/or bins for storage of recyclable materials within the project site.
- o Establishment of a recyclable material pickup area for commercial/industrial projects (i.e., loading docks, etc.).

- o Implementation of a curbside recycling program to serve the new development.
- o Development of a plan for accessible collection of materials on a regular basis (may require establishment of private pick-up depending on availability of County sponsored programs.)
- o Implementation of a monitoring program (quarterly, bi-annually) to ensure a 35% - 50% minimum participation in recycling efforts, requiring businesses to show written documentation in the form of receipts.
- o Development of Source Reduction Measures, indicating method and amount of expected reduction.
- o Implementation of a program to purchase recycled materials used in association with the proposed project (paper, newsprint etc.). This could include requesting suppliers to show recycled material content.
- o Implementation of a backyard composting yard waste reduction program.

One or more of the above measures may apply to a specific project. County waste characterization studies estimate that implementation of the measures described can reduce waste generation by 50%. The expected reduction in waste generation from mitigation measures for a specific project should be developed in consultation with the Public Works Department Solid Waste Division.

Table 1
Estimated Remaining Capacity for Landfills
In the County of Santa Barbara
(In Number of Years)

Landfill	Permitted*	Proposed/Considered Expansions**
NORTH COUNTY		
Foxen Canyon	<1	25
Lompoc, City of	30	15
New Cuyama	34	0
Santa Maria, City of	10	0
Vandenberg AFB	50	11
Ventucopa	39	0
SOUTH COUNTY		
Tajiguas	13	75
Source: County of Santa Barbara, Solid Waste Management, 1992 * Landfill capacity of disposal site under existing permit. ** Landfill capacity of disposal site with modification of existing permit or issuance of new permit.		

Table 2
Santa Barbara County
Waste Composition by Wasteshed

Landfill	Residential	Commercial	Industrial
NORTH COUNTY			
Foxen Canyon	29.1%	61.7%	9.2%
City of Lompoc	51.5%	46.8%	1.7%
City of Santa Maria	30.0%	65.5%	4.5%
New Cuyama	83.8%	15.0%	1.2%
Vandenberg AFB	72.0%	28.0%	0
Ventucopa	90.0%	10.0%	0
North County Average	36%	60%	4%
SOUTH COUNTY			
Tajiguas	61.0%	29.0%	10.0%
County Average			
	48.6%	44.4%	7.0%
Source: County of Santa Barbara Waste Generation Study, February 1991.			

Table 3
Recyclable Waste Generation
In Santa Barbara County Landfills
(Tons Per Day)

Landfill	COMMODITIES				
	Paper	Glass	Metal	Yard Waste	Tons/Day
NORTH COUNTY					
Foxen Canyon (Operates 359 days/year)	24.59 29.4%	5.69 6.8%	3.61 4.3%	16.17 19.4%	50.06 59.9%
Lompoc, City of (Operates 360 days/year)	45.02 26.5%	8.19 4.8%	20.34 12.0%	23.31 13.7%	96.86 57.0%
New Cuyama (Operates 365 days/year)	0.88 29.4%	0.20 6.8%	0.13 4.3%	0.58 19.4%	1.79 59.8%
Santa Maria, City of (Operates 359 days/year)	146.72 27.4%	16.54 3.1%	52.64 9.8%	90.61 16.9%	306.51 57.3%
Vandenberg AFB (Operates 303 days/year)	13.13 24.9%	1.91 3.6%	12.49 23.7%	17.81 33.8%	45.35 86.0%
Ventucopa (Operates 365 days/year)	0.29 29.3%	0.07 6.8%	0.04 4.4%	0.19 19.5%	0.60 60.0%
SOUTH COUNTY					
Tajiguas Operates 307 days/year)	294.83 30.2%	98.52 10.1%	50.14 5.1%	196.31 20.1%	639.80 65.5%
Source: County of Santa Barbara Waste Generation Study, February 1991					

Table 4
Solid Waste Generation Rates for
Residential, Commercial, and Industrial Generators

Jurisdiction	Total	Residential	Commercial	Industrial	Comm/Ind
Unincorporated County	308080	156638	86566	52784	139350
Carpinteria	40106	22316	10586	7200	17786
Guadalupe	9040	3208	4976	857	5833
Lompoc	59567	29249	28267	2051	30318
Santa Barbara	1487949	72616	26764	49368	76132
Santa Maria	162063	40050	85730	36283	122013
Solvang	8633	3936	3924	773	4697
Vandenberg	21161	14142	6254	0	6254
	757399	342155	253067	149316	402383
Generation Rates	2.11	0.95	0.70	0.42	1.12

Source: County of Santa Barbara Waste Generation Study, February 1991

All figures are tonnages per year.

Table 5: Solid Waste Threshold Calculations													
Year	Residential Generation	Change	5% of Change	Commercial Generation	Change	5% of Change	Industrial Generation	Change	5% of Change	Total Generation	Change	5% of Change	1% of Change
1990	156640	1760	88	98650	1290	64.5	52780	450	22.5	308070	3500	175	35
1991	158400	1910	95.5	99940	1300	65	53230	450	22.5	311570	3660	183	36.6
1992	160310	1920	96	101240	1310	65.5	53680	450	22.5	315230	3680	184	36.8
1993	162230	1940	97	102550	1330	66.5	54130	460	23	318910	3730	186.5	37.3
1994	164170	1970	98.5	103880	1350	67.5	54590	460	23	322640	3780	189	37.8
1995	166140	2000	100	105230	1370	68.5	55050	460	23	326420	3830	191.5	38.3
1996	168140	2020	101	106600	1380	69	55510	470	23.5	330250	3870	193.5	38.7
1997	170160	2040	102	107980	1400	70	55980	480	24	334120	3920	196	39.2
1998	172200	2060	103	109380	1420	71	56460	480	24	338040	3960	198	39.6
1999	174260	2090	104.5	110800	1440	72	56940	480	24	342000	4010	200.5	40.1
2000	176350	2130	106.5	112240	1450	72.5	57420	480	24	346010	4060	203	40.6
2001	178480	2130	106.5	113690	1480	74	57900	490	24.5	350070	4100	205	41
2001	180610	2170	108.5	115170	1500	75	58390	490	24.5	354170	4160	208	41.6
2003	182780	2190	109.5	116670	1510	75.5	58880	500	25	358330	4200	210	42
2004	184970	2230	111.5	118180	1530	76.5	59380	500	25	362530	4260	213	42.6
2005	187200			119710			59880			366790			
Average			101.87			70.2			23.67			195.73	39.15

Generation numbers were obtained from the County of Santa Barbara Waste Generation Study, February 1991.

All figures are tonnages.

Generation calculations assume a 12% growth rate.

18. THRESHOLDS OF SIGNIFICANCE FOR TRAFFIC IMPACTS AND CONTENTS OF A TRAFFIC STUDY¹

A. Introduction

The threshold criteria and traffic report contents proposed in the following pages are intended to provide a basis for improved analyses of the potential traffic impacts of proposed projects. The criteria and report contents will also help to standardize traffic impact reports making them easier to use in the planning process. It is hoped that standardization will aid in the compilation of traffic data for use in other EIRs.

Evaluation of traffic impacts and development of proposed mitigation measures is a complex task. When a potential for significant adverse traffic impacts is evident, the traffic analysis should be performed by a registered civil engineer that is qualified to perform traffic engineering studies and is familiar with Santa Barbara County.

CEQA Guidelines, Appendix G, states that a project will ordinarily have a significant effect on the environment if it will "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system." The following threshold criteria assume that an increase in traffic that creates a need for road improvements is "substantial in relation to the existing traffic load and capacity of the street system." It should be noted that the following criteria are guidelines for the majority of potential traffic impacts. The list of criteria is not intended to be all inclusive as the potential for impact may vary depending upon the environmental setting and the nature of the project.

B. Threshold Criteria - Significant Adverse Impact

1. - The impacts of project generated traffic are assessed against the following County thresholds. A significant traffic impact occurs when:
 - a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends at least 5, 10 or 15 trips to at LOS F, E or D.

1. County of Santa Barbara Department of Resource Management, Division of Environmental Review; originally written in June 1985 and periodically updated.

LEVEL OF SERVICE
(including project)

INCREASE IN V/C
GREATER THAN

A	0.20
B	0.15
C	0.10

OR THE ADDITION OF:

D	15 trips
E	10 trips
F	5 trips

- b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.
- c. Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (eg. rural roads with use by farm equipment, livestock, horesback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceedence of the roadways designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.
- d. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

If the above thresholds are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance are required.

Mitigation Measures:

In order to reduce project impacts to levels of insignificance the proposed mitigations (e.g., road improvements, trip reductions) must restore affected intersections to an acceptable LOS (C) and/or reduce safety impacts to insignificance. The scope of the mitigation must reduce the project's contribution to insignificance and be timed to be implemented prior to occurrence of the impact (e.g., prior to intersection degrading to LOS D). The payment of offsite road fees in and of itself is not adequate to mitigate a project's impacts.

The thresholds of significance identified above assume full contribution to the Off-Site Road Improvement Fund. Without the fee program a much smaller increase in the V/C ratio would have to be considered significant.

2. When a Traffic Study is Required

A traffic study will generally be required when it appears that the thresholds of significance identified above will be exceeded. In almost all cases where trip generation during the peak hour is expected to exceed 50 vehicles a traffic study will be required.

A previous traffic study for the development under review will only be acceptable if it is less than two years old.

3. Coordination between County Departments

In order to ensure coordinated planning, DER and the Roads Division should discuss potential project impacts prior to sending out requests for proposal (RFP).

The following items should be established prior to sending of the RFP: definition of study area, cumulative projects and intersections requiring critical movement analysis. A copy of the traffic study should be submitted for the County Traffic Engineer.

-- C. Contents of Traffic Study

Some traffic studies may require information or analysis beyond what is described below; some may require less.

1. Executive Summary

This should be no more than two pages summarizing the project's traffic impacts, needed road improvements, and proposed changes in the project.

2. Maps Showing the Following:

- a. Location of proposed project
- b. Collectors, arterials and state highways that will be used by occupants and visitors to get to and from major attractions and productions.
- c. Location of cumulative projects that will impact those roads identified in (b) and the status of those projects (e.g. Proposed, Under Review, Approved, Under Construction).
- d. Percent distribution of traffic from the proposed project and cumulative projects.

- e. Traffic volumes on road identified in (b): existing traffic, existing plus project traffic, existing plus project plus cumulative traffic (weekday ADT and PHT).
3. Tables Showing the Following:
- a. Proposed project and cumulative projects, their size and nature, trip generation rates, trip generation (ADT and PHT) and status (see item 2C)
 - b. Signalized intersections, intersections with potential for signals, LOS (Existing, existing plus project, existing plus project plus approved projects, existing plus project plus full cumulative), existence of signal warrants and existence of operational problems and project specific and cumulative impacts post mitigation implementation.
 - c. Roadway design features that will become potential safety problems or will be below County standards with the addition of cumulative traffic. Roadways in critical need of reconstruction.
 - d. Improvements needed to correct the identified deficiencies separated by project impacts and cumulative impacts, LOS after mitigation, approximate cost and the probable or scheduled timing of each improvement, identification of specific improvements to be constructed by developer and/or a dollar contribution to be made by developer (i.e., payment to Off-Site Improvement Fund).
4. Narrative, Footnotes and Appendices Containing the Following:
- a. Sources and dates of data including persons contacted
 - b. Raw traffic count data (all traffic count data must be less than two years old)
 - c. Methods used and special circumstances
 - d. Level of service calculations
 - 1. Peak hour turning movements and LOS (show V/C), for existing, existing plus project, existing plus project plus cumulative traffic
 - 2. Lane configuration and traffic control
 - 3. Mitigation measures proposed and effect on LOS

CRITICAL MOVE GUIDELINE VALUES FOR ENVIRONMENTAL ASSESSMENTS
TYPICAL SIGNALIZED INTERSECTIONS
ALL PHASED OPERATIONS

<u>L.O.S.</u>	<u>Project Impact</u>	<u>Cumulative Impact</u>
A	100	50
B	70	30
C	40	15
D	10	0-10
E	0-10	0-10

NOTES:

1. Use restricted to environmental assessments only. More precise estimates are obtained by calculations changes in volume to capacity ratio (V/C).
2. For all phases, the difference in critical moves between Levels of Service is approximately 150.
3. These values are guidelines only. Values should be adjusted on a project by project case if necessary.
4. No signalized intersection is typical. Use common sense.

County Intersections

Volume to Capacity and Level of Service (LOS)

South County

Intersection	Existing V/C Level of Service	Existing Approved Cumulative Projects	Approved and Pending Cumulative Projects	With Improvements	Date and Source
Storke/101 NB Ramp	NA/E - F	NA/F	NA/F	Unfunded 0.68/B	10/89 89-SD-5
Storke/101 SB Ramp	NA/E - F	NA/F	NA/F	Unfunded 0.55/A	10/89 89-SD-5
Los Carneros/ 101 NB Ramp (AM)	0.49/A	0.76/C	0.98/E	Unfunded 0.47/A	10/89 89-SD-5
(PM)	0.46/A	0.55/A	0.71/C	Unfunded NA/B	10/89 89-SD-5
Los Carneros/ 101 SB Ramp	0.78/C	1.03/F	1.28/F	Unfunded NA/B-C	10/89 89-SD-5
Cathedral Oaks/Fairview	0.44/A	--	--	--	4/85
Fairview/101 NB Ramps	0.72/C	--	--	--	4/85
Fairview/101 SB Ramps	0.81/C	--	--	--	4/85
Los Carneros/ Hollister	0.61/B	0.71/C	0.87/D	Unfunded 0.79/C	10/89 89-SD-5
Hollister/ San Marcos	0.60/A/B	--	--	--	5/85
Hollister/ Fairview	0.88/D	0.99/E	1.15/F	Funded 0.90/D	10/89 89-SD-5
Hollister/ Storke	0.64/B	0.74/C	0.87/D	Unfunded 0.74/E	10/89 89-SD-5
Hollister/ Orvieto Way	0.52/A	0.54/A	--	--	10/89 89-SD-5

Hollister/217 NB Ramp	0.75/C	--	--	--	6/88 88-EIR-11
Hollister/ Walnut	0.72/C	--	--	--	6/88 88-EIR-11
Patterson/101 SB Ramp	NA/E-F	NA/E-F	NA/E-F	0.59/A	6/88 88-EIR-11
Hollister/217 SB Ramp	0.64/B	0.69/B	0.73/C	--	12/88 88-EIR-22
Hollister/ Ward Drive	0.75/C	0.81/D	0.86/D	0.82/D	12/88 88-EIR-22
Hollister/ Patterson	0.76/C	0.82/D	0.92/E	--	12/88 88-EIR-22
Hollister/ Turnpike	0.73/C	0.77/C	0.82/D	--	12/88 88-EIR-22
Calle Real/ San Antonio	0.18/A	0.28/A	0.41/A	--	88-EIR-16
Calle Real/ El Sueno	0.55/A	0.65/B	0.80/C	--	88-EIR-16
Calle Real/ Hwy. 154	0.82/D	0.86/D	0.91/E	--	88-EIR-16
Turnpike/ Cathedral Oaks	0.75/C	--	--	--	89-EIR-8
Turnpike/ 101 NB	0.67/B	0.68/B	0.79/C	--	89-EIR-8
Turnpike/ 101 SB	0.56/A	0.58/A	0.69/B	--	89-EIR-8
Patterson/ Calle Real	NA/E	--	--	0.43/A	89-EIR-8
Patterson/ 101 NB	1.03/F	1.09/F	1.23/F	0.50/A	89-EIR-8
Hollister/ Modoc	0.75/C	--	--	--	2/88
Calle Real/ Fairview	0.83/D	--	--	--	4/85
Calle Real/ Turnpike	0.47/A	--	--	--	12/88

Calle Real/ Las Positas	NA/C	--	--	--	3/78
Modoc/Las Positas	NA/A	--	--	--	3/78
East Valley/ San Ysidro	NA/A	--	--	--	8/80
Carpinteria/ Linden	NA/C	--	--	--	8/80
El Colegio/ Los Carneros	0.60/A-B	--	--	--	10/84

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County Intersections

Volume to Capacity and Level of Service (LOS)

North County

Intersection	Existing V/C Level of Service	Existing Approved Cumulative Projects	Approved and Pending Cumulative Projects	With Improvements	Date and Source
Clark Ave./ Frontage	0.34/A	--	--	--	8/84
Clark Ave./ Rt. 135 NB	0.48/A	0.55/A	0.67/B	--	1/90 90-EIR-1
Clark Ave./ Rt. 135 SB	0.41/A	0.47/A	0.60/A	--	1/90 90-EIR-1
Clark Ave./ Orcutt Rd.	0.47/A	0.50/A	0.57/A	--	1/90 90-EIR-1
S.R. 246/ Alamo Pintado B		--	--	--	--
S.R. 246/ Alisal	0.59/A/B	--	--	--	3/85
Bradley Rd./ Clark Ave.	0.56/A	0.71/C	0.96/E	--	1/90 90-EIR-1
Bradley Rd./ Foster Rd.	0.41/A	0.52/A	--	--	88-EIR-13
Bradley Rd./ Santa Maria Way	0.54/A	--	--	--	3/88
Broadway/ Betteravia E		--	--	--	1980
Broadway/ Main St.	D/E	--	--	--	1975
Rte. 135/ Foster Rd.	0.73/C	0.96/E	1.33/F	--	1/90 90-EIR-1
Bradley Rd./ Rice Rnch Rd.	0.24/A	0.24/A	0.25/A	--	3/90 90-EIR-1

Intersection	Existing V/C Level of Service	Existing Approved Cumulative Projects	Approved and Pending Cumulative Projects	With Improvements	Date and Source
Clark Ave./ Stillwell Rd. (E)	0.56/A	0.65/B	0.85/D	--	3/90 90-EIR-1
Clark Ave./ Stillwell Rd. (W)	0.43/A	0.50/A	0.68/B	--	3/90 90-EIR-1
Clarke Ave./ Hwy. 101 NB Ramp	0.51/A	0.57/A	0.70/B	--	3/90 90-EIR-1
Clarke Ave./ Hwy. 101 SB Ramp	0.59/A	0.70/B	0.92/E	--	3/90 90-EIR-1
Bradley Rd./ Patterson Rd.	0.59/A	0.80/C	1.10/F	--	9/89 89-SD-4
Clark Ave./ Hwy. 101 NB Ramp	0.51/A	0.58/A	0.71/C	--	9/89 89-SD-4
Clark Ave./ Hwy. 101 SB Ramp	0.59/A	0.70/B	0.92/E	--	3/90 90-EIR-1
Bradley Rd./ Foster Rd.	0.41/A	0.59/A	0.79/C	--	9/89 89-SD-4
Route 135/ Main St.	0.76/C	1.27/F	--	1.11/F	88-EIR-13
Route 135/ Cook	0.67/B	--	--	--	88-EIR-13
Miller St./ Main St.	0.75/C	1.10/F	--	1.01/F	88-EIR-13
Miller St./ Cook	0.52/A	0.93/E	--	--	88-EIR-13
Foster/ Bradley	0.41/A	0.52/A	--	--	88-EIR-13
Foster/ California Blvd.	0.49/A	NA/B-C	--	--	88-EIR

Intersection	Existing V/C Level of Service	Existing Approved Cumulative Projects	Approved and Pending Cumulative Projects	With Improvements	Date and Source
Clark Ave./ Broadway St.	0.29A	0.38/A	--	--	89-ND-64
Blosser Rd./ Foster Rd.	*/A	*/A	--	--	89-ND-64
Blosser Rd./ Clark Ave.	*/A	*/A	--	--	89-ND-64
Blosser Rd./ Solomon Rd.	*/A	*/A	--	--	89-ND-64
Solomon Rd./ Hwy. 1	*/A	*/A	--	--	89-ND-64

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19. VISUAL AESTHETICS IMPACT GUIDELINES

A. DETERMINATION OF SIGNIFICANCE

The classification of a project's aesthetic impacts as beneficial or adverse, and insignificant or significant, is clearly subject to some personal and cultural interpretation. However, there are guidelines and policies which can be used to direct and standardize the assessment of visual impacts. Thus, this discussion does not constitute a formal significance threshold, but instead it directs the evaluator to the questions which predict the adversity of impacts to visual resources.

B. ASSESSING VISUAL IMPACTS

Assessing the visual impacts of a project involves two major steps. First, the visual resources of the project site must be evaluated. Important factors in this evaluation include the physical attributes of the site, its relative visibility, and its relative uniqueness. In terms of visibility, four types of areas are especially important: coastal and mountainous areas, the urban fringe, and travel corridors.

Next, the potential impact of the project on visual resources located onsite and on views in the project vicinity which may be partially or fully obstructed by the project must be determined. To some extent, the former step is more important in rural settings, and the latter in urban areas. Determining compliance with local and state policies regarding visual resources is also an important part of visual impact assessment.

Significant visual resources as noted in the Comprehensive Plan Open Space Element which have aesthetic value include:

- Scenic highway corridors
- Parks and recreational areas
- Views of coastal bluffs, streams, lakes, estuaries, rivers, water sheds, mountains, and cultural resource sites
- Scenic areas.

All views addressed in these guidelines are public views, not private views.

C. INITIAL STUDY ASSESSMENT QUESTIONS FOR THE ANALYSIS OF VISUAL RESOURCES

CEQA Guidelines Appendix G (b) states: "A project will normally have a significant effect on the environment if it will have a substantial, demonstrable negative aesthetic effect". The following questions are intended to provide information to address the criteria specified in Appendix G. Affirmative answers to the following questions indicate potentially significant impacts to visual resources.

- 1a. Does the project site have significant visual resources by virtue of surface waters, vegetation, elevation, slope, or other natural or man-made features which are publicly visible?
- 1b. If so, does the proposed project have the potential to degrade or significantly interfere with the public's enjoyment of the site's existing visual resources?
- 2a. Does the project have the potential to impact visual resources of the Coastal Zone or other visually important area (i.e., mountainous area, public park, urban fringe, or scenic travel corridor)?
- 2b. If so, does the project have the potential to conflict with the policies set forth in the Local Coastal Plan, the Comprehensive Plan or any applicable community plan to protect the identified views?
3. Does the project have the potential to create a significantly adverse aesthetic impact through obstruction of public views, incompatibility with surrounding uses, structures, or intensity of development, removal of significant amounts of vegetation, loss of important open space, substantial alteration of natural character, lack of adequate landscaping, or extensive grading visible from public areas?

D. REFERENCES

1. County Resource Management Department, Scenic Highway Element of the County Comprehensive Plan, 1982.
2. County Resource Management Department, Open Space Element of the County Comprehensive Plan, 1979.
3. Department of Resource Management, Local Coastal Plan, January 1982.
4. United States Forest Service, Visual Management System, 1973.
5. Geological Survey Circular 620, Quantitative Comparison of Some Aesthetic Factors Among Rivers, 1969.
6. U.S. Dept. of Agriculture, Agriculture Handbook 478, National Forest Landscape Management, Vol. 2, Chap. 2, Utilities, July 1975.
7. Viohl, Richard C., Nieman, Thomas J., The Description, Classification, and Assessment of Visual Landscape Quality, School of Landscape Architecture, S.U.N.Y. College of Environmental Science and Forestry, Syracuse N.Y., 13210, Exchange Bibliography #1064, Council of Planning Librarians.

APPENDIX A
SANTA BARBARA COUNTY
Planning and Development

Biological Resources Guidelines
Technical Background Document

September 1994

Synopsis:

As an appendix to the Biological Resources Guidelines (September 1994) of the County Environmental Thresholds and Guidelines Manual, this document provides additional technical background information about biological resources, which may be useful when evaluating development proposals for impacts on vegetation, wildlife, and biological habitats.

Contents:

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A. Summary of Biological Resource Statutes	A-2
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C. Biological Habitat Descriptions and Project Design Suggestions	A-13
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A. SUMMARY OF BIOLOGICAL RESOURCE STATUTES

September 1994

The Biological Resources Guidelines provides a short summary of legal authority under the California Environmental Quality Act (CEQA) for evaluating biological resource impacts, and Federal, State and County requirements and policies for the protection of biological resources.

Following are additional excerpts describing the statutory basis for the protection of individual plant and animal species, and biological habitats.

1. The Legal Basis For Protection of Threatened, Endangered and Candidate Species.

The following text is excerpted from a "REVISED MEMORANDUM OF LAW DEMONSTRATING CONTINUING COMPLIANCE BY THE STATE OF CALIFORNIA WITH 16 USC SECTION 1535(c) OF THE FEDERAL ENDANGERED SPECIES ACT OF 1973", originally prepared in 1974 by Evelle Younger, Boronkay and Mok with revisions made by JOHN K. VAN DE KAMP, Attorney General of California and others in 1990.

"The authority of the state to conserve resident species of fish, wildlife or plants determined by the state agency to be endangered or threatened is granted in the Federal Endangered Species Act (ESA) 16 USC section 1535(c)(1)(A) and (2) (A).

California Fish and Game Code Section 200 grants general authority to the Fish and Game Commission to regulate the taking or possession of birds, mammals, fish, amphibians and reptiles subject to more specific statutory restrictions...."

Regulations and Statutory Authority

"Important state authority for the conservation of endangered and threatened species of fish, wildlife and plants is found in California Endangered Species Act (CESA) enacted in 1984. Cal. Fish & Game Code §2051 et seq..... In addition for a complete picture the California Endangered Species Act (CESA) must be read with the Native Plant Protection Act (Cal. Fish and Game Code section 1900 et seq.) which also governs the preservation, protection and enhancement of endangered or rare native plants...."

California Endangered Species Act (Cal. Fish and Game Code Sections 2051 et seq.)

"This important conservation legislation declares State policy regarding threatened and endangered species, provides for a listing and review process, prohibits certain acts damaging to listed species, and provides a consultation process whereby state projects are reviewed for impacts on listed species. Both the Commission and Department are given important powers and duties vis a vis protection of subject species.

The CASE declares the State's interest in threatened and endangered species (Cal. Fish and Game Code §2051) and unequivocally sets out the State's policy in California Fish and Game Code section 2052:

"The Legislature further finds and declares that it is the policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving the species, to acquire lands for habitat for these species."

Toward that end state agencies in approving projects are required to seek out feasible alternatives to avoid jeopardizing the continued existence of listed species or provide appropriate mitigation and enhancement measures. Cal. Fish & Game Code §§ 2053-54. The California thresholds for endangered and threatened status (Cal. Fish & Game Code §§ 2062 and 2067) are equivalent to Federal definitions. See 16 USC §§1532(6) and 1532(20). Also the tools listed for "conserving" resources (Cal. Fish & Game Code § 2061) are identical to the federal model. 16 U.S.C. §1532(3)."

"...Species to be so conserved must first be listed. That responsibility rests with the Fish and Game Commission upon consideration of sufficient scientific information. Cal. Fish & Game Code § 2070. The listing process may be initiated by petition from any interested person (Cal. Fish & Game Code §§ 2071, 2072 and 2072.3) or on recommendation of the Department of Fish and Game (Ca. Fish & Game Code Section 2072.7. Petitions are evaluated by the Department which makes a recommendation to the Commission as to whether the petition contains sufficient information to determine if action is warranted. Cal. Fish & Game Code § 2073.5. Petitions and Department-initiated recommendations are then acted upon by the Commission, which decides whether to require formal review of the request. Cal. Fish & Game Code § 2074.2. Formal review and the corresponding "candidate species" status triggers substantial opportunities for public participation through the notification of interested parties. See Cal. Fish & Game Code §§ 2074, 2074.2, 2075, 2077 and 2078. This notification and opportunity to participate continues throughout the designation process. Formal review itself may take up to one year and results in a Department report on listing including, if appropriate, a preliminary identification of the habitat that may be essential to the continued existence of the species and recommendation as to management activities and other recommendations for recovery of the species. Cal. Fish & Game Code § 2074.6."

"Currently California's list of threatened or endangered plants and animals is set out in 14 Cal. Code Choosy. sections 670.2 and 670.5. This listing is subject to periodic Department review and appropriate Commission response. Cal. Fish & Game Code § 2077...."

"Once a species is listed *"[N]o person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts,"* subject to some exceptions principally involving plants. Cal.Fish & Game Code § 2080....**This prohibition generally applies to candidate species undergoing formal review.** [emphasis added] Cal. Fish & Game Code § 2085..."

"In the event a project is being carried out by a local agency the Department [of Fish & Game] may participate in the environmental review process as a responsible or trustee agency as appropriate. In that regard the status of threatened or endangered is recognized in the environmental review process (14 Cal. Code Choosy. 15380) and a project impact is normally considered significant, thus requiring the consideration of alternatives and mitigation, if a project will substantially affect a threatened or endangered species of animal or plant or the habitat of the species. 14 Cal. Code Choosy. Causa. 6, Chap. 3, Cheesy. G(c)."

"The Native Plant Protection Act [Cal. Fish and Game Code section 1900 et seq.] provides further authority to conserve plant species and conduct investigations in support of conservation in accordance with 16 U.S.C. sections 1535(c)(2)(A)(C).

3. Wildlife and Natural Areas Conservation Act (California Fish and Game Code Section 2700 et seq.).

This legislation became effective November 9, 1988 and provides money for habitat protection for California species including those designated as threatened or endangered. Cal. Fish & Game Code § 2701. The principal protection focus is acquisition...."

"California Fish and Game Code Section 1700 et seq., entitled "Conservation of Aquatic Resources," declares State policy to encourage conservation of the living resources of the ocean and other state waters, including species preservation.

Similarly California Fish and Game Code section 1750 et seq. (Native Species Conservation and Enhancement Act) declares a *policy of maintaining sufficient populations of all species of wildlife and native plants and the habitat necessary to insure their continued existence at optimum levels* and establishes an account to manage private donations toward that end....California Fish and Game Code section 1800 et seq. provides that the policy of the State, inter alia, is *"to encourage the conservation and maintenance of wildlife resources"* including the maintenance of *"sufficient populations of all species of wildlife and the habitat necessary to ...perpetuate all species of wildlife for their intrinsic and ecological values...."* Lastly, Cal. Fish and Game Code Sections 1930-1933 establishes the significant natural areas program to protect

and preserve important habitats and ecosystems through developing information with respect to natural resources (the California Natural Diversity Data Base)....[and other mechanisms]."

Public Resources Code

"California Public Resources Code Section 21000 et seq. was [enacted] in 1970 as the [California] Environmental Quality Act of 1970 (CEQA), to promote the declared legislative intent to maintain a quality environment including the protection of natural resources.

Section 21001(c) of the code provides that it is the policy of the State to:

"Prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history."

The Act goes on to provide for an environmental impact report, similar to the provisions in the National Environmental Policy Act of 1969 and for the preparation of environmental impact reports by all local agencies, state agencies, boards, and commissions on any project which would have a significant effect on the environment."

California Coastal Act

"California Public Resources Code Section 30000 et seq. was added by statute in 1976 as the California Coastal Act. The act sets out various policies protecting marine and land resources including species and habitat. To this end, the California Coastal Commission was established to regulate development with local government along the coast to insure that development will be consistent with conservation policies."

Authority and Jurisdiction over Wetlands

The Federal Clean Water Pollution Control Act of 1972, ("Clean Water Act") requires a permit for the discharge of pollutants into the waters of the United States. The Clean Water Act defines pollutants to include dredge and fill materials (33 U.S.C. S 1362). Section 404 of the Clean Water Act authorizes the Army Corps of Engineers to issue permits to discharge dredge and fill materials into waters of the United States (33 U.S.C. S 1344(a). Federal Regulations define waters of the United States to include wetlands (33 CFR S 328.3(a)(7).

Due to the widely recognized high economic and biologic value of wetlands, the California Coastal Act mandates governmental regulation of these areas. The Act requires that the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes be maintained and, where feasible, restored. Sections of the Act provide general policies for development in and adjacent to wetlands, and specific policies for protecting these areas (California Coastal Commission, 1981).

Fish and Game Sections 1601 and 1603 prohibit any person or governmental agency, or public utility from substantially diverting or obstructing the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by the department, or use any material from the streambeds without obtaining the appropriate permit from the California Department of Fish and Game.

It is generally advisable to consult with representatives of these agencies prior to submittal of an application to the County, so that impacts to Wetlands and Deepwater Habitats are avoided or minimized to the greatest extent feasible.

2. The Legal Basis for The Protection of Habitats

California Fish and Game Code Section 1750 et. seq. (Native Species Conservation and Enhancement Act) declares a policy of maintaining sufficient populations of all species of wildlife and native plants and the habitat necessary to ensure their continued existence at optimum levels.

