INITIAL STUDY

Single-Use Carryout Bag Ordinance

County of Santa Clara

October 8, 2010

INITIAL STUDY

Environmental Checklist and Evaluation for Santa Clara County

File Number:	N/A	**Date:**	October 8, 2010
Project Type:	Ordinance	**APN(s):**	All Unincorporated areas
Project Location / Address	Countywide	**GP Designation:**	Multiple
Owner's Name	n/a	**Zoning:**	Multiple
Applicant's Name:	County of Santa Clara	**Urban Service Area:**	N/A

Project Description

Single-Use Carryout Bag Ordinance.

The proposed ordinance will prohibit the distribution of single-use carryout plastic bags and single-use carryout paper bags from retail establishments in the unincorporated areas of Santa Clara County for 'point of sale' purchases.

The ordinance will allow affected retail establishments to distribute either a 'green' paper bag or a reusable bag. Reusable bags may be given away or sold and are initially defined (until January 2013) as bags made of cloth or other machine washable fabric that has handles; or a durable plastic bag with handles that is at least 2.25 mils thick and is specifically designed and manufactured for multiple use. 'Green' paper bags may be sold to customers for a minimum fee of $0.15 and are defined as paper bags that are 100% recyclable and are made from 100% recycled material. Reusable or 'Green' paper bags will be required to be distributed free to shoppers enrolled in SNAP (Supplemental Nutrition Assistance Program) or WIC nutrition program for Women, Infants, and Children.

The ordinance will not affect restaurants, fast-food establishments, and retail stores run by non-profit organizations such as Goodwill and Salvation Army. The ordinance will not apply to protective bags such as meat/produce bags, newspaper bags, pharmaceutical bags, flat greeting card bags, dry cleaning bags, bakery item bags, and bags that hold live plants or small hardware items.

Further description of the ordinance is provided in the Introduction Section below.

Environmental Setting and Surrounding Land Uses

The ordinance affects all unincorporated areas of Santa Clara County, including both urban and rural areas.

Other agencies sent a copy of this document:

None

The environmental factors checked below would be potentially affected by this project, involving at least one impact as indicated by the checklist on the following pages.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

☐ **Aesthetics**	☐ **Agriculture / Forest Resources**	☐ **Air Quality**
☐ **Biological Resources**	☐ **Cultural Resources**	☐ **Geology / Soils**
☐ **Hazards & Hazardous Materials**	☐ **Hydrology / Water Quality**	☐ **Land Use**
☐ **Noise**	☐ **Population / Housing**	☐ **Public Services**
☐ **Resources / Recreation**	☐ **Transportation / Traffic**	☐ **Utilities / Service Systems**
☐ **Mandatory Findings of Significance**		☒ **None**

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 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.

☐ I find that the proposed project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

_____	_____
Signature	**Date**
__Rob Eastwood, Senior Planner, AICP_____	_____
Printed name	**For**

INTRODUCTION

Ordinance Objectives

The Single-Use Carryout Bag Ordinance will prohibit the use of single-use carryout plastic and paper bags from retail establishments in the unincorporated areas of Santa Clara County with the intent of encouraging retail customers to use reusable bags. The intent to prohibit single-use carryout bags aligns with the County's principles of sustainability in minimizing the use of disposable items such as single-use carryout bags to reduce waste and conserve natural resources.

Description of Ordinance

The ordinance will prohibit the distribution of both plastic and paper single-use carryout bags at all retail outlets in unincorporated Santa Clara County except for the following types of businesses: Restaurants, Fast-Food establishments, and retail stores run by non-profit organizations.

The prohibition will not apply to bags used for the following (a) meat/produce/frozen foods bags (b) newspaper bags (c) pharmaceutical bags (d) greeting card bags (e) dry cleaning bags (f) bakery item bags (g) bags to hold live plants, and (h) small hardware item bags.

Per the prohibition, only two types of bags may be distributed as carryout bags at the affected retail establishments: (a) Reusable Bags, and (b) Green single-use paper bags. A reusable bag is a bag intended for use multiple times as a carryout bag and is made from cloth, other machine washable fabric, or durable plastic. A Green single-use paper bag is a paper bag that is made from 100% recycled material and also is 100% recyclable. Exact definitions of these bags are within the Glossary below. Specific distribution requirements of these bags as carryout bags under the ordinance are as follows:

- Reusable Bag – May be given away or sold.
- Green single-use paper bag – Many only be sold to customers at a fee no less than $0.15.

However, the ordinance prescribes that both reusable and green single-use bags will be given free of charge to (a) customers enrolled in SNAP (Supplemental Nutritional Assistance Program) and (b) customers enrolled in the WIC nutritional program for Women, Infants, and Children.

Following enactment, enforcement of the ordinance will occur both through annual inspections and on a complaint driven basis. Retail establishment determined not in compliance with the ordinance will be subject to Civil penalties process.

The effect of this ordinance will be to eliminate both (a) single-use carryout plastic bags and (b) single-use carryout paper bags from distribution at retail establishments in unincorporated Santa Clara County.

Glossary

Per the ordinance, the following definitions are used in this Initial Study when describing the types of carryout bags and businesses affected by the ordinance.

Single-Use Carryout Bag – means a carryout bag that is provided by a store to a customer at the point of sale and that is not a reusable bag. A single-use carryout bag does not include plastic or paper bags that are used by customers or the store to protect or contain meat, fresh produce, food prepared or packaged at the establishment, or other goods that must be protected from moisture, damage, or contamination and that are subsequently placed in a single-use carryout bag at the point of sale.

Reusable Bag – Until January 1, 2013, a Reusable bag means either of the following: (1) A bag made of cloth or other machine washable fabric that has handles, or (2) a durable plastic bag with handles that is at least 2.25 millimeters thick and is specifically designed and manufactured for multiple reuse.

Beginning January 1, 2013, the definition of a reusable bag shall be: (1) A bag designed and manufactured to withstand, at a minimum 100 uses, with each use defined by the capability of carrying a minimum of 22 pounds 100 times over a distance of at least 175 feet. (2) Be made from a material that can be cleaned and disinfected. (3) Have printed on the bag, or on a tag attached to the bag that is not intended to be removed, and in a manner visible to the consumer the following information: (a) The name of the manufacturer. (b) The location (country) where the bag was manufactured. (c) A recycling symbol or end-of-life management instructions, and (d) The percentage of postconsumer recycled material, if any.

Under both definitions (before and after January 1,2013), reusable bags shall not contain lead, cadmium, or any other heavy metal in toxic amounts. This requirement shall not affect any authority of the Department of Toxic Substances Control pursuant to Article 14 (commencing with Section 25251) of Chapter 6.5 of Division 20 of the Health and Safety Code and, notwithstanding subdivision (c) of Section 25257.1 of the Health and Safety Code. The reusable grocery bag shall not be considered as a product category already regulated or subject to regulation.

Green Paper Carryout Bag – means a single-use carryout bag that is provided by a store to a customer at the point of sale and meets all of the following requirements (1) Contains 100 percent recycled materials meeting the specifications of the American Society of Testing and Materials (ASTM) D5663 – 97(2003) Standard Guide for Validating Recycled Content in Packaging Paper and Paperboard. (2) Is accepted for recycling in curbside programs in a majority of households that have access to curbside recycling programs in the state.
(3) Is capable of composting, consistent with the timeline and specifications of the American Society of Testing and Materials (ASTM) Standard Specification for Compostable Plastics D6400, as published in September 2004, and (4) Has printed on the bag the name of the manufacturer and the location (country) where the bag was manufactured.

Areas affected by the ordinance

Enacting the Carryout Bag Ordinance will affect all unincorporated areas of Santa Clara County. This does not include areas that are geographically within Santa Clara County but within the city limits of the fifteen incorporated cities within the County. The unincorporated area of Santa Clara County encompasses approximately 605,000 acres, including 8,450 acres

of land within urban unincorporated areas (where urban utilities and services are available) and 596,606 acres of land in the rural unincorporated areas (Figure 1). Per the County General Plan and County Zoning Ordinance, only a limited amount of land within the unincorporated areas of the county are intended for or allow retail businesses.

The broad intent of the Santa Clara County General Plan is to encourage the incorporation of all urban unincorporated areas into the respective cities while maintaining the rural areas for agriculture, natural resource protection and production, open space, wildlife habitat, and rural communities. As such, there is limited land available within Santa Clara County that contains a Zoning / General Plan designation that could support commercial retail establishments (that use carryout bags). Approximately 300 acres of land (approximately 0.05% of the total) in both the urban and rural areas of the unincorporated areas are currently available for retail businesses. These areas are shown in Figure 2.

An initial survey conducted by County staff in 2009 and subsequent research showed 82 existing retail businesses in the unincorporated areas of Santa Clara County. (Appendix 1)

Current distribution of Carryout Bags

The composition of businesses within the unincorporated areas represent the mixture of lands (rural and urban) found in the County and are quite different when compared to retail establishments found in most cities. The "commercial" unincorporated areas of the County (those supporting retail businesses with carryout bags) can be divided into three broad geographic areas, which are (a) retail businesses located in the urban unincorporated areas (Cambrian Plaza Shopping Center, Union Avenue, West San Carlos, Bascom Avenue, and areas on the east side of San Jose), (b) rural businesses located in the hillsides areas or southern Santa Clara County, and (c) Stanford University (bookstore and other onsite retail).

Today, there are approximately 82 retail establishments within these different geographic regions of the unincorporated areas that would be affected by the ordinance. In evaluating the types of retail establishments, three additional categories can be defined. These include (a) Retail establishments using carryout bags, (b) Wineries, and (c) Retail establishments not using retail bags

The first category includes all retail stores where carryout bags are commonly distributed with a retail transaction (purchases). This includes both large (Bev Mo) and small (Seven Eleven) retail and convenience stores, small grocery / produce stores (Rocca's Market), Agricultural Tourism stores (Garlic World, Casa de Fruita), and golf shops on golf courses (Boulder Ridge). There are approximately 40 existing retail establishments within this category and the distribution of plastic bags from these establishments is estimated to be approximately 20,000 bags a year (per store), comprised of 80% plastic bags and 20% paper bags. The estimate of 20,000 bags is based on general surveys of retail stores by County staff regarding the hourly, daily, and annual distribution of bags. The distribution of carryout bags between plastic (80%) and paper (20%) is based on field surveys and data used from other cities (City of San Jose, City of Santa Monica[1] preparing carryout bag ordinances. There are no retail establishments which meet the definition of a large grocery store that is required to provide a recycling bin for plastic bags per AB 2449 that was signed into California law in 2006.

1 City of San Jose Single Use Carryout Bag Ordinance EIR. July 2010. Santa Monical Single-Use Carryout Bag Ordinance EIR. June 2010

The second category includes approximately 32 Wineries that have tasting rooms / onsite sales, found exclusively within the Hillsides area and southern portion of Santa Clara County (shown in Figure 3). The wineries are distinguished from other retail establishments listed above as they do not use plastic carryout bags as part of their retail sales. Sales of wine are either accompanied by a paper bag or a box. The wineries are estimated to distribute approximately 1,000 paper bags annually.

The third category includes approximately 10 businesses that do not normally use carryout bags. This includes businesses such as Garden Accents, Camping World, and Cambrian Bowl where the type of goods sold or business conducted does not include any substantial distribution of carryout bags.

Based on field surveys by County staff (Appendix 1 and 2) almost all of the carryout bags currently being distributed at the 82 retail establishments in the unincorporated are single-use paper or plastic bags. Only a few stores (BevMo, Dollar Tree, Stanford Bookstore) were observed to carry reusable bags, although many of the cahiers and managers surveys reported that many customer use reusable bags from other stores or often do not use a bag at all.

The table below provides a summary of the three different retail categories within the unincorporated areas and the total annual number of carryout bags estimated to be in current distribution.

Table I – Current Distribution of Bags

Type of Store	Total number of stores	Total carryout Bags per store per year	Total carryout Bags per year	Total plastic	Total paper
Category 1 – Retail w/bags (Rocca's, Dollar Tree, Garlic World, Seven Eleven, Stanford Bookstore, Golf Shops)	40	20,000	800,000	640,000 (80%)	160,000 (20%)
Category 2- Wineries (Pichetti, Solis, Fortino)	32	1,000	32,000	0	32,000 (100%)
Category 3 – Retail no bags (Garden Accents, Camping World)	10	----	---	0	0
Total	82	----	832,000	640,000	192,000

In summary, it is estimated that today there are approximately 832,000 single-use carryout bags distributed annually from the retail establishments in the unincorporated areas of the County. Of this, approximately 77% are plastic bags and 23% are paper bags.