California Fish and Game Code Section 1800 et seq. states that it is the policy of the state "*to encourage the conservation and maintenance of wildlife resources" including the maintenance of "sufficient population of all species of wildlife and the habitat necessary to... perpetuate all species of wildlife for their intrinsic and ecological values...."*

Furthermore, CEQA (Public Resources Code section 21000(c) states that it is the policy of the state to: "*...prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.*"

CEQA Appendix G, items (c), (d), and (t) specifically mention or refer to habitat.

The California legislature has further recognized the need to conduct habitat-based land use planning through adoption of the *Natural Community Conservation Planning Act of 1991 (NCCP)* (Fish and Game Code Section 2800 et. seq). The purpose of this Act is to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth. The NCCP process is designed to provide an alternative to current "single species" conservation efforts by formulating regional, natural community-based habitat protection programs to protect the numerous species inhabiting each of the targeted natural communities.

In 1986, the U.S. District Court for Hawaii (*Palila v. Hawaii Department of Land and Natural Resources and Sportsmen of Hawaii*, 649 F.Supp.1070 [1986] (*Palila II*)) issued a ruling regarding destruction of habitat of an endangered bird known as "Palila" in the State of Hawaii. Regarding the term "harm" within the definition of "take" of the Federal Endangered Species Act, the Court concluded:

"A finding of "harm" does not require death to individual members of the species; nor does it require a finding that habitat degradation is presently driving the species further toward extinction. Habitat destruction that prevents the recovery of the species by affecting essential behavioral patterns causes actual injury to the species and effects a taking under Section 9 of the Act."

"The key to the Secretary's [of the Interior] definition is harm to the species as a whole through habitat destruction or modification. If the habitat modification prevents the population from recovering, then this causes injury to the species and should be actionable under Section 9."

See also *Sierra Club v. Lyng*, 694 F.Supp.1260 (E.D. Tex. 1988) and *Sierra Club v. Yeutter*, 926 F.2d 429 (5th Cir.1991). Further discussion of habitat protection under the Endangered Species Act is provided by Sidle and Bowman (1988).

B. BIOLOGICAL SURVEY GUIDELINES

1. Initial Assessment of Biological Resources (Initial Studies, EIRs and Mitigated NDs)

During the overall land use permit process, an on-site inspection is conducted by the Planning and Development Department to determine if critical or sensitive biological resources may be impacted by a proposed project. Should the on-site investigation indicate the presence, or a high potential for the presence, of critical or sensitive biological resource, a biological survey may be required, pursuant to CEQA Section 15064 (Determining Significant Impacts). The biological survey could be completed as part of an EIR or it could be used to develop a Mitigated Negative Declaration as provided for by CEQA Section 15070:

1. The Initial Study shall be used to provide a written determination of whether a Negative Declaration or an EIR shall be prepared for a project.
2. Where a project is revised in response to an Initial Study so that potential adverse effects are mitigated to a point where no significant environmental effects would occur, a Negative Declaration shall be prepared instead of an EIR. If the project would still result in one or more significant effects on the environment after mitigation measures are added to the project, an EIR shall be prepared.
3. The EIR shall emphasize study of the impacts determined to be significant and can omit further examination of those impacts found to be clearly insignificant in the Initial Study.

Biological survey reports are conducted and written by professional biologists under contract to the County. Payment for the study is accomplished by a deposit with the County from the applicant in an amount equal to the cost estimate of the consulting biologist. In some cases, work is performed by a RMD-qualified biologist under contract to the applicant.

All biological surveys are subject to review and acceptance by RMD staff and may require reexamination by an outside consulting biologist acceptable to RMD. If a disagreement among experts occurs, review by an independent biologist may be required.

In a majority of cases, applicants work with the staff of the Development Review Division to modify the project design for the purpose of reducing impacts to biological resources to an acceptable level. Project design modifications, with the applicant's consent, then become a part of the project description and the basis for issuing a Mitigated Negative Declaration. However, if design modifications are not acceptable to an applicant, then additional biological analysis (and possibly development of additional mitigation measures) would be required as a component of an EIR pursuant to the above citation from CEQA.

2. Qualifications to Perform the Biological Survey

- A. Biological consultants must be on the RMD list of qualified biologists or on staff of a RMD-qualified consulting firm or otherwise be acceptable to RMD. A file is retained in RMD which tracks the performance of each consultant. Consultants should be selected on the basis of possessing objectivity and the following qualifications, in order of importance:
1. A BA/BS in biological sciences or other degree specializing in the natural sciences.
 2. Professional or academic experience as a biological field investigator, with a background in field sampling design and field methods;
 3. Taxonomic experience and a knowledge of plant or animal (whichever is appropriate) ecology;
 4. Familiarity with plants, animals, or both (whichever is appropriate) of the area, including the species of concern; and
 5. Familiarity with the appropriate county, state and federal policies related to special status species and biological surveys.
 6. In addition, the County of Santa Barbara requires that a consultant, hired to perform a biological survey, presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed. Therefore, to avoid a real or perceived appearance of a conflict of interest, a biological survey submitted by a consultant shall be subject to verification of the RMD staff biologists or a third outside consulting biologist.

3. Guidelines for Preparation of Biological Survey Reports

* These guidelines were prepared by James R. Nelson, a botanist with the California Energy Commission, published in its original form by the California Department of Fish and Game (1984) and supplemented by RMD staff in consultation with local biologists.

A. When to Conduct a Biological Survey

It is appropriate to conduct a biological field survey to determine if, or the extent to which, sensitive plants or animals or a habitat of concern will be affected by a proposed project when:

1. Based upon an initial biological assessment, it appears that the project may damage potential special status plant or animal habitats;
2. Special status species have historically been identified on the project site and adequate information for impact assessment is lacking; or
3. No initial biological assessment by RMD biologist has been conducted and it is not known which habitats or the quality of habitats exist on the site, nor what the potential impacts of the project may be.

B. Guidelines and Goals of the Biological Survey

Biological surveys that are conducted to determine the environmental impacts of development activities should include particular attention to all rare, threatened, and endangered species and habitats. The species and habitats are not necessarily limited to those that have been "listed" by state and federal agencies, but include any species that, based upon all available data, can be shown to be rare, threatened and/or endangered. These can include "federal candidate" species, "state special concern" species, and those of local concern such as those species which are endemic, rare in the region, or declining in number.

Field searches should be conducted in such a manner that they will locate any listed or special status plant or animal species that may be present/a resident or that may utilize the site on a seasonal rather than year-round basis. Specifically:

1. Investigations should be conducted at the proper season and time of day when special status species are both evident and identifiable. Field surveys should be scheduled to coincide with known flowering periods, and/or during periods of phenological development that are necessary to identify plants of concern, and during periods critical to the species such as nesting for birds or larval development for amphibians.
2. Investigations should be both predictive in nature and based upon field inspection. Surveys should predict the presence of rare plants and animals (which may not be present every year or which may use it infrequently) based upon the occurrence of habitats or other physical features, in addition to actual field observation. The survey should not be limited to a description of those species that are actually observed in the field. Every species noted in the field should be identified to the extent necessary to ensure that it is neither a listed nor special status species.
3. Investigations should be conducted in such a manner that they are consistent with conservation ethics. Collections of voucher specimens or rare (or suspected rare) plants or animals should be made only when such

actions do not jeopardize the continued existence of the population and in accordance with applicable state and federal regulations. All voucher specimens should be deposited at local public herbaria or recognized museums of natural history for proper storage and future reference. Photography should be used to document plant identifications and habitat whenever possible, especially when rare plant populations cannot withstand collection of vouchers.

4. Investigations should be conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas.
5. Investigations should be well-documented. When rare or endangered plants or animals or unusual plant communities are located, a California Native Plant Field Survey Form or its equivalent must be completed and sent to the Natural Diversity Data Base and a copy attached to the report sent to RMD.

C. Contents of the Biological Survey

Reports of biological field surveys and reports must contain the following information with the exception of items 10 through 12 which are recommended for inclusion but may not be necessary in all cases.

1. A detailed map of the project regional location and specific study area;
2. A written description of the biological setting, referencing the plant community and a detailed map of the vegetation and/or animal habitat areas.
3. A detailed description of the survey methodology;
4. The dates and times of field visits;
5. An assessment of all potential direct and indirect impacts;
6. A discussion of the status, distribution, and habitat affinities of all special status plants or animals found at the project site;
7. A discussion of the quality of the habitat considering: its ability to support species diversity, its ability to be self-sustaining (in the context of the surrounding area, not just the project boundaries), how common or rare it is (see Table 3 for example), how good a representative it is (plant community), the degree of previous disturbance, and other history of the site, etc.

8. Recommended mitigation measures to reduce impacts to the maximum extent feasible and to protect the resource(s) by considering a range of possibilities, including: avoidance, fencing, open space easements, clustering and off-site mitigation;
9. Suggestions for monitoring and evaluating the effectiveness of the mitigation measures;
10. Solutions which, when feasible, work toward regional protection of the resources, including: combining open space easements with adjacent ownerships, maintenance of open space corridors; attempting to preserve as much contiguous habitat as possible;
11. Recommended methods for the restoration of damaged habitats, where appropriate and feasible, and suggested success criteria to be achieved at the end of the proposed monitoring period;
12. A list of all listed or special status plant or animal species observed or expected to occur on site. A list of additional species observed or expected should also be included. This may be representative of the communities present rather than exhaustive. Division by taxonomic group is not necessary.
13. Copies of all Natural Diversity Data Base Field Survey Forms sent to Sacramento and Natural Community Field Survey Forms, for sensitive species or communities found on the project site;
14. The name(s) of the field investigator(s); and
15. A list of references cited, persons contacted, herbaria and museums visited, and the location of voucher specimens.

C. BIOLOGICAL HABITAT DESCRIPTIONS AND PROJECT DESIGN SUGGESTIONS

The following provides brief descriptions of some, though not all, of the habitats occurring in Santa Barbara County, an explanation of the habitat's importance, and project design suggestions for minimizing impacts to habitats, as well as individual plant and animal species. These habitats are by no means the only priority habitats in the county, rather, they represent the habitats where conflicts with land use developments most often occur.

1.0 Wetlands

All naturally occurring wetlands are considered significant resources because they provide a high number of functional values in a generally dry, arid region, and because of their extremely rare occurrence within the region. Examples include, but may not be limited to coastal salt and brackish marshes, fresh water marshes and vernal pools.

Wetlands, due to the presence of water, support the most diverse assemblages of plants and animals found in the southwestern United States. Because of the high biological productivity in wetlands and the historic elimination of 90% of California's wetlands, the highest numbers of threatened and endangered species most often occur here. Wetlands are utilized by a large number of organisms including invertebrate larvae, large mammals and plants that may only survive in wetland areas. Wetlands provide food, cover for protection against predators, and habitat for breeding of some species. Because Santa Barbara County is located along the Pacific Flyway, the County not only has a diverse resident bird population, but also those migrating birds that overwinter in Santa Barbara County (migrants). Wetlands provide seasonal and year-round habitat to several migrating bird species along the Pacific Flyway and fish utilize some of these areas as spawning and foraging habitat.

Wetlands also provide a number of public benefits¹ including: (1) protection of the shore from erosion (typically applicable to marshes, sloughs, and other estuaries), (2) Water Quality/Hydrology which support groundwater recharge, surface water availability, and water purification/filtration, (3) food chain support, (4) nutrient cycling, and (5) Socio-Economic benefits which include aesthetics, ethno-botany, recreation, research, education, economic benefit, etc.

1.1 Coastal Salt Marsh

a. Description

Coastal salt marshes are restricted to the upper intertidal zone of protected shallow bays, estuaries, and coastal lagoons. Physical conditions are dominated by the tides and variances in elevation which influence the frequency and duration of

¹ Bowland and Ferren (1992), and Sather and Smith (1984)

tidal flooding. The harsh, tidal environment of a salt marsh results in zones of different indicator plants. The environment includes tidal inundations of salt or brackish water, water-saturated soils containing few air spaces and hence reduced oxygen levels, and an environment fully exposed to sun, wide temperature fluctuations, wind, etc. The lowest zone is inundated twice daily; whereas the middle or upper zones may be inundated only once or twice a month, or even by only the highest spring tides (Faber, 1982).

Because tides are so important in providing moisture for coastal marshes, any interruption in tidal circulation can have drastic effects on these communities. The total area of marsh habitat may be correlated with the tidal prism (the total volume of water moving in and out of the slough\marsh\lagoon, etc). As tidal prisms are reduced through sedimentation due to urban and agricultural development or for road construction, the likelihood of closure at the mouth increases. This event can change the soil and water salinity and water levels. This in turn affects many salt-tolerant plants adapted to this type of environment and convert salt-marsh habitat to upland habitats available to species such as the Belding's Savannah sparrow. Additionally, wildlife species such as the tidewater goby, depend on brackish waters to survive.

In addition to sedimentation, increases of fresh water inputs into the system due to urban and agricultural runoff may reduce salinity levels, while upstream dams may have the opposite effect. This runoff may also introduce toxic elements into the marsh such as fertilizers, septic effluent, pesticides, oil, grease, etc. Other potential impacts include changes in depth of enclosed water, elevated temperatures and decreased oxygen from algal blooms often associated with high nitrogen levels from polluting sources. These changes can alter the number and diversity of wildlife species. (Zedler, J. 1982). Development adjacent to the area could also disrupt wildlife behavioral patterns due to noise, neighboring domestic dogs and cats and other physical disturbances.

b. Project Design Suggestions

1. Maintain tidal prism.
2. Minimize adverse hydrologic changes, sedimentation, and introduction of any toxic elements.
3. Timing of construction activity should be carefully planned to minimize indirect impacts such as noise and turbidity on sensitive animal species during critical periods such as breeding and nesting.
4. Maintain wildlife dispersal corridors.
5. Enhancement and restoration of salt marshes that can be incorporated into the project include: removal of existing fill, improving tidal circulation

through grading, channel excavation, or removing other impediments to circulation, and cleanup.

1.2 Vernal Pools and Associated Features

a. Description

Vernal pools are perhaps the most unique, rare, and endangered type of wetlands in California according to a number of studies cited in the Ferren and Pritchett 1988 report (p. 3). In fact, these wetlands are found only in a few places in the world outside California, namely southern Oregon and in the Cape Province of South Africa (Faber, P. 1982).

A vernal pool is a small depression that fills with water during the winter (gradually drying during the spring and becoming completely dry in the summer) and supports a unique assemblage of plants.

V.L. Holland and David Keil (1990) add: "Vernal pool vegetation is characterized by herbaceous plants that begin their growth as aquatic or semiaquatic plants and make a transition to a dry-land environment as the pool dries. This generally results in the development of concentric rings of vegetation that develop around the margins of the drying pool. Most vernal pool plants are annual herbs. The relatively few perennial species grow from deeply seated rhizomes or rootstocks. Shrubs and trees are absent from vernal pool communities. Some species from vernal pool communities have very showy flowers and act as aspect dominants."

"Vernal Flat" is used to describe areas that are not easily definable as discrete basins (vernal pools) and whose wetland/upland affiliations fluctuate corresponding to changing precipitation trends from year to year. Following several years of average to above-average rainfall, these tend to support vernal pool species and exclude upland species. Following several years of low rainfall, these areas tend to be characterized by upland species (Olson, 1992).

"Swales" are low moist areas, that when associated with vernal pools, may support vernal pool species including invertebrates (for example: U.S. Fish & Wildlife Service, 1992). They may also be important because they transport rain water to a vernal pool or complex of pools.

Wildlife species, such as the western spadefoot toad and California Tiger Salamander utilize these seasonal wetlands for breeding and egg-laying during the first rains of the year (December through April). The tiger salamander can spend several months in the larval stage, metamorphosing to adult salamanders as late as May through August when the pools dry up and then dispersing to rodent burrows in adjacent grassland areas. Spadefoot toads breed later in the year than tiger salamanders (March through April) and are dependent upon grass pollen and other vegetation for food and to conserve moisture during the tadpole stage. This species also metamorphoses to adults and disperses to surrounding rodent burrows

in adjacent grasslands. Furthermore, other amphibians utilize these seasonal ponds as habitat.

Direct and indirect impacts to the pool itself may result in adverse changes to either the physical or chemical properties of the pool. Impacts to the watershed or community in which it functions may also impact the pool. For example, fragmentation of habitat may interrupt interaction between the habitat and the organisms within the pools (pollination, seed, invertebrate and vertebrate dispersal, provision of drinking and bathing water, etc.).

b. Project Design Suggestions

1. Because vernal pools do not exist by themselves as isolated units, and instead function within a larger plant community such as a grassland, the surrounding upland habitat should be preserved to the maximum degree feasible. If the vernal pools occur in a dispersed pattern throughout an upland community, the entire community should be preserved as one unit.
2. Design developments to provide a buffer around all vernal pools (with the possible exception of artificially created pools), or include enough of a buffer to protect the topographic watershed, whichever is greater. Typical buffer area: 100-250 feet from edge of pool.
3. Vernal Pool "complexes" (groupings of several pools have swales according to hydrology and topography) should be avoided and buffered (minimum of 100 feet) or enough of a buffer to protect the topographic watershed of the entire complex, whichever is greater.
4. Restoration and enhancement can include removal of exotic (non-native) species, planting of appropriate native species (seeding), removal of fill, relocation of foot and bike paths around rather than through the pools, etc.
5. Disturbance to vernal pools or vernal pool complexes should be timed to avoid breeding seasons of sensitive wildlife species.

1.3 Riparian Habitats

a. Description

Riparian habitat is generally considered as the terrestrial or upland area adjacent to freshwater bodies, such as the banks of linear watercourses (e.g.: creeks and streams), the shores of lakes and ponds, and aquifers which emerge at the surface such as springs and seeps (Bowland and Ferren 1992). The habitat is typically thought of as a corridor from stream bank to bank (from edge of riparian

vegetation to edge of riparian vegetation) which may include a wetland portion in the center.²

Riparian habitat occurs in and along the County's four major rivers (Santa Ynez, Santa Maria, Cuyama and Sisquoc) and in and along the County's many creeks and streams. This habitat can also occur along arroyos and barrancas, and other types of drainages throughout the County.

Riparian habitat is particularly rich in wildlife species, in that water is present at least during some part of the year in these corridors and the dense plants of varying heights provide a diverse food source and safety from predators. In particular, riparian habitat provides forage, cover, water, migration and fawning for Santa Barbara County's resident deer herd. Various types of cover are required by deer including protective cover, for fawning, feeding and resting, escape cover from predators, and thermal cover to provide temperature regulation in the winter and summer. Riparian habitats typically provide all these habitat requirements. Deer also require a variety of food types in their diet, depending upon the time of year and will utilize oak woodlands, chaparral and grasslands adjacent to riparian corridors in order to obtain a sufficient diet. The shade of bank side vegetation can keep a stream cold enough for migratory sport fish such as steelhead trout.

Less obvious species that utilize the riparian corridors are the amphibians that require plunge pools in which to reproduce, seek protection from predation and maintain a constant body temperature. Pool and riffle sequences within streams and creeks are necessary for successful spawning for many species of fish. Specialized bird species such as Cooper's hawks and a great variety of songbirds utilize riparian habitat for breeding, nesting and foraging due to the diversity of structural heights and continuity of vegetation along the drainages.

b. Project Design Suggestions

1. Incorporate into project design a vegetated buffer from the upland edge of the riparian canopy at least 50 feet in width.
2. Inclusion of adjacent upland vegetation in the buffer. Upland vegetation is important as habitat for a large number of species, particularly amphibians,³ and also aids in stabilizing the banks, which reduces erosion and sedimentation potential.
3. Retain animal dispersal corridors, including the understory.

²The Cowardin classification system does not use the term "riparian". Cowardin categories for riparian systems are palustrine and riverine.

³. Some species such as the western pond turtle may utilize upland habitat as much as 1/4 mile away from the riparian wetland (Sweet 1992).

4. Construction activity can be planned to avoid critical time periods (nesting, breeding) for fish and other wildlife species.
5. Careful siting of some projects such as bridges and pipelines can limit the disturbance area to previously disturbed locations.
6. Restoration or enhancement of riparian habitat on a project site can enhance the ecological value of the creek, stream, or river, both upstream and downstream.

2.0 Chaparral

Chaparral is composed mainly of woody, evergreen shrubs. It forms extensive shrublands that occupy most of the hills and lower mountain slopes of Santa Barbara County and throughout California. It is adapted to drought and fire, passing through cycles of burning and regrowth approximately every 30 years. Even though chaparral has no commercial value, it provides the most highly valued watershed cover of any vegetation community in the state (Hanes, 1977). Chaparral occurs throughout Santa Barbara County and is further broken down into a number of categories.

2.1 Burton Mesa Chaparral

a. Description

Central Maritime Chaparral, also known as Sandhill or Burton Mesa Chaparral is a unique form of chaparral that is restricted to the aeolian sands of the Orcutt soils formation north of Lompoc. Many of the species unique to Burton Mesa Chaparral are narrowly restricted in distribution (Odion, Storrer and Semonsen 1993, Ferren et. al 1984, Smith 1976, Dames and Moore 1985). Because of the high number of endemic species (many of which are dominants in the community), the unusual oaks, and a rich herbaceous understory, Burton Mesa Chaparral has been recognized as a valuable biological resource by local biologists and the County of Santa Barbara. Various land uses have reduced its original limited extent which has been estimated as follows:

Original Central Chaparral Habitat	22,153 acres
1938 Central Maritime Chaparral	14,563 acres
1987 Central Maritime Chaparral	8,618 acres

In 1988 it was reported that of the 39 percent of original habitat that remains, two-thirds is found within Vandenberg Air Force base, where it is severely threatened by military development and land management practices that have resulted in the invasion of vigorous exotic (non-native) species particularly iceplant. These trends are continuing at a rapid rate (Odion, Hickson and D'Antonio 1992, Philbrick and Odion 1988).

Since the time the 1988 report was written a 5,125 acre property was acquired by the State of California. This land contains roughly 3,250 acres of semi-pristine to pristine, and roughly 150 acres of degraded Central Maritime Chaparral, in addition to substantial acreages of other important plant communities (Odion, Storrer and Semonsen 1993). Mitigation efforts are now being focused on acquisition of adjacent lands and funding of habitat restoration and management within the preserve.

2.2 Coastal Sage Scrub

a. Description

Coastal sage scrub is a drought-tolerant, Mediterranean habitat characterized by soft-leaved, shallow-rooted subshrubs such as California sagebrush, (*Artemisia californica*), several sage species (*Salvia spp.*), California buckwheat (*Eriogonum spp.*), and California encelia (*Encelia californica*) (Bowler, 1990). Commonly called "soft chaparral", Coastal sage scrub is highly fire adapted, and increases in species richness following fires, but a second wave in the number of species (mostly understory species that are not fire successional) occurs 15-25 years after burning (Westman 1987).

Coastal sage scrub and the related coastal succulent scrubs in northern Baja California originally extended from San Francisco to El Rosario in Baja California and has been divided into four floristic associations, two of which occur in Santa Barbara County: Diablan (San Francisco to Point Conception) and Venturan (Point Conception to Los Angeles). Coastal sage scrub is limited to the lower elevations of both the coastal and interior regions of the mountains where moist maritime air penetrates inland.

More than a decade ago it was estimated that 85 to 90 percent of the original coastal sage scrub habitat (Westman, 1981) had been eliminated as a result of urban development and agriculture (O'Leary, 1989). Other factors contributing to loss of this habitat have been reported to be increased air pollution and changes in fire frequency due to fire suppression activities. Coastal sage scrub is being reduced in its overall extent and fragmented by road and urban development particularly in Orange and San Diego Counties.

2.3 Project Design Suggestions

1. The basic principles of preserving biodiversity apply to this habitat type. Design the project so that continuous, unbroken habitat areas are preserved to the greatest extent feasible.
2. Retain corridors to connect with other undisturbed areas to preserve wildlife travel corridor.

3. Removal of invasive exotic species such as freeway iceplant (Zedler and Scheid 1988) and pampas grass improves the quality of the remaining habitat.
4. Consider indirect effects of chaparral removal, including reduction of groundwater recharge, increased erosion and sedimentation to adjacent creeks and streams which may affect riparian habitats and wildlife.
5. Balance between design measures for habitat protection and for fire management.

3.0 Native Grasslands

a. Description

Native grasslands which are dominated by perennial bunch grasses such as purple needlegrass (*Stipa pulchra*) tend to be patchy (the individual plants and groups of plants tend to be distributed in patches). Valley Grassland in California once occurred over 8 million acres in the Central Valley and in scattered patches along the Coast Ranges (Heady, 1977). Few stands of native grasslands remain in the state and the habitat is considered rare both in the state and within the county. Even among the "pristine" grasslands in the state, the vegetative cover of native grassland species is reportedly rarely greater than 50 percent, and in many of these reserves it is commonly found between 15 and 25 percent of the total vegetative cover (Keeler-Wolf, 1992). A study commissioned by the County in 1989 reported that native grassland areas are exceedingly rare in the County, except on the Channel Islands and inside Gaviota State Park (Odion, 1989).

b. Project Design Suggestions

1. Design the project so that continuous habitat areas are preserved to the greatest extent feasible.
2. Incorporation of restoration and enhancement measures, including weeding, intentional burning, revegetation (planting of seeds or plugs), or other procedures will facilitate natural regeneration of the grassland.

4.0 Woodlands and Forests

a. Description

Generally speaking, there are three types of oak woodlands in Santa Barbara County. Valley Oak Woodland is typically characterized by scattered trees surrounded by grassland, whereas trees in live oak and blue oak woodlands tend to be more closely spaced. Coast Live Oak (*Quercus agrifolia*) forms dense groves of trees on north-facing slopes and is the primary oak species found in southern oak woodlands. Deep alluvial soils in interior valleys support grasslands and Valley Oak Woodland (*Quercus lobata* and *Quercus agrifolia*). The foothills of the inner coast ranges are inhabited by Blue Oak (*Quercus douglasii*), Coast

Live Oak (*Quercus agrifolia*), Digger Pine (*Pinus sabiniana*), and other components of blue oak woodland. The number, type, and density of oak trees, are principal characteristics which define the various types of woodlands; further, the relationship between trees and vegetation in the understory below in woodlands also define variety in woodland habitats. In addition to oak forests, a variety of pine and other coniferous forests also occur in the county. Oak communities are emphasized in the following discussion because they so frequently occur in the same areas in which developments are proposed.

Oak habitats offer diverse resources to wildlife: shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites. Acorns are the most plentiful food source, but oak catkins, twigs, leaves, buds, sap, galls, fungi, lichens, and roots all provide important foods. Other species associated with the oak woodland include redberry, coffeeberry, toyon, mistletoe, poison oak, forbs and grasses which are also important foods for wildlife. Insects feeding in oak habitats are eaten by birds, reptiles, amphibians, mammals and other insects which in turn feed larger predators such as owls, hawks, snakes, bobcats, coyotes, mountain lions and bears. Some oak trees are "granary trees" in which acorn woodpeckers store acorns. Scrub jays and magpies inadvertently "plant" acorns when they store them in the ground. Dead trees, or snags, provide perching, feeding and nesting sites for raptors as well as thermal cover for smaller mammals, reptiles and amphibians. Oaks provide wildlife habitat from the seedling through the snag (dead tree) stages of succession in the woodland. This habitat type supports a diverse wildlife population, and disruption of the woodland often indirectly results in disrupting wildlife breeding, nesting, foraging, and dispersal.

b. Project Design Suggestions for Woodlands and Forests

1. Retain contiguous blocks of habitat area particularly where adjacent to offsite habitat areas.
2. Retain animal migration corridors to other habitat areas.
3. Retain understory.

c. Project Design Suggestions for Individual Native Trees

1. **Avoidance.** The preferred method of protecting native trees is to avoid any disturbance within the area 6 feet away from their driplines (the outermost edge of a tree's foliage) and drainage patterns above and below the tree. Although the stabilizing structural roots generally occur within the dripline, numerous and highly significant "feeder roots" which facilitate gas and water exchange and uptake of nutrients occur outside the dripline.

For management purposes, it is useful to think of a tree's root zone as being one third larger than the drip line area (University of California Cooperative Extension, no date). As a general rule, avoid grading and impervious surfaces within 6 feet of the dripline of all significant trees where ever feasible. This may be adjusted upwards or downwards depending on the size of the tree. It is advisable to include a margin of safety to account for unintentional errors during the construction phase of the project. The most vulnerable parts of a mature tree are the root crown (at the base of the trunk) and the entire root zone.

2. **Broad Scale Irrigation.** Avoid irrigation with rainbirds beneath previously unirrigated oaks because it is likely to create conditions favorable to oak root fungus. It is advised that irrigation water, if necessary, be infrequent (i.e., once a week), be done by hand or drip method (Semonsen 1992, Doud 1992), and be no closer than 6 to 10 feet (depending on the size) from the trunk of the tree.
3. **Hard Surfaces.** Any hard surfaces under oaks would better consist of paving blocks or other material which will allow air and rain water to reach the roots.
4. **Ground Disturbance.** As a general guideline, disturb no more than 20% of the total area beneath the dripline of any one tree.

d. **Project Design Guidelines for Non-Native Trees**

1. Monarch butterfly wintering sites can be preserved by keeping the grove of trees in a state so that shelter from wind and temperature extremes are retained. This may include other trees outside the main grove that affect wind exposure.
2. Where possible, preserve other non-native trees that have value to important wildlife species.

D. BIOLOGICAL MITIGATION MEASURES

September 1994

The following are biological mitigation measures taken from the Santa Barbara County Standard Conditions of Approval and Standard Mitigation Measures Manual. This is a listing of model measures containing standard language used when such measures are applied as conditions of permit approval. Please note that these measures are not applicable to all cases and projects. In addition, the wording of measures may be customized as appropriate to address specific project circumstances. Also note that the Standard Conditions and Mitigations Manual is updated on an ongoing basis and may contain updated wording.

TREES:

1. A tree protection and replacement program, prepared by a P&D-approved arborist/biologist shall be implemented. The program shall include but not be limited to the following components:
 - A. Program Elements to be graphically depicted on final grading and building plans:
 - a) The location and extent of dripline for all trees and the type and location of any fencing.
 - b) Construction envelopes shall be designated on all parcels located outside the driplines of all _____ trees. All ground disturbances including grading for buildings, accessways, easements, subsurface grading, sewage disposal and well placement shall be prohibited outside construction envelopes.
 - c) Equipment storage and staging areas shall be designated on approved grading and building plans outside of dripline areas.
 - d) In the event access roads or driveways encroach within ____ feet of a _____ tree's dripline, the paving shall be pervious material (i.e., gravel, brick without mortar).
 - e) Permanent tree wells or retaining walls shall be specified on approved plans and shall be installed prior to issuance of grading permits. A P&D qualified arborist shall oversee such installation.
 - f) Drainage plans shall be designed so that oak tree trunk areas are properly drained to avoid ponding. These plans shall be subject to review and approval by P&D or an P&D qualified biologist/arborist.
 - g) All utilities shall be placed within or directly adjacent to roadways and driveways or in a designated utility corridor in order to minimize impacts to trees. All utilities shall be placed within construction envelopes.

B. Program elements to be printed as conditions on final grading and building plans:

- a) No grading or development shall occur within the driplines of oak trees which occur in the construction area.
- b) All ___ trees within 25 feet of proposed ground disturbances shall be temporarily fenced with chain-link or other material satisfactory to P&D throughout all grading and construction activities. The fencing shall be installed six feet outside the dripline of each _____ tree, and shall be staked every 6 feet.
- c) No construction equipment shall be parked, stored or operated within 6 feet of any _____ tree dripline.
- d) No fill soil, rocks, or construction materials shall be stored or placed within six feet of the dripline of _____ a tree.
- e) No artificial surface, pervious or impervious, shall be placed within a six (6) feet of the dripline of any _____ tree. *[Only use if this is feasible for access roads, Note any exceptions.]*
- f) Any roots encountered that are one inch in diameter or greater shall be cleanly cut and sealed with a tree-seal compound. This shall be done under the direction of a P&D approved arborist/biologist.
- g) Any trenching required within the dripline or sensitive root zone of any specimen tree shall be done by hand. Any native tree roots greater than one inch in diameter exposed in trench shall be cut and sealed with approved sealant immediately after trench is excavated.
- h) No permanent irrigation shall occur within the dripline of any existing oak tree.
- i) Any construction activity required within three (3) feet of a _____ tree's dripline shall be done with hand tools.
- j) Only designated trees shall be removed.
- k) Any _____ trees which are removed and/or damaged (more than 25% of root zone disturbed) shall be replaced on a __:1 basis with _____ gallon size saplings grown from locally obtained seed. Where necessary to remove a tree and feasible to replant, trees shall be boxed and replanted. A drip irrigation system with a timer shall be installed. Trees shall be planted prior to _____ and irrigated and maintained until established (five years). The plantings shall be protected from predation by wild and domestic animals, and from human interference by use of staked, chain link fencing and gopher fencing during the maintenance period.