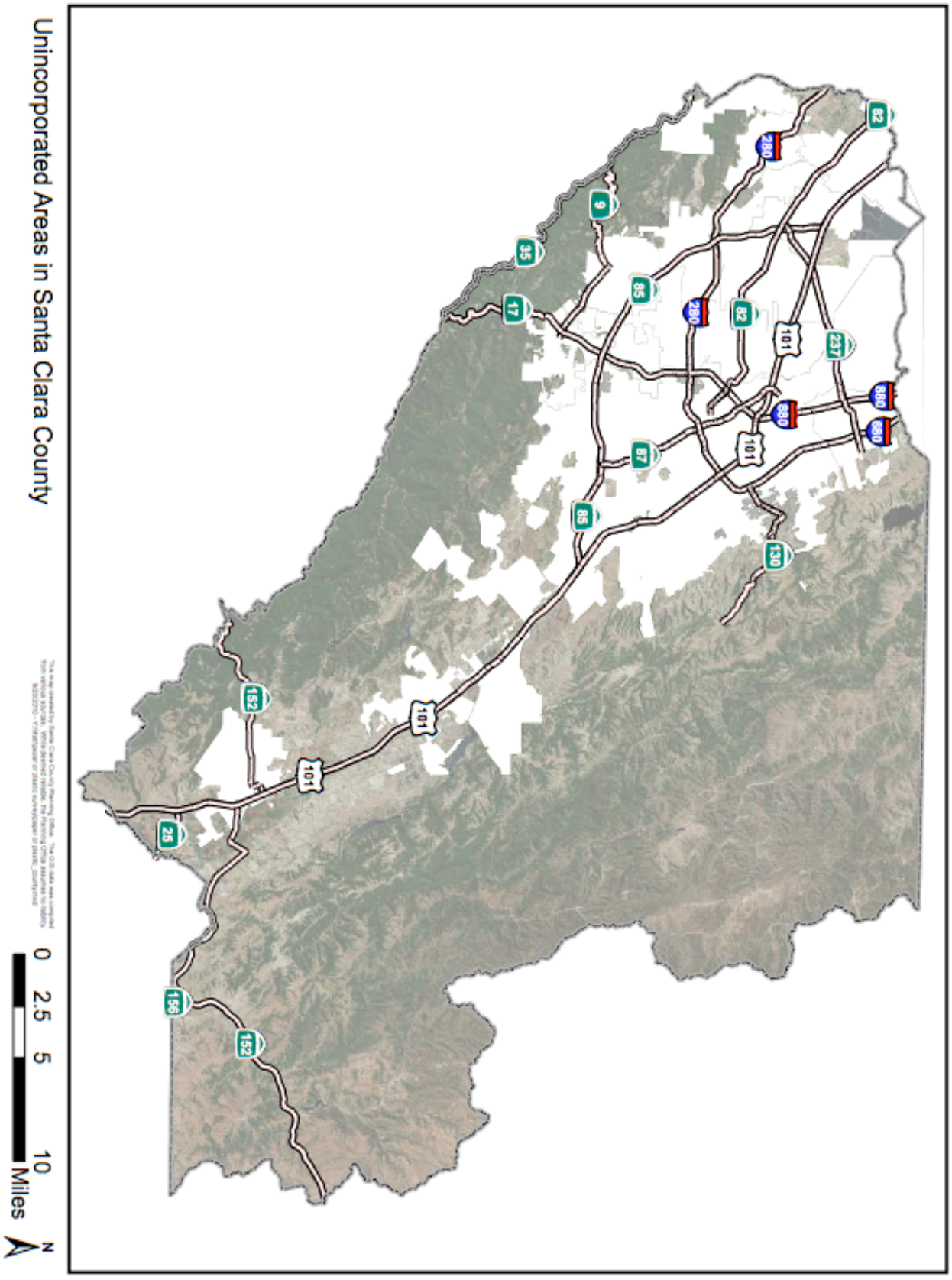
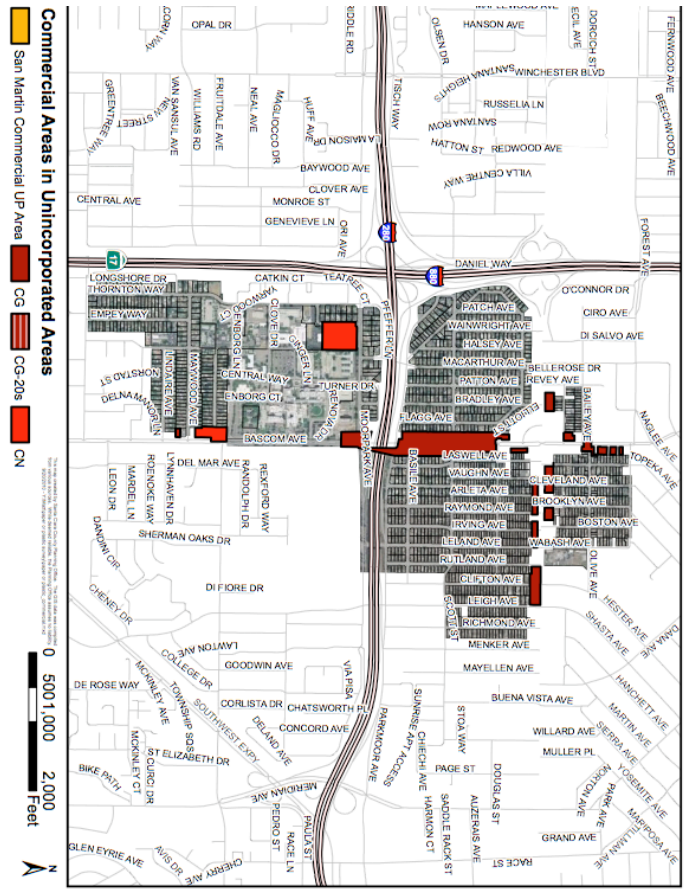
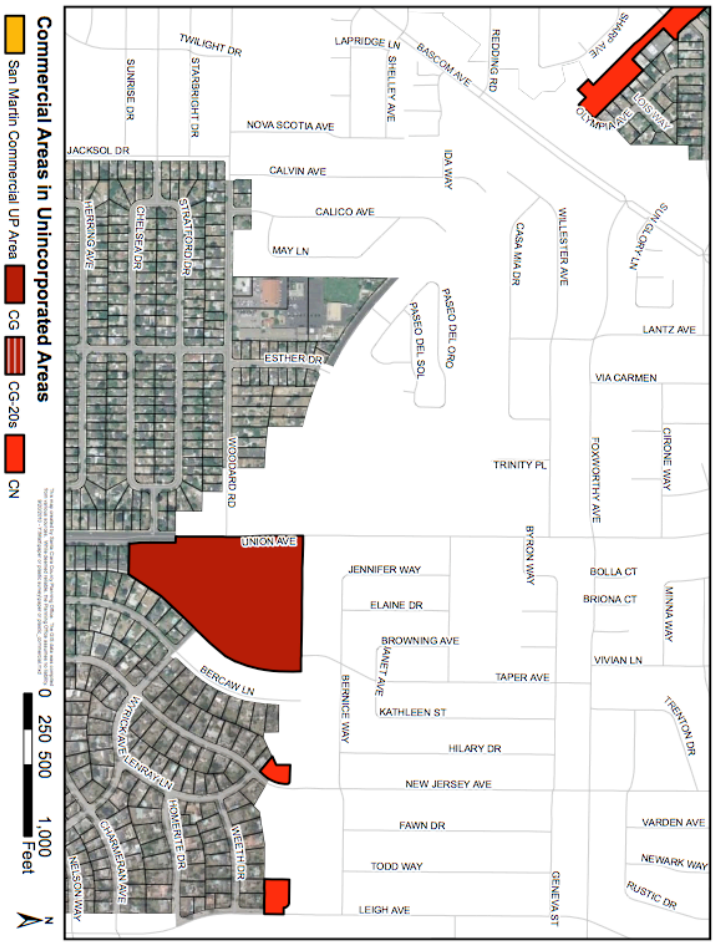


Figure 1 – Unincorporated Area of Santa Clara County


Commercial Areas in Unincorporated Areas
San Martin Commercial UP Area
CG
CG-20s
CN
0 500 1,000 2,000 Feet
N
OPAL DR
HANSON AVE
WINCHESTER BLVD
RUSSELIA LN
SANTANA ROW
HATTON ST
REDWOOD AVE
BAYWOOD AVE
CLOVER AVE
MONROE ST
GENEVIEVE LN
CENTRAL AVE
DANIEL WAY
LONGSHORE DR
THORNTON WAY
CATKIN CT
TEABERRY CT
O'CONNOR DR
CIRO AVE
DI SALVO AVE
PATCH AVE
WAINWRIGHT AVE
HALSEY AVE
MACARTHUR AVE
PATTON AVE
BRADLEY AVE
FLAGG AVE
BELLEROSE DR
REVEY AVE
BAILEY AVE
CENTRAL WAY
TURNER DR
ENBORG CT
BASCOM AVE
LASWELL AVE
VAUGHN AVE
ARLETA AVE
RAYMOND AVE
IRVING AVE
LELAND AVE
RUTLAND AVE
CLIFTON AVE
LEIGH AVE
RICHMOND AVE
MENKER AVE
MAYELLEN AVE
BUENA VISTA AVE
WILLARD AVE
MULLER PL
PAGE ST
GRAND AVE
CLEVELAND AVE
BROOKLYN AVE
BOSTON AVE
WABASH AVE
TOPEKA AVE
NAGLEE AVE
OLIVE AVE
HESTER AVE
SHASTA AVE
HANCHETT AVE
MARTIN AVE
SIERRA AVE
YOSEMITE AVE
MARIPOSA AVE
DEL MAR AVE
SHERMAN OAKS DR
DI FIORE DR
GOODWIN AVE
CORLISTA DR
CHATSWORTH PL
CONCORD AVE
DE ROSE WAY
COLLEGE DR
LAWTON AVE
ST ELIZABETH DR
BIKE PATH
GLEN EYRIE AVE
CHERRY AVE
RACE ST
RACE LN
PEDRO ST
PALOU ST
NEBRASKA AVE
SUNRISE APT ACCESS
CHECHI AVE
HARMON CT
SADDLE RACK ST
ALIZERAIS AVE
DOUGLAS ST
NORTON AVE
PARK AVE
LYNNHAVEN DR
ROSENOKE WAY
MARDEL LN
LEON DR
RANDOLPH DR
REXFORD WAY
DANDON CIR
CHENEY DR
MCKINLEY AVE
MCKINLEY CT
SOUTHWEST EXPY
TOWNSHIP SQS
DELAND AVE
VIA PISA
PARKMOOR AVE


Commercial Areas in Unincorporated Areas
San Martin Commercial UP Area
CG
CG-20s
CN
0 250 500 1,000 Feet
N
TWILIGHT DR
LAPRIDGE LN
BASCOM AVE
REDDING RD
SHARP AVE
OLYMPIA AVE
LOS RAYS
SUNRISE DR
STARBRIGHT DR
SHELLEY AVE
NOVA SCOTIA AVE
JACKSOL DR
CALVIN AVE
IDA WAY
CALICO AVE
MAY LN
HERRING AVE
CHELSEA CIR
STRATFORD DR
WOODLARD RD
ESTHER DR
PASEO DEL SOL
PASEO DEL ORO
CASA MIA DR
WILLESTER AVE
SUN GLOW LN
LANTZ AVE
VIA CARMEN
TRINITY PL
FOXWORTHY AVE
CIRONE WAY
BYRON WAY
UNION AVE
JENNIFER WAY
ELAINE DR
BROWNING AVE
BOLLA CT
BRIONA CT
MINNA WAY
VIVIAN LN
TAPER AVE
BERCAW LN
KATHLEEN ST
BERNICE WAY
BANET AVE
TRENTON DR
HILARY DR
NEW JERSEY AVE
FAWN DR
TODD WAY
LEIGH AVE
VARDEN AVE
NEWARK WAY
RUSTIC DR
GENEVA ST
HOMERITE DR
WEETH DR
CHARMERAN AVE
NELSON WAY
KERRY AVE
LENRAY LN

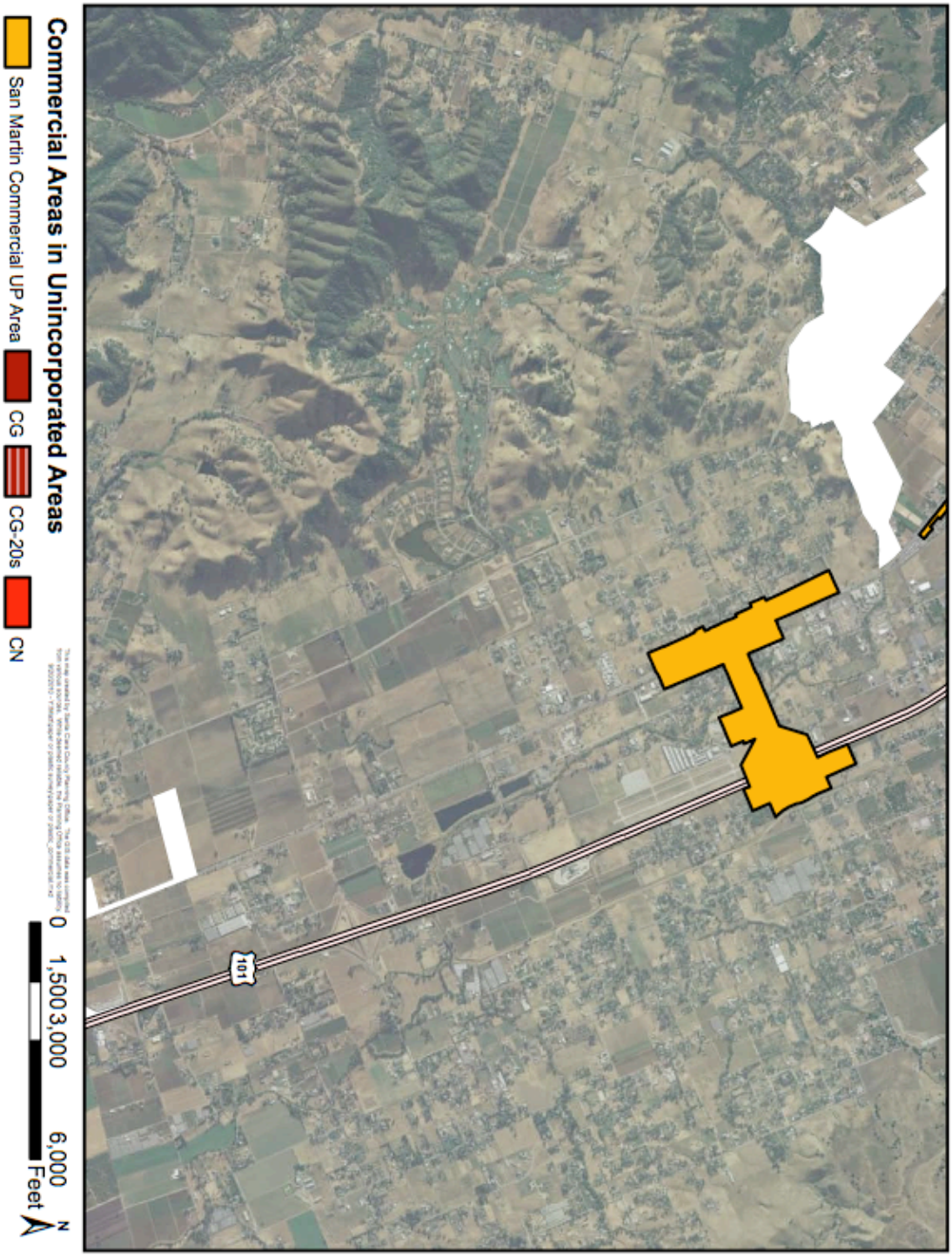


Figure 2 – Commercial Areas in Santa Clara County – (Three Maps)

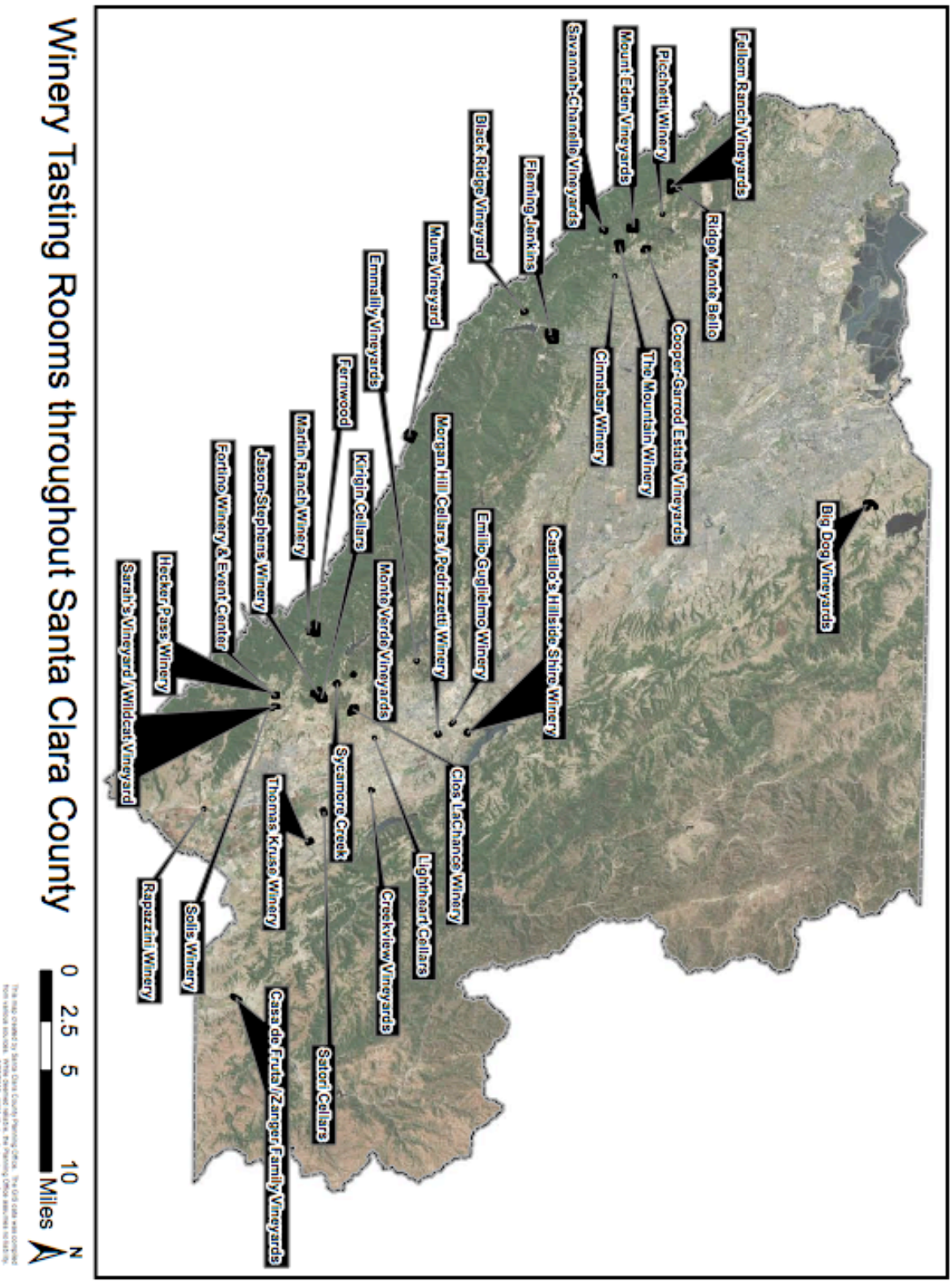


Figure 3 – Wineries with Tasting Rooms in Santa Clara County

The total number of reusable bags distributed was not quantified, as the number is presumed to be very low. In addition, the purpose of this Initial Study will be to evaluate the potential environmental impacts of prohibiting single-use carryout plastic and paper bags. As the analysis will focus on comparing the environmental benefit of prohibiting single-use carryout plastic and paper bags versus an expected increase in use of reusable and recycled paper bags, the need to quantify the number of existing reusable bags in distribution is not critical to this study.

Assumptions regarding changes in consumer behavior following ordinance adoption

The ordinance will prohibit the distribution of single-use carryout plastic and paper bags at all retail establishments within unincorporated Santa Clara County. Without the use of single-use carryout bags, retailers and customers will need to utilize alternative bags or methods to carryout purchases made at the subject retail establishments. The ordinance will allow the distribution of reusable bags and the sale of 'Green' single-use paper carryout bags for $0.15 at the retail establishments. In addition to using a reusable bag or a green paper bag (for a fee), customers may also choose to not use a bag (hand carry) or any other feasible means to carry out purchased goods (purse, backpack, cardboard box, etc.)

Several studies and sources were evaluated in preparing this Initial Study in order to estimate the anticipated change in distribution of carryout bags at retail establishments following implementation of the Single-Use Carryout Bag Ordinance. This includes empirical studies of past consumer behavior following the placement of fees and bans on carryout bags at other cities and countries, projections in consumer behavior from proposed bag fees in other countries, and estimates of changes in carryout bag distribution from CEQA documents prepared by other cities in California (Santa Monica, San Jose) that evaluate a proposed Carryout Bag Ordinance.

The table below (Table 2) summarizes the change in consumer behavior from carryout fees initiated in other cities and countries.

Table 2 – Carryout Bag Fees and Consumer Behavior

Carryout Bag Fees	Fee Details	Change in Distribution of Bags
Ireland PlasTax (2002)	0.15 € fee ($0.21) on plastic bags	94% decrease in plastic bags following ordinance[1]
Victoria, Australia – voluntary plastic bag levy (2008)	10 cent fee on plastic bags (2 month trial)	79% reduction in plastic bags issued[2]
Toronto, Canada Carryout Bag Fee (2009)	5 cent fee on Plastic Bags	Observed 70% reduction in plastic bags[1]
Washington DC Carryout Bag Fee (2009)	5 cent fee on paper and plastic bags	Empirical data not finalized, estimated 50% reduction in both bags[1]
Private Bag Fees		
IKEA Bag Fee (2002)	10 cent fee on plastic bags	97% reduction in plastic bag use (8,000 to 250 per week)[3]
Supermarket in Bryon	10 cent fee on plastic bags	83% reduction in plastic bag use[3]

Bay, Australia (2002)		

[1] Metropolitan Washington Council of Governments. Plastic Bag Report. 2009

[2] Lewis, Helen. Verghese Karli, and Fizpatrick. Evaluating the sustainability impacts of packaging: the plastic carry bag dilemma. 2010

[3] Nolan-ITU / Environment Australia. Plastic Shopping Bags – Analysis of Levies and Environmental Impacts. December 2002.

As seen, in these case studies where a fee was levied on a carryout bag, consumption decreased dramatically, on average between 70 and 97% decrease.

The table below summarizes studies and CEQA documents that forecast changes in consumer behavior following implementation of a Carryout bag fee. These include studies in Australia, France and CEQA documents prepared for proposed Carryout Bag Ordinances in the cities of San Jose and Santa Monica.

Table 3 – Projected Consumer Behavior Changes – Bag Fees

Study or CEQA document	Details of Carryout Bag	Projected change in Carryout Bag consumption
Australia Study (Nolan-ITU) – 2002	15 cent levy on plastic bags	Estimate 75% reduction in plastic bag use. Resulting distribution - 25% plastic bags, 43% reusable bags, 2% paper bags, and 30% 'no bag'
Scottish Report (2005)[1] *Scenario 1*	10p ($0.15) on plastic bags	90% reduction in plastic bags. Demand shifts to 45% reusable bag, 30% 'no bag', and 25% to paper bags.
Scottish Report (2005) *Scenario 2*	10p ($0.15) levy on plastic and paper bags	90% reduction in both paper and plastic. Demand shifts to 57% using reusable bags and 43% shifts to 'no bag'.
San Jose EIR (2010)	Plastic and Paper Bag Ban, Initial fee of $0.10 on 40% recycled content Paper Ban, adjusting to $0.25 after 3 years	Estimate 65% of customers will use reusable bags and 35% of customers will use (40% recycled content) paper bags.
Santa Monica EIR (2010)	Plastic and Paper Bag Ban, Fee of $0.25 on 40% recycled content paper bags	Estimate 50% will use (40% recycled content) paper and 50% will use reusable bags.

[1] Scottish Executive. Environment Group Research Report, Proposed Plastic Bag Levy – Extended Impact Assessment. August 2005.

As shown, the application of plastic bag fees as studied in the Australian (Nolan) and Scottish studies was projected to result in a 75-90% reduction in carryout bag usage. Thus, approximately 10-25% of consumers were expected to still pay a fee for a carryout bag and the remaining would shift to using other options (reusable bag, paper, or 'no bag'). With respect to the two CEQA documents referenced (San Jose, Santa Monica), the respective ordinances under consideration are similar in nature to the proposed Santa Clara County ordinance including a ban on plastic and paper bags and a fee on 'green' paper bags.

In considering the empirical data and studies presented above, this Initial Study assumes that implementation of the proposed Carryout Bag Ordinance will result in the following changes in the distribution of carryout bags.

Table 4 – Change in use for different Carryout Bags and Methods

	Type of Bag	Change in Distribution
Reduction in Carryout Bags used today	Single-Use Carryout Plastic Bags	95% reduction (5% shift to plastic bin liners)
	Single-Use Carryout Paper Bags	100% reduction
Increased usage of other Carryout means (Shift in Demand)	Green Paper Carryout Bags (100% recycled content)	30% increase
	Reusable Bags	40% increase
	'No Bag'	30% increase

Following adoption of the ordinance, 100% of single-use paper bags and 95% of single-use plastic bags will be removed from distribution.

In order to account for this shift in demand for carryout bags, it is estimated that approximately 30% of consumers (purchasing carryout items at the affected stores) will pay the $0.15 fee for a Green Paper Carryout Bag. The remaining 70% of customers will not pay the fee and either use a reusable bag or 'no bag'.

This assumed shift in consumer behavior is a conservative estimate based on the results experienced in Ireland, Australia and elsewhere where only 10-25% of consumers were willing to pay a fee of between 5 and 15 cents for a single use carryout bag.

For the remaining 70% of consumers, it is estimated that 40% will use a reusable bag and 30% will use 'no bag'. This assumption relies in part upon analysis included within the Scottish study, which projected that consumers not paying a carryout bag fee would use a reusable bag 55% of the time and 'no bag' 45% of the time. In addition, this assumption considers the unique composition of retail stores within the unincorporated areas of the County (that will be affected by the ban). The approximate 82 retail establishments subject to the Carryout Bag Ordinance do not include any large grocery stores (over 10,000 square feet) where customers purchase numerous items at one time and thus likely require many carryout bags to hold these items. In contrast, of the 82 subject retail establishments, only a few (Rocca's Market, Bev Mo, Dollar Tree) are larger establishments where customers will likely purchase many items at one time. The remaining establishments are smaller in size (Seven Eleven, Mama's market) and customers who are required to pay a fee of $0.15 for a 'green' carryout bag would likely just not use any bag. Under the 'no bag' scenario, it is presumed that customers would either hand carry items or put items into a backpack, purse, or other bag already in the customer's possession.