- l) Maintenance of tree type shall be accomplished through water-conserving irrigation techniques.
 - m) Trees scheduled for removal [*Specify which trees by type or size, or identify individual trees*] shall be boxed and replanted [*State location*].
 - n) Any unanticipated damage that occurs to trees or sensitive habitats resulting from construction activities shall be mitigated in a manner approved by P&D. This mitigation may include but is not limited to posting of a performance security, tree replacement on a 10:1 ratio and hiring of an outside consultant biologist to assess the damage and recommend mitigation. The required mitigation shall be done immediately under the direction of P&D prior to any further work occurring on site. Any performance securities required for installation and maintenance of replacement trees will be released by P&D after its inspection and approval of such installation.
 - o) All trees located near proposed buildings shall be protected from stucco or paint during construction.
 - p) A P&D approved arborist shall be onsite throughout all grading and construction activities which may impact trees located _____.
2. The applicant shall hire a P&D-qualified arborist/biologist to evaluate all proposed native tree and shrub removals within 25 feet of potential ground disturbances. The arborist report shall present biologically favorable options for access roads, utilities, drainages and structure placement taking into account native tree and shrub species, age, and health with preservation emphasized. All development and potential ground disturbances shall be designed to avoid the maximum number of natives possible.
 3. The applicant shall plant 10 ____ gallon size valley oak trees obtained from locally occurring saplings or seed stock on each proposed parcel. The trees shall be planted, gopher fenced and irrigated (drip irrigation on a timer) for a ____ year maintenance period.

OPEN SPACE:

4. An open space easement reviewed and approved by P&D and County Counsel for the _____ shall be dedicated to _____. A _____ foot high fence suitable to preclude encroachment into the preserve area shall be constructed. Appropriate signage shall be required to prevent encroachment. Final zoning clearance shall not be issued until the easement is recorded on the property title and fencing is installed.

CREEKS AND ESH AREAS

5. All ground disturbances and vegetation removal shall be prohibited in a ___ foot setback from either side of the top-of-bank of _____creek, a sensitive riparian habitat area. The area shall be temporarily fenced with a fencing type and in a location acceptable to P&D.
6. No alteration to stream channels or banks shall be permitted until the Department of Fish and Game has been contacted to determine if the drainage falls under its jurisdiction.
7. Sedimentation, silt, and grease traps shall be installed in paved areas to act as filters to minimize pollution reaching downstream habitats. The filters shall be maintained in working order.
8. The minimum distance from ground level to any fence's first rung shall be 18 inches. Barbed-wire fencing shall not be installed between lots or along property boundaries.
9. The applicant shall implement a creek restoration plan. The plan shall include, but not be limited to the following measures: *[Customize this if necessary]*
 - a) Landscaping shall be with native riparian species such as _____, at a density of ___ plants per square foot. Species shall be from locally obtained plants and seed stock.
 - b) The new plantings shall be irrigated with drip irrigation on a timer, and shall be weaned off of irrigation over a period of two to three years.
 - c) The creek area along the _____ boundary shall be fenced with _____fencing _____ feet high, staked every _____ feet.
 - d) Removal of native species in the creek shall be prohibited.
 - e) Non-native species _____, shall be removed from the creek.
 - f) The plantings shall be in place, and non-natives removed prior to _____.
10. Excavation work within or adjacent to sensitive habitats including native trees shall be avoided to the maximum extent feasible. Where excavation must be performed within sensitive areas (as determined by P&D) it shall be performed with hand tools only. If the use of hand tools is deemed infeasible by P&D, excavation work may be authorized by P&D to be completed with rubber-tired construction equipment weighing 5 tons or less. If significant large rocks are

present, or if spoil placement will impact surrounding trees, then a small tracked excavator (i.e., 215 or smaller track hoe) may be used as determined by P&D staff.

NOTE: Pressure per square inch applied to ground surface by a 20 ton excavator with street pads is less than that applied by a 5 ton backhoe. This is due to the entire weight of the backhoe resting on its two outriggers and front bucket. Also, a backhoe has a 90 degree available movement of its boom, and is unable to shift its body once a load of material has been removed from the ground. A tracked excavator has a 360 degree range of boom movement, and can "walk" away from the stream bank with a full load in its bucket. This allows the excavator to remove spoils from among trees without having to place any material under the dripline.

11. The applicant shall implement a revegetation or restoration plan. The plan shall utilize native, fast growing, vining plants that will quickly cover the outlet structure, and thrive in a rocky environment. Local native species shall be utilized first, followed by these suggested species: California Wild Rose (Rosa californica), Wild Blackberry (Rubus ursinus), Chaparral Morning Glory (Calystegia macrostegia, subspecies cyslostegia), Mugwort (Artemesia douglasiana), Creek clematis (Clemantis ligusticifolia). Species selection shall be dependent upon the nature of the habitat. (*Species list may be modified*)
12. Outlet structures shall minimize disturbance to the natural drainage and avoid use of hard bank structures. Where such structures must be utilized, natural rock or steel gabions shall be used for bank retaining walls. If concrete must be used, then prefabricated crib wall construction shall be used rather than pouring concrete. Rock grouting shall only be used if no other feasible alternative is available as determined by P&D.
13. Erosion control measures shall be implemented to prevent runoff into creek bottom. Silt fencing, straw bales, or sand bags shall be used in conjunction with other methods to prevent erosion and siltation of the stream channel.
14. The creek bottom shall not be disturbed or altered by installation of any drain or outlet structure. Undisturbed natural rocks imbedded in the stream bank shall be utilized as a base to tie in rip-rap if available. Outlet shall be designed to end at the edge of the creek bank rather than entering the stream channel.
15. Drainage shall be designed to have the exiting flow of water enter sub-parallel (60 degrees or less) to the existing stream flow in order to avoid eddy currents that would cause opposite bank erosion.

16. An energy dissipator over the end of the drain pipe shall be installed, or a similar device such as trash racks or baffles, to insure minimal erosion during storm events and to prevent children from entering the storm drain system.
17. A grease trap and/or silt basin shall be installed in all drop inlets closest to the creek to prevent oil, silt and other debris from entering the creek. Such traps/basins shall be maintained and cleaned out every Spring and Fall to prevent overflow situations and potential mosquito habitats from forming.
18. All proposed drainage devices shall be placed in the least environmentally damaging locations. The least environmentally damaging locations shall be identified in a report prepared by a P&D-approved biologist.

VERNAL POOLS

19. The following conditions apply to all vernal pools and vernal pool complexes clusters designated on exhibit ____.
 - a. Construction shall be restricted within 250'⁴ of the pool.
 - b. The pools and pool complexes shall be fenced 250' from edge prior to construction.
 - c. No grass cutting shall be permitted
 - d. A permanent fence shall be installed around each pool [state where] to protect the pools and pool complexes against humans, vehicles and pets. The fence shall have signs posted to explain this requirement and discourage vandalism. No recreation shall be permitted within the fenced pool area.
 - e. CC&R's shall contain information regarding the sensitivity of vernal pool habitats and explaining all restrictions on pools and surrounding area.
 - f. No disking for fire control or any other use shall be permitted.
 - g. No mosquito control shall be permitted mosquito fish.

GENERAL

20. During construction, washing of concrete, paint, or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site (i.e., location). Washing shall not be allowed near sensitive biological resources. An area designated for washing functions shall be identified.

⁴The 250' designation comes from Article II discussion of Environmentally Sensitive Habitat. The LCP cites the minimum distance for protection as 100'. Specific mitigation for the site should be determined by a biologist.

21. Native specimen plants and seed stock from locally obtained sources shall be utilized for landscaping purposes.
22. The applicant shall install landscaping comprised of native species and shall install water-conserving irrigation. Landscaping shall be maintained for the life of the project.

BUILDING ENVELOPES

Note: the two conditions below are very restrictive. Please modify it if your project cannot be built within these parameters:

23. Construction envelopes shall lie outside all [*choose: biologically sensitive vegetation on site (as defined), and/or all vegetation on less than 20% slopes and/or slopes of ____%, and/or known or potential biologically sensitive sites.... AND note special studies where applicable*]. No construction or construction equipment shall occur outside of these areas. Subsurface structures including septic systems and utilities and access ways including roads, driveways and utilities shall not be placed in these areas. Envelope boundaries shall be staked in the field.
24. Construction envelopes shall be restricted to those areas shown on exhibit ____ in order to reduce scope of environmental review. No construction or construction equipment shall occur outside of these areas. Subsurface structures including septic systems and utilities and access ways including roads, driveways and utilities shall not be placed in these areas. Envelope boundaries shall be staked in the field.

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ATTACHMENT 2

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GOLETA ADOPTING GUIDELINES FOR THE IMPLEMENTATION OF VEHICLE MILES TRAVELLED, INCLUDING VEHICLE MILES TRAVELLED THRESHOLDS OF SIGNIFICANCE, FOR LAND USE AND TRANSPORTATION PROJECTS IN THE CITY OF GOLETA AND FINDING THE SAME IS NOT A PROJECT SUBJECT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

RESOLUTION NO. 20-_____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GOLETA
ADOPTING GUIDELINES FOR THE IMPLEMENTATION OF VEHICLE
MILES TRAVELLED, INCLUDING VEHICLE MILES TRAVELLED
THRESHOLDS OF SIGNIFICANCE, FOR LAND USE AND
TRANSPORTATION PROJECTS IN THE CITY OF GOLETA AND
FINDING THE SAME IS NOT A PROJECT SUBJECT TO THE
CALIFORNIA ENVIRONMENTAL QUALITY ACT**

WHEREAS, on August 19, 2008, the Goleta City Council adopted Resolution 08-40 establishing the City of Goleta's Environmental Review Guidelines for the Implementation of the Provisions of the California Environmental Quality Act (City's Local CEQA Guidelines);

WHEREAS the City's Local CEQA Guidelines incorporate by reference and adopt the "County of Santa Barbara Environmental Thresholds and Guideline Manual, Published May 1992, Revised January 1995, October 2001, and October 2002"; and

WHEREAS the State Guidelines for Implementation of the California Environmental Quality Act ("CEQA") (14 Cal. Code Regs. § 15000 et seq. "State CEQA Guidelines") encourage public agencies to develop and publish generally applicable "thresholds of significance" to be used in determining the significance of a project's environmental effects; and

WHEREAS State CEQA Guidelines section 15064.7(a) defines a threshold of significance as "an identifiable quantitative, qualitative or performance level of a particular environmental effect, noncompliance with which means the effect 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"; and

WHEREAS State CEQA Guidelines section 15064.7(b) requires that thresholds of significance must be adopted by ordinance, resolution, rule, or regulations, developed through a public review process, and be supported by substantial evidence; and

WHEREAS Senate Bill 743, enacted in 2013 and codified in Public Resources Code section 21099, requires changes to the State CEQA Guidelines regarding the criteria for determining the significance of transportation impacts of projects; and

WHEREAS, in 2018, the Governor's Office of Planning and Research ("OPR") proposed, and the California Natural Resources Agency certified and adopted, new State CEQA Guidelines section 15064.3 that identifies vehicle miles traveled ("VMT") – meaning the amount and distance of automobile travel attributable to a project – as the generally appropriate metric to evaluate a land use project's transportation impacts; and

WHEREAS, as a result, automobile delay, as measured by “level of service” and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA; however, level of service analysis continues to be required under General Plan Policy TE-4 and is an integral part of the City’s planning process; and

WHEREAS State CEQA Guidelines section 15064.3 goes into effect on July 1, 2020, though public agencies may elect to be governed by this section immediately; and

WHEREAS the City of Goleta, following a public hearing process, wishes to adopt Guidelines for the Implementation of VMT (“VMT Guidelines”), including VMT Thresholds of Significance (“VMT Thresholds”), that would apply to land use and transportation projects in the City of Goleta that are subject to CEQA; and

WHEREAS the VMT Thresholds of Significance will amend and restate the transportation thresholds in the City of Goleta’s current Local CEQA Guidelines, which are found in Section 18 of the City’s Local CEQA Guidelines (i.e., Section 18 of Exhibit A to Resolution 08-40); and

WHEREAS, on June 22, 2020, the Planning Commission provided input on the proposed VMT Guidelines and VMT Thresholds; and

WHEREAS the VMT Guidelines and VMT Thresholds are supported by substantial evidence set forth in the July 7, 2020, City Council staff report, and technical memoranda prepared by the City’s consultants (Exhibit A to this Resolution) in support of the VMT Guidelines and VMT Thresholds.

NOW, THEREFORE, BE IT RESOLVED by the City of Goleta City Council as follows:

SECTION 1. In its capacity as lead agency, the City of Goleta City Council has evaluated the proposed VMT Guidelines and VMT Thresholds to determine whether the VMT Guidelines and VMT Thresholds are subject to environmental review under Public Resources Code section 21000 et seq. (“CEQA”). The City Council for the City of Goleta hereby finds and determines that the VMT Guidelines and VMT Thresholds are not a project within the meaning of Public Resources Code section 21065 and State CEQA Guidelines section 15378. The VMT Guidelines and VMT Thresholds would not lead to a direct or a reasonably foreseeable indirect change in the physical environment. The VMT Guidelines and VMT Thresholds are an administrative activity of the City. Specifically, the VMT Guidelines and VMT Thresholds provide guidance to property owners, project developers, applicants, and proponents for determining the significance of transportation impacts of land use and transportation projects under CEQA. The VMT Guidelines and VMT Thresholds do not approve any specific development and would not lead to any particular physical change to the environment. Thus, the VMT Guidelines and VMT Thresholds are not a project under Public Resources Code section 21065 and State CEQA Guidelines section 15378(b)(5). For

these reasons, the VMT Guidelines and VMT Thresholds are not subject to further environmental review under CEQA.

SECTION 2. Based upon substantial evidence set forth in the record of proceedings, including but not limited to the July 7, 2020 City Council Staff Report on the VMT Guidelines and VMT Thresholds, as well as the technical memoranda (Exhibit A to this Resolution) prepared by the City's consultants in support of the City of Goleta's VMT Guidelines and VMT Thresholds, the City of Goleta hereby adopts the VMT Guidelines, which include the VMT Thresholds, for measuring project transportation impacts under CEQA, which are attached hereto as Exhibit A and incorporated herein by this reference. The VMT Thresholds shall supersede and replace the existing transportation thresholds in the City of Goleta's current Local CEQA Guidelines. Staff shall update the VMT Guidelines, including the baseline VMT by service population, at the same time as, or as close thereto as reasonably possible, updates occur to the Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) and Santa Barbara County Association of Government regional transportation model.

SECTION 3. This Resolution shall take effect immediately upon its adoption by the City Council, and the Clerk of the Council shall attest to and certify the vote adopting this Resolution.

SECTION 4. The documents and materials that constitute the record of proceedings on which these findings are based are located at City Hall for the City of Goleta, located at 130 Cremona Drive, Goleta, California. The City Clerk is the custodian of the record of proceedings.

SECTION 5. Staff is directed to file a Notice of Exemption with the County of Santa Barbara within five (5) working days of approval of the VMT Thresholds.

SECTION 6 The City Clerk shall certify to the adoption of this Resolution and enter it into the book of original resolutions.

PASSED, APPROVED AND ADOPTED this 7th day of July 2020.

PAULA PEROTTE
MAYOR

APPROVED AS TO FORM:

ATTEST:

MICHAEL JENKINS
CITY ATTORNEY

DEBORAH LOPEZ
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF SANTA BARBARA) ss.
CITY OF GOLETA)

I, DEBORAH S. LOPEZ, City Clerk of the City of Goleta, California, DO
HEREBY CERTIFY that the foregoing Resolution No. 20-__ was duly adopted by the
City Council of the City of Goleta at a regular meeting held on the ____ day of _____,
2020 by the following vote of the Council:

AYES:

NOES:

ABSENT:

(SEAL)

DEBORAH S. LOPEZ
CITY CLERK

EXHIBIT “A”

VMT GUIDELINES



VMT Threshold Study



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Executive Summary

Senate Bill (SB) 743 fundamentally changed the way Transportation Analysis is conducted as part of the California Environmental Quality Act (CEQA) and Environmental Impact Reports (EIR's). Automobile Level of Service, although permitted as a local policy threshold, is no longer considered an impact on the environment. Instead vehicle miles of travel are now the primary Transportation Metric for evaluated projects under CEQA. SB 743 provides agencies the authority to establish their impact thresholds and criteria based on guidance provided by the California Office of Planning and Research (OPR). The purpose of this study is to assess and recommend analysis tools, environmental baseline, and impact criteria in accordance with SB 743 and OPR guidance.

Thru this analysis GHD has found that the Santa Barbara County Association of Governments (SBCAG) model is the most accurate tool for measuring full length Vehicle Miles Traveled (VMT) as prescribed by OPR, GHD in collaboration with DKS and Convergence Planning also updated the City's VISUM model and developed a sketch planning tool for conducting VMT analysis. Consistent with SB 743 and OPR guidance the following standards are established and the VMT Criteria for the City of Goleta:

BASELINES –Criteria Projects shall be measured against.

RESIDENTIAL PROJECTS: City Average VMT Per Capita

WORK PROJECTS: City Average VMT Per Employee

OTHER PROJECTS: Net City VMT

THRESHOLDS OF SIGNIFICANCE – Level of VMT which is considered a potentially significant impact.

RESIDENTIAL & WORK PROJECTS: 15% Below City Average

OTHER PROJECTS: Net Increase in City VMT

SCREENING CRITERIA –Conditions which projects may not be required conducted VMT analysis and maybe presumed to have a less than significant impact.

1. SMALL PROJECTS: Projects that generate less than 110 Daily Trips
2. MAP BASED: High efficiency VMT Zones for Residential & Work Base Projects (Figures 3.1 & 3.2)
3. TRANSIT PROXIMITY: Projects within ½ mile of stops with 15 Minute service, excluding areas within that ½ mile distance that cross Hwy 101.

4. AFFORDABLE HOUSING: Housing projects with a minimum of 20% “low” or “very low” affordable housing unit proportion.
5. LOCALLY SERVIING RETAIL: Retail projects of less than 10,000 SqFt, where there is substantial evidence to support that the retail project is locally serving.

City of Goleta retains authority, at the discretion of the Public Works or Community Development Director, to require a VMT analysis if projects meet screening criteria.

LOCAL AUTOMOBILE LEVEL OF SERVICE POLICY

The City of Goleta retains its local level of service policies as established in Chapter 7.0 of the City’s General Plan.

Where project VMT impacts are identified Section 4 of this report provides guidance on a range of mitigation strategies that maybe employed and the maximum VMT reductions that can be achieved by various strategies. The City retains its discretionary authority to determine, upon the basis of project specific technical analysis, which mitigation measures may be eligible on a project by project basis and the extent to which those mitigation measures reduce VMT.



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1. Introduction

1.1 Background

Senate Bill (SB) 743 was signed into law in 2013, with the intent to better align CEQA practices with statewide sustainability goals related to efficient land use, greater multimodal choices, and greenhouse gas reductions. The provisions of SB 743 become effective Statewide on July 1, 2020. Under SB 743, automobile delay, traditionally measured as level of service (LOS) will no longer be considered an environmental impact under the California Environmental Quality Act (CEQA). Instead, impacts will be determined by changes to Vehicle Miles Traveled (VMT). VMT measures the number and length of vehicle trips made on a daily basis. VMT is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and public transit. However, SB 743 does not preclude Cities from maintaining or establishing automobile delay / level of service as a local policy outside of CEQA.

1.2 Purpose

The City has contracted GHD, and sub-consultants Convergence Planning, Rincon, and DKS Associates to develop procedures for assessing transportation impacts under CEQA, per SB 743, and update the City's Environmental Thresholds and Guidelines Manual. GHD will develop baseline VMT estimates, project screening criteria, thresholds of significance, mitigation strategies, and methodologies for evaluating land development and transportation infrastructure using VMT as the primary impact criterion. GHD is also developing a sketch planning tool for City and project applicant use.



2. VMT Baseline Methodology

2.1 Regulatory & Planning Framework

Measuring VMT requires estimating or measuring the full length of vehicle trips by purpose, such as commutes, deliveries, or shopping trips that often cross between cities, counties, or states. For this reason, regional travel demand models, “big data,” and household travel surveys that are less limited by local agency boundaries are the preferred tools to estimate VMT under SB 743.

2.1.1 Governor’s Office of Planning and Research (OPR) Technical Advisory

In December 2018, OPR released its final *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Generally, OPR recommends that a reduction of 15% or more in VMT should be the target. Below is a summary of OPR’s recommended VMT impact thresholds and methodologies for land use projects:

Residential (VMT/capita) – A proposed project exceeding a level of 15% below existing regional VMT per capita may indicate a significant transportation impact.

Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita. Proposed development referencing a threshold based on city VMT per capita (rather than regional VMT per capita) should not cumulatively exceed the number of units specified in the Sustainable Communities Strategy (SCS) for that city, and should be consistent with the SCS.

Office (VMT/employee) - A proposed project exceeding a level of 15% below existing regional VMT per employee may indicate a significant transportation impact.

Retail (net VMT) – A proposed project that results in a net increase in total area VMT may indicate a significant transportation impact.

Mixed-Use - Evaluate each component independently using above thresholds.

Redevelopment Projects - Measured based on net change in VMT for total area.

Infrastructure Projects - Measured based on net change in VMT for total area.

OPR Recommended Screening Thresholds

OPR’s Technical Advisory lists the following screening thresholds for land use projects. These types of development projects are presumed to have a less than significant impact on vehicle miles traveled and therefore, a less than significant adverse impact on transportation. OPR’s Technical Advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

- Projects that are consistent with the Sustainable Communities Strategy (SCS) or General Plan and generate or attract fewer than 110 daily trips (per CEQA).
- Map-based screening for residential and office projects located in low VMT areas, and incorporate similar features (density, mix of uses, transit accessibility).



- Certain projects within ½ mile of an existing major transit stop¹ or an existing stop along a high quality transit corridor. However, this will not apply if information indicates that the project will still generate high levels of VMT.
- Affordable Housing Development in infill locations.
- Locally-serving retail projects, typically less than 50,000 square feet.

2.1.2 Caltrans Draft VMT-Focused Transportation Impact Study Guidelines

Caltrans recently published a draft update for their *Transportation Impact Study Guidelines* (Draft TISG, February 28, 2020). The Caltrans' *Draft TISG* is intended for use in preparing a transportation impact analysis of land use projects or plans that may impact or affect the State Highway System. Caltrans Local Development-Intergovernmental Review program would review development proposals as they deem necessary.

The *Draft TISG* heavily references OPR's *Technical Advisory* as a basis for its guidance. The *Draft TISG* recommends use of OPR's recommended thresholds for land use projects (15% below existing city or regional VMT per capita or per employee). As each lead agency develops and adopts its own VMT thresholds for land use projects, Caltrans will review them for consistency with OPR's recommendations, and with the state's greenhouse gas (GHG) emissions reduction targets and California Air Resources Board (CARB) Scoping Plan.

Caltrans identifies a possible mitigation framework for projects found to have a potentially significant impact on VMT. From Caltrans' guidelines, these include the following programmatic measures:

- Impact fee programs that contain a demonstrated nexus and proportionality between a fee and capital projects that result in VMT reduction;
- Regionally administered VMT mitigation bank programs; and,
- Peer to peer VMT mitigation exchange programs (off-site mitigation).

Caltrans also indicates that a future update to the *Draft TISG* will include the basis for requesting transportation impact analysis that is *not* based on VMT (including multimodal conflict/access management issues). GHD will continue to monitor future updates for consideration as part of this effort for the City.

2.1.3 Caltrans Draft Transportation Analysis Framework (TAF) and Transportation Analysis under CEQA (TAC)

Caltrans recently published documents related to SB 743 implementation. The TAC document is for land use projects and the TAF is for transportation projects and induced travel analysis. The TAC provides a consistent implementation of the new CEQA guidelines by assisting Caltrans Districts in

¹ "major transit stop" - A major transit stop is a "site containing an existing rail, a ferry terminal served by bus or rail transit service, or intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and evening peak hour commute". (OPR 2018)



identifying the best approach for analyzing VMT (induced travel) under CEQA for projects in the State Highway System. The TAF refers to OPR's Technical Advisory for the list of highway projects "that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis".

TAC Screening:

"The use of VMT as the CEQA transportation metric will, for the most part, impact only capacity-increasing projects. For other types of transportation projects, CEQA does not require a VMT impacts analysis beyond the screening process. Generally, there are two reasons such an analysis is not warranted. The first is because the type of project is expected to decrease or have no impact on VMT. The second is because the project's VMT impacts have already been analyzed and, when necessary, mitigated to the extent feasible in an earlier CEQA document; thus, the analysis may "tier" from or otherwise rely on that earlier analysis."

2.1.4 VMT Evaluation Criteria

GHD has recommended a variation on the OPR *Technical Advisory* land use type criteria to account for uses commonly found in the City. GHD proposes that the City of Goleta assess land development projects according to the primary proposed land use type, as follows:

- A. Residential VMT** – Establish baseline VMT and threshold on a per capita basis. "Residential" uses include, but are not limited to, single-family, multi-family, and mobile homes.
- B. Work VMT** – Establish baseline VMT and threshold on a per employee basis. "Work" uses include, but are not limited to, office, office parks, light industrial, industrial, warehousing, manufacturing, and business parks.
- A. Retail VMT** – Measure net VMT within boundary, and determine threshold based on net change. "Retail" uses include, but are not limited to, supermarkets, restaurants, gas stations, wineries, agriculture tourism, and hotels. Public and recreational uses such as parks, hospitals, libraries, and public services may also be assessed in this way, if needed, as they are primarily visitor-serving uses.
- B. Mixed-Use Projects** – Evaluate each component independently using the above thresholds, considering credit for internal capture, OR evaluate dominant use.
- C. Redevelopment Projects** - Measured based on net change in VMT for total area.
- D. Transportation Projects** – Transportation impacts of a transportation project should be calculated based on the change in VMT. If a project would likely lead to a substantial or measurable increase in vehicle travel, the City should conduct an analysis to assess the amount of induced travel. Additionally, OPR's Technical Advisory identifies a list of projects that would *not* likely lead to a substantial increase in vehicle travel, and therefore should not require an induced travel analysis. This list is included as an attachment. **GHD recommends that the City use the change in VMT to assess the transportation impacts of a transportation project, and that the City adopts this screening criteria.**



- E. **Land Use Plans** – Transportation impacts should be analyzed over the full area for which the plan may substantially effect travel patterns, including beyond the plan boundary or jurisdictional geography. Analysis of specific plans may employ the same thresholds described above for projects. A general plan, area plan, or community plan may have a significant impact on transportation if proposed new residential, office, or retail land uses would in aggregate exceed the respective thresholds recommended above.

2.2 Baseline VMT Methodology & Data Sources

State guidance provides that project-level VMT be assessed against statewide, regional, or local averages, per capita or per employee depending on the Project type. The primary purpose of this analysis is to consider and recommend baseline averages that reflect the travel behavior of their residents and employees. This baseline will be the measuring stick that all future projects will be measured against, until baselines are updated. GHD recommends updating the baseline VMT estimates concurrent with updates to the Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) and SBCAG Model. The SBCAG “Fast Forward 2040” is the current RTP/SCS, adopted in August 2017.

2.2.1 SBCAG RTDM

The regional SBCAG RTDM was utilized to estimate trip-based Work and Residential Baseline VMT for the incorporated areas of the City. The SBCAG model runs in the TransCAD software platform, and has a base year of 2010 and a forecast year of 2040. The model generates trips based on the land uses and where people will live, work, study and shop, taking into account forecasted population growth. The model generates and tracks all trip types by all modes of transportation use that originate or end in each jurisdiction of Santa Barbara County (considered “internal” trips), as well as all trips (not separated by trip purpose) from or into Ventura and San Luis Obispo Counties (considered “External” trips), including specifically the Cities of San Luis Obispo, Ventura, Oxnard, Camarillo, Simi Valley, and Thousand Oaks. The use of the SBCAG RTDM for evaluation of VMT and associated trip distances is limited to the boundary of the three counties.

The base year 2010 model was utilized to estimate baseline VMT for the City of Goleta. The SBCAG RTDM produces trips by different trip purposes and modes, and provides VMT as an output. To estimate trips associated with Residential VMT, all Home-Based vehicular trips (HBx²) internal to Santa Barbara County, and external trips between Santa Barbara County and San Luis Obispo and Ventura Counties (“IX” trips in the below tables), were selected for evaluation of VMT per capita. To estimate trips associated with Work VMT, only Home-Base-Work (HBW) vehicular trips and “IX” trips were selected for evaluation. Table 2.1 and Table 2.2 present the trip purposes used for Residential and Work VMT evaluations, respectively. The weighted average trip length for “IX” trips in the SBCAG RTDM is 26.81 miles.

² HBx refers to any “Home based” trips, where “x” stands for work, shopping, school, and other trips.



Table 2.1 Selected Trip Purposes for Residential VMT

Trip Purpose Categories (SBCAG RTDM)		Mode Type				
		Drove Alone (DA)	Shared Ride (SR)	Transit	Walk	Bike
HBW	Home based work	USED	USED	-	-	-
HBS	Home based shop	USED	USED	-	-	-
HBSC	Home based K-12	USED	USED	-	-	-
HBO	Home based other	USED	USED	-	-	-
NHBO	Non-home based other	-	-	-	-	-
NHBW	Non-home based work	-	-	-	-	-
VIS	Visitor	-	-	-	-	-
IX*	Internal to External	USED	USED	-	-	-

*81.7% of IX trips are of residential origin

Table 2.2 Selected Trip Purposes for Work VMT

Trip Purpose Categories (SBCAG RTDM)		Mode Type				
		Drove Alone (DA)	Shared Ride (SR)	Transit	Walk	Bike
HBW	Home based work	USED	USED	-	-	-
HBS	Home based shop	-	-	-	-	-
HBSC	Home based K-12	-	-	-	-	-
HBO	Home based other	-	-	-	-	-
NHBO	Non-home based other	-	-	-	-	-
NHBW	Non-home based work	-	-	-	-	-
VIS	Visitor	-	-	-	-	-
IX*	Internal to External	USED	USED	-	-	-

*81.7% of IX trips are of residential origin

2.2.2 City of Goleta Travel Model

The City of Goleta has developed its' own Citywide travel demand model for planning purposes. Model applications have included: General Plan analyses and tracking, development and periodic updates of the Capital Improvement Program and the city-wide Developer Impact Fee program; and for generating forecasts for traffic impact studies related to discretionary development and infrastructure improvements. The model encompasses the City and surrounding portions of the Goleta Valley (unincorporated Santa Barbara County), including Isla Vista, the UC Santa Barbara campus, the Santa Barbara Airport, and a portion of the City of Santa Barbara. The Goleta Travel Model is run in the VISUM software platform, has a base year of 2015 and forecast year of 2040, and is a single-mode (automobile) AM/PM peak hour model. The land use dataset within the Goleta



Travel Model is consistent with the City's General Plan Land Use Element and is utilized to forecast and evaluate future traffic conditions.

Since the Goleta Travel Model domain is limited to the immediate area, it currently does not account for the full trip lengths that either begin or end outside the modeling area. However, the model will be used to discern the influence of non-City land uses within and immediately adjacent to Goleta, as well as to identify sub-areas within Goleta that fall below or above the average boundary-based trip length by trip purpose. These analyses will help inform the overall analysis as well as inform potential modifications to the Goleta model itself.

2.2.3 LEHD Data

Journey-to-work data is available from the Longitudinal Employer-Household Dynamics (LEHD) program. The primary source of data used in the LEHD program is the enhanced Quarterly Census of Employment and Wages (QCEW) microdata files obtained from each participating Local Employment Dynamics (LED) state. The employer-based QCEW data is merged with additional worker-based administrative data collected by the US Census Bureau to create integrated employer-worker data, available through two different databases, Quarterly Workforce Indicators (QWI) and LEHD Origin-Destination Employment Statistics (LODES).

Unlike sample-based surveys (such as the U.S. Census's American Community Survey or CTPP), the LEHD data provides a nearly complete enumeration of home-to-work flows covering over 90% of all workers and employers in the United States³. The LEHD data does not contain details on the work trips such as mode choice, route, or travel times. The LEHD data does not include federal workers, self-employed or the military, and workplace location is assigned algorithmically for people who work for a business with multiple locations in a City. Since the SBCAG model provides information on mode choice, and does its own assignment of trips, the additional commute and socio-economic data from CTPP is not needed to determine VMT. The LEHD data provides many more origin-destination pairs than collected through sampled data, and provides sufficient data for home-to-work flows.

Work Destination (the primary work location of Goleta residents) and Home Origin (where workers who work in Goleta reside) data were downloaded from Longitudinal Employer-Household Dynamics (LEHD) OnTheMap for year 2017.