In order to project the estimated total change in distribution of carryout bags following implementation of the ordinance, both (a) the size of bags and (b) the number of times a bag was used is also considered.

Ratio of Bag Sizes

The carrying capacity of typical plastic carryout bags, paper carryout bags, and reusable bags are different. Many different reports and Life Cycle Assessment studies have used different ratios in comparing the sizes of plastic, paper, and reusable bags. San Jose's Single-Use Carryout Bag EIR included a study of the amount of tennis balls that could fill each type of carryout bags in estimating a size ratio, concluding that the ratio of between 1.5:1 and 2:1 is appropriate for comparing paper and reusable bags to plastic bags (paper and reusable bags 1.5 to 2x larger than plastic bags). The Scottish Executive Report prepared in 2005 considered a 1.5:1 ratio for paper to plastic bags but reduced this ratio to 1:1 to account for the common practice of 'double bagging' paper bags and the discarding of paper bags that rip during bagging. This Initial Study conservatively assumes the same ratios as the Scottish report in order to account for double bagging but assumes a higher ratio for Reusable bags, as listed below:

Table 5 – Bag Size Ratio

Type of Bag	Size Ratio
Carryout Plastic Bag	1
1) Carryout Paper Bag 2) Green Paper Carryout Bag	1
Reusable Bag	1.5

It is unclear exactly which types of reusable bags will be used by customers in the unincorporated areas following Ordinance adoption. There are a wide variety of reusable bags available, with the more prevalent types being the (a) non-woven polypropylene (b) LDPE (c) nylon (c) cotton and (d) polyethylene terephtalate (PET) bags. Research conducted as part of the San Jose EIR identified over fifteen different types of bags available, including thos made for parachute material, recycled rice bags, and hemp. Field surveys of stores in the unincorporated areas showed that only three stores were distributing reusable bags, all of which were polypropylene.

Estimated Lifespan / Number of Uses – Reusable Bags

In order to estimate the total distribution of bags following implementation of the Carryout Bag Ordinance, the number of times a bag is used also needs to be considered. Single-Use Carryout Bags are intended for a single-use, although many households often use these bags as wastebasket liners or for pet waste disposal. However, while these bags may be used for other uses in the house, they are almost never re-used to carryout items purchased at retail establishments. In contrast, reusable bags are intended to be used for up to hundreds of times, often over several years. The Scottish Executive Study (2005) estimated that a reusable bag is used at least 20 times before replacement. In comparison the Master Environmental Assessment (MEA) on Single-Use and Reusable bags prepared by Green Cities California[2] estimated that reusable bags have a lifespan of up to 4 years and ratio of up to 1-3 reusable bags used per year in lieu of 500-600 plastic bags. Although it is expected that most reusable bags will be used more than one year, this Initial Study conservatively estimates that reusable bags are used for at least one year, and thus have a lifespan of 52 uses.

[2] Green Cities California. Master Environmental Assessment on Single-Use and Reusable Bags. March 2010

In summary, the following assumptions are made regarding bag sizes and rate of use for the plastic and paper carryout bags, green paper carryout bags, and reusable bags.

Table 6 – Overall Bag Ratio

Type of Bag	Size Comparison	Times used as a Carryout Bag	Total Ratio
Single-Use Carryout Plastic Bag	1	1	1
Single-Use Carryout Paper Bag Single-Use Carryout Green Bag	1	1	1
Reusable Bag	1.5	52	78

Replacement of Plastic Carryout bags with Bin Liners

Many single-use carryout plastic bags are reused by customers at home as either a wastebasket liner or for pet waste collection. Various studies have estimated that between 54% (Scottish Executive Report) and 75% (National Packaging Covenant Council, 2002)[3] of consumers reuse carryout plastic bags as wastebasket bin liners. As implementation of the Carryout Bag Ordinance will prohibit the distribution of plastic carryout bags, it is presumed that some customers will respond by buying additional plastic bin liners in lieu of the plastic bags. Thus as a conservative estimate, this Initial Study estimates that prohibition of single-use carryout bags will result in only a 95% elimination of plastic bags, with the remaining 5% representing a shift in demand to purchase plastic wastepaper bin liner bags. This estimate is likely very conservative as the Carryout Bag Ordinance only affects the unincorporated areas of the County which represents a small portion of total retail stores Countywide. Thus most customers will continue to obtain single-use carryout plastic bags from non-unincorporated stores, meeting any demand for bin liners or pet waste disposal.

Considering (a) the expected shift in consumer behavior following the bag ban in using carryout bags, (b) the relative carrying capacity of the bags, (c) the total number of times that a carryout bag is used for retail carryout, and (d) a small increase in the purchase of wastepaper basket plastic liners, the following table provides the estimated rate of distribution of carryout bags following implementation of the Carryout Bag Ordinance.

Table 6 – Distribution of Bags following ordinance

	Current Distribution	Percentage Change	Total Distribution Following ordinance
Single-Use Carryout Plastic Bags	640,000	95% reduction	32,000 (represents purchased plastic bin liners)
Single-Use Carryout Paper Bags	192,000	100% reduction	0
Total Shift in Carryout Bag Demand = 832,000			
Green Paper Carryout Bags (100% recycled content	unknown	30% of new demand	249,600

3 National Packaging Covenant Council. Plastic Shopping Bags in Australia. December 2002

Reusable Bags	unknown	40% of new demand	4,267[1]
'No Bag'	unknown	30% increase	249,600

[1]Considers total demand of 484,000 bags divided by 78 to account for size and reuse (per Table 6)

Thus, it is assumed that implementation of the Single-Use Carryout Bag Ordinance will eliminate 608,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags from distribution within the unincorporated areas and result in the increase in distribution of 249,600 green carryout paper bags and 4,267 reusable bags.

Purpose and Focus of Initial Study

The purpose of this Initial Study, in compliance with the California Environmental Quality Act (CEQA), will be to evaluate and disclose the following:

(1) What are the potential environmental impacts that could occur from enacting the proposed Carryout Bag Ordinance that will prohibit the use of single-use carryout plastic and paper bags within the Unincorporated areas of Santa Clara County?

Or specifically,

(2) What are the environmental impacts of replacing the distribution of 612,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags with 249,600 single-use green paper bags and 4,267 reusable bags?

History of Carryout Bags and Environmental Impacts

Paper carryout bags have been in use much longer than plastic bags. The use of paper sacks as carryout bags began first during the Industrial Revolution during the 19th century. While the first plastic bags were manufactured during the 1950's as smaller sandwich bags, they began widespread use as carryout bags in the 1970's, initially used at large merchandise stores and later at grocery stores.[4]

The debate over "paper vs. plastic" has been a longstanding issue within the U.S. As many consumers have been faced with the question of "paper or plastic?" during checkout in a supermarket, there is often a consideration of which bag is 'better' for the environment. Plastic bags are often seen as bad for the environment because they are product of a petrochemical process and no not degrade or 'go away' once manufactured. Paper bags are seen as bad for the environment in that they require wood and the potential deforestation for production. However, a presumed advantage of paper bags is that they will eventually degrade or could be more easily recycled than plastic bags. The bulk of Life Cycle Assessment and environmental studies conducted have shown that both bags have environmental impacts, abet more significantly within different categories.

Life Cycle Assessments and Carryout Bags

4 www.plastcsindustry.com

Implementation of the proposed Carryout Bag Ban would result in both direct and indirect environmental impacts. By prohibiting the distribution of single-use carryout plastic and paper bags, these bags would be physically absent from the subject retail establishments in the unincorporated areas, constituting a direct environmental effect. In addition, by prohibiting single-use carryout plastic and paper bags and allowing green paper bags (with a fee) and reusable bags, this will result in indirect environmental impacts associated with the production and disposal of these different types of bags. Life Cycle Assessment (LCA) studies are studies that evaluate the total environmental impacts from the manufacture, use, and disposal of products, accounting for a "cradle to grave" evaluation. Over the last 10 to 20 years, many Life Cycle Assessment studies have been prepared that evaluate the relative environmental impacts associated with the use of different carryout bags. These studies have evaluated different types of bags, different geographic settings, and include diverse assumptions regarding how the carryout bags are manufactured, used, and disposed. A summary of the several Life Cycle Assessment studies that are referenced in this Initial Study are summarized in the table below.

Table 7 - Life Cycle Assessment Studies

Title of Study, year and Location	Types of Bags Evaluated	Environmental Categories Included	End of life assumptions and recycling rates
Franklin (1990) - USA	• Plastic (polyethelyene) • Paper (unbleached)	Solid Waste Atmospheric Emissions Waterborne Waste	Landfill. Evaluates recycling rates for both bags at 0%, 25%, 50%, 75% and 100%
Carrefour / Ecobilan (2004) - France	• Plastic (HDPE) • Paper • Biodegradable Plastic • Plastic Reusable (LDPE)	Energy Water Use Greenhouse Gases Atmospheric Emissions Ozone Formation Eutrophication Solid Waste	Landfill / Incineration Assumes no recycling of bags
Scottish Executive (2005)[1] - Scotland	• Plastic (HDPE) • Paper • Plastic Reusable (LDPE)	Same as Carrefour	Landfill. No recycling of Bags
Boustead (2007) - USA	• Plastic (HDPE) • Compostable Plastic • Paper (30% recycled content)	Greenhouse Gases Ozone Depletion Acid Rain Solid Waste Fossil Fuel Use Electricity Use Water Use	Landfill. Paper bags 21% recycling rate. Plastic bags 5.2% recycling rate.
Nolan-ITU (2002) Australia *Streamlined LCA*	• Plastic (HDPE) • Paper • Woven HDPE Reusable Bag	Greenhouse Gas Emissions Primary Energy Litter	Landfill. Paper bags 60% recycling rates
Hyder Consulting (2007) – Australia *Streamlined LCA*	• Plastic (HDPE) • Paper • Plastic w/ 100% recycled content	Material Consumption Greenhouse Gases Energy Consumption Water Use	Landfill. Paper bags 60% recycling rates

	• Paper w/100% recycled content • Biodegradable Plastic • Plastic Reusable (LDPE) • Calico Reusable • Non-woven plastic Reusable	Litter / Marine Biodiversity Litter/ Aesthetics	

[1] Uses Carrefour LCA and adjusts assumptions for circumstances in Scotland

The list of Life Cycle Assessments (LCA's) above is not exhaustive and there have been many other studies performed, including a study of several Life Cycle Assessments by Use Less Stuff (2008), a study prepared for the city of Seattle that also evaluated several LCA's (Herrera 2008), and a study by EuroCommerce (2004) that also evaluated several different LCA's.

While most of the LCA's and related studies evaluate the environmental impacts from single-use plastic and paper bags, compostable bags, and certain types of reusable bags (LDPE or plastic reusable), there has been no in depth LCA performed that evaluates the single-use paper and plastic bag compared with all types of reusable and 'green' paper (100% recycled content) bags.

It is important to note that each Life Cycle Assessment is unique to the (a) the geographic area in which it was prepared (USA vs. Europe vs. Australia) and (b) assumptions regarding size of bags used, shopping habits, source of bags (manufacturers), and disposal (recycling vs. landfill vs. incineration). To date, there has been no Life Cycle Assessment prepared that evaluates single-use plastic bags, single-use paper bags, and reusable bags within California. In March 2010, a Master Environmental Assessment was prepared by Green Cities California that evaluated numerous Life Cycle Assessments and provided a comprehensive summary of the relative environmental impacts of different types of Carryout bags.

Characteristics of Different Carryout Bags

Single-Use Carryout Plastic Bags

Single-use carryout bags are typically made of thin, lightweight high density polyethylene (HDPE). These bags are a product of the petrochemical industry. They are formed when crude oil or natural gas is processed into polymers and heated to form a plastic resin that is blown through tubes to create the bags. Within the U.S., plastic bags are typically made of ethane, a byproduct of natural gas. Typical single-use carryout bags are 5-9 grams in weight. After their use as a carryout bag, they are often reused in households as a wastepaper bin liner or to collect and dispose pet waste. Most bags are disposed as waste into landfills. Due to their lightweight, plastic bags are very susceptible to become wind-blown litter, either when handled by consumers (intentionally or unintentionally littered) or from landfills.

Only a small portion of existing single-use carryout bags are recycled. In 2005 the U.S. EPA estimated that approximately 5% of plastic bags in California were recycled.[5] A report of plastic bag recycling in 2008 by San Jose following the implementation of AB 2449

5 EPA. Municipal Solid Waste Generation, Recycling, and Disposal in the United States. 2009

(requiring plastic bag recycling bins at large grocery stores) showed a 7 percent recycling rate.[6] According to the San Jose EIR, many recycling facility operators report problems with recycling plastic bags, related to contamination (food waste in bags sent for recycling), difficulty in processing due to bag consistency, and low resale value of recycled plastic.

With respect to environmental impacts, perhaps the largest environmental impact associated with single-use carryout plastic bags is litter. Although plastic bags constitute a small portion of overall waste, they represent a 'visual' blight due to their high visibility and propensity to be carried large distances (due to their light weight). Plastic bags may also cause concern with respect to endangerment of marine mammals, associated with entanglement and injestion. Although the manufacturing of plastic bags is associated with the petrochemical and oil industry, many of the Life Cycle Assessment prepared for plastic and paper bags have shown that plastic bags have lesser impacts than paper bags in environmental categories such as water and energy use greenhouse gas emissions, and potential for eutrophication (nitrate and phosphate emissions into water that stimulate excessive algae growth).

The types of plastic bags distributed at stores in the unincorporated areas of the County are shown in Photo 1

Photo 1- Plastic bags distributed from unincorporated retail stores

Single-Use Carryout Paper Bags

Single-Use Carryout paper bags are typically produced from Kraft paper, and weigh between 50-100 grams. Kraft paper bags are manufactured from a paper pulp created through breaking down paper material into its fibrous constituents. Several types of chemicals are used in the process, including caustic sodas, sodium, hydroxide, and chlorine compounds. The resulting Kraft pulp is shaped into large rolls and the paper is printed and formed into bags. Following use as a carryout bag, the bags are also used (similar to carryout plastic bags) as a waste basket liner. The U.S. EPA estimates that approximately 38% of paper bags are recycled nationally.[5] Within the San Francisco Bay area and Santa Clara County, this recycling rate is likely higher. As reported in the San Jose EIR, the County of Alameda estimates that 60 to 80 percent of Kraft recycled bags are recycled. Due to this high rate of recycling, many of the single-use carryout paper bags used today contain post consumer recycled content. Single-

6 San Jose Carryout Bag EIR

use carryout paper bags that are not recycled end up as waste in landfills. As these bags are heavier (at least 5x heavier than plastic bags), they are much less likely to become wind-blown litter.

With respect to environmental impacts, the manufacturing and disposal of single-use carryout paper bags often results in greater environmental impacts related to water, energy, and air emissions in comparison with plastic bags. Due to the more intensive amount of energy and materials required to manufacture the bags and the methane emitted during decomposition as waste, paper bags result in higher greenhouse gas emissions (in comparison with plastic bags). Many of the LCA studies also show that paper bags result in more atmospheric acidification, require more water during the manufacturing process and have a higher potential to cause eutrophication.

The types of paper bags distributed from stores in the unincorporated areas are shown in Photo 2 below.

Photo 2 - Paper bags distributed from unincorporated retail stores.

Reusable Bags

Reusable Bags are durable bags intended for multiple uses as a carryout shopping bag. There are many types of materials that can be used to manufacture reusable bags. Some of the more prevalent types of reusable bags found in distribution within Santa Clara County (not exclusive to the unincorporated area) include non-woven polypropylene plastic bags, polyethylene plastic bags, and cloth based bags incorporating different materials (nylon, cotton, hemp). The type of manufacturing process used to create the reusable bag depends upon the type of material used. Reusable bags are much heavier than plastic and paper bags, and are intended to be used hundreds of times. After these bags are ultimately worn out and are unable to be used , they are either disposed in a landfill or recycled.

In general, as a single reusable bag is used many times in place of many single-use carryout paper or plastic bags, their environmental impact is significantly less. No life cycle assessment has been prepared that evaluates all types of reusable bags currently available in California. However, of the reusable bags that are available, the studies have shown that the

non-woven plastic polypropylene bags have the least environmental impact while cotton bags may have a higher environmental impact (associated with water usage).

The bags observed being distributed from Dollar Tree and Bev Mo within the unincorporated areas are shown in Photo 3

Photo 3 - Reusable Bags from BevMo and Dollar Tree

Use of Life Cycle Assessments for this Initial Study

As previously stated, there currently is no comprehensive LCA available that evaluates the manufacture, use and disposal of single-use plastic, single-use paper, and reusable bags in California. LCA studies prepared to date have occurred in Europe (Ecobilian / Carrefour, Scottish), Australia (Nolan ITU, Hyder Consulting), and elsewhere within the USA (Boustead, Franklin). Although the Boustead study was prepared within the United states, it is not specific to circumstances in California and does not include a study of reusable bags.

As such, in order to provide a reasoned evaluation and disclosure of the potential environmental impacts that could result from implementation of the Carryout Bag Ordinance, this Initial Study generally relies upon data and ratio's used within the Carrefour / Ecobilian, Life Cycle Assessment.

This study was chosen as a general reference for environmental analysis because it is relatively recent and evaluated a single-use plastic bag, single-use paper bag, and a reusable bag. The study was prepared to ISO standards (for Life Cycle Assessments), contains numerous environmental indicators, and was critically reviewed by the French Environment and Energy Management Agency. The Carrefour study evaluated use of a plastic bag that weighs 6g in size and a paper bag of 52g, comparable to bags produced in the U.S.A. The paper bag used in the study was stated as using recycled material but the total amount is unknown. Although waste management in France includes the incineration of trash, a sensitivity analysis was included within the Carrefour study that assumed all bags are sent to a landfill. As single-use carryout plastic bags are presumed to be recycled at about a 7% rate

and paper bags at minimum a 50% rate, the use of this data provides a very conservative estimate of environmental impacts, which would likely be lower.

The Chart below summarizes the general environmental impacts associated with the three different bag types (using the plastic bag as a comparison), derived from the Carrefour Study, assuming use of a bag only one time.

Table 8 – Ratio of Environmental Impact from Ecobilian / Carrefour Study – Use of Bags only one time

Environmental Category	Plastic (HDPE) Bag	Paper Bag	Reusable (LDPE) Bag[1]
Energy Consumption	1.0	1.1	2.4
Water Consumption	1.0	4.0	2.6
Greenhouse Gas Emissions	1.0	3.3	2.6
Atmospheric acidification	1.0	1.9	3.0
Air Quality (ground level ozone formation)	1.0	1.3	1.4
Eutrophication of Water Bodies	1.0	14.0	2.8
Solid Waste Production	1.0	2.7	2.8

[1] Adapted from Table 18 (page 50) of the Carrefour Study, calculated by doubling the ratio shown for the use of a LPDE Reusable bag two times (using the LPDE bag only one time would reduce the ratio by half).

The environmental impacts from the different bags shown in Table 8 above are shown as ratio, using the plastic bag as a basis of comparison (ratio of 1). The ratio above assumes the use of each bag only **one** time. As a reusable bag is intended to be used many times, the ratio would substantially decrease following many uses. The Ecobilian / Carrefour study estimates that environmental impacts from the LPDE reusable bag will decrease to 0.1 (as a ratio) after twenty times of use.

Types of Reusable Bags and Referenced LCA's

As stated before, today in California there are many types of reusable bags that can be used by consumers in carrying out retail purchases. The Carrefour / Ecobilian study only evaluates one type of Reusable bag (LPDE Plastic Bag). Following implementation of the Carryout Bag Ordinance, it is anticipated that approximately 4,200 new reusable bags would be used by customers in the unincorporated areas, replacing single-use plastic and paper bags.

It is unclear exactly what types of reusable bags will be used, but for certain they will not all be LPDE reusable bags. The three stores in the unincorporated areas that were observed currently distribute reusable bags (BevMo Dollar Tree, and Stanford Bookstore) use non-woven polypropylene bags. Following implementation of the ordinance, customers

shopping at retail establishments in the unincorporated areas may use reusable bags obtained from the affected retailers (such as Dollar Tree or other stores) or from a variety of other sources, such as other retail stores (outside the unincorporated area), purchased online, or other locations .

Thus, no exact calculation or projection is made within this Initial Study regarding the specific ratio or composition of reusable bag types that will be used by customers in the unincorporated areas. It is presumed that a mix of different bags could be used, including non-woven polypropylene, cloth (cotton or nylon) bags, LPDE plastic bags, and polyethylente terephtalate (PET) bags.

In order to evaluate and disclose potential environmental impacts that could result from the use of these different types of reusable bags, this Initial Study also references data from the Nolan ITU study and Hyder Consulting LCA studies conducted in Australia within certain environmental categories. These LCA studies evaluated the environmental impacts of PP (polyprophlene) bags, cotton / cloth, and PET bags in several environmental categories, including greenhouse gas emissions.

Evaluation of 100% Recycled Content Paper Bags - Methodology

The proposed carryout bag ordinance will prohibit single-use carryout plastic and paper bags but allow retailers to sell 'green' paper carryout bags for a minimum fee of $0.15. The green paper carryout bags are defined as those that are 100% recyclable and composed of 100% recycled material. As shown in Table 6, this Initial Study assumes that following ordinance adoption, approximately 30% of retail transactions will entail consumers paying the $0.15 to purchase a green paper bag.

The Carrefour / Ecobilian LCA is stated to evaluate a paper bag that includes recycled material, but it is unclear the composition rate. A resource available for use that compares environmental impacts from using (or not) post consumer recycled content in paper is the Paper Calculator created by the Environmental Defense Fund, found online at http://www.edf.org/papercalculator/. This online resource compares how the use of recycled content in paper results in reducing environmental impacts with respect to wood use, energy usage, greenhouse gas emissions, wastewater, and solid waste. Although this paper calculator does not specifically evaluate paper bags but instead compares other general paper products, a general comparison in environmental savings from using recycled content can be referenced as the overall change in production processes are similar.

Thus, in terms of methodology, this Initial Study will incorporate analysis from the Ecobilian / Carrefour LCA and use a sensitivity analysis (adjustments) based on data from the Environmental Defense Fund Paper Calculator. As the amount of recycled content in the paper bags evaluated under the Ecobilian / Carrefour study is unknown, this Initial study conservatively assumes a minimum conversion from 70% to 100% recycled content in conducting the analysis. In areas where this environmental analysis would be speculative, the Ecobilian / Carrefour analysis (without any adjustments per the Paper Calculator) will be used.

The Hyder Consulting (2007) LCA study prepared in Australia evaluated 100% post consumer content recycled paper bags, but does not provide a quantified analysis of potential

environmental impacts in all categories. Instead, this study includes a qualitative comparison between different types of carryout bags. This study is referenced in certain categories of this Initial Study for comparison purposes.

Framework for Environmental Analysis and use of LCA Data

This Initial Study will focus in the environmental impacts of implementing the proposed Carryout Bag Ordinance within several main categories. These are:

(a) Aesthetics / Litter
(b) Air Quality
    a. Ozone Creation
    b. Atmospheric Acidification
(c) Biology
(d) Greenhouse Gas Emissions
(e) Hazards
(f) Water / Hydrology
    a. Eutrophication
    b. Water Quality
(g) Utilities and Services
    a. Water Use / Consumption
    b. Solid Waste
(h) Cumulative Analysis.

In other categories, such as Agricultural Resources, Cultural Resources, Geology and Soils, Noise, Traffic, and Utility and Service Systems, all impacts are anticipated to be insignificant.

For the Aesthetics, Biological, Hazards and Water Quality sections, the Initial Study will provide a qualitative analysis of the potential environmental impacts associated with the Carryout Bag Ordinance.

For the Air Quality (Ozone, Atmospheric Acidification), Greenhouse Gas Emissions, Water Usage, Eutrophication, and Solid Waste sections, a general quantitative analysis will be provided based on analysis contained within the Life Cycle Assessment studies referenced. These sections will not include a specific quantification in terms of measurable pounds or kilograms of emissions or materials, but instead a quantified ratio will be provided that compares the potential rate of environmental impacts, using the data from the Ecobilian / Carrefour study (Table 8).

The Cumulative Section will provide a brief summary of other proposed Carryout Bag ordinances under consideration within California, conclusions contained within associated Environmental (CEQA) documents, and an analysis if the proposed Santa Clara County Carryout Bag Ban will result in any cumulatively considerable significant impacts.

ENVIRONMENTAL CHECKLIST AND DISCUSSION OF IMPACTS

A. AESTHETICS					
	IMPACT				
WOULD THE PROJECT:	YES			NO	SOURCES
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	2,3,4, 6a,17f
b) Substantially damage scenic resources along a designated scenic highway?	☐	☐	☐	☒	3, 6a, 17f
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒	2,3
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒	3,4
e) If subject to ASA, be generally in non-compliance with the Guidelines for Architecture and Site Approval?	☐	☐	☐	☒	11
f) If within a Design Review Zoning District for purposes of viewshed protection (d, -d1, -d2), conflict with applicable General Plan policies or Zoning Ordinance provisions?	☐	☐	☐	☒	2,3,4,8a, 9,12, 17f

BACKGROUND:
One of the main objectives in implementing of a Carryout Bag Ordinance is to reduce the amount and visibility of litter associated with carryout bags. As Carryout Bags are designed for a single purpose (carry items from a retail establishment home), they are used in huge quantities and have a much higher risk (than reusable bags) of becoming litter.

Single-use carryout bags are often used for a secondary use in the household (wastebasket liner or pet waste disposal) and then either deposited as waste or recycled. Recycling rates vary between single-use carryout plastic and paper bags, and almost all studies show that paper bags are recycled at a higher rate. In 2006, California signed into law Assembly Bill 2449 that requires large grocery stores to provide onsite locations to recycle plastic bags. One of the main objectives of this law was to reduce the amount of single-use carryout plastic bags that are deposited into waste or end up as litter.

In 2005, the U.S. EPA estimated that approximately 5% of single-use carryout plastic bags in California were recycled. This rate of recycling may have increased following the passage of AB 2449 and installation of plastic bag recycling bins in large grocery stores. The City of San Jose has estimated that 7% of plastic bags were being recycled in San Jose today (following implementation of AB 2449).