2.2.4 Development of LEHD Model within SBCAG RTDM

The LEHD LODES data was utilized within the SBCAG model to determine Home-Based-Work trips and estimate baseline "Work" VMT for comparison to the Work VMT generated by the SBCAG model. 2017 LEHD (LODES) data was downloaded by census block level, aggregated by TAZ, and then imported into an origin-destination matrix within the SBCAG model software (TransCAD). This

³ "Improving Employment Data for Transportation Planning", NCRHP 08-36, Task 098. Cambridge Systematics, Inc. September 2011. [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36\(98\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(98)_FR.pdf)



origin-destination trip matrix was used to calculate “internal” VMT within Santa Barbara County utilizing the model network, and “external” VMT within San Luis Obispo County and Ventura County. If one end of the work trip was in an adjacent county, then the work trip was assigned to the logical SBCAG external station. An approximation of the “external” portion of the trip’s VMT, and total trip length, was estimated by using the distance (via roadway network travel outside of the model) to the SBCAG external station. The “distance” of each external station was modified to account for the average distance travelled before entering and after leaving the County. This methodology was used to best capture the full length of vehicle trips.

Utilizing the LEHD data allows for a comparison of SBCAG’s HBW trip purposes and calculated Work VMT. Since the LEHD data only provides home-to-work or work-to-home information, other home-based trips (HBx) cannot be calculated utilizing the LEHD data, and the model’s residential-generated VMT per capita is not compared to the LEHD data.

2.2.5 Shortest-Path GIS Analysis Methodology

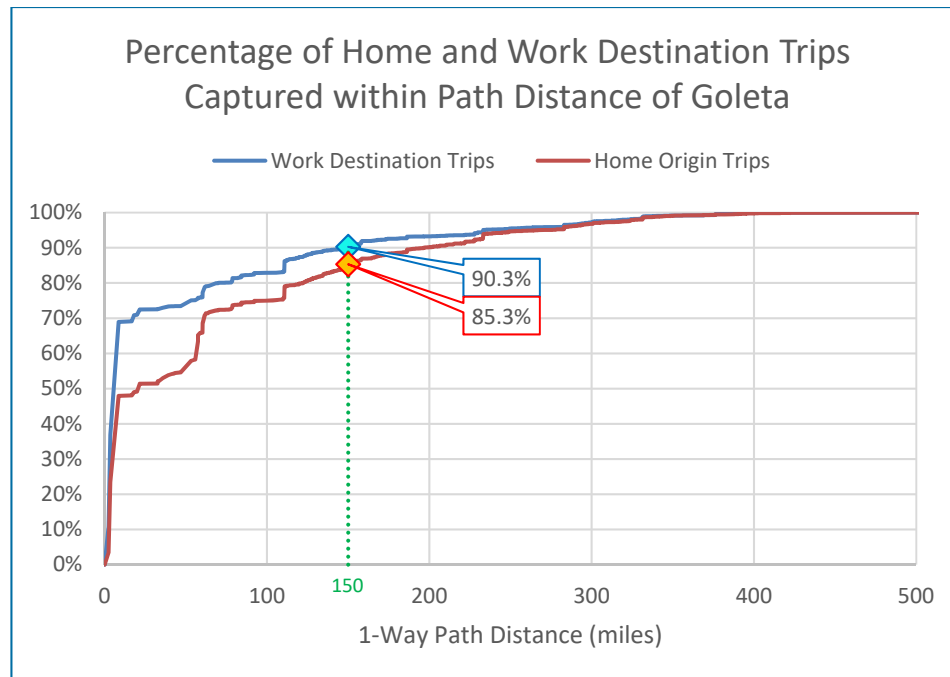
Shortest path analysis was performed using the “Shortest path (point to layer)” network analysis within GIS software, with the centroid of the City as the start point, and the path type set to “Shortest”. The trip ends were defined as all centroids of each census designated place within California, including both incorporated Cities and unincorporated communities. The roadway network utilized included primary and secondary road classifications within the State, excluding all local classes of roadways. With these settings, the travel distances from Goleta based on the shortest path analysis was estimated for each census designated place (CDP).

The home-to-work flows from LEHD are then superimposed on the routes and resulting distances to calculate VMT for each CDP. The associated travel distance of each path (in miles), was output and multiplied by the number of trips, based on the LEHD data, to each destination, and then aggregated to obtain the total VMT for both Work Destination (Residential VMT) and Home Origin (Work VMT). The total VMT for Work Destination trips was divided by the population of Goleta, and the total VMT for Home Origin trips was divided by the total number of jobs in Goleta to obtain the average VMT per capita and per employee respectively.

A small proportion of work locations reported by LEHD may not represent the actual physical locations where workers work (i.e. telecommuting). 2018 US Census data shows that only 2.5% of commuters have a journey-to-work of over 60 minutes. Based on the LEHD data, around 25% of journey-to-work trips are longer than 60 minutes (or approximately 60 miles), indicating an overrepresentation of long trips. Therefore, the VMT based on the LEHD data was calculated utilizing only the trip paths within a 150-mile buffer, thus minimizing errors and outliers in the LEHD data that inflate the average VMT per capita. The 150-mile buffer spans roughly from Los Angeles to San Luis Obispo, and based on professional opinion, best represents an enumeration of actual commute distances while accounting for errors and outliers in the LEHD data. Figure 2.1 shows that a 150-mile buffer captures 90.3% of Work Destination trips and 85.3% of Home Origin trips.



Figure 2.1 Percentage of Work and Home Origin Trips Captured within Buffer Distance of Goleta



2.3 CEQA Baseline Considerations

Under CEQA, project impacts must be evaluated by comparing environmental conditions after project implementation to conditions at a point in time referred to as the baseline. The CEQA Guidelines Section 15125 contains the following guidance (in part) for establishing the baseline:

An EIR must include a description of the physical environmental conditions in the vicinity of the project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. [...] The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts.

The CEQA Guidelines establish the baseline as the environmental condition that exists at the time the notice of preparation is published or environmental analysis is commenced, from both a local and regional perspective. However, a lead agency may define the baseline by referencing historic conditions, as long as substantial evidence is provided that such a baseline is necessary to provide the most accurate picture practically possible of the project's impacts given that existing conditions change or fluctuate over time.

The update to the City's Environmental Thresholds Guidelines will need to ensure that each VMT analysis prepared in the future provides substantial evidence for the applicability of older baseline data. Updating the baseline VMT estimates concurrent with an update to the SBCAG RTP/SCS and RTDM, as recommended in this report, will best assure that the VMT thresholds remain defensible under CEQA.



2.4 Draft Baseline VMT Analysis Findings

2.4.1 SBCAG RTDM

Based on the methodology for estimating Baseline VMT as described within this section, Table 2.3 presents a summary of the Baseline VMT analysis for inbound work trips and outbound residential trips for Goleta, utilizing the SBCAG RTDM model. The results show Residential and Work VMT from the SBCAG model, and the results of utilizing the LEHD data for the Work trips and associated Work VMT to compare to the results of the model.

As shown, the total Work trips from the SBCAG model (23,442) are slightly higher than the LEHD data (21,454). As previously mentioned, the LEHD data does not include federal workers, self-employed or the military. The LEHD data presents comparable results to the SBCAG model for work trips. The total Work VMT per employee for Goleta was calculated based on the employment for the City of 17,229 employees (from 2010 base year model), and the total Residential VMT per capita was calculated based on the City's population of 30,847 (from 2010 base year model).

City of Goleta Baseline VMT:

- Work VMT (SBCAG model) = 16.77 per employee
- Work VMT (LEHD model) = 15.73 per employee
- Residential VMT = 19.75 per capita

The total VMT metrics countywide (Santa Barbara) was also calculated utilizing the SBCAG model:

Countywide Baseline VMT:

- Work VMT = 16.19 per employee
- Residential VMT = 15.95 per capita

The VMT results for the City of Goleta present higher Residential VMT per capita, and similar Work VMT (SBCAG model-based).



Table 2.3 SBCAG RTDM Baseline Trips and VMT Results

	Inbound Work Trips (Home Origin of Goleta Workers)				Outbound Residential Trips (Work Destination of Goleta Residents)		Avg. Trip Length		
	LEHD		SBCAG		SBCAG (All HB)		HBW		All HB
Geography	VMT	Trips	VMT	Trips	VMT	Trips	LEHD	SBCAG	SBCAG
Goleta	17,479	6,550	12,338	5,222	39,972	18,132	2.67	2.36	2.20
Unincorporated Goleta*	6,783	1,590	9,072	2,355	28,166	7,770	4.27	3.85	3.63
Isla Vista	7,859	2,262	7,416	2,647	19,419	7,648	3.47	2.80	2.54
Santa Barbara	68,641	6,974	62,446	6,816	140,427	15,772	9.84	9.16	8.90
Unincorporated Santa Barbara*	3,422	490	6,242	1,068	16,893	3,081	6.98	5.84	5.48
Montecito	5,867	388	6,652	455	13,515	930	15.12	14.63	14.54
Carpinteria	7,842	354	14,272	673	24,663	1,166	22.15	21.21	21.14
Buellton	2,561	76	12,861	373	20,418	597	33.69	34.51	34.22
Lompoc	4,883	108	39,619	875	40,982	911	45.21	45.27	44.99
Vandenberg Villa	397	8	6,262	127	6,020	122	49.57	49.32	49.21
Santa Maria	20,670	340	24,278	382	23,632	371	60.79	63.54	63.76
Unincorporated Santa Maria	3,706	64	13,113	222	13,111	221	57.90	59.06	59.28
Other SB County	12,067	476	42,746	1,464	61,166	2,430	25.35	29.21	25.17
Ventura	16,348	394	23,407	588	118,601	2,972	41.49	39.8	39.90
Oxnard	13,541	284	4,355	95	22,100	483	47.68	45.67	45.77
Thousand Oaks	15,185	234	103	2	523	8	64.89	62.93	63.03
Camarillo	8,607	158	544	10	2,764	53	54.47	52.51	52.61
Simi Valley	3,428	48	6	0	29	0	71.41	71.20	71.29
Other Ventura County	20,858	344	831	17	4,226	88	60.63	47.69	47.79
San Luis Obispo City	9,289	104	218	2	1,128	13	89.32	89.58	89.77
Other SLO County	21,553	208	2,218	29	11,461	148	103.62	77.47	77.66
Total	270,982	21,454	289,000	23,422	609,217	62,916	12.63	12.34	9.68
Base Year Employment:	17,001				Base Year Population:		31,116		
VMT per Employee or per Capita	15.94		17.00		19.58				

***Unincorporated Goleta* includes the Santa Barbara Airport and the surrounding Goleta Valley. *Unincorporated Santa Barbara* includes areas north and west of the City (Hope Ranch and Mission Canyon).



2.4.2 Shortest Path Analysis

Table 2.4 presents the top twenty locations where Goleta residents work (Work Destination), with locations that fall outside the 150-mile buffer highlighted in yellow. As shown in Table 2.4, the top job locations of Goleta residents (other than Goleta) are Santa Barbara (4,189 trips), Isla Vista (1,409 trips), and Los Angeles (380 trips). Table 2.5 presents the top twenty locations where Goleta workers live (Home Origin), with locations that fall outside the 150-mile buffer highlighted in yellow. As shown in Table 2.5, the top Work Destinations (other than Goleta) are Santa Barbara (4,158 trips), Lompoc (871 trips), and Isla Vista (581 trips). 3,408 trips were made within Goleta, having an average internal trip length of 3.5 miles.

Table 2.4 Top 20 Work Destinations of Goleta Residents

Location	Miles	Home Jobs	Home VMT
Santa Barbara	8.54	4,189	71,576.60
Goleta	3.50	3,408	23,856.00
Isla Vista	2.36	1,409	6,644.16
Los Angeles	110.77	380	84,187.15
Montecito	18.02	227	8,182.03
San Buenaventura (Ventura)	53.22	214	22,776.25
Santa Maria	61.62	202	24,895.75
Carpinteria	21.59	201	8,680.29
Oxnard	60.37	178	21,491.56
Thousand Oaks	78.78	122	19,221.99
Camarillo	68.54	90	12,336.86
Lompoc	57.44	61	7,008.05
Simi Valley	84.21	56	9,431.59
San Luis Obispo	92.21	54	9,958.18
Buellton	39.36	52	4,092.96
Other Locations	≤150 mi	953	193,355.81
Total (150-mi)	-	11,796	527,695.25
VMT per Capita			16.96
San Diego	233.18	77	35,909.79
San Jose	283.00	75	42,449.64
San Francisco	331.33	68	45,061.47
Bakersfield	186.19	58	21,598.12
Irvine	158.23	53	16,772.20
Other Locations	>150 mi	939	1,005,666.14
Total (no buffer)	-	13,066	1,167,457.37
VMT per Capita			37.52



Table 2.5 Top 20 Home Origins of Goleta Workers

Location	Miles	Work Jobs	Work VMT
Santa Barbara	8.54	4,158	71,046.91
Goleta	3.50	3,408	23,856.00
Lompoc	57.44	871	100,065.74
Isla Vista	2.36	581	2,739.72
San Buenaventura (Ventura)	53.22	554	58,962.82
Los Angeles	110.77	542	120,077.46
Oxnard	60.37	450	54,332.60
Santa Maria	61.62	397	48,928.78
Carpinteria	21.59	381	16,453.69
Orcutt	57.49	305	35,071.33
Montecito	18.02	153	5,514.76
Buellton	39.36	151	11,885.34
Solvang	35.64	128	9,124.71
Thousand Oaks	78.78	126	19,852.22
Santa Ynez	32.77	111	7,274.17
Vandenberg Village	58.70	105	12,327.92
Other Locations	≤150 mi	2,081	428,736.73
Total (150-mi)	-	14,502	1,026,250.89
VMT per Employee			60.36
San Diego	233.18	218	101,666.69
Bakersfield	186.19	118	43,941.01
San Jose	283.00	109	61,693.48
Other Locations	>150 mi	2,054	574,905.90
Total (no buffer)	-	17,001	2,237,255.08
VMT per Employee			131.60

Figure 2.2 and Figure 2.3 on the following pages present the distributions of Work Destination trips and Home Origin trips respectively along the shortest paths between Goleta and other CDP's within the 150-mile path distance buffer. The CDP's included in these maps account for the vast majority of Work Destination and Home Origin trips. Paths to destinations with fewer than 10 trips have been omitted. Table 2.6 presents a summary of the results of the Shortest Path analysis, and compares the results both with and without the 150-mile buffer. As shown, with the 150-mile buffer, Residential VMT for Goleta is 16.19 per capita, and Work VMT is 58.96 per employee. These metrics represent daily round-trip commute journeys to work.

Table 2.6 Summary of Goleta VMT

Population (Live in Goleta)*	31,116	
Number of Jobs (Work in Goleta)	17,001	
VMT Metric	Goleta (All Trip Ends)	Goleta (150-mile Buffer)
Residential VMT	1,167,457	527,695
Residential VMT per Capita	37.52	16.96
Work VMT	2,237,255	1,026,251
Work VMT per Employee	131.60	60.36



Figure 2.2 Work Destinations of Goleta Residents (Outbound Trips), 150-mile Buffer

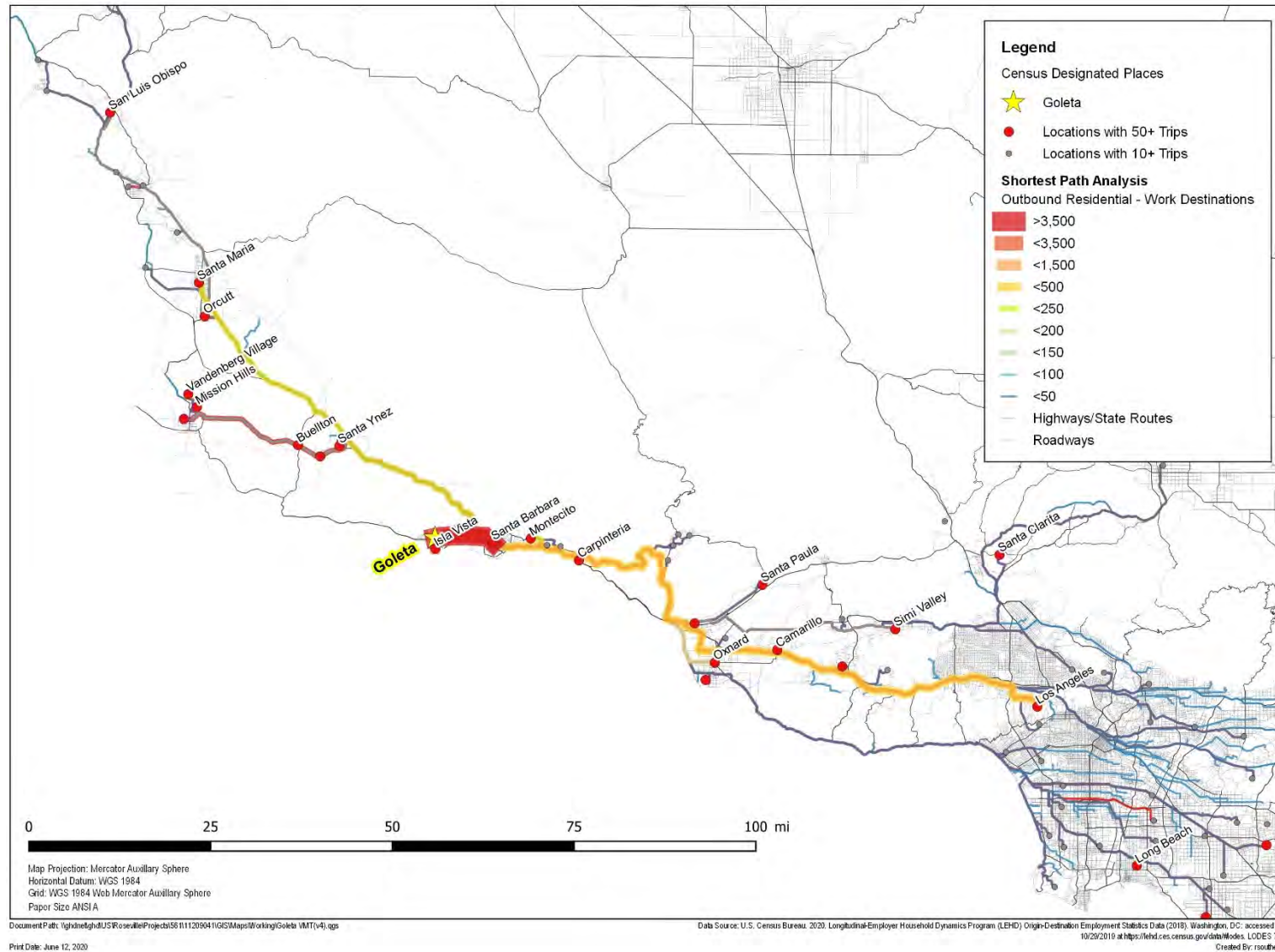
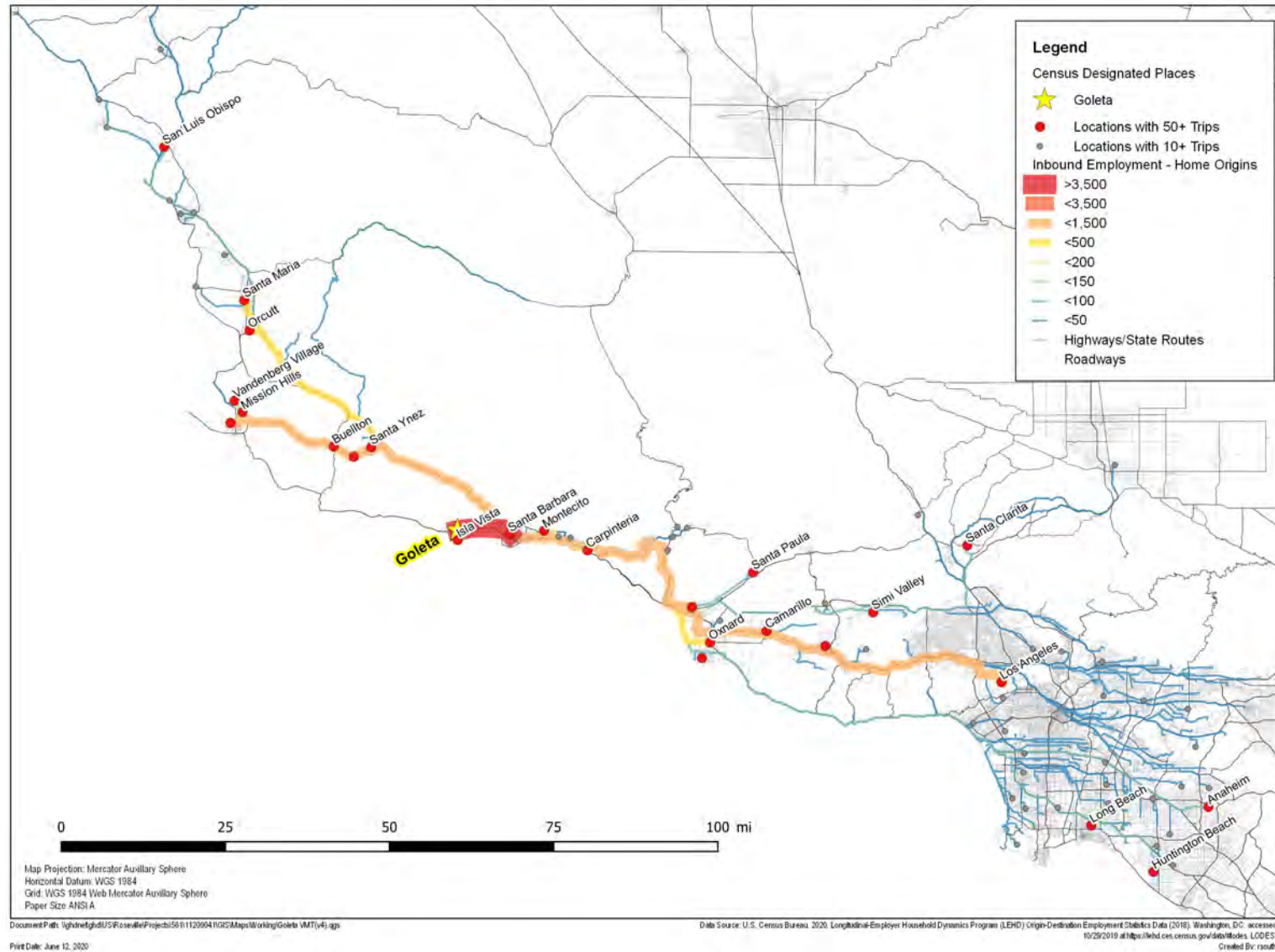


Figure 2.3 Home Origins of Goleta Employees (Inbound Trips), 150-mile Buffer





2.4.3 Goleta Model Analysis

As part of the Goleta Developer Fee Program update, the Goleta model zone structure was organized into “districts” that reflect the following geographic divisions:

1. City of Goleta	MZ HBW VMT	383,910.2
2. City of Goleta Old-Town Area	MZ HBO VMT	637,297.7
3. City of Santa Barbara Airport Specific Plan (labelled as SB Old Town)	MZ HBC VMT	92,600.0
	MZ NHB VMT	1,222,984.6
4. County Old-Town ⁴	MZ HBW Trips	93,341.6
5. County	MZ HBO Trips	179,740.7
6. UCSB 35% (student housing; 35% on campus, 65% in County)	MZ HBC Trips	31,572.3
7. UCSB	MZ NHB Trips	511,988.9
8. Santa Barbara Airport	Total VMT	2,336,792.0
9. Santa Barbara East	Goleta VMT	907,644.0
10. External	HPMS VMT Goleta	
	HBW Trip Length	4.11
	HBO Trip Length	3.55
	HBC Trip Length	2.93
	NHB Trip Length	2.39

Areas 1 and 2 combined make up the City of Goleta. Areas 3, 8 and 9 combined make up the City of Santa Barbara portion of the City’s modeling domain. Areas 4 and 5 and a portion of 6 combined make up the County of Santa Barbara. Area 7 and a portion of Area 6 is UCSB. A key consideration is the trip length characteristics of these areas, and to what degree they may influence the City of Goleta’s VMT baseline estimate or average trip length estimates. A select zone analysis was performed for each “district” listed above to determine the daily VMT generated by each area, and their average trip length characteristics by trip purpose. The AM/PM peak hour boundary-based VMT estimates generated by the Goleta Model were converted to daily VMT estimates based on factors documented in the National Cooperative Highway Research Program (NCHRP) Report 365 and NCHRP Report 716. Note that, given the constrained nature of the model network, artificially low average trip lengths are generated. The results of this analysis are provided in Table 2.7 to Table 2.10 and summarized above.

As shown, the average trip lengths do vary across these jurisdictional “islands”. This suggests that these “islands” should be controlled for (i.e., excluded) as part of this analysis. Using the City-wide average trip length by trip purpose and performing a select zone analysis for each Goleta Model Traffic Analysis Zone (TAZ) allows one to see areas of the City that fall above or below the City-wide average trip length by trip purpose. This information shows areas of the City that generate relatively low VMT relative to the City-wide average (grey-light blue-dark blue) and areas that exceed the City-wide average (yellow-gold-red). This information can be used to develop geographic-based screening criteria by land use development type. Like information is generated using the SBCAG model but is based on the full trip length.

⁴ County Old Town refers to a small unincorporated area to the east of South Fairview Avenue near James Fowler Road that falls outside the City limits.

Figure 2.4 Goleta Model Sub-Areas

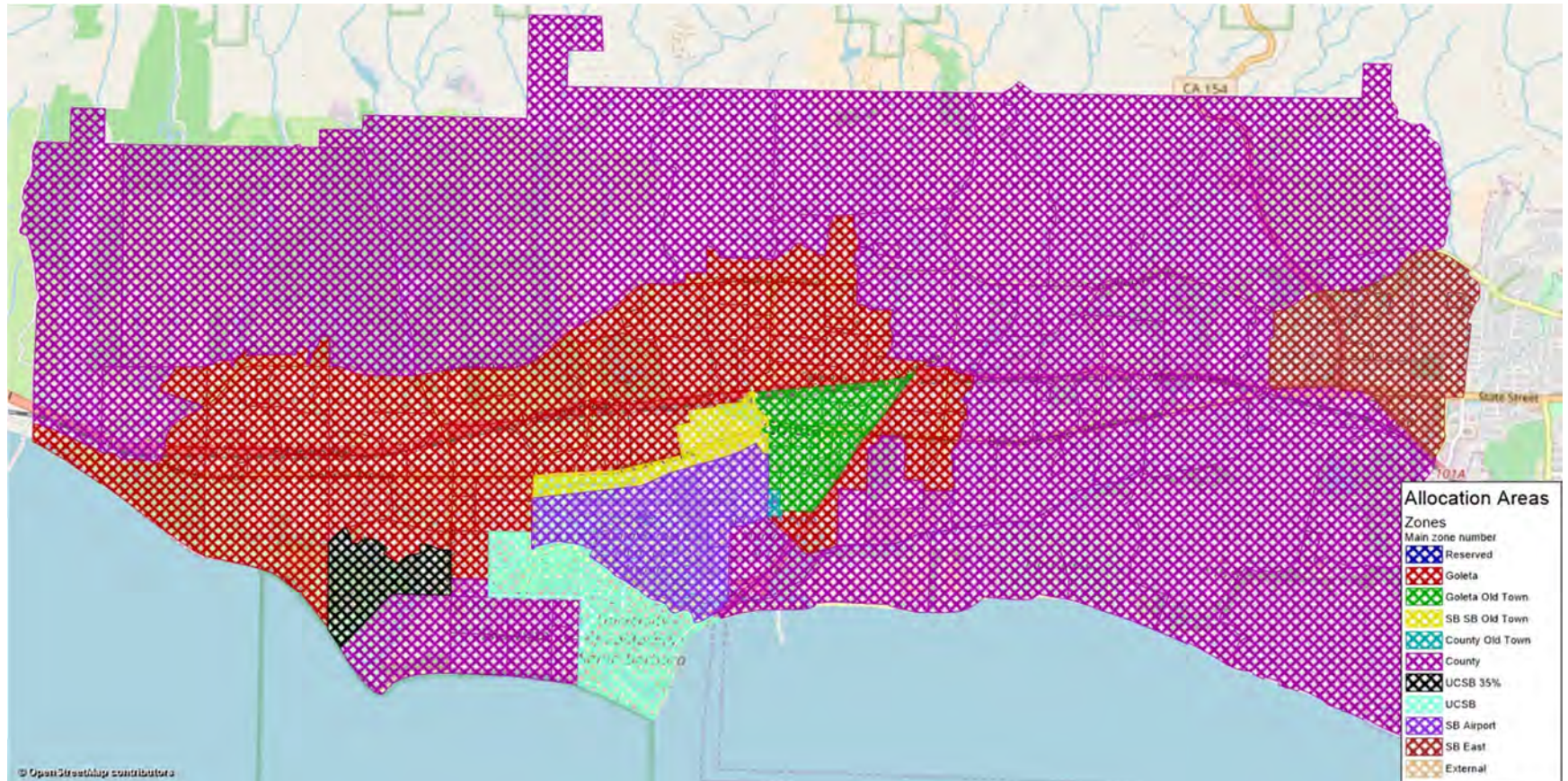




Table 2.7 Home-Based Work Average Trip Length by District

	VMT	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	46,892.6	5,706.5	829.9	0.0	34,527.1	0.0	5,122.6	673.9	8,585.6	39,593.0
2	City of Goleta Old Town	6,626.4	433.8	74.5	0.0	6,075.4	0.0	608.5	84.7	1,578.9	6,514.1
3	SB Airport Specific Plan	1,050.1	92.7	0.3	0.0	1,105.4	0.0	3.8	0.4	262.6	1,250.3
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	30,991.7	4,274.3	849.3	0.0	15,356.8	0.0	5,782.1	862.8	5,483.2	17,196.9
6	UCSB - 35%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	UCSB	6,952.6	695.7	1.7	0.0	8,447.0	0.0	0.0	0.0	2,022.9	11,506.1
8	SB Airport	757.5	88.8	0.3	0.0	1,067.9	0.0	0.0	0.0	244.0	1,066.0
9	SB East	7,767.0	1,150.8	208.8	0.0	5,154.1	0.0	1,417.1	209.1	1,278.4	3,543.8
10	External	39,880.5	5,116.9	920.5	0.0	21,526.3	0.0	8,580.8	832.0	4,983.0	0.0
	Trips	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	17,265.6	2,105.2	284.6	0.0	8,617.1	0.0	1,294.1	168.0	1,311.4	5,498.0
2	City of Goleta Old Town	2,384.5	524.5	51.4	0.0	1,949.2	0.0	170.1	41.0	295.2	1,123.2
3	SB Airport Specific Plan	352.3	63.8	0.3	0.0	288.8	0.0	1.1	0.2	41.3	187.5
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	7,664.6	1,401.0	226.3	0.0	5,591.9	0.0	1,291.7	196.6	1,721.0	3,924.5
6	UCSB - 35%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	UCSB	1,761.7	189.8	0.5	0.0	1,774.5	0.0	0.0	0.0	265.1	1,448.8
8	SB Airport	190.2	43.1	0.2	0.0	232.4	0.0	0.0	0.0	35.9	147.4
9	SB East	1,191.4	226.2	34.4	0.0	1,625.0	0.0	189.2	32.4	981.7	1,817.3
10	External	5,491.9	889.0	138.4	0.0	4,935.4	0.0	1,081.5	116.7	2,465.4	0.0
	Trip Lengths	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	2.72	2.71	2.92		4.01		3.96	4.01	6.55	7.20
2	City of Goleta Old Town	2.78	0.83	1.45		3.12		3.58	2.06	5.35	5.80
3	SB Airport Specific Plan	2.98	1.45	0.85		3.83		3.35	1.54	6.35	6.67
4	County Old Town										
5	County	4.04	3.05	3.75		2.75		4.48	4.39	3.19	4.38
6	UCSB - 35%										
7	UCSB	3.95	3.67	3.46		4.76				7.63	7.94
8	SB Airport	3.98	2.06	1.44		4.60				6.80	7.23
9	SB East	6.52	5.09	6.06		3.17		7.49	6.46	1.30	1.95
10	External	7.26	5.76	6.65		4.36		7.93	7.13	2.02	5.81



Table 2.8 Home-Based Other Average Trip Length by District

	VMT	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	56,254.2	6,202.2	1,351.6	0.0	20,216.7	63.5	3,142.8	764.8	1,693.5	108,335.8
2	City of Goleta Old Town	4,822.4	2,136.9	209.8	0.0	4,505.1	4.7	284.6	169.6	439.1	23,176.1
3	SB Airport Specific Plan	857.5	146.9	11.8	0.0	751.7	1.8	31.8	3.5	66.8	4,286.7
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	23,658.6	5,771.8	1,111.6	0.0	22,723.9	12.1	3,321.8	1,051.6	3,841.3	75,838.9
6	UCSB - 35%	54.5	5.2	1.8	0.0	7.4	0.0	7.3	0.8	0.6	36.6
7	UCSB	1,234.1	129.7	27.2	0.0	1,168.4	2.0	506.3	14.1	119.3	8,138.7
8	SB Airport	410.0	92.5	3.4	0.0	568.5	0.9	24.8	0.0	47.4	4,185.7
9	SB East	2,013.8	614.7	108.4	0.0	3,341.0	0.7	318.1	107.6	3,969.9	14,233.0
10	External	97,398.0	20,466.8	4,009.6	0.0	66,331.9	85.9	15,048.0	3,016.6	12,183.4	0.0
	Trips	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	33,656.8	2,594.5	508.8	0.0	7,310.3	46.7	856.7	208.9	273.1	15,170.4
2	City of Goleta Old Town	2,118.1	3,396.9	195.0	0.0	1,601.1	1.3	82.1	90.5	84.0	4,015.0
3	SB Airport Specific Plan	311.2	145.9	14.5	0.0	217.4	0.6	10.9	2.5	11.1	665.6
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	8,838.5	2,096.7	321.5	0.0	15,399.3	10.3	936.6	248.3	1,738.5	17,767.3
6	UCSB - 35%	42.3	1.3	0.6	0.0	5.4	0.0	3.0	0.2	0.1	4.3
7	UCSB	373.8	37.0	9.4	0.0	335.9	0.8	470.8	4.7	15.7	1,027.1
8	SB Airport	113.7	55.2	2.6	0.0	133.6	0.2	9.6	0.0	7.1	582.0
9	SB East	341.0	124.9	18.6	0.0	1,539.8	0.1	42.7	16.9	3,547.0	7,628.4
10	External	13,821.7	3,585.1	613.6	0.0	15,098.3	10.1	1,897.9	424.9	6,846.1	0.0
	Trip Lengths	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	1.67	2.39	2.66		2.77	1.36	3.67	3.66	6.20	7.14
2	City of Goleta Old Town	2.28	0.63	1.08		2.81	3.57	3.47	1.87	5.23	5.77
3	SB Airport Specific Plan	2.76	1.01	0.81		3.46	2.92	2.91	1.39	6.03	6.44
4	County Old Town										
5	County	2.68	2.75	3.46		1.48	1.17	3.55	4.24	2.21	4.27
6	UCSB - 35%	1.29	4.00	2.93		1.38		2.42	4.75	8.59	8.50
7	UCSB	3.30	3.51	2.88		3.48	2.46	1.08	2.99	7.59	7.92
8	SB Airport	3.61	1.68	1.33		4.26	4.15	2.58		6.71	7.19
9	SB East	5.91	4.92	5.83		2.17	8.62	7.46	6.36	1.12	1.87
10	External	7.05	5.71	6.53		4.39	8.50	7.93	7.10	1.78	6.17



Table 2.9 Home-Based College Average Trip Length by District

	VMT	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	1,873.1	18.2	0.0	0.0	93.6	1.4	535.8	0.0	18.9	267.3
2	City of Goleta Old Town	22.5	338.1	0.0	0.0	24.4	0.0	74.7	0.0	6.1	45.1
3	SB Airport Specific Plan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	169.6	18.3	0.0	0.0	1,955.7	2.7	650.7	0.0	121.9	411.7
6	UCSB - 35%	18.4	0.4	0.0	0.0	2.8	15.0	18.9	0.0	0.5	5.7
7	UCSB	12,533.6	2,219.3	0.0	0.0	11,814.5	53.2	12,982.2	0.0	3,512.8	26,123.5
8	SB Airport	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	SB East	5.0	1.2	0.0	0.0	40.1	0.0	89.6	0.0	650.4	80.9
10	External	1,641.1	300.3	0.0	0.0	2,627.6	2.1	9,972.0	0.0	1,239.3	0.0
	Trips	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	1,811.7	9.4	0.0	0.0	39.1	1.6	133.8	0.0	3.2	37.7
2	City of Goleta Old Town	11.5	358.5	0.0	0.0	9.1	0.0	20.8	0.0	1.2	7.9
3	SB Airport Specific Plan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	81.5	6.2	0.0	0.0	1,901.9	2.8	211.4	0.0	58.3	94.2
6	UCSB - 35%	18.1	0.1	0.0	0.0	1.3	15.0	7.8	0.0	0.1	0.7
7	UCSB	3,194.6	605.3	0.0	0.0	2,724.3	21.8	12,885.2	0.0	468.0	3,279.0
8	SB Airport	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	SB East	0.9	0.3	0.0	0.0	20.9	0.0	12.1	0.0	635.5	41.2
10	External	239.7	53.1	0.0	0.0	689.6	0.3	1,246.7	0.0	608.7	0.0
	Trip Lengths	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	1.03	1.93			2.39	0.89	4.00		5.86	7.09
2	City of Goleta Old Town	1.96	0.94			2.69	3.83	3.60		5.06	5.71
3	SB Airport Specific Plan										
4	County Old Town										
5	County	2.08	2.96			1.03	0.94	3.08		2.09	4.37
6	UCSB - 35%	1.01	4.16			2.11	1.00	2.42		8.43	8.53
7	UCSB	3.92	3.67			4.34	2.44	1.01		7.51	7.97
8	SB Airport										
9	SB East	5.48	4.78			1.92	8.34	7.39		1.02	1.96
10	External	6.85	5.66			3.81	8.19	8.00		2.04	



Table 2.10 Non-Home-Based Average Trip Length by District

	VMT	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	196,696.6	20,805.2	5,259.4	0.0	36,079.6	41.0	17,932.4	2,498.0	4,404.3	131,712.8
2	City of Goleta Old Town	25,327.0	19,624.3	2,605.6	0.0	7,244.1	2.5	4,521.4	1,947.5	1,165.4	28,756.7
3	SB Airport Specific Plan	4,910.8	1,859.9	923.4	0.0	834.9	0.7	648.9	226.6	124.5	3,515.5
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	56,837.3	8,947.9	1,516.0	0.0	60,519.0	12.3	12,159.4	1,377.0	10,358.5	102,921.3
6	UCSB - 35%	136.6	7.5	2.5	0.0	24.4	0.2	17.0	0.8	1.8	70.8
7	UCSB	3,674.3	684.9	172.0	0.0	1,674.6	3.5	12,608.2	165.1	193.8	8,715.2
8	SB Airport	2,703.8	1,902.4	283.5	0.0	849.3	0.3	752.4	964.2	143.1	4,057.0
9	SB East	6,324.1	1,430.1	233.6	0.0	9,379.4	0.9	1,997.6	228.4	23,997.7	30,588.0
10	External	137,842.5	25,751.4	4,973.5	0.0	67,241.4	27.8	73,602.6	4,258.0	20,980.9	0.0
	Trips	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	149,037.2	11,935.1	3,207.5	0.0	14,681.5	29.3	4,904.4	860.1	737.3	19,227.8
2	City of Goleta Old Town	14,905.3	33,772.1	2,742.6	0.0	2,828.5	0.7	1,289.8	1,278.6	222.8	4,995.8
3	SB Airport Specific Plan	3,468.6	2,126.9	1,113.7	0.0	257.4	0.2	196.8	128.4	20.9	553.4
4	County Old Town	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	County	23,151.8	3,320.1	447.0	0.0	47,530.3	8.1	3,713.5	341.1	4,945.4	24,311.0
6	UCSB - 35%	101.8	1.9	0.9	0.0	18.0	0.2	7.0	0.2	0.2	8.4
7	UCSB	1,218.0	193.9	53.7	0.0	586.1	1.5	12,524.2	60.7	25.2	1,105.7
8	SB Airport	976.4	1,458.2	167.7	0.0	234.4	0.1	311.9	986.9	21.1	564.8
9	SB East	1,043.2	279.5	38.5	0.0	4,766.1	0.1	261.5	34.7	22,902.4	16,071.0
10	External	19,895.3	4,523.5	761.0	0.0	15,844.6	3.3	9,349.5	598.7	12,695.9	0.0
	Trip Lengths	City of Goleta	City of Goleta Old Town	SB Airport SP	County Old Town	County	UCSB - 35%	UCSB	SB Airport	SB East	External
1	City of Goleta	1.32	1.74	1.64		2.46	1.40	3.66	2.90	5.97	6.85
2	City of Goleta Old Town	1.70	0.58	0.95		2.56	3.58	3.51	1.52	5.23	5.76
3	SB Airport Specific Plan	1.42	0.87	0.83		3.24	2.91	3.30	1.76	5.95	6.35
4	County Old Town										
5	County	2.45	2.70	3.39		1.27	1.51	3.27	4.04	2.09	4.23
6	UCSB - 35%	1.34	4.03	2.88		1.35	1.00	2.41	4.92	8.56	8.40
7	UCSB	3.02	3.53	3.20		2.86	2.35	1.01	2.72	7.68	7.88
8	SB Airport	2.77	1.30	1.69		3.62	4.13	2.41	0.98	6.78	7.18
9	SB East	6.06	5.12	6.07		1.97	8.62	7.64	6.59	1.05	1.90
10	External	6.93	5.69	6.54		4.24	8.52	7.87	7.11	1.65	6.03

Figure 2.5 to Figure 2.8 below present a comparison of each TAZ to each of the respective baseline averages, with yellow representing TAZ's with above-baseline average trip length and blue representing TAZ's with below-baseline average trip length. The magnitude of difference from the baseline is denoted by the graphic height and color saturation of the TAZ's.

Figure 2.5 Home-Based Work Average Trip Length by TAZ – Above or Below City-wide Average Trip Length

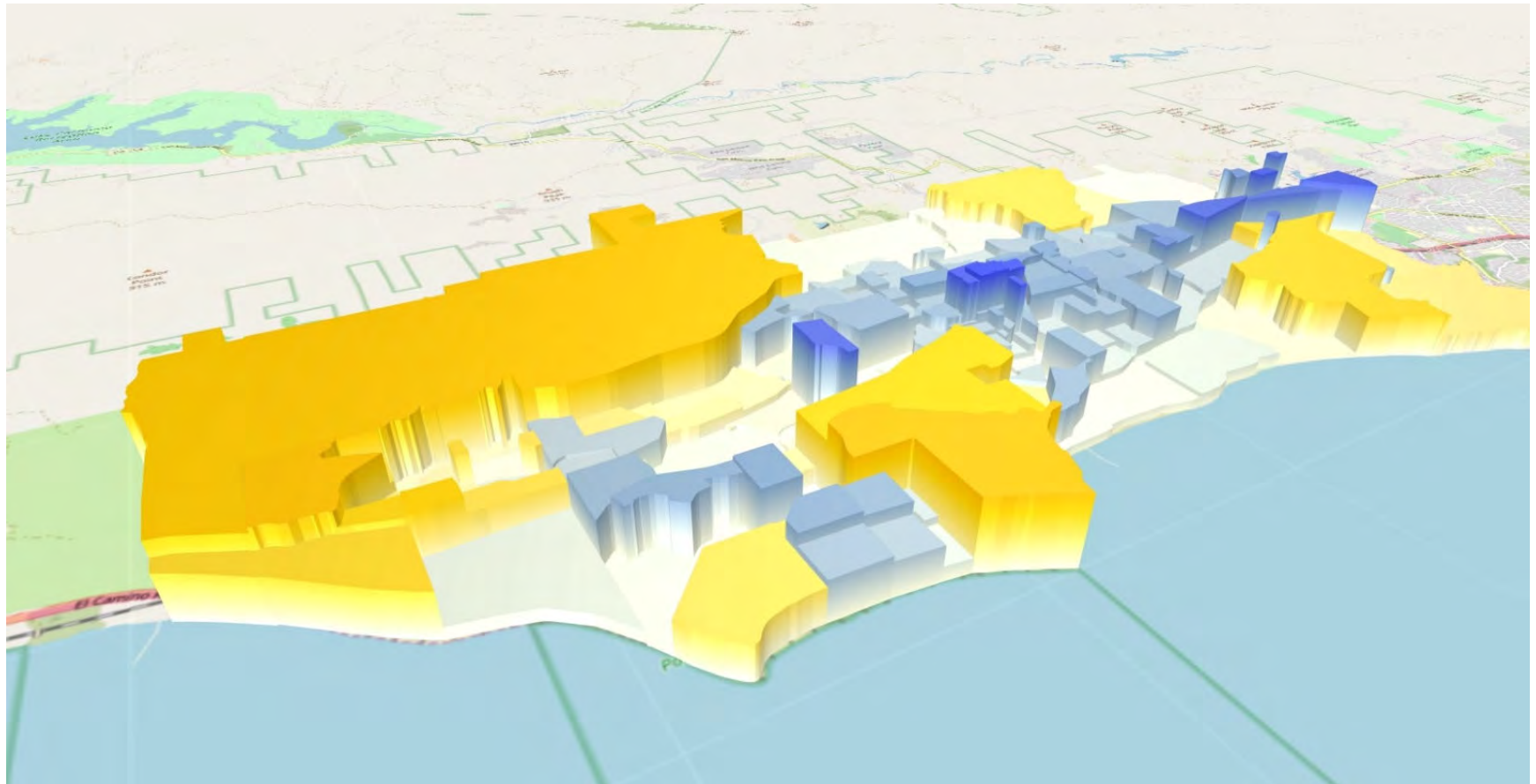


Figure 2.6 Home-Based Other Average Trip Length by TAZ – Above or Below City-wide Average Trip Length

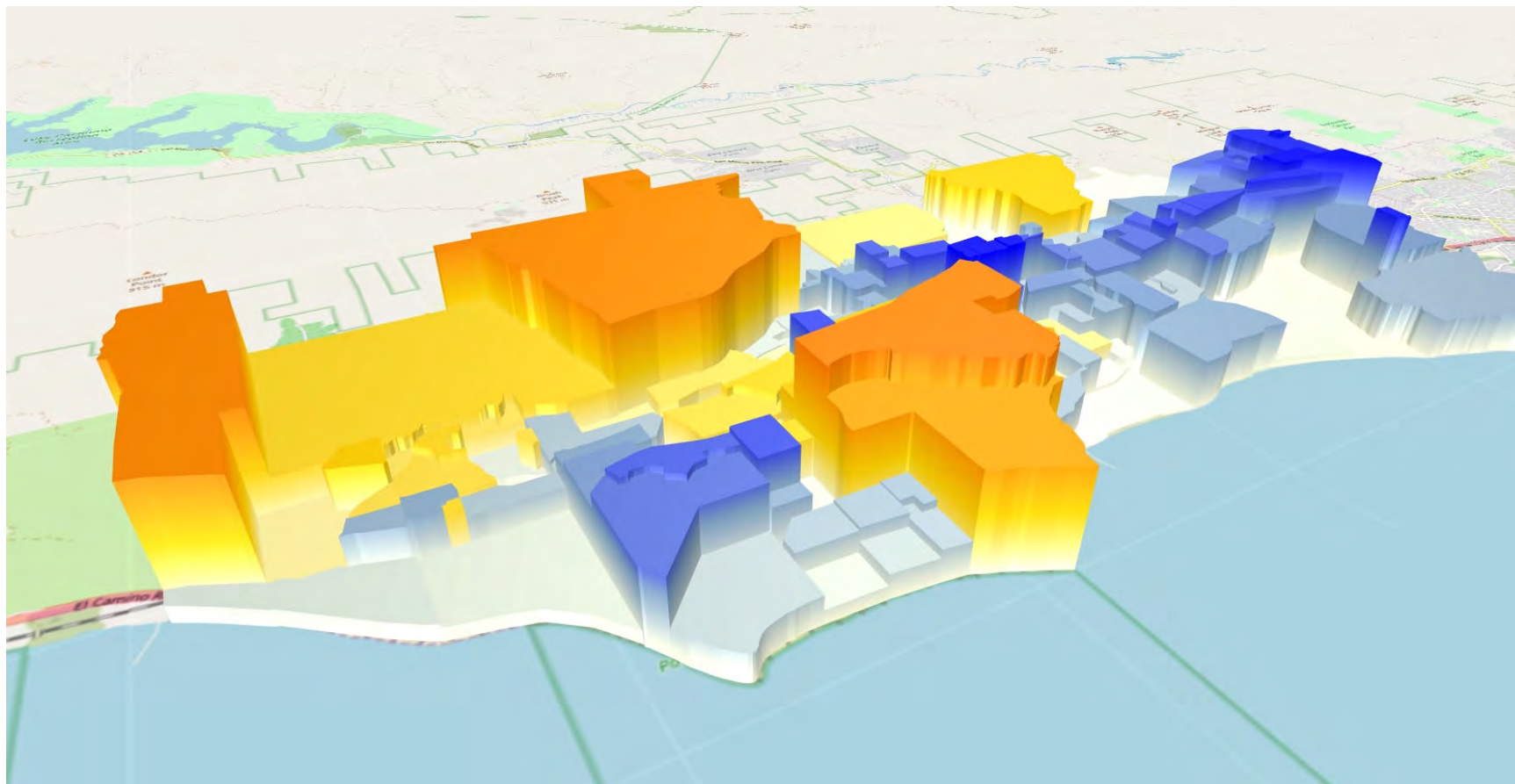


Figure 2.7 Home-Based College Average Trip Length by TAZ – Above or Below City-wide Average Trip Length

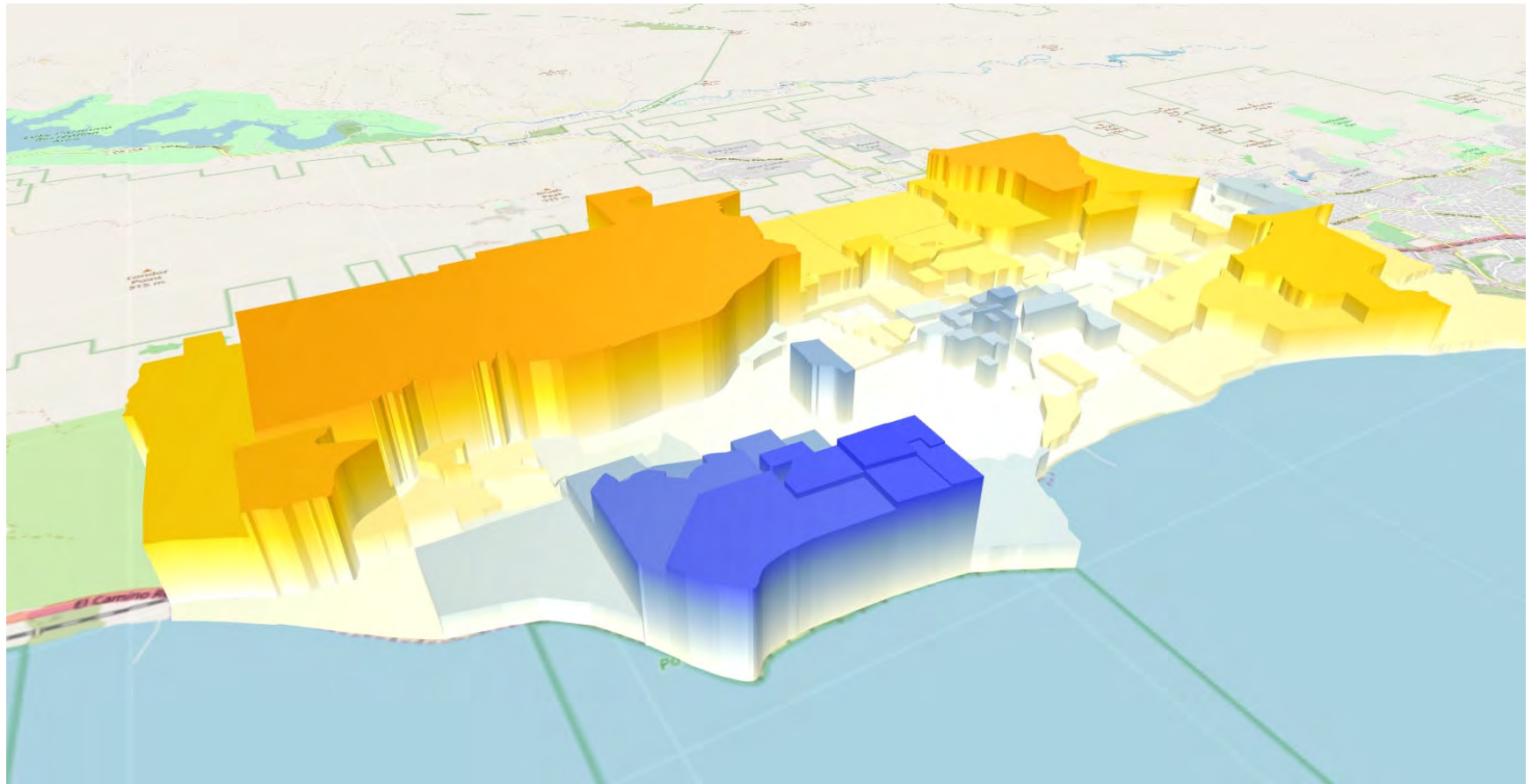
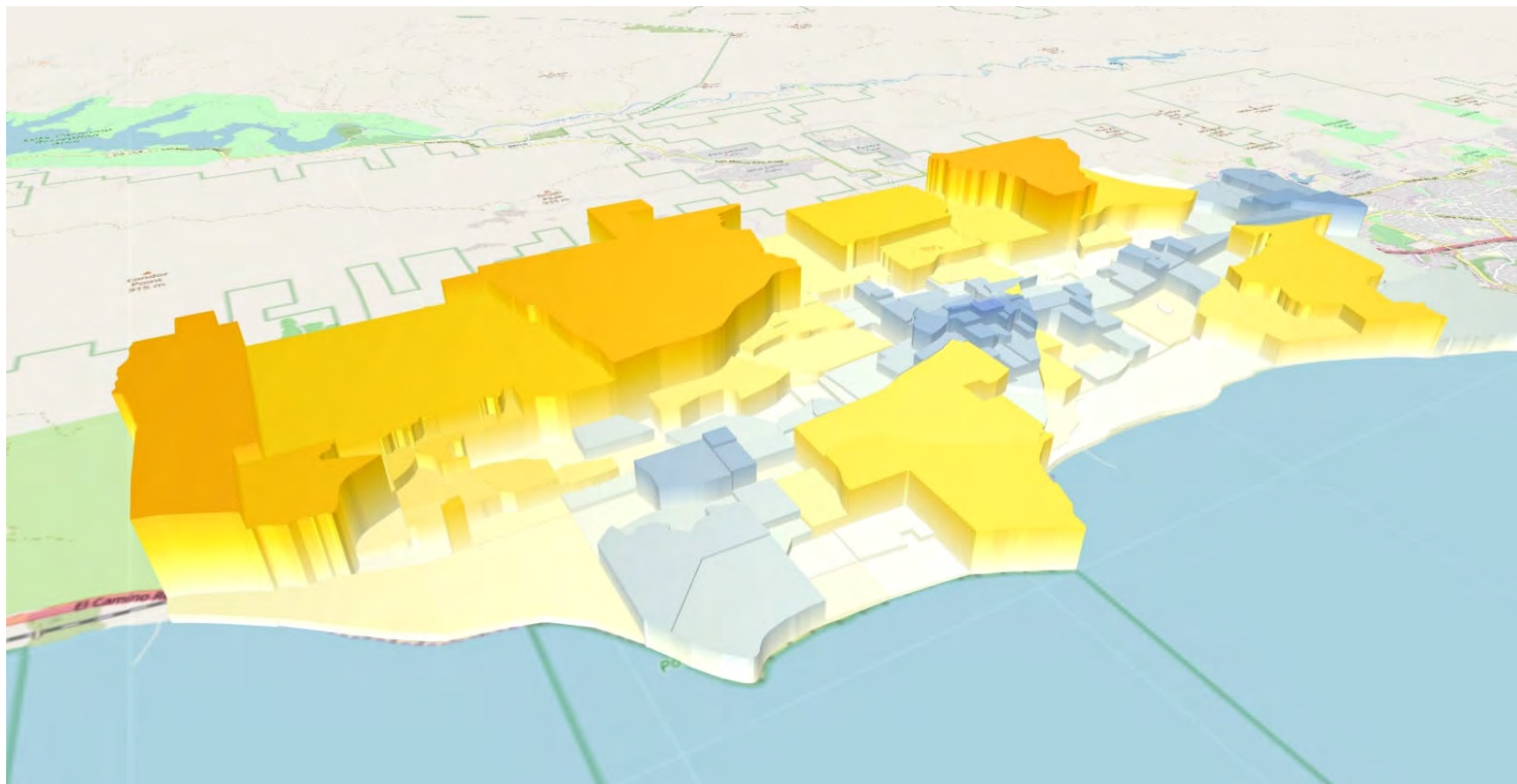


Figure 2.8 Non-Home-Based Work Average Trip Length by TAZ – Above or Below City-wide Average Trip Length





2.5 Summary & Baseline Recommendation

Table 2.11 presents a summary of the findings of the different data sources which were utilized to estimate Residential VMT per capita and Work VMT per employee. The SBCAG model is the recommended analysis tool to establish the Baseline VMT metrics.

Based on the Goleta Model analysis, all non-city islands should be controlled for as part of this analysis. This includes UCSB, Isla Vista, the Santa Barbara Airport, the Santa Barbara Airport Specific Plan area and the East Goleta Area Specific Plan. In addition, VMT factors will be developed for the internal-to-external trips in the City Model to augment these trip lengths to emulate the full trip length as generated by the SBCAG RTDM and LEHD data. The high- and low-VMT zone analysis relative to the City-wide average trip length analysis will be reanalyzed

Table 2.11 Summary of Goleta Baseline VMT

Data Source / VMT Metric	SBCAG Model City Average	SBCAG Model Countywide Average	Citywide Average based on Citywide (VISUM)	Citywide Average based on LEHD Shortest Path Analysis
Residential VMT per Capita	19.8	16.0	13.0	16.3
Work VMT per Employee (model data)	16.8	16.2	9.5	-
Work VMT per Employee (LEHD model)	15.7	-	-	58.2

2.5.1 Recommendation

GHD's recommendation is to utilize the SBCAG model and associated Sketch Planning Tool representing the SBCAG model as the mechanism for evaluating VMT, as these tools are the most accurate available. **GHD recommends establishing the City of Goleta as the baseline geography**, as baselines which include UCSB & Isla Vista sets a standard that's difficult to attain for any type of development within the City. **GHD recommends following OPR guidance for setting thresholds of significance at 15% below baseline averages for residential and work type project and a net VMT increase for all other types of projects.** The recommended baseline and thresholds are presented below:

- Work baseline of 16.8 VMT per employee
 - Work threshold: 15% below baseline of 14.3
- Residential baseline of 19.8 VMT per capita
 - Residential threshold: 15% below baseline of 16.8



2.5.2 Sketch Planning Tool

In order to improve access the tools necessary to evaluate VMT GHD in collaboration with Convergence planning has developed a sketch planning tool that replicates the results of the SBCAG model and ultimately the City's VISUM model once updates are completed. More information regarding this sketch planning tool is provided in appendix C.

2.5.3 Traffic Safety

With the change to VMT as the primary metric for project analysis there will be more focus on traffic safety analysis for intersections and segments project traffic effects. GHD has developed guidance for evaluating traffic safety which is provided in appendix D. This is provided as guidance and reference only, it's recommended that the City retain discretion in determining the scope and methodology for safety analysis based on the circumstance and conditions of each project on a case by case basis.



3. Screening Criteria

3.1 CEQA Threshold Considerations

Under CEQA, a lead agency is required to determine the significance of all environmental impacts (CEQA Guidelines Section 15064). A threshold of significance for an environmental impact defines the level of effect above which the lead agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Section 16064.7 of the CEQA Guidelines defines a threshold of significance to be:

An identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect will normally be determined to be less than significant.

Lead agencies have discretion to formulate their own significance thresholds, which can be formally adopted thresholds consistently applied to all projects. Adopting clearly established thresholds promotes predictability and consistency for the environmental review process and can increase defensibility of significance determinations in the lead agencies documents.

The VMT thresholds and screening criteria provided in this report are recommended based on the most recent guidance on VMT thresholds from the Office of Planning and Research. The VMT analysis completed for this report serve as substantial evidence for the validity of the VMT thresholds and screening criteria recommended for the City of Goleta. Specifically defining terms and parameters used in the VMT thresholds, such as locally-serving retail, will be important in ensuring that the VMT thresholds remain defensible under CEQA.

3.2 Recommended Screening Thresholds

OPR's Technical Advisory lists the following screening criteria for land use projects. These types of development projects are presumed to have a less than significant impact on vehicle miles traveled and therefore. OPR's Technical Advisory suggests that lead agencies consider screening out VMT impacts using project size, maps, transit availability, and provision of affordable housing. This section assesses the criteria and provides recommendations on how they may be applied for the City of Goleta.

- A. **Small projects** that are consistent with the Sustainable Communities Strategy (SCS) or General Plan and generate or attract fewer than 110 daily trips (per CEQA). **GHD Recommends the City adopt this screening criteria.**
- B. **Map-based screening** for residential and office projects located in low VMT areas, and incorporate similar features (density, mix of uses, transit accessibility). **GHD Recommends the City adopt this screening criteria.**



- C. **Transit Proximity**, certain projects within ½ mile of an existing major transit stop⁵ or an existing stop along a high quality transit corridor⁶. However, this will not apply if information indicates that the project will still generate high levels of VMT. **GHD recommends the City adopt this threshold.**
- D. **Affordable Housing** Development in infill locations. In consultation with the City, housing projects with a minimum of 20% low and/or very low affordable deed-restricted housing units are presumed to be less than significant.
- E. **Locally-serving retail projects** typically less than 50,000 square feet. **GHD Recommends the City adopt this screening criteria, but with a more conservative threshold of 10,000 square feet, to reflect the scale of retail in Goleta that may attract regional trips. GHD also recommends that the City retain discretion to determine if projects less than 10,000 square feet are locally serving appropriate on a case by case basis.**
- F. **Transportation Projects** If a project would likely lead to a measurable and substantial increase in vehicle travel, the City should conduct an analysis assessing the amount of vehicle travel the project will induce. As noted in Section 15064.3 of the CEQA Guidelines, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. **GHD recommends using VMT as the metric to evaluate transportation impacts for transportation under CEQA.**

3.3 Screening for Small Projects

OPR's Technical Advisory states that a screening threshold of 110 trips per day generally may be assumed to cause a less than significant impact, given that the project is consistent with the Sustainable Communities Strategy (SCS) or General Plan, and there is not substantial evidence that the project would generate a potentially significant level of VMT.

GHD recommends that the City establish the following policy for screening small projects.

"Projects that generate less than 110 automobile trips per day are presumed to have a less than significant VMT impact. Example single use projects that generate less than 110 daily trips based on the most current ITE Trip generation Manual include but are not limited to the following:

- a) 9 Single Family Units.
- b) 20 Multifamily Units.

⁵ "major transit stop" - A major transit stop is a "site containing an existing rail, a ferry terminal served by bus or rail transit service, or intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and evening peak hour commute". (OPR 2018)

⁶ Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").



- c) *1,000 SQFT Retail*
- d) *10,000 SQFT Office*
- e) *22,000 SQFT Industrial*

3.4 Map-Based Screening

Residential and work based projects that are located in areas with existing low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Therefore these projects can be presumed to have a less-than-significant VMT impact without the need to conduct a VMT analysis. These areas where projects would be presumed to have a less-than-significant VMT impact are depicted in Figure 3.1 for work-based projects and Figure 3.2 for residential projects. These indicate where residential and work-based projects would generate an average VMT of 15% or less below the baselines and would not require a VMT analysis. It's important to emphasize that if a project is not presumed to be less than significant based on these screening maps, it does not necessarily mean that the project will have a VMT impact, only that a less than significant impact cannot be assumed and that a VMT analysis would be necessary to make that determination.

During the process of evaluating baseline methods and screening criteria, various areas were considered, including Citywide, greater Goleta area, central coast, and countywide (Santa Barbara). Appendix A includes the screening criteria memorandum which shows the various areas considered in determining the baseline and the resulting VMT metrics by TAZ.