Paper bags are generally recycled at a higher rate than plastic bags. The U.S. EPA estimated in 2005 that approximately 38% of paper bags were recycled nationally. Within the San Francisco Bay area and Santa Clara County, this rate is likely higher due to greater promotion of recycling programs and public awareness. The County of Alameda estimates that approximately 60 to 80 percent of single-use carryout paper (Kraft) bags are recycled.

Single-use carryout bags that are not recycled are either deposited as waste or inadvertently end up as litter. Carryout bags that are disposed of as waste may still become litter, especially plastic bags. Due to their lightweight, plastic bags are much more susceptible to be wind blown from landfills, transfer stations, or trash pick up areas and become litter.

Several of the LCA studies referenced in this Initial Study evaluated the potential for litter associated with different types of carryout bags. Both the Carrefour / Ecobilian report (2007) and the Hyder Consulting Study (2007) from Australia include an evaluation of the risk of litter associated with the different bags. The Green Cities Master Environmental Assessment (MEA) published in 2010 also ranked carryout bags in terms of aesthetics / litter impacts.

Table 9 – Litter Impacts from LCA's

	Plastic Bag	Paper Bag	Reusable Bag
Carrefour / Ecobilian (2004)	Strong	Weak	Medium-Weak (LDPE Bag)
Hyder Consulting (2007) *Scale of 1-5 with 5 being highest*	5	2	1
Green Cities MEA (2010) *Scale of 1-3 with 3 being highest*	3	2	1

As shown in table 9 above, of the three types of carryout bags evaluated, the plastic bag was estimated to have the highest risk of litter and / or aesthetics impact.

There have been numerous litter studies performed worldwide to determine which materials constitute the majority of litter found in the environment. These are usually based on data accumulated from annual clean up of beaches such as the International Coastal Clean Up or periodic clean up of streets, parks and waterways by volunteer groups. While both plastic and paper bags have been found within the litter stream, they do not usually constitute the most frequent item found, which is usually cigarette butts, candy wrappers, miscellaneous debris.

However, while bags constitute a small portion of the litter stream, plastic bags have much greater visibility as litter. As paper bags are heavier and degrade at a faster rate than plastic bags, they are much less visually prominent within the litter stream. The 2007 Hyder Consulting Study in Australia estimated that plastic bags remain in the litter stream up to 5 years while paper bags usually decompose after 6 months.

The various litter studies consulted during preparation of this Initial Study are summarized in the table below, which shows plastic and paper bags as a percentage of the total items found.

Table 10 – Litter Studies

Litter Study	Plastic Bags	Paper Bags	Item with highest occurrence
Beach / Coastal			
International Coastal Cleanup Day 2007 – California [1]	11%	5%	Food Wrappers / Containers - 24%
National Marine Debris Monitoring Program (Ocean Conservancy) 2007 – West Coast	11%	n/a	Straws – 29%

Marine Conservation Society (UK) Beach Litter Survey – 2009[2]	2.2%	0.3%	Plastic pieces – 11.2%
Watershed / Rivers			
Anacostia Tidal River Trash Survey 2005 [3]	9%	n/a	Styrofoam & Paper – 52%
Anacostia Watershed Study 2008 *Anacostia River tributaries* [4]	47%	n/a	Plastic Bags
Anacostia Watershed Study 2008 *Anacostia River*	22%	n/a	Food wrap 27%
General / Urban Areas			
San Francisco Litter Study / HDR Consulting (2007) [5]	0.6% (retail bags)	0.4% (retail bags)	Misc. Paper - 15%
San Francisco Litter Study (re-audit) / HDR (2008)	0.64% (retail)	0.3% (retail)	No Brand Name Napkins – 16.7%
Great American Litter Clean Up – San Jose (2010) [6]	6.7%	n/a	Cigarette Butts – 30%
San Jose Litter Assessment. 2009	4.88% (retail)	0.3% (retail)	Misc. Paper – 22%
Keep Australia Beautiful Litter Survey – 2009 [7]	0.6%	0.8%	Cigarette Butts – 49%

n/a = not available. For this survey, paper bags were not included as a category, however they may have been included as part of a general "paper" category.

1 Ocean Conservancy Report - http://www.oceanconservancy.org
2 Ocean Conservancy. National Marine Debris Monitoring Program Report. 2007
3 http://docs.nrdc.org/water/files/wat_06031501a.pdf
4 Anacostia Watershed Society for the District of Columbia Department of the Environment. Anacostia Watershed Trash Reduction Plan. December 2008
5 HDR Consulting / City and County of San Francisco. Streets Litter Audit. 2007
6 Data results / tally sheets provided by Stephen Joseph.
7 Keep Australia Beautiful. National Litter Index – Annual Report. 2009 / 2010

While the survey results between the different geographic areas above present different findings, there are several overall trends. As a percentage of the overall trash debris found in the urban and nationwide surveys (San Jose, San Francisco, and Australia), both plastic and paper bags constitute a small portion of the overall litter stream. Within the watershed studies (Anacostia, San Jose), plastic bags notably compose a higher percentage of items found. Within the Marine and Beach litter surveys, both plastic and paper bags have composed a small portion of overall debris found, albeit with plastic bags at higher rates.

In addition to Cigarette butts and wrappers, many of the surveys found a high percentage of miscellaneous paper and plastic. These were often small pieces of plastic or paper that had been weathered or broken apart to the point where the origin of the item was indiscernible. Several of the surveys have noted a progressive increase in the number of plastic debris found. Between 1994 and 2009, the total number of plastic items found during the annual Marine Conservation Society Surveys in the UK has increased by over 100% (from 530 to 1173 items per kilometer). Keep America Beautiful reports that the incidence of plastic items in the litter

stream has increased over 165% in the last 40 years.[7] It is unclear exactly how much plastic bags contribute to this trend in the litter surveys. As the amount of plastic packaging used in general to package, wrap, and contain goods has dramatically increased in the last 40 years, these trends more likely match the overall increase in use of plastic, encompassing packaging, bags, and other types of products.

Within Santa Clara County, the overall issue of trash accumulation within creeks and streams has been recognized by the California Regional Water Quality Control Board. On February 11, 2008, the RWQCB adopted a resolution recognizing several creeks within the County as "trash impaired".8 This includes Coyote Creek, Guadalupe River, San Thomas Aquino Creek, Saratoga Creek, and Silver Creek.

PROJECT IMPACTS

Implementation of the proposed Carryout Bag Ordinance will prohibit the distribution of single-use carryout plastic and paper bags from retail establishments within the unincorporated areas of Santa Clara County. The ordinance will allow retail establishments to sell a "Green" Paper bag for a minimum fee of $0.15 and distribute a reusable bag (with or without a fee). As discussed in the Introduction section, implementation of the ordinance is expected to result in the removal of approximately 608,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags from distribution in the unincorporated areas. The shift in demand for carryout bags will result in the new distribution of approximately 249,600 'green' paper carryout bags and 4,267 reusable bags.

By shifting from the use of single-use carryout bags to either reusable bags, green paper bags, or 'no bag', there will be a net reduction of approximately 545,000 carryout bags in distribution, over a 66% decrease. A potentially significant aesthetic impact would only likely occur if the types of bags replacing the single-use carryout plastic and paper bags has a much higher rate to become litter. As discussed above, paper bags generally constitute a smaller percentage of the litter stream than plastic bags. This is due to their greater weight and higher rate of decomposition. In addition, paper bags have generally been recycled at a much higher rate than plastic bags both nationwide and within California. The 'green' paper bags that will allowed to be distributed under the Carryout bag ordinance are required to be 100% recyclable. Although there have not been any detailed studies regarding the rate at which reusable bags become litter, this rate is expected to be very low. As reusable bags are designed to be durable and used multiple times, customers are very unlikely to intentionally drop them as litter. At the end of their lifespan, the reusable bags may either be recycled or disposed of as waste. Due to their heavier weight, they are unlikely to become windblown litter from any landfills or transfer stations.

In summary, implementation of the Carryout Bag Ordinance will not result in any potentially significant aesthetics impacts.

[7] Keep America Beautiful. Litter in America. Key Findings: Litter. January 2010. www.kab.org

8 San Francisco Regional Water Quality Control Board - Resolution No. R2-2009-0008 Recommending Changes to the List of Water Bodies as Required in Section 303(d) of the Clean Water Act, February 11, 2009

B. AGRICULTURE / FOREST 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:	IMPACT				SOURCE
	YES			NO	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Convert 10 or more acres of farmland classified as prime in the report *Soils of Santa Clara County* to non-agricultural use?	☐	☐	☐	☒	3,23,24,26
b) Conflict with existing zoning for agricultural use?	☐	☐	☐	☒	9,21a
c) Conflict with an existing Williamson Act Contract or the County's Williamson Act Ordinance (Section C13 of County Ordinance Code)?	☐	☐	☐	☒	1
d) Conflict with existing zone for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒	
e) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	
f) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	3,4,26

DISCUSSION:

Implementation of the Carryout Bag Ordinance is not expected to have any potentially significant impacts related to Agricultural Resources. [Is a more detailed discussion necessary?]

C. 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:	IMPACT				SOURCE
	YES			NO	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒	5,28

b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒	5,29
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)?	☐	☐	☐	☒	5,29
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	5,29
e)	Create objectionable odors or dust affecting a substantial number of people?	☐	☐	☐	☒	5,21, 29, 47
f)	Would the project generate greenhouse gas emissions, either directly or indirectly that may have a significant impact on the environment, or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	

BACKGROUND

Santa Clara County is located within the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the regional government agency that monitors and regulates air pollution within the air basin.

Pollutants that are monitored within Santa Clara County and compared with State and Federal Standards in include Nitrogen Oxide (NOx), Fine Particulate Matter (PM10), and Ozone. Air Quality levels within Santa Clara County have exceeded State and Federal standards for PM10 and Ozone in the past.

FRAMEWORK OF AIR QUALITY ANALSIS

Implementation of the proposed Carryout Bag Ordinance will have the direct physical impact of removing approximately 800,000 single-use carryout bags from distribution in the unincorporated areas, to be replaced with approximately 250,000 'green' paper bags and 4,250 reusable bags. The Air Quality analysis included within this Initial Study focuses on potential indirect impacts to Air Quality that could result from this shift in the production and distribution of carryout bags. This analysis incorporates past Life Cycle Assessment studies of the different carryout bags affected by this ordinance, as referenced in the Introduction of the Initial Study.

Any potential air quality impacts related to increased truck traffic associated with the distribution of carryout bags is expected to be less than significant. As discussed in the traffic section of the Initial Study, implementation of the Carryout Bag Ordinance would not result in any significant increase in truck traffic (associated with the delivery of carryout bags to retail establishments in the unincorporated areas). As such, there would be not be any potentially significant air quality impacts associated with truck emissions.

LIFE CYCLE ASSESSMENTS

Air Quaity impacts are summarized within the two tables below with respect to two categories: (a) Emission of Air Quality pollutants / Atmospheric Acidification, and (b) Ground Level Ozone and use the data and ratio's from the Ecobilian / Carrefour study which assumed that all bags are land filled following use.

Atmospheric Acificiation results from the release of Nitrogen Oxide and Sulfur into the atmosphere that can have subsequent harmful impacts on aquatic and terrestrial ecosystems. Ground Level Ozone is one of the main components of smog, and is formed through the chemical reaction of pollutants in the presence of sunlight. Breathing ozone can result in several detrimental health effects, including chest pain, coughing, and throat irritation. Those with asthma are especially at risk to the effects of ozone.

Table 11 – Ozone Emissions

	Type of Bag and number used	Ozone Emissions (Ratio)	Resulting Ozone Emissions (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	1.3	249.6
	Total		**889.6**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	1.3	324.4
	Reusable Bag 4.27[1]	1.4	5.97
	Total		**362.4**
	Net Change		*-527.2*

[1]In thousands

Table 12 – Atmospheric Acidification

	Type of Bag and number used	Ozone Emissions (Ratio)	Resulting Ozone Emissions (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	1.9	364.8
	Total		**1,004.8**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	1.9	474.2
	Reusable Bag	~~3.0~~	~~12.8~~

	4.27[1]		
	Total		**519**
	Net Change		*-485.8*

[1]In thousands

As discussed in the Introduction section, this analysis does not provide an exact calculation of change in total emissions (in pounds or kilograms) but instead provides a general quantification of the rate at which the environmental impacts could occur.

As shown, following implementation of the Carryout Bag Ordinance, total Ozone and Atmospheric Acidification emissions would be decrease by approximately 50% in each category, using the ratios from the Carrefour / Ecobilian Study. It should be noted that the rate of emissions for paper bags incorporated from the Carrefour study has not been adjusted to account for the use of 'green' paper bags per the Carryout Bag Ordinance which are comprised of 100% recycled material. Thus, while not quantified, it is anticipated that the resulting reduction in Ozone and Atmospheric Acidification emissions would be more significant than as listed above.

The analysis used above uses the LDPE Carryout Bag as a representation of Reusable bags in evaluating Air Quality Impacts. There is no known available Life Cycle Assessment that evaluates all types of Reusable Bags (Calico, PP, PET, etc.) with respect to potential Air Quality Emissions. However, given the high rate of reuse by all types of Reusable Bags (usually at least one year -52 times), the Air Quality emissions from these bags, when compared to the single-use carryout plastic and paper bags, are expected to be comparable (to the LPDE bag) or lower.