Figure 3.1 Screening Area for Work-Based Projects

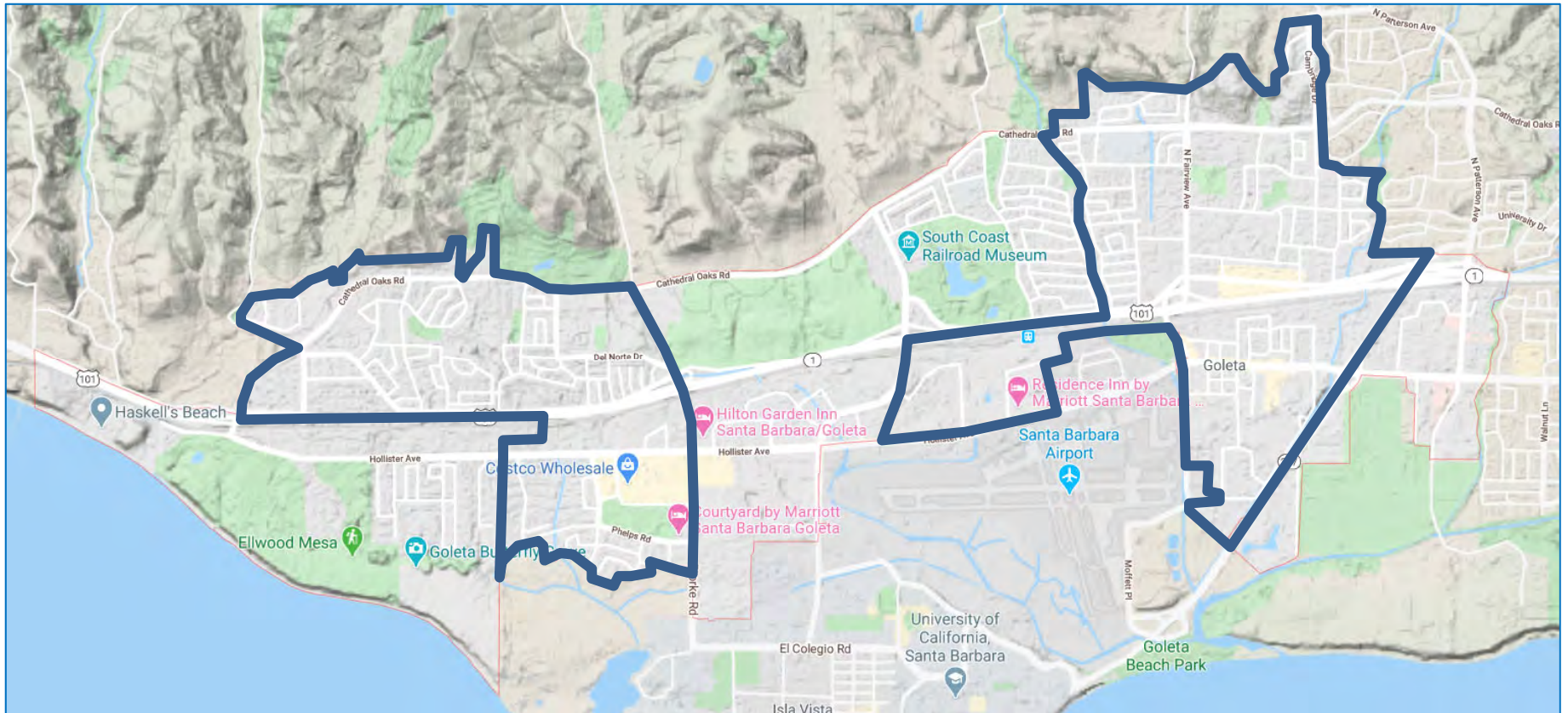
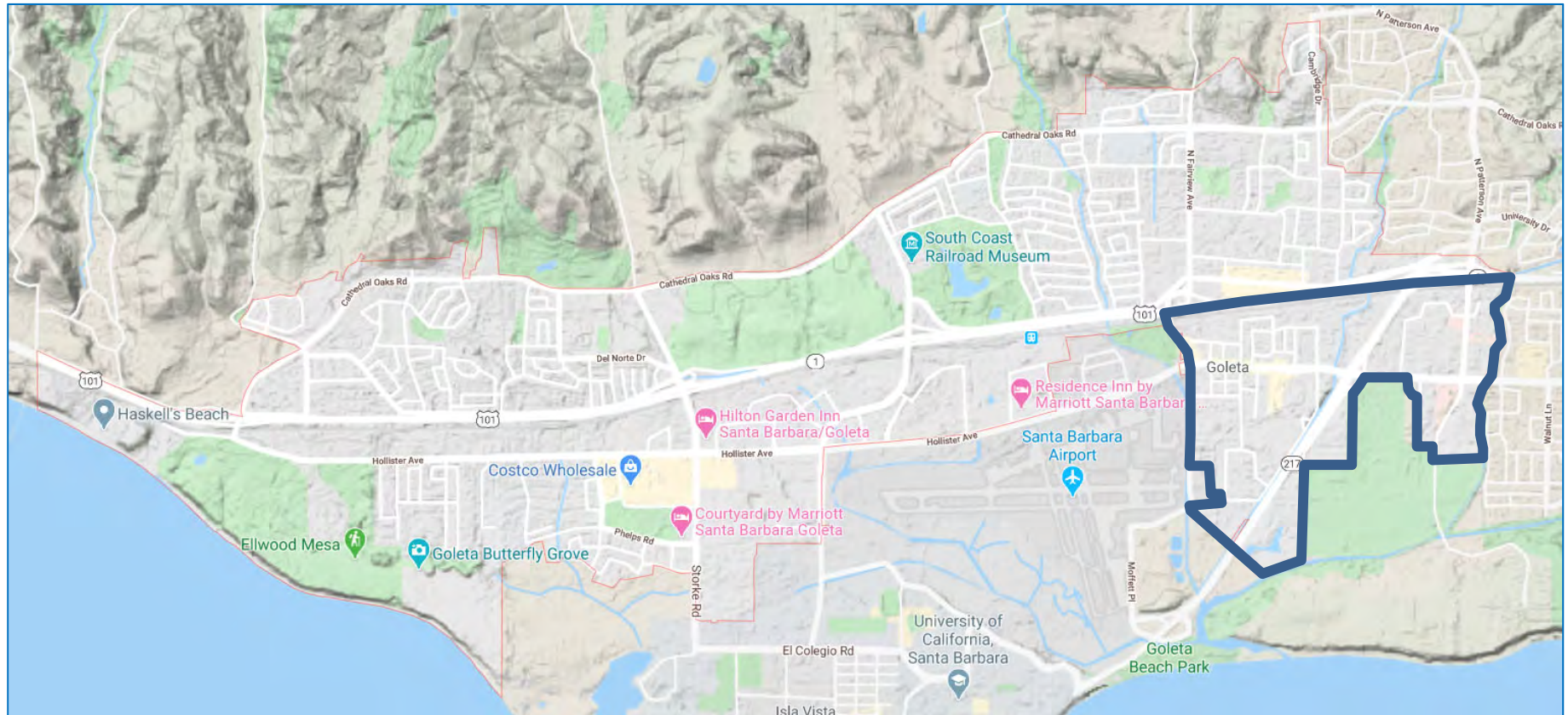
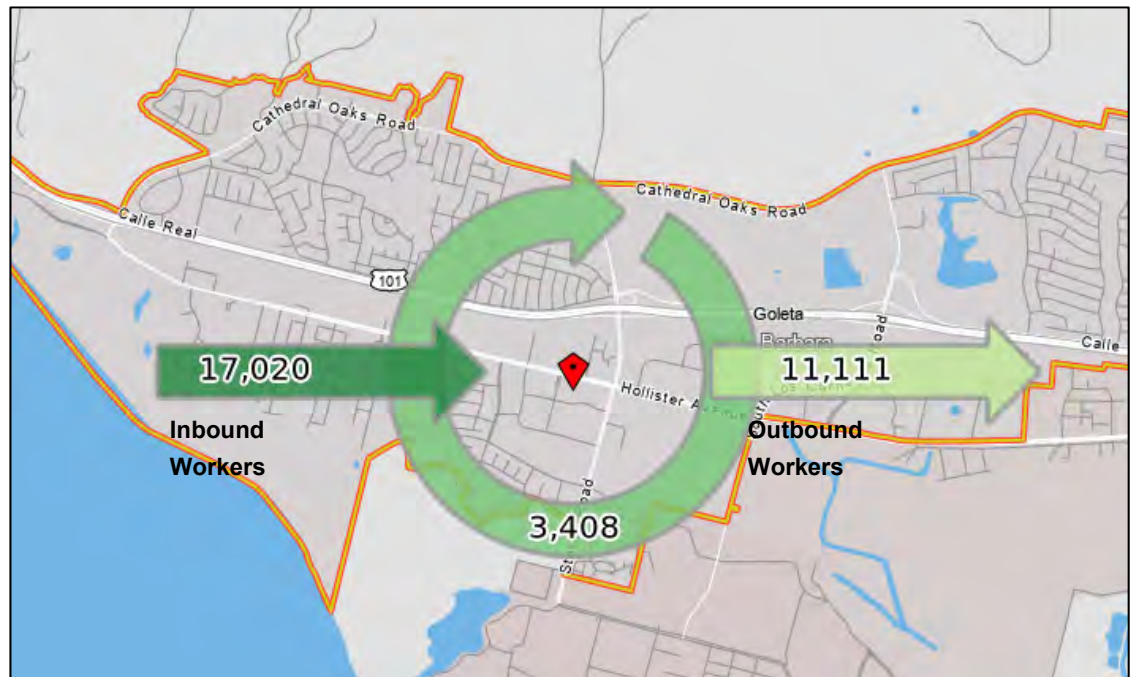


Figure 3.2 Screening Area for Residential-Based Projects



Increasing housing supply has the effect of reducing inbound commute traffic, as more employees that work in the City will also be able to live within the City. However, as shown in Figure 3.3, housing in Goleta also produces outbound commute traffic, which partially offsets the commute reduction of new housing. Overall, new housing within the City will reduce average VMT per capita. However, in most areas of the City, that reduction would not achieve 15% or more below the baseline and therefore cannot be presumed as less than significant.

Figure 3.3 Inflow & Outflow of Jobs - LEHD



GHD recommends that the City establish the following policy for map based screening.

“Typical Residential or Work type projects which are within defined low VMT boundaries are assumed to be less than significant per the California Office of Planning and Research and do not require further VMT analysis.”



3.5 Transit Proximity Screening

Certain projects within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor will be considered less than significant impact on VMT. However, this will not apply if information indicates that the project will still generate high levels of VMT. For example, this might not be appropriate if they project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units

A Major transit stop is defined in Section 21064.3 of the California Public Resources code as the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. The City of Goleta proper is primarily served by multiple MTD routes; while there are intersecting transit routes they are not providing 15 minute service intervals. GHD recommends establishing this screening criteria although not current stops meet the definition. When service intervals are improved the screening criteria will already be established and can be mapped

GHD recommends that the City establish the following transit screening policy.

“Projects that are within ½ mile of a transit stop at the intersection of two transit routes or along a major route with service frequencies of 15 minutes or less are presumed to have a less than significant impact and do not require VMT analysis, Unless the project:

- a) Has a floor to area ratio (FAR) of less than 0.75, or*
- b) Includes more parking than required under the City’s zoning code, or*
- c) Is inconsistent with the region’s Sustainable Communities Strategy, City Zoning Code, or City Land use Policies (i.e. General Plan or Specific Plan), or*
- d) Replaces affordable housing with a smaller number of moderate or high income residential units.*

Localized shuttle routes that predominantly serve UCSB without connecting routes that have 15min or less headways are excluded from this screening criteria.

3.6 Affordable Housing Development

Affordable housing in infill locations generally improves jobs-housing balance, shortening commutes and reducing VMT. Therefore, a project consisting of a high percentage of affordable housing may



be considered a less than significant impact on VMT. OPR guidance allows for Lead agencies to develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

Research by the California Housing Partnership⁷ assessed California Household Travel Survey, LEHD, and LODES data provided by the US Census Bureau concluded that affordability is a factor that effects VMT, primarily due to affordable housing having a higher composition of non-workforce demographics, which generate less trips. However these findings are based on an aggregation of statewide data that may not be representative of local demographics occupying affordable housing projects.

In consultation with the City, GHD recommends the following affordable housing screening criteria:

"Housing projects with a minimum of 20% low and/or very low affordable deed-restricted housing units are presumed to be less than significant."

3.7 Redevelopment Projects Local-serving Retail (< 10,000 SF)

OPR's Technical Advisory states that lead agencies generally may presume that locally-serving retail developments have a less than significant impact on VMT. Locally-serving retail is defined as a retail project in an urban environment which improves retail destination proximity, shortens trips and reduced VMT. Regional-serving retail development, on the other hand, can lead to substitution of longer trips for shorter ones, and may tend to have a significant impact. The City should still consider project-specific information, such as market studies or economic impact analyses that might bear on travel behavior. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

Although OPR's recommendation is a threshold of 50,000 square feet, this is not proportional to the typical scale of retail within the City of Goleta and has the potential to draw regional trips, therefore it is recommended that Goleta establish a more conservative threshold for screening retail development at 10,000 square feet.

GHD recommends that the City establish the following retail screening policy.

"Individual retail units of less than 10,000 square feet may be presumed to have less than significant VMT effects if they are deemed to be locally serving. The City reserves to determine if a retail project less than 10,000 square feet is locally serving."

⁷ "Income, Location, Efficiency, & VMT: Affordable Housing as Climate Strategy" (California Housing Partnership, 2015)



3.8 Transportation Projects

Transportation projects are required to examine induced travel impacts under CEQA. If a project would likely lead to a measurable and substantial increase in vehicle travel, the City should conduct an analysis assessing the amount of vehicle travel the project will either increase or decrease. As noted in Section 15064.3 of the CEQA Guidelines, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. Criteria for determining the significance of transportation impacts must promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

GHD recommends that the City use the net change in VMT to assess the transportation impacts of a transportation project, and establish the following criteria for when a transportation project should conduct an induced travel analysis, per OPR guidance.

Project types that would likely lead to a measurable or substantial increase in vehicle travel generally include:

- Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges (capacity increases)

In summary, Projects types that would not likely lead to a measurable or substantial increase in vehicle travel, and therefore are presumed to cause a less-than significant impact generally include:

- Transit and Active Transportation Projects
- Roadway Projects which reduce capacity and/or increase priority of non-automobile modes (transit, pedestrian, bicycle)

Attached at the end of this document as Appendix B is a list of transportation projects that would not likely lead to a VMT impact, and therefore would be screened out of an induced travel analysis.



4. VMT Mitigations

The mitigation strategies provided below are for reference only. It's recommended that the City retain discretion to determine appropriate mitigation on a project by project basis. The information provided below provides guidance and the technical basis for various mitigation strategies the City may choose to accept.

There are generally two categories of VMT mitigation currently available: 1) Non-programmatic mitigation, which inherently reduces trip generation without the need for ongoing monitoring and regulation; these include physical changes to the project description such as introducing mixed uses that increase internal capture, incorporating multimodal facilities such as bike parking & showers, incorporating multimodal infrastructure accessing the project. And 2) Programmatic mitigation, which is dependent on on-going actions taken by the occupant of the project and requires ongoing monitoring and regulation by the City such as transit subsidies, carpooling incentives, etc.... It's recommended that the City determine mitigation on a project by project basis, prioritizing non-programmatic mitigation to minimize demand on city staff resources.

Another type of mitigation outside of the City's control and not yet available is mitigation banking or exchanges. These types of programs work similarly to air quality Cap & Trade programs. These programs involve a regional agency that manages/governs an exchange where low VMT producing developments can sell VMT credits to high VMT producing development. Effectively, both projects are considered together and the overall resulting VMT is within adopted thresholds. This type of program would need a regional governing body and is not currently available. It's recommended that the City support such a regional program initiative if one is proposed.

4.1 VMT Reduction Strategies

The California Air Pollution Control Officers Association (CAPCOA) report *Quantifying Greenhouse Gas Mitigation Measures* (August 2010) provides a categorized list of quantifiable VMT mitigation measures, each with accompanying literature validating the VMT reduction rates. Additionally, there are Best Management Practices (BMP's) which may be quantifiable provided substantial evidence, or non-quantifiable measures which have preliminary evidence suggesting a reduction in VMT. Local agencies should provide incentives to encourage implementation of BMP's. Lastly, General Plan strategies are also an option, which may not be quantifiable on the project-level, but may be quantified under the assumption that the mitigation strategy will be implemented systemically or on a widespread basis. Figure 4.1 on the following page is from the CAPCOA report, and identifies the quantifiable transportation mitigation measures by group. Several of these mitigation strategies will be feasible within the City of Goleta. Following is discussion on the following items from the Figure, in further detail on how VMT reduction strategies could be implemented on a project level or a systemic level:

- Land use / Location
- Neighborhood / Site Design
- Commute Trip Reduction



- Transit System Improvements
- Direct Pricing

The reduction percentages shown are the maximum possible reductions. The CAPCOA report notes that these reduction rates are for reference only, and should not replace the quantification methods provided in further detail in a later section of the CAPCOA report. As new information and studies arise, the reduction percentages may change given substantial evidence supports the reduction in VMT. Projects may differ from the described measures, or may involve the application of more than one measure. Combining mitigation measures and VMT reductions are also addressed within the CAPCOA report. VMT reductions may be multiplied across the categories with the cross-category maximum(s) presented at the top for the first four and first five categories. Additionally, ensuring that the mitigation measures will be effective will require mitigation monitoring programs. In the sections covering the categories of VMT mitigation strategies below, unless otherwise noted, values for the reduction VMT variables come from the CAPCOA Report.

CAPCOA Chart 6-2: Transportation Strategies Organization

Transportation Measures (Five Subcategories) Global Maximum Reduction (all VMT): urban = 75%; compact infill = 40%; suburban center or suburban with NEV = 20%; suburban = 15%					Global Cap for Road Pricing needs further study	
Transportation Measures (Four Categories) Cross-Category Max Reduction (all VMT): urban = 70%; compact infill = 35%; suburban center or suburban with NEV = 15%; suburban = 10%				Max Reduction = 15% overall; work VMT = 25%; school VMT = 65%;	Max Reduction = 25% (all VMT)	
Land Use / Location Max Reduction: urban = 65%; compact infill = 30%; suburban center = 10%; suburban = 5%	Neighborhood / Site Enhancement Max Reduction: without NEV = 5%; with NEV = 15%	Parking Policy / Pricing Max Reduction = 20%	Transit System Improvements Max Reduction = 10%	Commute Trip Reduction (assumes mixed use) Max Reduction = 25% (work VMT)	Road Pricing Management Max Reduction = 25%	Vehicles
Density (30%)	Pedestrian Network (2%)	Parking Supply Limits (12.5%)	Network Expansion (8.2%)	CTR Program Required = 21% work VMT Voluntary = 6.2% work VMT	Cordon Pricing (22%)	Electrify Loading Docks
Design (21.3%)	Traffic Calming (1%)	Unbundled Parking Costs (13%)	Service Frequency / Speed (2.5%)	Transit Fare Subsidy (20% work VMT)	Traffic Flow Improvements (45% CO2)	Utilize Alternative Fueled Vehicles
Location Efficiency (65%)	NEV Network (14.4) <NEV Parking>	On-Street Market Pricing (5.5%)	Bus Rapid Transit (3.2%)	Employee Parking Cash-out (7.7% work VMT)	Required Contributions by Project	Utilize Electric or Hybrid Vehicles
Diversity (30%)	Car Share Program (0.7%)	Residential Area Parking Permits	Access Improvements	Workplace Parking Pricing (19.7% work VMT)		
Destination Accessibility (20%)	Bicycle Network <Lanes> <Parking> <Land Dedication for Trails>		Station Bike Parking	Alternative Work Schedules & Telecommute (5.5% work VMT)		
Transit Accessibility (25%)	Urban Non-Motorized Zones		Local Shuttles	CTR Marketing (5.5% work VMT)		
BMR Housing (1.2%)			Park & Ride Lots*	Employer-Sponsored Vanpool/Shuttle (13.4% work VMT)		
Orientation Toward Non-Auto Corridor				Ride Share Program (15% work VMT)		
Proximity to Bike Path				Bike Share Program		
				End of Trip Facilities		
	Note: Strategies in bold text are primary strategies with reported VMT reductions; non-bolded strategies are support or grouped strategies.			Preferential Parking Permit		
				School Pool (15.8% school VMT)		
				School Bus (6.3% school VMT)		

Note: Strategies in bold text are primary strategies with reported VMT reductions; non-bolded strategies are support or grouped strategies.



4.1.1 Non-Programmatic Mitigation Strategies

Non-Programmatic Mitigation Strategies will have the largest effect on reductions in VMT. By nature these types of mitigations would inherently reduce VMT without the need for on-going active implementation or City monitoring and management. Although ranges of VMT production for each of these measures are provided, the model and sketch planning tool is sensitive to these measures and should be used for evaluating mitigation effectiveness.

1. **Increase Density (Change housing types to higher density residential) –** Urban/Suburban Areas; based on percentage increase in density \times elasticity of -0.07, maximum of 30% VMT reduction. Newer research from CARB presents that the elasticity ranges from -0.05 to -0.12 for residential uses and -0.03 to -0.74 for employment. This mitigation is primarily represented in the lower trip generation characteristics of higher density developments. The following sources form the basis of the quantification for this VMT reduction method:
 - i) Source: Boarnet, M. and Handy, S. (2014). Impacts of Residential Density on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
 - ii) Source: Circella, G. and Handy, S. (2014). Impacts of Employment Density on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
2. **Increase Location Efficiency (Change the Location of the Project) –** Urban/Suburban areas; VMT percent reduction for this measure is based on the location of the project: urban (65%), infill (30%), suburban center (10%), which tend to have higher VMT compared to the statewide average. This could be model-sensitive. This mitigation can primarily be achieved by locating the project within the map based screening areas shown in Figures 3.1 and 3.2
3. **Increase Diversity of Urban or Suburban Developments (Change the project to include more variety in landuse types) –** Mixed use developments; based on percentage increase in land use index versus single use development \times elasticity (0.09). Newer research from CARB makes a distinction between having a mix of land used in a single development (0% to 12% VMT reduction) and having a mix of land uses within a neighborhood (0.3% to 4% VMT reduction). This mitigation is primarily represented in terms of internal capture rates. The following sources form the basis of the quantification for this VMT reduction method:
 - i) Source: Spears, S. et al. (2014). Impacts of Land-Use Mix on Passenger Vehicle Use and Greenhouse Gas Emissions- Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
 - ii) Source: Zhang, Wengia et al. "Short- and Long-Term Effects of Land Use on Reducing Personal Vehicle Miles of Travel."
4. **Increase Destination Accessibility (Rezone other areas of the City to reduce distance to primary destination landuse types) –** Percentage decrease in distance to downtown or



major job center versus typical ITE suburban development × elasticity (0.20). Maximum of 20% VMT reduction. Newer research from CARB presents a VMT reduction range of 0.5% to 12%, measuring destination accessibility based on the number of attractions within a given travel time. The following source forms the basis of the quantification for this VMT reduction method:

- i) Source: Handy, S. et al. (2014). Impacts of Network Connectivity on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from:
<https://arb.ca.gov/cc/sb375/policies/policies.htm>
5. **Integrate Affordable Housing (Include deed restricted affordable housing)** – Urban/Suburban areas. Based on the percentage of units in project that is low-income housing × 4%. Maximum of 1.20% VMT reduction. Affordable housing trip characteristics should be quantified locally before application of affordable housing mitigation strategies.
6. **Provide Pedestrian Network Improvements & Connections** – Range of <1.0% VMT reduction (rural areas) to 2.0% VMT reduction (urban/suburban areas; pedestrian network extends both within project site and connects to destinations off-site). One or several of the other mitigation strategies in this category may be implemented to achieve this additional VMT reduction strategy. Newer research from CARB suggests a VMT reduction range of 0.5% to 5.7%. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: Handy, S. et al. (2014). Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from:
<https://arb.ca.gov/cc/sb375/policies/policies.htm>
7. **Provide Bicycle Network Improvements & Connections** – Bicycle network extends both within project site and connects to destinations off-site. VMT reduction calculation on a project by project basis.
8. **Improve Transit Accessibility** – Improving access to existing transit facilities through sidewalk, crosswalk, and bus shelter improvements. (VMT reduction calculation on a project by project basis)
 - i) Source: Tal, G. et al. (2013). Policy Brief on the Impacts of Transit Access (Distance to Transit) Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from:
https://www.arb.ca.gov/cc/sb375/policies/transitaccess/transit_access_brief120313.pdf
 - ii) Source: Zamir, K. R. et al. (2014). Effects of Transit-Oriented Development on Trip Generation, Distribution, and Mode Share in Washington, D.C., and Baltimore, Maryland. Transportation Research Record: Journal of the Transportation Research Board. 2413, 45–53. DOI: 10.3141/2413-05



9. **Traffic Calming Measures** – VMT Reduction based on the table below, found in the CAPCOA Report. The CAPCOA Report has a table that presents VMT reduction based on percent of intersections and percent of streets with traffic calming measures.

4.1.2 Programmatic Mitigation

Programmatic Mitigation can be an effective means to reduce VMT however, programmatic mitigation typically requires on-going active implementation by current and future project occupants for the life of the project along with City monitoring and management. Programmatic mitigation can also be outside the control of the City and later discontinued or reduced, such as Transit service. Therefore programmatic mitigation should only be considered after consideration of non-programmatic mitigation options are exhausted. It's recommended that programmatic mitigation only be adopted if there is a degree of certainty that the mitigation can be maintain for the life of the project.

4.1.2.1 Transit Operations

The strategies in this category focus on introducing new transit services or expanding existing transit services. These strategies may be implemented either through on-site transit features, or through subsidizing transit programs that serve the area of the project site.

10. **Expand Transit Network** – Based on percent increase in transit network coverage \times elasticity (suburban 1.01, urban 0.72, urban center 0.65) \times existing transit mode share \times adjustment from transit ridership to VMT (0.67). Maximum of 8.2% VMT reduction. Newer research from CARB suggests a VMT reduction range of 0.1% to 10.5%. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
11. **Increase Transit Service Frequency/Speed** – Based on percent reduction in headway \times elasticity (urban 0.32, suburban 0.36) \times adjustment for level of implementation (50% for fewer than half of all lines improved, 85% for more than half of all lines improved) \times existing transit mode share \times adjustment from transit ridership to VMT (0.67). Maximum of 2.5% VMT reduction. Newer research from CARB suggests a VMT reduction range of 0.3% to 6.3%. Also, achieving transit screening threshold. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
12. Provide Bike Parking Near Transit - (VMT reduction benefit for this strategy is incorporated into 'Expand Transit Network' strategy.)



13. Provide Local Shuttles – Local shuttles provide service to transit hubs, and address the “first mile/last mile” problem. (VMT reduction benefit for this strategy is incorporated into ‘Expand Transit Network’ strategy.)

4.1.2.2 Commute Trip Reduction

The strategies in this category focus on promoting or incentivizing the use of non-auto modes for commute-to-work trips, in order to reduce the number or length of vehicle trips. Several of the mitigation strategies in this category are more applicable to non-residential developments, such as employee-sponsored van-pool program, pricing workplace parking, and employee parking “cash-out”.

14. Commute Trip Reduction Program (Voluntary) – Based on reduction in commute VMT (5.4% for suburban center, 6.2% urban) × percent of employees eligible. Maximum of 6.2% VMT reduction. Newer research from CARB suggests a VMT reduction range of 1.0% to 6.0%, and specifies a list of program features that must all be incorporated to apply this range. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: Boarnet, M. et al. (2014). Impacts of Employer-Based Trip Reduction Programs and Vanpools on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
15. Commute Trip Reduction Program (Required Implementation/Monitoring) – Based in shift in mode share of commute trips (21% reduction in vehicle trips) × percent of employees eligible.
16. Provide Ride-Sharing Programs – Based on percent reduction in commute VMT (low density suburb 5%, suburban center 10%, urban 15%) × percent of employees eligible.
17. Implement Subsidized or Discounted Transit Program – Based on percent reduction in vehicle trips (ranging from 1.5% to 20.0% dependent on the dollar amount subsidized per person, and urban/rural classification) × percent of eligible employees. Newer research from CARB and other studies provides more specific VMT reduction ranges based on the type of program. The following sources form the basis of the quantification for this VMT reduction method:
 - i) Provide employee benefits that include subsidized or discounted transit: Range of 0% to 16% VMT reduction. Source: Carolina, P. et al. (2016). Do Employee Commuter Benefits Increase Transit Ridership? Evidence from the NY-NJ Region. Washington, DC: Transportation Research Board, 96th Annual Meeting.
 - ii) System-wide reduction in transit fares: Range of 0.1% to 6.9% VMT reduction. Source: Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: <https://arb.ca.gov/cc/sb375/policies/policies.htm>
18. Provide End Of Trip Facilities – End of trip facilities, such as showers, secure bicycle lockers, and changing spaces, encourage choosing bicycling as a viable form of commute travel.



(VMT reduction benefit for this strategy is incorporated into either of the 'Commute Trip Reduction Program' strategies.)

19. Encourage Telecommuting and Alternative Work Schedules – Based on percent reduction in commute VMT (ranges from 0.07% to 5.5% based on percent of employee participation up to 25%, and type of alternative work schedule program). Program types include 9-day/80-hour work week, 4-day/40-hour work week, and telecommuting 1.5 days. Newer research from CARB suggests a VMT reduction range of 0.2% to 4.5%, and also includes staggering work start times as an option for this strategy. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: Handy, S. et al. (2013). Policy Brief on the Impacts of Telecommuting Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/cc/sb375/policies/telecommuting/telecommuting_brief120313.pdf
20. Implement Commute Trip Reduction Marketing – Based on percent reduction in commute vehicle trips (4%) × percent of employees eligible. Maximum of 4.0% VMT reduction.
21. Implement Employer-Sponsored Van Pool Program – Based on percent shift in vanpool mode share of commute trips (range of 2% to 20% dependent on degree of implementation and employer size) × percent of employees eligible × adjustment of vanpool mode share to commute VMT (0.67). Newer research from the ICF presents a VMT reduction range of 1.4% to 6.8%. The following source forms the basis of the quantification for this VMT reduction method:
 - i) Source: ICF. (2014). GHG Impacts for Commuter Shuttles Pilot Program.
22. Implement Bike-Sharing Program – (VMT reduction benefit for this strategy is incorporated into 'Improve Design of Development' strategy.)
23. Implement School Bus Program – Based on percent of families expected to use school bus program (ranges from 50% to 84% × adjustment to convert school day VMT to annual VMT (0.75). Maximum of 63% VMT reduction.
24. Price Workplace Parking – Based on percentage reduction in commute VMT (ranges from 0.5% to 19.7% dependent on daily parking charge and urban/rural classification) × percent of employees subject to priced parking. Newer research compiled from multiple studies suggests a VMT reduction range of 0.5% to 14%, and specifies that the degree of mode shift in response to a priced parking program depends on the availability of other modes. The following sources form the basis of the quantification for this VMT reduction method:
 - i) Source: Concas, S. and Nayak, N. (2012), A Meta-Analysis of Parking Price Elasticity. Washington, DC: Transportation Research Board, 2012 Annual Meeting.
 - ii) Source: Dale, S. et al. (2016). Evaluating the Impact of a Workplace Parking Levy on Local Traffic Congestion: The Case of Nottingham UK. Washington, DC: Transportation Research Board, 96th Annual Meeting.
25. Implement Employee Parking "Cash-Out" – Based on percentage reduction in commute VMT (ranges from 3.0% to 7.7% dependent on urban/rural classification) × percent of employees eligible.



4.2 Mitigation Toolbox

Table 4.1 presents a toolbox of mitigation measures specifically curated for the City of Goleta. This toolbox incorporates the quantification methods and maximum reductions conveyed in the CAPCOA report, as well as more recent studies.