In summary, implementation of the Single-use Carryout Bag Ordinance will not result in any potentially significant Air Quality impacts related to Ozone Emissions and Atmospheric Acidification (Criteria Pollutants).

D. BIOLOGICAL RESOURCES					
	IMPACT				
WOULD THE PROJECT:	**YES**			**NO**	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	**SOURCES**
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?	☐	☐	☐	☒	1, 7, 17b, 17o,

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?	☐	☐	☐	☒	3,7, 8a, 17b, 17e, 33
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.) or tributary to an already impaired water body, as defined by section 303(d) of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	3, 7, 17n, 32
d)	Have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conversion/loss of oak woodlands) – Public Resource Code 21083.4?	☐	☐	☐	☒	1, 3, 30, 31
e)	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?	☐	☐	☐	☒	1,7, 17b, 17o
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?	☐	☐	☐	☒	3,4
g)	Conflict with any local policies or ordinances protecting biological resources:					
	i) Tree Preservation Ordinance [Section C16]?	☐	☐	☐	☒	1,3,31
	ii) Wetland Habitat [GP Policy, R-RC 25-30]?	☐	☐	☐	☒	3, 8a
	iii) Riparian Habitat [GP Policy, R-RC 31-41]?	☐	☐	☐	☒	3, 8a,

BACKGROUND:

In pursuing adoption of a carryout bag ordinance, many entities have referenced the potential for carryout plastic bags to cause harm to wildlife, particularly marine life. Recent proposed California state legislation to ban plastic bags (AB 1998) references plastic and marine debris as a hazard to marine species. The ordinance enacting a ban of plastic bags for the City of Manhattan Beach cites the potential for marine mammals to ingest or choke on plastic debris.[9] Studies prepared for Australia (ExcelPlas 2004) and Scotland concerning a potential ban or fee on plastic bags have referenced impacts to marine mammals.

As discussed in the Aesthetics section, single-use carryout bags, when compared with reusable bags, have a much higher chance of becoming litter and entering creeks and streams. Lands within unincorporated Santa Clara County encompass two watersheds – (a) the San Francisco Bay Watershed for lands generally north of Cochrane Road in Morgan Hill, and the Pajaro Watershed for lands south of this area. Creeks and streams within each of these watershed supports several types of fish and wildlife species considered "special status" species as they are listed or threatened or endangered by the U.S. Fish and Wildlife Service or the California Department of Fish and Game. This includes the South Central Coast and Central California Coast Steelhead (Federally Threatened), California Red Legged Frog

9 City of Manhattan Beach – Ordinance 2115 Prohibiting the use of Plastic Carryout Bags, 2008.

(Federally Threatened), Western Pond Turtle (State Species of Special Concern), and the California Yellow Legged Frog (Species of Special Concern).

Santa Clara County, in partnership with five additional local partners (Cities of San Jose, Gilroy, & Morgan Hill, Santa Clara Valley Water District, Valley Transportation Authority) is currently preparing a Habitat Conservation Plan / Natural Communities Conservation Plan in compliance with State and Federal Endangered Species Acts to address endangered species impacts and protection over a 50 year period. This plan addresses a variety of land development and maintenance activities, but does not consider activities or ordinances related to carryout bag distribution.

Currently there are approximately 640,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags distributed annually from retail establishments in the unincorporated areas. Retail establishments are located within both watersheds (Pajaro and San Francisco), although the majority of non-winery retail businesses are located in unincorporated San Jose, within the San Francisco Bay watershed.

Of the two types of carryout bags currently in distribution, plastic bags pose a greater overall hazard to wildlife species. While paper bags will usually degrade at a fast rate within an aquatic environment, plastic bags will degrade much slower. According to the National Oceanic and Atmospheric Administration (NOAA) , most plastic does not ever fully "go away" but rather breaks down into smaller and smaller pieces.[10] Without this complete degradation, plastic bags and / or pieces of plastic bags may cause a hazard to fish, birds, and mammal species within a marine environment through ingestion or entanglement.

Many publications and news articles have referenced the statistic that approximately100,000 marine mammals and / or sea turtles die each year due to plastics or plastic bags. Subsequent research by NOAA and others have found no supporting evidence of this statement, which may have been based on studies evaluating the potential for marine species to become entangled in abandoned fishing gear.[10]

However, other studies have provided supporting evidence that plastics and plastic bags provide a hazard to marine species. During the 2008 International Coastal Cleanup, volunteers counted approximately 445 animals or birds entangled or trapped in marine debris.[11] Fishing related items (including line nets, rope, hooks, and traps) accounted for the most entanglements: approximately 69%. However, plastic bags were found to account for 11% of all entanglements, the fourth highest source after fishing line, fishing nets, and traps. No animals were found entangled in either paper or reusable bags.

Several of Life Cycle Assessment Studies have considered the potential for harm to wildlife / marine mammals in comparing the different types of carryout bags. The table below shows the conclusions from the Hyder Consulting Study in Australia (2007) and the Green Cities Master Environmental Assessment (MEA) studies.

Table 13 – Estimation of biological harm – LCA's

Study	Plastic Bag	Paper Bag	Reusable Bag

10 NOAA. Marine Debris FAQ. www.marinedebris.noaa.gov

11 Ocean Conservancy. International Coastal Cleanup 2009 Report: Single-Use Carryout Bag

Hyder Consulting (2007)	5	1	1 (all types)
Green Cities MEA (2010)	3	2	1 (all types)

A higher number represents a greater impact.

Plastics in general may pose a hazard to many marine mammals and fish through ingestion. As stated above, plastics do not completely degrade but instead break down into smaller and smaller pieces. The NOAA Marine Debris Program identifies "microplastics" as plastic pieces in the size range of 0.3-5mm (as large as a grain of rice).[10] Within a marine environment, many fish and wildlife species may mistake plastics and microplastics for prey (such as jellyfish or plankton) and ingest this material. According to NOAA, plastic debris can transport containments (such as PCB's) that affect fish or wildlife species when ingested.[10]

Discussion of plastics in oceans often cites the presence of the Great Pacific Garbage Patch within the Pacific Ocean. Some news stories and published documents have referenced the existence of a "plastic island" that is twice the size of Texas that is thick with floating plastic debris. The existence of a large conglomeration of garbage within the North Pacific was first publicized by Charles Moore of the Algalita Marine Research Foundation in 1997 who discovered an area of highly concentrated marine debris within a gyre (area where ocean and wind currents move in a circular pattern) in the North Pacific.[12] The actual size of the Pacific Garbage Patch is unknown, as the gyre is a fluid system that moves constantly. The huge amounts of marine debris within the patch do not form an "island" that could be seen from aerial photographs or satellite images, but instead congeal into a soup like substance.[12]

Implementation of the Single-use Carryout Bag Ordinance will result in the removal of over 600,000 plastic bags and 192,000 single-use paper bags from distribution annually within the unincorporated areas. These bags will be replaced with the use of 'green' paper bags and reusable bags, distributed in smaller amounts (approximately 275,000) annually. It is unclear exactly how harmful the current distribution of single-use plastic and paper bags from unincorporated retail establishments are to wildlife species. As shown through numerous studies, of all the carryout bags affected by the ordinance (plastic bags, paper bags, reusable bags) single-use plastic bags presents the highest hazard to marine species.

The purpose of this Initial Study is not to provide a position paper or thesis regarding the potential for plastic bags to harm wildlife. Instead, the purpose of this document is to disclose if implementation of the ordinance could result in any potentially significant environmental impacts, in compliance with CEQA.

Implementation of the Single-use Carryout Bag Ordinance will result in the net reduction of approximately 500,000 carryout bags in distribution annually within the unincorporated areas. Implementation of this ordinance will not result in any potentially significant impacts on biological resources.

12 Ocean Conservancy – Pacific Garbage Patch – Myths and Realities
http://www.oceanconservancy.org/site/News2?news_iv_ctrl=-1&abbr=press_&page=NewsArticle&id=14153

E. CULTURAL RESOURCES					
	IMPACT				
WOULD THE PROJECT	YES			NO	SOURCE
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines, or the County's Historic Preservation Ordinance (Section 17 of County Ordinance Code) – i.e. relocation, alterations or demolition of historic resources?	☐	☐	☐	☒	3, 16, 19, 40, 41
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5 of the CEQA Guidelines?	☐	☐	☐	☒	3, 19, 40, 41,
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒	2,3,4,,40,41
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒	2, 40,41
g) If within New Almaden Historic area, conflict with General Plan policies of this designated special policy area?	☐	☐	☐	☒	8a

DISCUSSION:
Implementation of the proposed Single-use Carryout Bag Ordinance will not result in any potential impacts with respect to Cultural Resources.

F. GEOLOGY AND SOILS					
	IMPACT				
WOULD THE PROJECT:	YES			NO	SOURCE
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
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	☐	☐	☐	☒	6, 17L, 43

	or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.					
	ii) Strong seismic ground shaking?	☐	☐	☐	☒	6, 17c,18b
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	6, 17c, 17n, 18b
	iv) Landslides?	☐	☐	☐	☒	6, 17L, 118b
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒	6, 2, 3
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?	☐	☐	☐	☒	2, 3, 17c, 23, 24, 42
d)	Be located on expansive soil, as defined in the report, *Soils of Santa Clara County*, creating substantial risks to life or property?	☐	☐	☐	☒	14,23, 24,
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒	3,6, 23,24,
f)	Cause substantial compaction or over-covering of soil either on-site or off-site?	☐	☐	☐	☒	3, 6
g)	Cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?	☐	☐	☐	☒	2, 3, 6, 42

DISCUSSION:
Implementation of the single-use carryout bag ordinance will not result in any potentially significant impacts with respect to Geology and Soils.

G. GREENHOUSE GAS EMISSIONS					
	IMPACT				
WOULD THE PROJECT	**YES**			**NO**	**SOURCE**
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	

Background
In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which limits statewide greenhouse gas (GHG) to 1990 levels and establishes a goal of achieving these emissions reductions by 2020 (representing a 25 percent reduction in emissions). AB 32 requires the California Air Resources Board (CARB) to adopt a comprehensive blueprint for

limiting greenhouse gas emissions by the end of 2008 and complete the necessary rulemaking to implement that plan by the end of 2011.

In addition, the adoption of SB 97 in 2007 mandates that the California Office of Planning and Research (OPR) prepare CEQA Guidelines which establish standards for evaluating greenhouse gas emissions including the creation feasible mitigation measures. The California Resource Agencies adopted amendments to the CEQA Guidelines for Greenhouse Gas Emissions on December 30, 2009, which became effective on March 18, 2010. The modified CEQA Guidelines require that public agencies in California evaluate greenhouse gas emissions within their CEQA documents, using either qualitative or quantitative methods. Although the modified CEQA guidelines prescribe that CEQA documents must evaluate Greenhouse Gas emissions and determine if emissions will be significant, they do not establish a clear methodology or quantitative thresholds for making this determination.

In October, 2008, CARB staff published a preliminary proposal of a methodology for interim CEQA greenhouse gas emission thresholds. No additional action has been taken by CARB since publication of this preliminary proposal.

In November 2009, The Bay Area Air Quality Management District (BAAQMD) published proposed revisions to its CEQA Guidelines for addressing Air Quality impacts. These updated Guidelines included proposed quantitative thresholds for Greenhouse Gas Emissions, establishing both a "bright line" threshold of significance for GHG emissions and also an efficiency threshold. Using a methodology that models how new land use development in the San Francisco Bay area can meet AB 32 GHG reduction goals, the BAAQMD Guidelines establish a significance threshold of 1,100 meter metric tons of CO^2 per year. In addition to this bright line threshold, the Guidelines include an "efficiency" threshold to be used for urban high density, transit oriented development projects that are intended to reduce vehicle trips but may still result in overall emissions greater than 1,100 meter metric tons per year. These proposed GHG thresholds were adopted by the BAAQMD Board of Directors on June 2, 2010.

Project Impacts

In order to evaluate potentially significant impacts from implementation of the ordinance, the data from the Carrefour / Ecobilian study was used to estimate the change in Greenhouse Gas emissions that would result from a change in the distribution of different bag types following implementation of the ordinance.

Table 14 – Greenhouse Gas Emissions

	Type of Bag and number used	Greenhouse Gas (GHG) Emissions (Ratio)	Resulting GHG (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	3.3	633.6
	Total		**1,273.6**
Post ordinance	Single-use Caryout Plastic Bag 32[1]	1	32

Implementation	'Green' Paper Bag 249.6[1]	3.3	823.6
	Reusable Bag 4.27[1]	2.6	11.1
	Total		**866.7**
	Net Change		*-406.9*

[1]In thousands

As shown, following implementation of the Carryout Bag Ordinance, due to the overall reduction in number of bags distributed and shift to using reusable bags (or no bags), Greenhouse Gas Emissions are projected to decrease by over 20%.

The calculations above include assumptions from the Carrefour study where it is unknown exactly how much recycled material is included within the paper bags studied. As such, a second calculation is included below incorporating a modification in the GHG ratio to account for bags with 100% recycled material as prescribed under the Carryout Bag Ordinance. Based on the Environmental Defense Fund's (EDF) Paper Calculator, a shift from 50% to 100% recycled content in paper will result in a 25% reduction in Greenhouse gas emissions while a shift from 75% to 100% recycled content will result in a 15% reduction. This Initial Study uses a conservative estimate of a 10% reduction in Greenhouse gas emissions Calculations using the EDF Paper Calculator are shown in Appendix 3.