Table 4.1 – VMT Mitigation Measures

CAPCOA Designation Land Use / Location	Mitigation Type	Mitigation Strategy Description	Maximum Reduction	Calculation	Variables	Source(s)
			Urban: 65% Compact infill: 30% Suburban center: 10% Suburban: 5%			
LUT-1	Physical/Design	Increase Density	10.75%	% VMT Reduction = A * B	A = Percentage increase in housing units per acre or jobs per job acre (≤ 500%) B = Elasticity of VMT with respect to density (range of -0.04 to -0.22, based on cited study)	CARB Boarnet, M. and Handy, S. (2014). Impacts of Residential Density on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board.Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
LUT-2	Physical/Design	Increase Location Efficiency	65.00%	% VMT reduction = A	A = 65% (urban) 30% (compact infill) 10% (suburban center)	CAPCOA Holtzclaw, et al. 2002. "Location Efficiency: Neighborhood and Socioeconomic Characteristics Determine Auto Ownership and Use – Studies in Chicago, Los Angeles, and Chicago." Transportation Planning and Technology, Vol. 25, pp. 1–27.
LUT-3	Physical/Design	Increase Diversity of Urban and Suburban Developments (Mixed Use)	12% (multiple land uses in single development) 4% (multiple land uses in same neighborhood)	% VMT Reduction = Land Use * B	Land Use = Percentage increase in land use index versus single use development B = elasticity of VMT with respect to land use index (0.09)	CAPCOA Ewing, R. and Cervero, R. (2010). Travel and the Built Environment - A Meta-Analysis. Journal of the American Planning Association,76(3),265-294. Cited in California Air Pollution Control Officers Association. (2010).Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf CARB Zhang, Wengia et al. "Short- and Long-Term Effects of Land Use on Reducing Personal Vehicle Miles of Travel."
LUT-4	Physical/Design	Incr. Destination Accessibility	12.00%	% VMT Reduction = Center Distance * B	Center Distance = Percentage decrease in distance to downtown or major job center versus typical ITE suburban development B = Elasticity of VMT with respect to distance to downtown or major job center (0.20)	CARB Handy, S. et al. (2014). Impacts of Network Connectivity on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm Handy, S. et al. (2013). Impacts of Regional Accessibility on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
LUT-5	Physical/Design	Increase Transit Accessibility	5.8% (within half-mile of transit station) 7.3% (implementing a transit-oriented development)	% VMT Reduction = Transit * B	Transit = Increase in transit mode share B = adjustments from transit ridership increase to VMT (0.67)	CAPCOA Lund, H. et al. (2004). Travel Characteristics of Transit-Oriented Development in California. Oakland, CA: Bay Area Rapid Transit District, Metropolitan Transportation Commission, and Caltrans. CARB Tal, G. et al. (2013). Policy Brief on the Impacts of Transit Access (Distance to Transit) Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/cc/sb375/policies/transitaccess/transit_access_brief120313.pdf Zamir, K. R. et al. (2014). Effects of Transit-Oriented Development on Trip Generation, Distribution, and Mode Share in Washington, D.C., and Baltimore, Maryland. Transportation Research Record: Journal of the Transportation Research Board. 2413, 45–53. DOI: 10.3141/2413-05
LUT-6	Physical/Design	Integrate Affordable and Below Market Rate Housing	1.20%	% VMT Reduction = 4% * A	A = Percentage of units in project that are deed-restricted BMR housing	CARB "Draft Memorandum: Infill and Complete Streets Study, Task 2.1: Local Trip Generation Study."Measuring the Miles: Developing new metrics for vehicle travel in LA. City of Los Angeles, April 19, 2017.
LUT-7	Physical/Design	Orient Project Toward Non-Auto Corridor	0.50%	no sufficiently proven quantification method available	n/a	CAPCOA
LUT-8	Physical/Design	Locate Project near Bike Path/Bike Lane	0.63%	no sufficiently proven quantification method available	n/a	CAPCOA
LUT-9	Physical/Design	Improve Design of Development	21.30%	% VMT Reduction = Intersections * B	Intersections = Percentage increase in intersections versus a typical ITE suburban development (≤ 500%) B = Elasticity of VMT with respect to percentage of intersections (0.12)	CAPCOA Ewing, R., and Cervero, R., "Travel and the Built Environment - A Meta-Analysis." Journal of the American Planning Association, (2010).

Table 4.1 – VMT Mitigation Measures

CAPCOA Designation	Mitigation Type	Mitigation Strategy Description	Maximum Reduction	Calculation	Variables	Source(s)
Neighborhood / Site Design			Without NEV: 5% With NEV: 15%			
SDT-1	Physical/Design	Provide Pedestrian Network Improvements	2.00%	% VMT Reduction = A	A = 2% (urban/suburban, within project site and connecting off-site), 1% (urban/suburban, within project site only), <1% (rural, within project site and connecting off-site)	CAPCOA Center for Clean Air Policy (CCAP) Transportation Emission Guidebook. http://www.ccap.org/safe/guidebook/guide_complete.html (accessed March 2010) 1000 Friends of Oregon (1997) "Making the Connections: A Summary of the LUTRAQ Project" (p. 16): http://www.onethousandfriendsoforegon.org/resources/lut_vol7.html
SDT-2	Physical/Design	Provide Traffic Calming Measures	1.70%	% VMT Reduction = A	A = % reduction in VMT (value from table in CAPCOA report)	CARB California Air Resources Board. (2016). Greenhouse Gas Quantification Methodology for the California Transportation Commission Active Transportation Program Greenhouse Gas Reduction Fund Fiscal Year 2016-17. Retrieved from: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ctc_atp_finalqm_16-17.pdf .
SDT-4	Physical/Design	Create Urban Non-Motorized Zones	0.20%	Grouped strategy. VMT reduction for this strategy is incorporated into SDT-1.	n/a	CAPCOA Cambridge Systematics. Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions. Technical Appendices. Prepared for the Urban Land Institute. http://www.movingcooler.info/Library/Documents/Moving%20Cooler_Appendix%20B_Effectiveness_102209.pdf
SDT-5	Physical/Design	Incorporate Bike Lane Street Design (on-site)	1.00%	Grouped strategy. VMT reduction for this strategy is incorporated into LUT-9.	n/a	CAPCOA Dill, Jennifer and Theresa Carr (2003). "Bicycle Commuting and Facilities in Major U.S. Cities: If You Build Them, Commuters Will Use Them – Another Look." TRB 2003 Annual Meeting CD-ROM.
SDT-6	Physical/Design	Provide Bike Parking in Non-Residential Projects	0.63%	Grouped strategy. VMT reduction for this strategy is incorporated into LUT-9.	n/a	CAPCOA Center For Clean Air Policy (CCAP) Transportation Emission Guidebook. http://www.ccap.org/safe/guidebook/guide_complete.html ; Based on results of 2005 literature search conducted by TIAX on behalf of SMAQMD.
SDT-7	Physical/Design	Provide Bike Parking in Multi-Unit Residential Projects	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into LUT-9.	n/a	n/a
SDT-8	Physical/Design	Provide EV Parking	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into SDT-3.	n/a	n/a
SDT-9	Physical/Design	Dedicate Land for Bike Trails	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into LUT-9.	n/a	n/a
SDT-3	Program	Implement a Neighborhood Electric Vehicle (NEV) Network	12.70%	% VMT reduction = HH * Penetration * NEV	HH = Number of households Penetration = number of NEVs per household (0.04 to 1.0) NEV = VMT reduction rate per household (12.7%)	CAPCOA City of Lincoln, MHM Engineers & Surveyors, Neighborhood Electric Vehicle Transportation Program Final Report, Issued 04/05/05 City of Lincoln, A Report to the California Legislature as required by Assembly Bill 2353, Neighborhood Electric Vehicle Transportation Plan Evaluation, January 1, 2008.

Table 4.1 – VMT Mitigation Measures

CAPCOA Designation	Mitigation Type	Mitigation Strategy Description	Maximum Reduction	Calculation	Variables	Source(s)
Commuter Trip Reduction			25% of Work VMT			
TRT-5	Physical/Design	Provide End of Trip Facilities	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into TRT-1 or TRT-2.	n/a	n/a
TRT-1	Program	Implement Voluntary CTR Programs	6.00%	% VMT Reduction = A * B	A = % reduction in commute VMT (low density suburb: 5.2%, suburban center: 5.4%, urban: 6.0%) B = % employees eligible	CARB Boarnet, M. et al. (2014). Impacts of Employer-Based Trip Reduction Programs and Vanpools on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
TRT-2	Program	Implement Mandatory CTR Programs – Required Implementation/Monitoring	21.00%	% VMT Reduction = A * B * C	A = % shift in vehicle mode share of commute trips (21%) B = % employees eligible C = Adjustment from vehicle mode share to commute VMT (1.0)	CAPCOA Nelson/Nygaard (2008). South San Francisco Mode Share and Parking Report for Genentech, Inc.(p. 8) Cited in: California Air Pollution Control Officers Association. (2010). Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOAQuantification-Report-9-14-Final.pdf
TRT-3	Program	Provide Ride-Sharing Programs	8.30%	% VMT Reduction = Commute * Employee	Commute = % reduction in commute VMT (low density suburb: 5%, suburban center: 10%, urban: 15%) Employee = % employees eligible	Victoria Transport Policy Institute. (2015). Ridesharing: Carpooling and Vanpooling. Online TDM Encyclopedia. Retrieved from: http://vtpi.org/tdm/tdm34.htm
TRT-4	Program	Implement Subsidized or Discounted Transit Program	14.00%	% VMT Reduction = A * B * C	A = % reduction in commute vehicle trips (value from table in CAPCOA report) B = % employees eligible C = Adjustment from commute VT to commute VMT (1.0)	Victoria Transport Policy Institute. (2017). Understanding Transport Demands and Elasticities. Online TDM Encyclopedia. Retrieved from: http://www.vtpi.org/tdm/tdm11.htm
TRT-6	Program	Telecommuting and Alternative Work Schedules	4.50%	% Commute VMT Reduction = Commute	Commute = % reduction in commute VMT (value from table in CAPCOA report)	CARB Handy, S. et al. (2013). Policy Brief on the Impacts of Telecommuting Based on a Review of the Empirical Literature. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/cc/sb375/policies/telecommuting/telecommuting_brief120313.pdf
TRT-7	Program	Implement Commute Trip Reduction Marketing	4.00%	% Commute VMT Reduction = A * B * C	A = % reduction in commute vehicle trips (4%) B = % employees eligible C = Adjustment from commute VT to commute VMT (1.0)	CAPCOA Pratt, Dick. Personal communication regarding the Draft of TCRP 95 Traveler Response to Transportation System Changes – Chapter 19 Employer and Institutional TDM Strategies. Transit Cooperative Research Program. Cited in California Air Pollution Control Officers Association. (2010).Quantifying Greenhouse Gas Mitigation Measures. Retrieved from: http://www.capcoa.org/wpcontent/ uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
TRT-8	Program	Implement Preferential Parking Permit Program	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into TRT-1 or TRT-2.	n/a	n/a
TRT-9	Program	Implement Car-Sharing Program	1.60%	% VMT Reduction = A * Penetration	A = % reduction in annual VMT of a car-share member Penetration = 1% to 5% based on the deployment level (number of vehicles, number of people sharing one vehicle)	CARB Lovejoy, K. et al. (2013). Impacts of Carsharing on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
TRT-10	Program	Implement School Pool Program	15.80%	% VMT Reduction = Families * B	Families = % families that participate (moderate implementation: 16%, aggressive implementation: 35%) B = adjustments to convert from participation to daily VMT to annual school VMT (0.45)	CAPCOA Transportation Demand Management Institute of the Association for Commuter Transportation. TDM Case Studies and Commuter Testimonials. Prepared for the US EPA. 1997. (p. 10, 36-38) http://www.epa.gov/OMS/stateresources/rellinks/docs/tdmcases.pdf
TRT-11	Program	Provide Employer-Sponsored Vanpool/Shuttle	13.40%	% VMT Reduction = A * B * C	A = % shift in vanpool mode share of commute trips (2% to 20%, based on degree of implementation and employer size) B = % employees eligible C = adjustments from vanpool mode share to commute VMT (0.67)	CAPCOA TCRP Report 95. Chapter 5: Vanpools and Buspools - Traveler Response to Transportation System Changes. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c5.pdf . (p.5-8)
TRT-12	Program	Implement Bike-Sharing Program	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into SDT-5 or LUT-9.	n/a	CAPCOA Pucher J., Dill, J., and Handy, S. Infrastructure, Programs and Policies to Increase Bicycling: An International Review. February 2010.
TRT-13	Program	Implement School Bus Program	30.00%	% VMT Reduction = A * B	A = % families expected to use/using school bus program (typical range of 50% to 84%) B = adjustments to convert from participation to school day VMT to annual school VMT (0.75)	CAPCOA JD Franz Research, Inc.; Lamorinda School Bus Program, 2003 Parent Survey, Final Report; January 2004; obtained from Juliet Hansen, Program Manager. (p. 5)
TRT-14	Program	Price Workplace Parking	14.00%	% VMT Reduction = A * B	A = % reduction in commute VMT (value from table in CAPCOA report) B = Percent of employees subject to priced parking	Concas, S. and Nayak, N. (2012), A Meta-Analysis of Parking Price Elasticity. Washington, DC: Transportation Research Board, 2012 Annual Meeting. Dale, S. et al. (2016). Evaluating the Impact of a Workplace Parking Levy on Local Traffic Congestion: The Case of Nottingham UK. Washington, DC: Transportation Research Board, 96th Annual Meeting.
TRT-15	Program	Implement Employee Parking “Cash-Out”	7.70%	% VMT Reduction = A * B	A = Change in Commute VMT (low density suburb: 3.0%, suburban center: 4.5%, urban: 7.7%) B = % of employees eligible	CARB Shoup, D. (1997). Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies. Transport Policy. California Air Resources Board. Retrieved from: https://www.arb.ca.gov/research/apr/past/93-308a.pdf .

Table 4.1 – VMT Mitigation Measures

CAPCOA Designation	Mitigation Type	Mitigation Strategy Description	Maximum Reduction	Calculation	Variables	Source(s)
Transit System Improvements						
TST-1	Physical/Design	Provide a Bus Rapid Transit System	3.20%	% VMT Reduction = Riders * Mode * Lines * D	Riders = % increase in transit ridership on BRT line (default value 28%) Mode = Existing transit mode share Lines = Percentage of lines serving project converting to BRT D = Adjustments from transit ridership increase to VMT (0.67)	CAPCOA FTA, August 2005. “Las Vegas Metropolitan Area Express BRT Demonstration Project”, NTD, http://www.ntdprogram.gov/ntdprogram/cs?action=showRegion_Agencies&region=9
TST-2	Physical/Design	Implement Transit Access Improvements	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into TST-3 or TST-4.	n/a	n/a
TST-5	Physical/Design	Provide Bike Parking Near Transit	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into TST-3 or TST-4.	n/a	n/a
TST-3	Program	Expand Transit Network	10.50%	% VMT Reduction = Coverage * B * Mode * D	Coverage = % increase in transit network coverage (area) B = elasticity of transit ridership with respect to service coverage (urban center: 0.65, urban: 0.72, suburban: 1.01) Mode = existing transit mode share D = adjustments from transit ridership increase to VMT (0.67)	CARB Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
TST-4	Program	Increase Transit Service Frequency/Speed	6.30%	% VMT Reduction = Headway * B * C * Mode * E	Headway = % reduction in headways (15% to 80%) B = elasticity of transit ridership with respect to increased frequency of service (urban: 0.32, suburban: 0.36) C = adjustment for level of implementation (if over half of lines improved serve the new development: 85%, else: 50%) Mode = existing transit mode share E = adjustments from transit ridership increase to VMT	CARB Handy, S. et al. (2013). Impacts of Transit Service Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm
TST-6	Program	Provide Local Shuttles	n/a	Grouped strategy. VMT reduction for this strategy is incorporated into TST-3 or TST-4.	n/a	n/a



5. Traffic Safety

The sketch-planning tool will be a quick-response tool representative of the SBCAG model for VMT output. Users will select a parcel (or other area) where development is being anticipated and the parcel location will aid in determining the corresponding SBCAG model traffic analysis zone to determine travel behavior and VMT.

(This section to be completed.)

APPENDIX C FOR SKETCH PLANNING TOOL

APPENDIX D FOR SAFETY IMPACT ANALYSIS GUIDANCE

Appendices

Appendix A

Screening Criteria Memorandum



Memorandum

May 27, 2020

To:	City of Goleta	Project:	City of Goleta VMT
From:	Jake Hudson, Rosanna Southern,	Ref/Job No.:	11209041
CC:		File No.:	11209041-MEM002.DOCX
Subject: Project Screening Criteria (VMT)			

1. Introduction

The City of Goleta is developing procedures to assess transportation impacts under CEQA, per SB 743. The first component of this work effort, establishing the baseline VMT, is underway. A draft memorandum has been submitted comparing the various VMT baselines available to the City and is pending selection. The second component of this work effort, which will also inform the first, is establishing the screening criteria whereby certain projects under this criteria would be presumed to have a less than significant impacts on VMT and would not require VMT analysis.

The purpose of this memorandum is to review guidance, resources and methods for evaluating screening criteria that can be used for determining whether development projects within the City are assumed to have less than significant impact on VMT and do not require a VMT analysis. The screening process will identify project types and locations that would not require VMT analysis because under this criteria the outcome is known to be less than significant. The literature review includes the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018), and the Caltrans *Draft VMT-Focused Transportation Impact Study Guide* (February 2020). The data sources and technical review includes the SBCAG Regional Travel Demand Model (RTDM), US Census's Longitudinal Employer-Housing Dynamics (LEHD) data, and published data for the region.

2. Screening Criteria

2.1 OPR Recommended Screening Thresholds

OPR's Technical Advisory lists the following screening criteria for land use projects. These types of development projects are presumed to have a less than significant impact on vehicle miles traveled and therefore. OPR's Technical Advisory suggests that lead agencies consider screening out VMT impacts using project size, maps, transit availability, and provision of affordable housing. This memorandum assesses the criteria and provides recommendations on how they may be applied for the City of Goleta.



- A. **Small projects** that are consistent with the Sustainable Communities Strategy (SCS) or General Plan and generate or attract fewer than 110 daily trips (per CEQA). **GHD Recommends the City adopt this screening criteria.**
- B. **Map-based screening** for residential and office projects located in low VMT areas, and incorporate similar features (density, mix of uses, transit accessibility). **GHD Recommends the City adopt this screening criteria, however the baseline & thresholds as yet to be selected.**
- C. **Transit Proximity**, certain projects within ½ mile of an existing major transit stop¹ or an existing stop along a high quality transit corridor². However, this will not apply if information indicates that the project will still generate high levels of VMT. **GHD recommends the City adopt this threshold, however no transit stops in Goleta currently meet this criteria.**
- D. **Affordable Housing** Development in infill locations. **GHD recommends deferring adoption of this screening threshold until localized analysis can verify that low income housing projects generate 15% less trips than market rate residential projects in the City of Goleta.**
- E. **Locally-serving retail projects**, typically less than 50,000 square feet. **GHD Recommends the City adopt this screening criteria. However, acknowledging that smaller retail projects maybe regionally serving, GHD also recommends that the City retain discretion to determine if this screening criteria is appropriate on a case by case basis.**

2.2 Screening for Small Projects

OPR's Technical Advisory states that a screening threshold of 110 trips per day generally may be assumed to cause a less than significant impact, given that the project is consistent with the Sustainable Communities Strategy (SCS) or General Plan, and there is not substantial evidence that the project would generate a potentially significant level of VMT.

GHD recommends that the City establish the following policy for screening small projects.

"Projects that generate less than 110 automobile trips per day are presumed to have a less than significant VMT impact. Example single use Projects that generate less than 110 daily trips based on the most current ITE Trip generation Manual include but are not limited to the following:

- a) 9 Single Family Units.
- b) 20 Multifamily Units.
- c) 1,000 SQFT Retail

¹ "major transit stop" - A major transit stop is a "site containing an existing rail, a ferry terminal served by bus or rail transit service, or intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and evening peak hour commute". (OPR 2018)

² Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

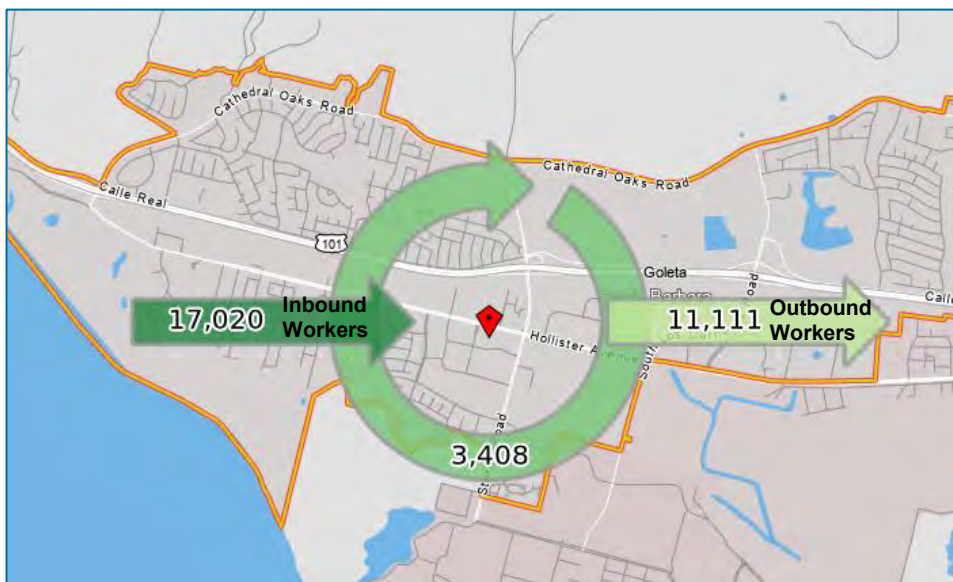
- d) 10,000 SQFT Office
- e) 22,000 SQFT Industrial

2.3 Map-Based Screening

Residential and work based projects that locate in areas with existing low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Therefore these projects can be presumed to have a less than significant VMT impact without the need to conduct a VMT analysis. The following Figures (pages 5 through 9 of this memorandum) present the Residential VMT per capita and Work VMT per employee, aggregated by different areas of the City, compared to different geographic baseline VMT rate averages currently under consideration: Citywide average (City Only), Greater Goleta average, South Coast average, and Countywide average. Areas within Goleta are colored based on how they relate to the regional average being considered, utilizing a 15% below average as the threshold for impact significance. These areas where projects would be presumed to have a less than significant impact are depicted in green in these Figures. These indicate where residential and work based projects would generate an average VMT of 15% or less below the VMT baselines currently under consideration and would not require a VMT analysis. Areas with insufficient data to presume less than significant impacts are grouped together with areas more than 15% higher than the regional average. GHD recommends utilizing the citywide average to establish baseline VMT rates.

The limited areas for screening housing projects as shown in these figures for each of the different geography baselines may not be intuitive. Increasing housing supply does have the effect of reducing inbound commute traffic. However, as shown in the figure below, housing in Goleta also produces outbound commute traffic which as the effect of partially offsetting the commute reduction of new housing. Overall new housing within the City will reduce average VMT, however in most areas of the City that reduction would not achieve 15% or more below the baseline and therefore cannot be presumed as less than significant.

LEHD: Inflow & Outflow of Jobs





Areas which are not presumed to have a VMT impact and should have VMT analysis conducted are shown in Yellow, Orange, and Red. These areas and gradations are only shown as reference for the purposes of this work effort. The final screening maps would only need to indicate areas in green where projects would be presumed to have less than significant impacts and not require a VMT analysis.

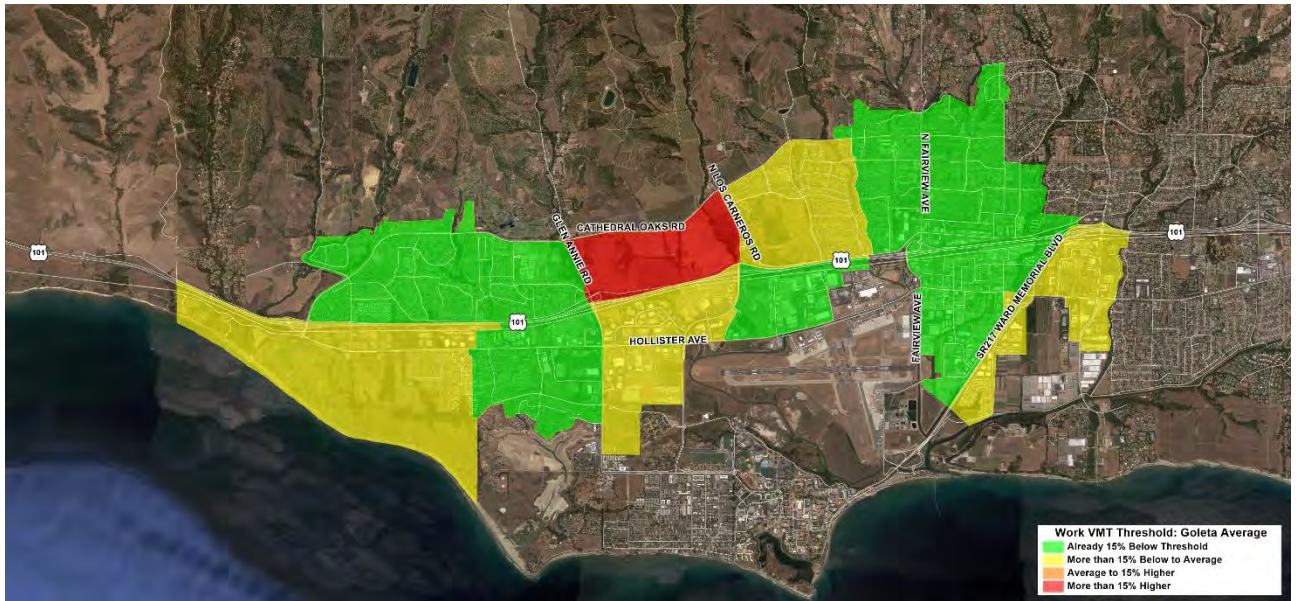
It's important to emphasize that if a project is not presumed to be less than significant based on the following screening maps that does not necessarily mean that the project will have a VMT impact, only that a less than significant impact cannot be assumed and that a VMT analysis would be necessary to make that determination.

GHD recommends that the City establish the following policy for map based screening.

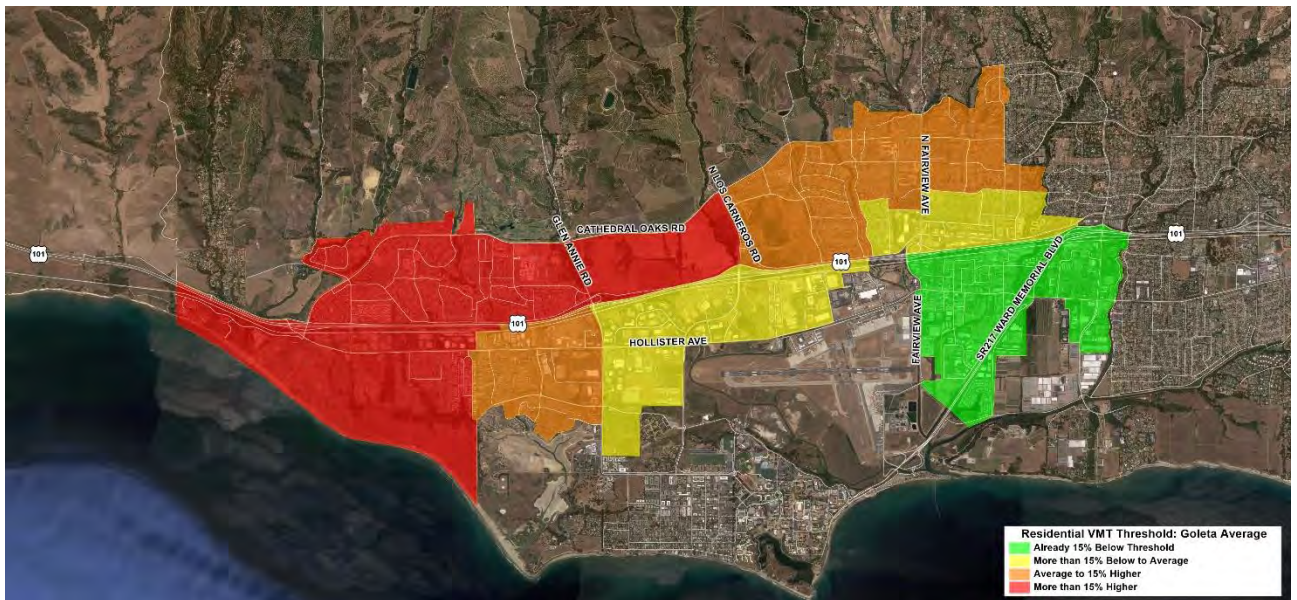
"Typical Residential or Work type projects which are within defined low VMT boundaries are assumed to be less than significant per the California Office of Planning and Research and do not require further VMT analysis."

CITY ONLY BASELINE VMT

Work Based Projects

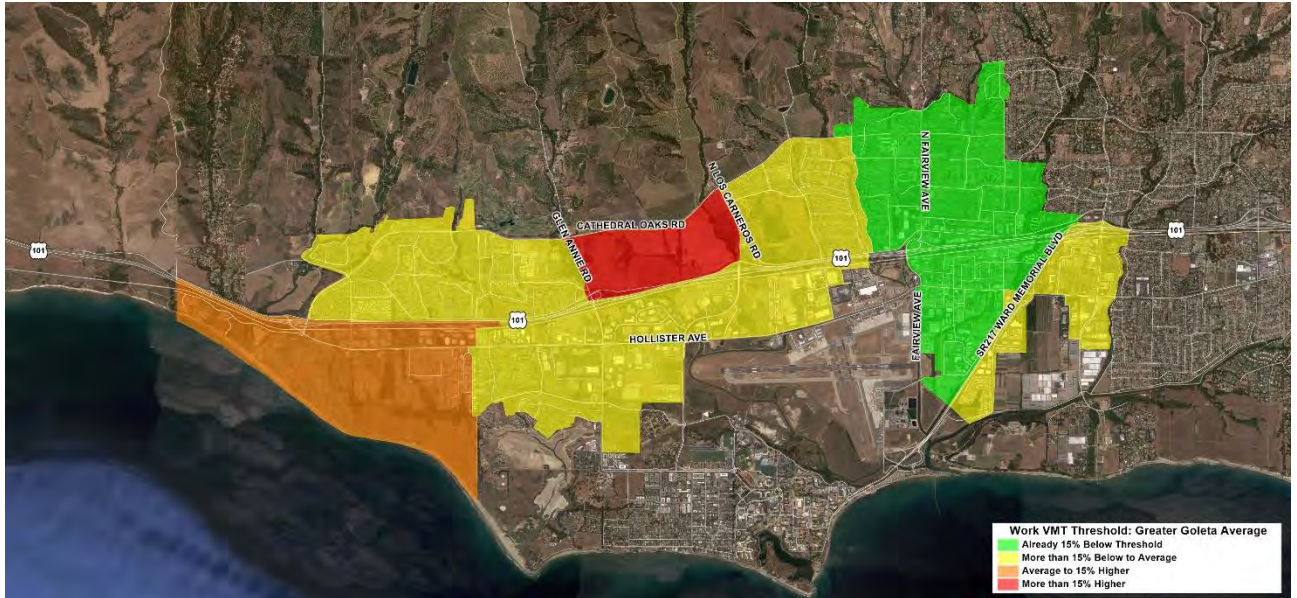


Residential Based Projects

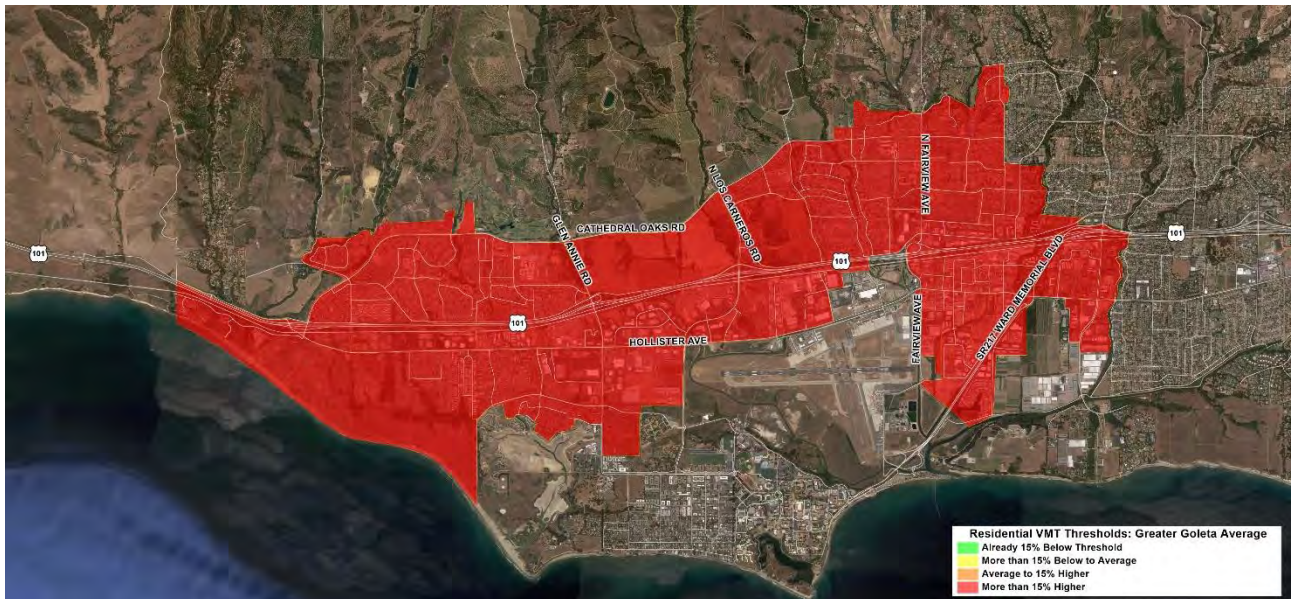


GREATER GOLETA BASELINE VMT

Work Based Projects

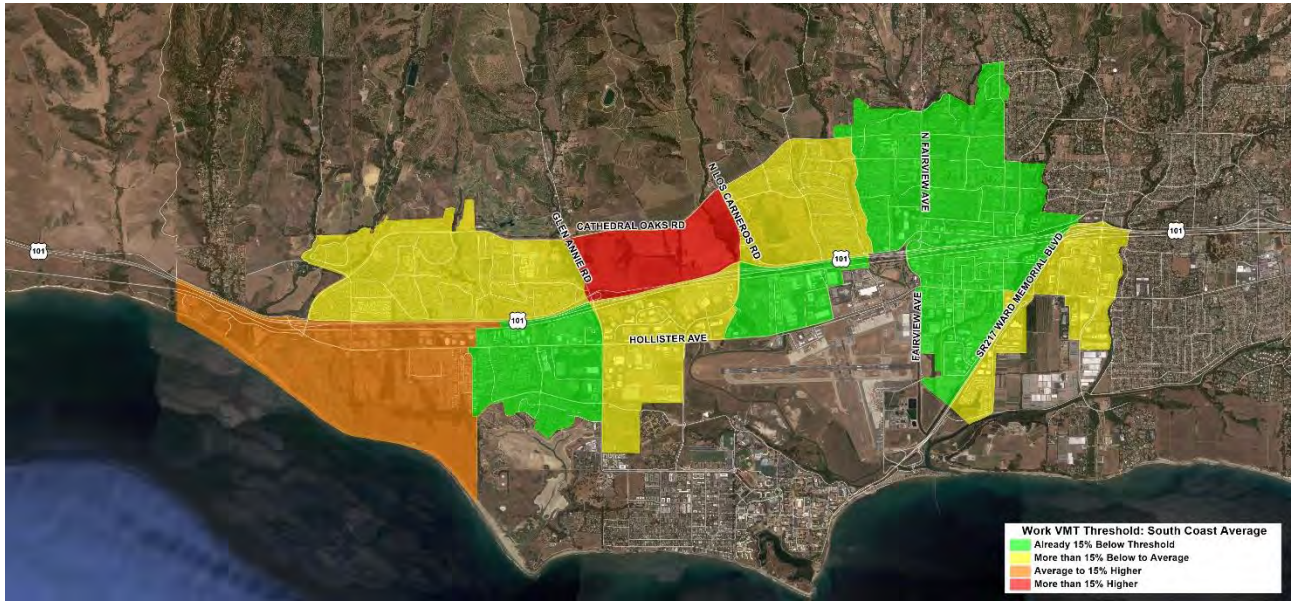


Residential Based Projects

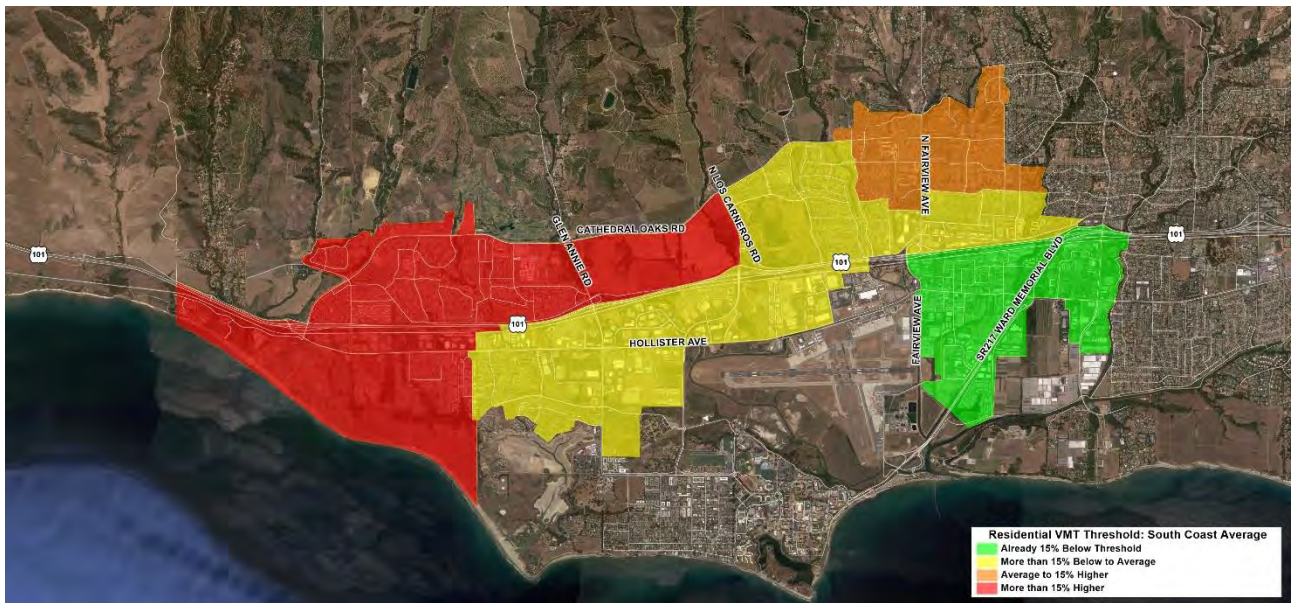


SOUTH COAST BASELINE VMT

Work Based Projects

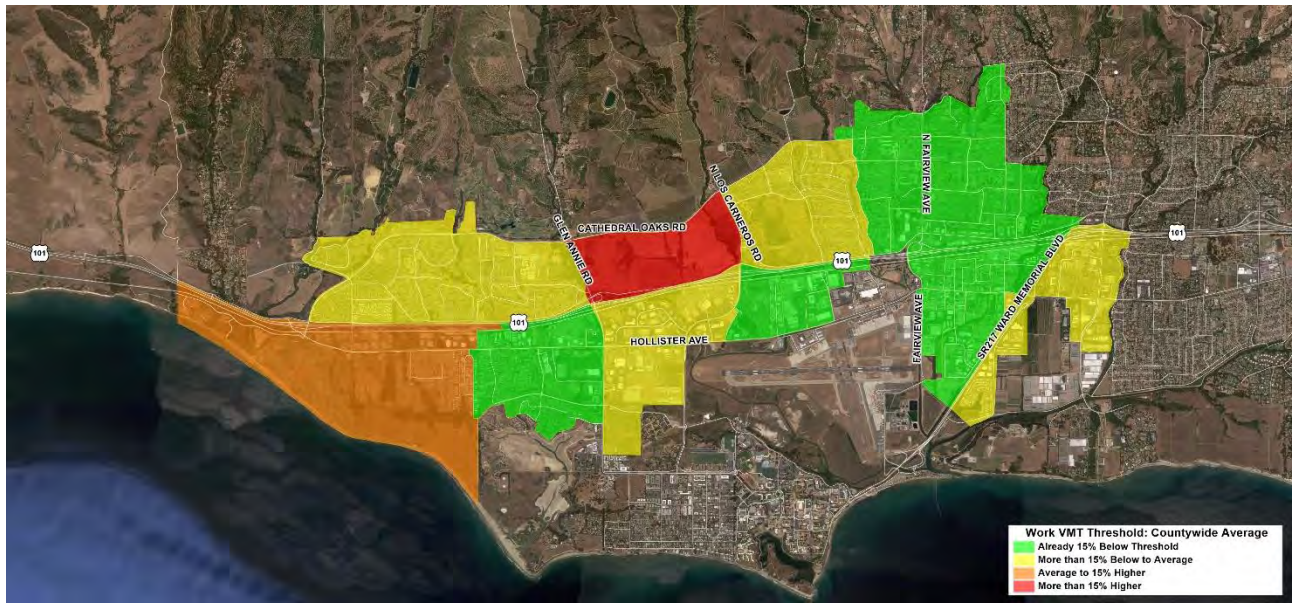


Residential Based Projects

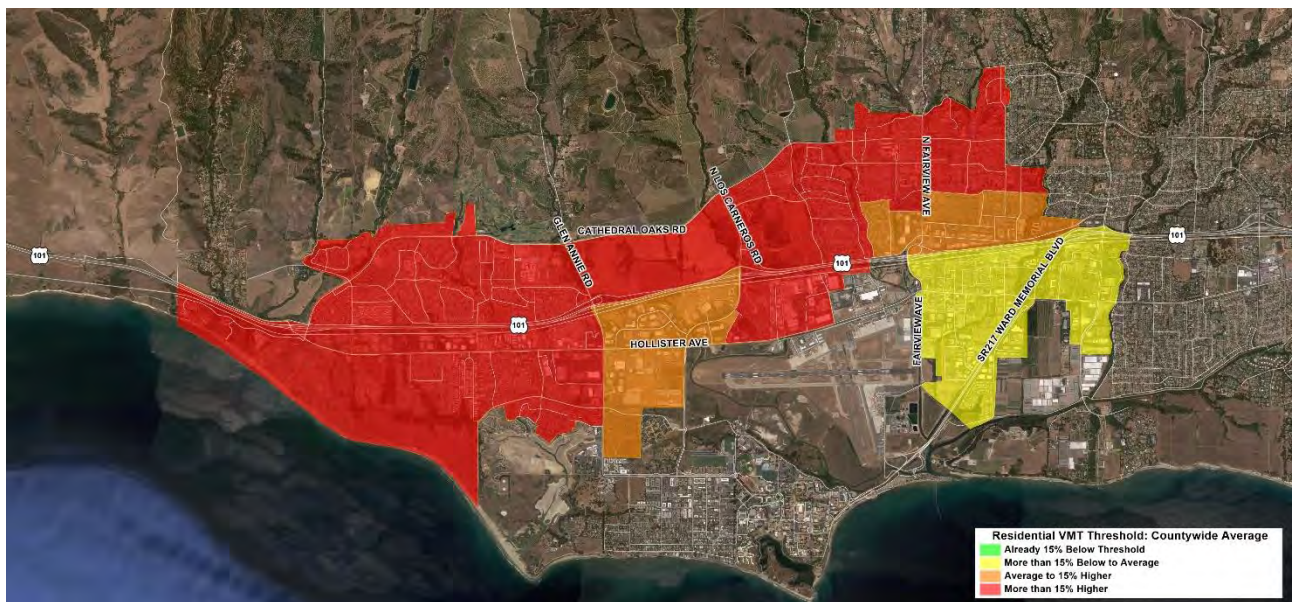


COUNTYWIDE BASELINE VMT

Work Based Projects



Residential Based Projects





2.4 Near Transit Stations

Certain projects within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor will be considered less than significant impact on VMT. However, this will not apply if information indicates that the project will still generate high levels of VMT. For example, this might not be appropriate if they project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units

A Major transit stop is defined in Section 21064.3 of the California Public Resources code as the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. The City of Goleta proper is primarily served by multiple MTD routes, while there are intersecting transit routes they are not providing 15 minute service intervals. GHD recommends establishing this screening criteria although not current stops meet the definition. When service intervals are improved the screening criteria will already be established and can be mapped

GHD recommends that the City establish the following transit screening policy.

“Projects that are within ½ mile of a transit stop at the intersection of two transit routes with 15 minute or less headways are presumed to have a less than significant impact and do not require VMT analysis, Unless the project:

- a) Has a floor to area ratio (FAR) of less than 0.75, or*
- b) Includes more parking than required under the City’s zoning code, or*
- c) Is inconsistent with the region’s Sustainable Communities Strategy, City Zoning Code, or City Land use Policies (i.e. General Plan or Specific Plan), or*
- d) Replaces affordable housing with a smaller number of moderate or high income residential units.”*

2.5 Affordable Housing Development

Affordable housing in infill locations generally improves jobs-housing balance, shortening commutes and reducing VMT. Therefore, a project consisting of a high percentage of affordable housing may be considered a less than significant impact on VMT. OPR guidance allows for Lead agencies to develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.



Research by the California Housing Partnership³ assessed California Household Travel Survey, LEHD, and LODS data provided by the US Census Bureau. This analysis concluded that affordability is independently associated with VMT, primarily due to low income housing having a higher composition of non-workforce demographics, which generate less trips. However these findings are based on an aggregation of statewide data that may not be representative of local demographics occupying affordable housing projects.

Therefore GHD recommends differing adoption of a affordable housing screening threshold until a study can verify that affordable housing within the City of Goleta does generate at least 15% less trips than other housing types.

2.6 Redevelopment Projects Local-serving Retail (< 50,000 SF)

OPR's Technical Advisory states that lead agencies generally may presume that locally-serving retail developments have a less than significant impact on VMT. Locally-serving retail in an urban environment may improve retail destination proximity, shortening trips and reducing VMT. Regional-serving retail development, on the other hand, can lead to substitution of longer trips for shorter ones, and may tend to have a significant impact. The City should still consider project-specific information, such as market studies or economic impact analyses that might bear on travel behavior. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

GHD recommends that the City establish the following transit screening policy.

"Retail projects less than 50,000 square feet may be presumed to have less than significant VMT effects if they are deemed to be locally serving. The City reserves discretion in making a determination of if a retail project less than 50,000 square feet is locally serving."

³ "Income, Location, Efficiency, & VMT: Affordable Housing as Climate Strategy" (California Housing Partnership, 2015)

Appendix B

Transportation Projects Screening

APPENDIX B

Transportation Projects Screening

Per OPR Guidance, the following projects would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis:

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- Roadside safety devices or hardware installation such as median barriers and guardrails
- Roadway shoulder enhancements to provide “breakdown space,” dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase

- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage
- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

Appendix **C** Safety Guidance

Draft Traffic Safety Analysis Guidance

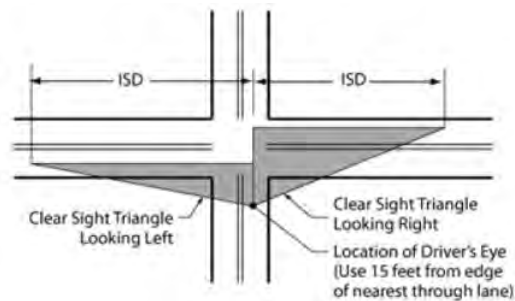
1. Project Frontage

Insufficient sight distance and spacing at driveways can be a contributing factor in automobile, bicycle, and pedestrian collisions. If there is inadequate distance for a motorist to see approaching vehicles before their line of sight is blocked by an obstruction or horizontal/vertical alignment of the roadway there is a higher propensity for traffic collisions. Similarly closely spaced driveways create additional conflict points and a therefore a higher propensity for traffic collisions. Either of these conditions could be considered a potentially significant impact.

Projects which include construction of new roadway & sidewalk network serving the project maybe considered less than significant if the project is conditioned to design and construct those facilities to provide minimum sight distance and driveway spacing.

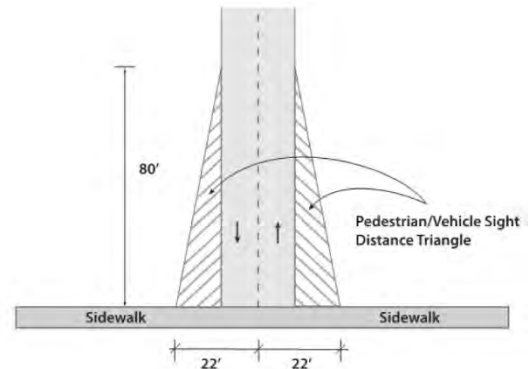
1.1 Driveway Sight Distance

- I. Sight distance analysis should be performed for each proposed driveway to determine if adequate sight distance is provided. To perform this analysis a Sight triangle diagram shall be produced for each driveway depicting roadway curvature and obstructions (ie....on-street parking, buildings, sidewalk furniture).



Speed (mph) *	Stopping Sight Distance (ft.)
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

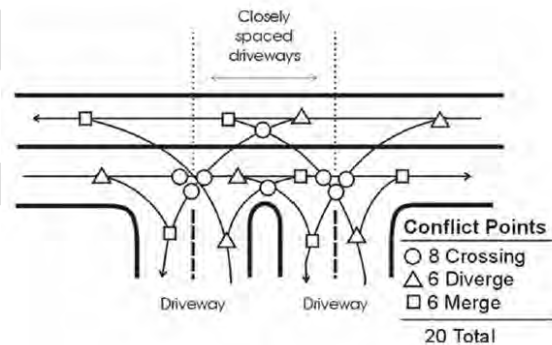
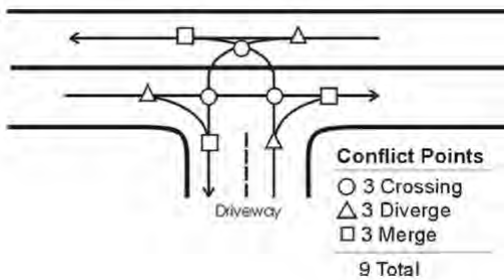
Sight distance should also be performed for pedestrians in areas that have zero setback requirements. To perform this analysis a Sight Triangle shall be produced for the driveway approach to the fronting sidewalk.



1.2 Driveway Spacing

Spacing between proposed driveways on collector or higher classified roadways should be calculated and reported. Proposed driveways which are in closer proximity to other proposed or existing driveways should be identified. A conflict diagram as shown below is an effective way to quantify the number of additional conflict points are created as a result of closely spaced driveways.

Downstream Functional Area & Min. Driveway Spacing	
Speed	Distance
25 MPH	150'
30 MPH	200'
35 MPH	250'
40 MPH	300'
45 MPH	360'
50 MPH	430'
55 MPH	500'



Due to the combination of low volume and speed, driveway spacing on local roadways can be presumed to be less than significant.

Conditions that maybe considered Potentially Significant Impacts:

- Project Access Point has Inadequate Sight Distance
- Project Driveway Spacing is below minimum distances thresholds and/or creates additional conflict points due to proximity to another intersection



Potential Mitigation Measures

The safety of an access connection is improved when the location and geometrics of the connection are modified, moved, or combined with other driveways to provide adequate visibility to its user. Also prohibition/restriction of movement requiring visibility may also mitigate the impact.

- Relocation of Driveways
- Access Restricted Driveways (No Thru and/or Left Turns)
- Combining Driveways
- Reciprocal Access Easements with Adjacent Properties.

2. Project Trips Generated at High Incident Collision Locations

Project traffic generated at high collision incident or rate locations maybe at risk of encountering the same collision pattern. Also added project traffic at these locations may exacerbate the collision pattern identified at that location. These high incident or rate locations and predominant patterns are typically identified as part of the City's Systemic Safety Analysis Report Program (SSARP) or Local Road Safety Plan (LRSP).

High Incident Collision Locations

Project trip distribution & assignment shall be performed and cross-referenced with high incident or rate locations identified from the City's SSARP or LRSP. If SSARP or LRSP data is not available or expired, high incident locations can be identified with data from the Statewide Integrated Traffic Records System. If it's found that a project generates traffic at a high collision incident or rate location the project generated movements should be cross referenced with the movements that are associated with the predominant collision.

Conditions that maybe considered Potentially Significant Impacts:

If the proposed project generates traffic an identified high collision incident or rate location and the project generated trip turning movements are consistent with the predominant collision pattern.

Potential Mitigation Measures:

- Implementation of the collision countermeasure(s) identified in the adopted SSARP and/or LRSP or in the absence a SSARP/LRSP or an alternate collision countermeasure(s) that provides a proportional offset.
- Modify the project such that trip generation and distribution are no longer projected at a high incident location or consistent with the predominant collision pattern..

3. Study Intersection Queueing

If project traffic causes or exacerbates turn pocket queues to extend beyond turn pocket capacity, this leads to stopped traffic in a thru lane which may not be readily apparent to vehicles proceeding straight on a green

indication at a traffic signal or at an uncontrolled intersection increasing the propensity for rear end and sideswipe collisions.

Queueing & Turn Pocket Capacity

Calculate the 95th percentile queueing lengths for right and left turn pockets at study intersections and determine whether the existing or proposed pockets have adequate storage length for the 95th percentile queues.

Conditions that maybe considered Potentially Significant Impacts:

When the 95th percentile right or left turn queues extend beyond the length of the respective turn pocket.

Potential Mitigation Measures

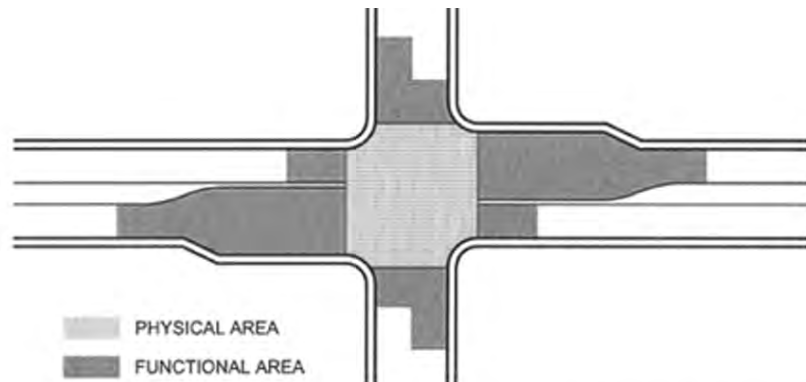
- Lengthen the turn pocket or add an additional turn pocket.
- Modify signal timing to reduce queues
- Modify the project to generate less trip or have a lower distribution thru the intersection.

4. Study Intersection Functional Area

The area around controlled intersections are complex and unique because it is effected by several conflicts that can occur within and near the intersection. The addition of driveways or roadways into an intersection's functional area creates additional conflict points and therefore increases the propensity for traffic collisions. Similarly if a project adds traffic to an intersection increasing the functional area to or beyond existing or planned driveways/roadways this also creates additional conflict points and therefore increases the propensity for traffic collisions.

Project Access & Functional Areas

The methodology for calculating the functional area of an intersection is as defined by the Transportation Research Board's (TRB) Access Management Manual and depicted below. The functional area of controlled intersections should be calculated for study area intersections to determine the project's driveways are within an intersection's functional area or project generated traffic extends an intersection's functional area beyond existing driveways.



Upstream Functional Area		
Speed	Distance	
30 MPH	225'	+ 95th Percentile Queue Length
35 MPH	320'	+ 95th Percentile Queue Length
40 MPH	420'	+ 95th Percentile Queue Length
45 MPH	515'	+ 95th Percentile Queue Length
50 MPH	610'	+ 95th Percentile Queue Length
55 MPH	710'	+ 95th Percentile Queue Length

Downstream Functional Area & Min. Driveway Spacing	
Speed	Distance
25 MPH	150'
30 MPH	200'
35 MPH	250'
40 MPH	300'
45 MPH	360'
50 MPH	430'
55 MPH	500'

Conditions that maybe considered Potentially Significant Impacts:

The project's proposed driveway is within the functional of an adjacent intersection or Project generated traffic extends the functional area of an intersection to or beyond existing or planned driveways/roadways adjacent to the intersection.

Potential Mitigation Measures

- Access Restricted Driveways
- Relocation of Driveways
- Limit movement to right in, right out only by provision of a non-traversable median or flexible pylons
- Offsetting connections
- Relocating of one leg of the minor roadway

5. Types of Vehicles Generated & Compatibility with Surrounding Infrastructure

If respective access routes are not designed to accommodate the types of vehicles a project is anticipated to generate or the project proposes substandard access design features the project would potentially increase the propensity for traffic collisions due to incompatibility with surrounding infrastructure and landuses.



Design Vehicle & Turning Radii

Design vehicles mostly likely generated by the project should be identified. Assessment of turning radii, clearances, and visibility for project design vehicles at project driveways and predominant routes based on the project trip distribution should be conducted.

Conditions that maybe considered Potentially Significant Impacts:

Primary access routes are not designed to accommodate vehicle types generated by the project

Potential Mitigation Measures

- Upgrades to surrounding infrastructure to support design vehicles.



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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ATTACHMENT 3:

SB743 and Vehicle Miles of Travel Policy Presentation



SB743 & Vehicle Miles of Travel Policy

Planning Commission
June 22nd, 2020

Background



State Bill (SB) 743 was signed into law in 2013, with the intent to better align California Environmental Quality Act (CEQA) practices with statewide sustainability goals related to efficient land use, greater multi-modal choices, and greenhouse gas reductions.

Vehicle Miles Traveled Replaces Automobile Level of Service (Delay) CEQA Metrics for Transportation Impacts Changes July 1st 2020

- ▶ Advisory Group - June 1st, 2020
 - ▶ Local Traffic Consultants
 - ▶ SBCAG
 - ▶ SBMTV
- ▶ Planning Commission - June 22nd, 2020



WHY IS VMT AN IMPACT

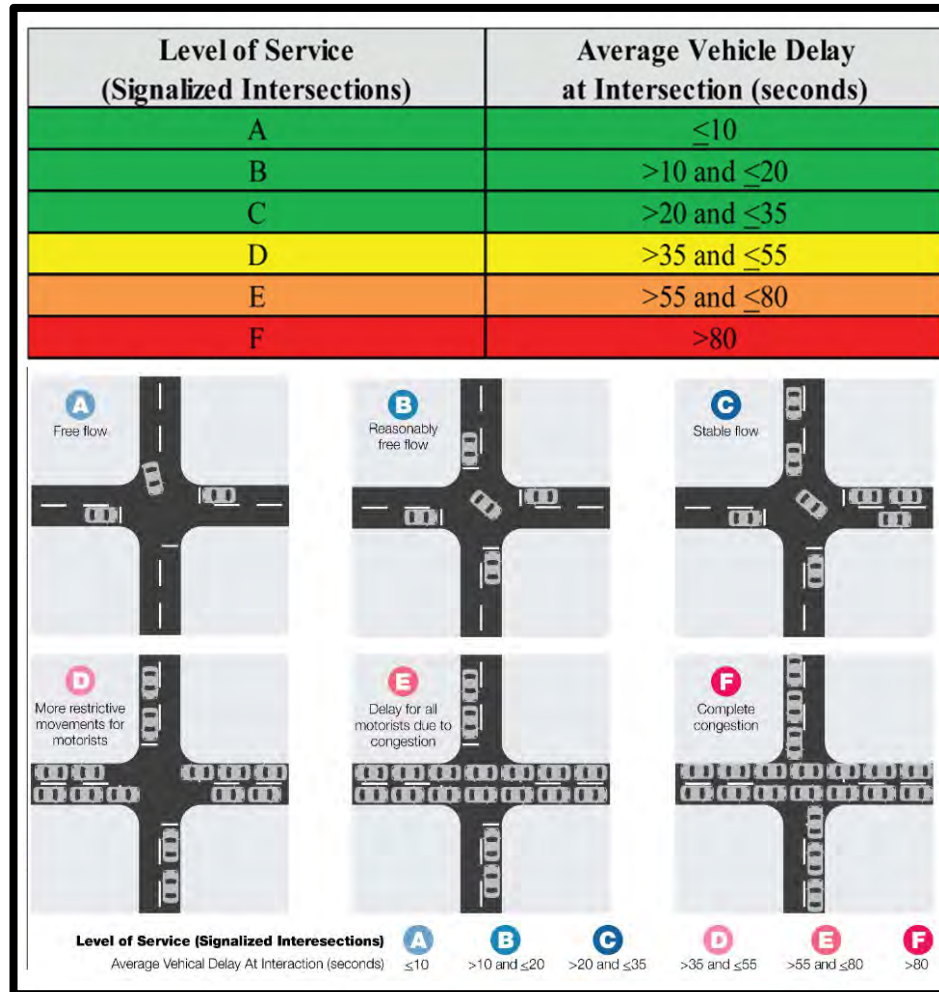
- ▶ “ Human health is impacted as increases in vehicle travel leads to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health.
- ▶ Increases in vehicle travel also negatively affects other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. ”



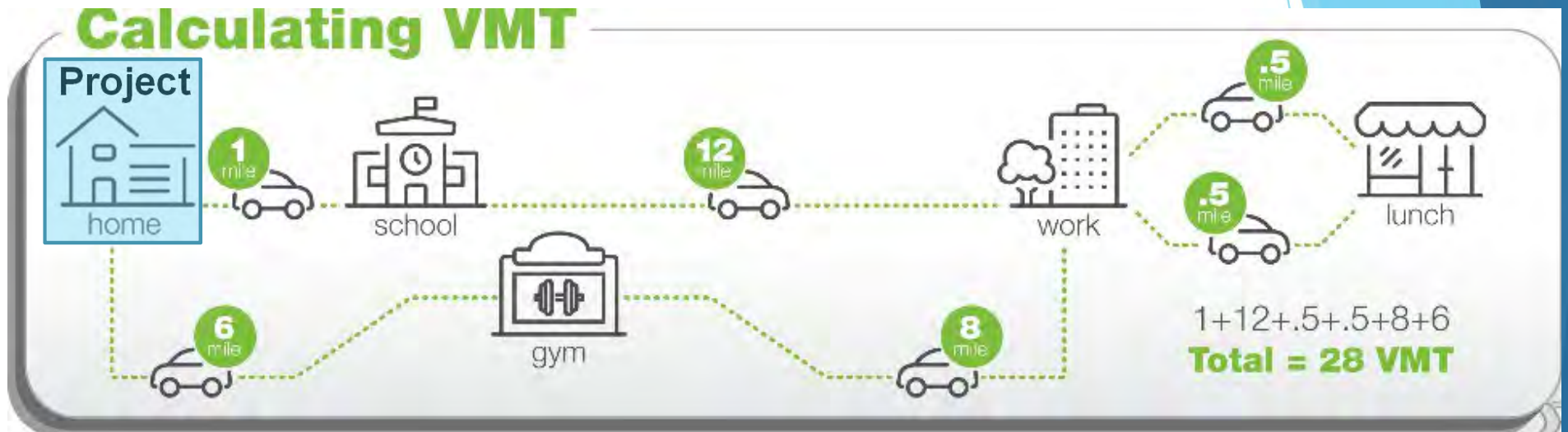
Governor's Office of
Planning and Research

What are we measuring for CEQA

Delay & Congestion



What will we be measuring for CEQA ?



Less Than Significant Impact	< Existing Baseline
Potentially Significant Impact	> Existing Baseline



Average VMT / Capita



Average VMT / Employee



Net Change

How do we measure it? How do we mitigate impacts?

- ▶ SBCAG Travel Demand Model
- ▶ Local Travel Demand Models

Sketch Planning Tools

The screenshot shows a software window titled "City of Goleta VMT Impact Assessment Toolkit". It features a tabbed interface with tabs for "About", "Residential", "Office", "Retail", "Industrial", and "Mixed". The "Office" tab is currently selected. Below the tabs, there are input fields for "Project Name", "Location", and "Parcel Number". There are also input fields for "Office/Service KSF" and "Acres". Below these fields are two buttons: "Compute" and "Report". At the bottom of the window, there is a "Results" section with a large grey rectangular area for displaying results. To the left of this area, there are labels for "Existing VMT per Employee:", "After Project VMT per Employee:", "Threshold Value:", and "Meets Threshold: No". A "Close" button is located at the bottom right of the window.

Programmatic Mitigation

On-going actions project occupants have to do over the life of the entitlement.

Non-Programmatic Mitigation

Changes to the project that inherently reduces VMT production.

Banks & Exchanges

Low VMT projects sell or exchange VMT credits to High VMT projects.

Decisions & Recommendations



Decisions & Recommendations

- ▶ What Baseline to Establish ?
 - ▶ Residential: City Average VMT Per Capita
 - ▶ Work: City Average VMT Per Employee
 - ▶ Other: Net City VMT

- ▶ What Threshold of Significance to Establish ?
 - ▶ Residential & Work: 15% Below Average
 - ▶ Other: Net Increase in City VMT

- ▶ What Screening Criteria to Establish ?
 - ▶ OPR Recommendations
(Small Projects, Map Based, Transit Proximity, Affordable Housing, & Locally Serving Retail)
 - ▶ Transit Proximity...(Exclude areas that cross Hwy 101)
 - ▶ Clarification: Minimum 20% Affordable Housing Component
 - ▶ Smaller Retail Threshold: 10k SqFt

- ▶ Should the City Retain Auto Level of Service as Local Policy?
 - ▶ Yes

Retain Auto Level of Service as Local Policy

CHAPTER 7.0 TRANSPORTATION ELEMENT (TE)

Policy TE 4: Target Level of Service Standards [GP]

Objectives: *To maintain an adequate LOS on the city street system, including at intersections, to provide for the mobility needs of the community. To avoid further degradation of service levels at intersections where existing service levels do not meet target standards.*

TE 4.1 General Level of Service Standard. [GP] A traffic LOS standard C shall apply citywide to major arterials, minor arterials, and collector roadways and signalized and unsignalized intersections, except as provided in TE 4.2. The standard shall apply to daily traffic volumes and both AM and PM peak hours for intersections, and to average daily traffic volumes (ADT) for roadway segments. Table 7-3 provides descriptions of the LOS categories.

Recommendation

- Adopt proposed resolution adopting guidelines for the implementation of Vehicle Miles Traveled, including Vehicle Miles Traveled Thresholds of Significance, for landuse and transportation projects in the City of Goleta and finding the same is not a project subject to the California Environmental Quality Act.



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