Table 15 – Greenhouse Gas Emissions - adjusted for recycled paper

	Type of Bag and number used	Greenhouse Gas (GHG) Emissions (Ratio)	Resulting GHG Emissions (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	3.3	633.6
	Total		**1,273.6**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	2.97[2]	741.3
	Reusable Bag 4.27[1]	2.6	11.1
	Total		**784.3**
	Net Change		*-489.3*

[1]In thousands

[2]10% reduction (from a rate of 3.3) based on Environmental Defense Fund's Paper Calculator that evaluates potential savings in greenhouse gas emissions from using recycled content in paper.

As shown, modification of the analysis using adjustments for recycled material results in greater reduction in greenhouse gas emissions as compared to existing conditions. Using

these assumptions, Greenhouse gas emissions following implementation of the ordinance would reduce by over 35%.

Other LCA Studies have provided an evaluation of Greenhouse Gas emissions of other types of reusable bags. The Nolan-ITU study prepared for the Australian Department of Environment and Heritage evaluated Greenhouse Gas Emissions for different types of plastic and reusable bags.

Table 16 – Greenhouse Gas Ratios – Nolan Study

Type of Bag	Greenhouse Gas Emissions (Kilograms of CO2 per year)
Plastic Bag (HDPE)	6.08
Plastic Bag (LDPE)	29.80
Paper Bag	11.80
Reusable Plastic Bag (LDPE)	2.43
Reusable Cloth Bag	2.52
Reusable Plastic Bag (Woven HDPE) *(comparable to polyprophene bags)*	0.63

As shown, each of the reusable bags evaluated within the LCA had a lower rate of emissions than the Single-use Carryout Plastic Bags (HDPE, LDPE) and Paper Bags. As stated in the Introduction, it would be impossible to discern which types of reusable bags will be used by consumers at retail stores in the unincorporated areas following implementation of the Carryout Bag Ban. Currently, of the three stores observed distributing reusable bags, they all consisted of the polyprophene (PP) plastic bags, comparable to the Reusable Plastic Bag (Woven HDPE) evaluated in the Nolan Study. Assuming that all consumers used these types of bags as reusable bags, the resulting Greenhouse Gas Emissions (based on the emission rates within the Nolan Study) would reduce by approximately 50%.

Subsequent studies conducted in Australia using a streamlined LCA that incorporated analysis from the 2002 Nolan Study have evaluated the greenhouse gas emissions associated with other types of Reusable bags. This includes the 2007 Hyder Consulting Study, which also evaluated 100% recycled content paper bags.

Table 17 – Greenhouse Gas Emissions - Hyder Consulting Study

Type of Bag	**Ranking**
HDPE Plastic Bag	2
HDPE Plastic Bag with Recycled Content	1
Kraft Paper Bag	5
Kraft Paper Bag with 100% Recycled Content	3
Reusable Calico Bag	1
Reusable Polypropylene “Green Bag”	1

Similar to the other studies, the two types of reusable bags included in the Hyder Consuling Study rank the lowest in terms of Greenhouse Gas Emissions in comparison with the Single-use Carryout Bags evaluated. This study also evaluated greenhouse gas emissions from a 100% recycled content paper bag, similar to the ‘Green’ Paper bag that could be sold for $0.15 under the proposed ordinance. Comparable to calculations using the other Life Cycle

Assessments shown, implementation of the ordinance using the ranking data in this study would result in a decrease in Greenhouse Gas Emissions.

In summary, implementation of the Carryout Bag Ordinance will result in a decrease in greenhouse gas emissions and as such will not result in any potential cumulative considerable significant impacts with respect to Greenhouse gas emissions.

G. HAZARDS & HAZARDOUS MATERIALS					
	IMPACT				
WOULD THE PROJECT	YES			NO	SOURCE
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒	1, 3, 4, 5
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?	☐	☐	☐	☒	2, 3, 5
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school?	☐	☐	☐	☒	46
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?	☐	☐	☐	☒	47
e) For a project located within an airport land use plan referral area or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or in the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	3, 22a
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	5, 48
g) 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?	☐	☐	☐	☒	4
h) Provide breeding grounds for vectors?	☐	☐	☐	☒	1, 3, 5
i) Proposed site plan result in a safety hazard (i.e., parking layout, access, closed community, etc.)?	☐	☐	☐	☒	3

j)	Involve construction of a building, road or septic system on a slope of 30% or greater?	☐	☐	☐	☒	1, 3, 17n
k)	Involve construction of a roadway greater than 20% slope for a distance of 300' or more?	☐	☐	☐	☒	1, 3, 17n

DISCUSSION:
The manufacturing of single use carryout plastic and paper bags involves the release of certain toxic chemicals into the environment. In association with the manufacturing process, plastic resin manufacturing releases chemicals such as ethylene, methanol, acetonitrile, propylene, and ammonia. The manufacturing of paper bags also includes the use and release of toxic chemicals. Common chemicals released during the paper manufacturing process includes ammonia, hydrochloric acid, and sulfuric acid.

Implementation of the Single-Use Carryout Bag Ordinance will result in the net reduction of over 550,000 single use carryout bags (plastic and paper) in distribution annually within the unincorporated areas. As both the plastic resin and paper industries produce toxic materials, this net reduction of bag distribution will reduce total amount of toxins released that were associated with their manufacture.

Microbiological Hazards
Implementation of the Single-use Carryout Bag Ordinance is intended to shift consumers from using single use carryout bags to reusable bags. As a result of implementation of the Ordinance, it is projected that 4,267 reusable bags will be used annually (replacing the prohibited plastic and paper bags). Several studies have been recently released evaluating if the use of reusable bags increases the potential for users to be exposed to microbiological contaminants, such as Escherichia coli ("E. coli"), Salmonella, mold, and yeast.

A 2009 Study commissioned by the Canadian Plastics Industrial Association tested for the presence of bacterial and fungus in reusable and single use shopping bags.[13] The study showed that 64% of the used reusable bags showed the presence of some level of bacteria and 20-25% contained yeast or mold. No E.Coli or Samonella were detected in any of the bags.

A 2010 study funded by the American Chemistry Council also evaluated the potential for microbiological contaminants in reusable bags.[14] Within this study reusable bags collected from customers entering grocery stores and tested for HPC and coliform bacteria. Coliforn bacteria was detected in 51% of the bags tested, and E.Coli was detected in 12% of the bags. The study also evaluated the potential for bacterial growth when reusable bags were stored in the trunk of a car and the effectiveness of washing reusable bags (in removing bacteria). The study concluded that hand or machine washing reduces the numbers of bacteria in reusable bags by over 99%.

As these studies confirm, reusable bags used numerous times have a higher potential (than single use bags) of containing bacteria associated with the carrying of food products. While the constant reuse of reusable bags may result in a higher potential for bacteria to occur within

[13] Sporometrics. Grocery Carry Bag Sanitation: A Microbiological Study of Reusable Bags and "First or Single-Use" Plastic Bags. 2009

14 Gerba, Charles, Williams, David, Ryan, Sinclair. Assessment of the Potential for Cross Contamination of Food Products by Reusable Shopping Bags. June 2010

these bags, the total levels of bacteria and potential risk for exposure to microbiological hazards (such as E.Coli) is similar or less in comparison with other materials and areas encountered by most persons daily. Studies included in the San Jose Carryout Bag EIR indicate that total bacterial levels on common surfaces within kitchens (table top, counter top, cutting board) showed bacterial and coliform rates much higher than those found within the reusable bags.

Implementation of the Single Use Carryout Bag Ordinance will prohibit the distribution of carryout plastic bags but allow the use of plastic bags used to contain meats, fish or vegetables. The common practice of placing these items within plastic bags (which will not change) limits the potential for microbiological contamination on the surface of reusable bags. As shown in the 2010 study, hand washing or laundering of the reusable bags almost eliminates all presence of bacterial and coliforms[14]. Customers using reusable bags following implementation of the ordinance would be expected to use common sense and wash or launder their reusable bags if they become dirty or there is evidence they have been exposed to raw meat products.

Lead and Mercury

There have been some recent concerns raised that reusable bags contain lead and mercury in levels that could be hazardous to individuals. The Wegmen supermarket chain located on the East coast of the United States recently stopped distributing certain types of reusable bags over concerns on lead contained within the bags. The concern over the Wegmen's bags did not focus on potential human hazard from use of the bag but instead the potential release of lead following disposal of the bag.[15] Currently, there is no substantial evidence that all types of reusable bags contain lead, mercury, or other contaminants at toxic levels. As a precautionary measure, the proposed ordinance contains a requirement that all reusable bags distributed in the County Unincorporated Areas do not contain lead, cadmium or other metals in toxic amounts.

H. HYDROLOGY AND WATER QUALITY					
	IMPACT				
WOULD THE PROJECT:	**YES**			**NO**	**SOURCE**
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒	34, 36
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?	☐	☐	☐	☒	3, 4
c) Substantially alter the existing drainage	☐	☐	☐	☒	3, 17n

15 http://www.nj.com/business/index.ssf/2010/09/wegmans_stops_selling_reusable.html

	pattern of the site or area, including through the alteration of the course of a stream or 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? (Note policy regarding flood retention in watercourse and restoration of riparian vegetation for West Branch of the Llagas.)	☐	☐	☐	☒	3
e)	Create or contribute increased impervious surfaces and associated runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒	1, 3, 5, 36, 21a
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☒	1, 3, 5
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?	☐	☐	☐	☒	3, 18b, 18d
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒	3, 18b, 18d
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?	☐	☐	☐	☒	2, 3, 4
j)	Be located in an area of special water quality concern (e.g., Los Gatos or Guadalupe Watershed)?	☐	☐	☐	☒	4, 6a,
k)	Be located in an area known to have high levels of nitrates in well water?	☐	☐	☐	☒	4
l)	Result in a septic field being constructed on soil where a high water table extends close to the natural land surface?	☐	☐	☐	☒	3
m)	Result in a septic field being located within 50 feet of a drainage swale; 100 feet of any well, water course or water body or 200 feet of a reservoir at capacity?	☐	☐	☐	☒	1, 3
n)	Conflict with Water Collaborative Guidelines and Standards for Land Uses Near Streams?	☐	☐	☐	☒	22d, 22e

BACKGROUND:

Water Quality

The Federal Clean Water Act requires the County to operate under a National Pollutant Discharge Elimination System municipal storm water permit for the discharge of storm water to surface waters via the stormwater collection system. The San Francisco Regional Water Quality Control Board has adopted a Municipal Regional Stormwater NDPES Permit for the San Francisco Bay area that became effective on December 1, 2009.

Within Santa Clara County, the overall issue of trash accumulation within creeks and streams has been recognized by the California Regional Water Quality Control Board. On February

11, 2008, the RWQCB adopted a resolution recognizing 26 Bay Area waterways, including several creeks within the County as "trash impaired". This includes Coyote Creek, Guadalupe River, San Thomas Aquino Creek, Saratoga Creek, and Silver Creek.

As discussed under the Aesthetics section of this Initial Study, single-use carryout bags have the potential to become litter and end up in local creeks and streams. Of the litter studies evaluated that examined streams and creeks (Anacostia, San Jose Creek Surveys), plastic bags have constituted between 6 and 40% of the total trash found (Table 10). The litter studies did not count paper bags in any significant quantity but often "paper" contributed a significant amount of trash. As paper bags are heavier and degrade at a higher rate when saturated by water, they are not as persistent within the litter stream of creeks and streams. Plastic bags degrade at a slower rate and thus they are more prevalent than paper bags as waste within creeks and streams. As shown in the litter surveys of beaches and marine areas (Table 10), paper and plastic bags constitute between 0.3 and 11% of overall waste, but are often not the most prevalent type of trash found. In all three marine / beach studies, plastic bags constituted a large source of overall litter than paper bags.

Implementation of the Single-Use Carryout Bag Ordinance will result in the removal of approximately 600,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags from distribution within the unincorporated areas of Santa Clara County on an annual basis. These bags will be replaced by the annual use of approximately 4,200 reusable bags and 250,000 'green' paper bags. Overall, the number of bags in use will reduce by over 500,000 per year. As reusable bags are heavier and more durable in design (in comparison with single-use plastic and paper bags), and are intended to be used multiple times, they are much less likely to become part of the litter stream and enter local creeks and waterways. The green paper bags allowed to be distributed must be 100% recyclable and are more likely to be recycled than the plastic bags currently in distribution. As previously discussed, should the 'green' paper bags inadvertently become litter and enter into local creeks and streams, they will degrade at higher rate than plastic bags, resulting in a lesser impact on water quality.

In summary, implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant water quality impacts.

Eutrophication

Eutrophication is a process where water bodies are subject to an increase in nutrient levels which can result in a proliferation of algae and decrease in dissolved oxygen. Eutropication can be unnaturally accelerated through the discharge of water and fluids (including fertilizers and sewage) from industrial processes or other anthropomorphic activities, which could result in massive damage to natural ecosystems within creeks, lakes, and streams.

The manufacture of carryout bags, including single-use carryout plastic and paper bags, 'green' paper bags, and reusable bags, may all use various chemicals, bleaches, fertilizers or other materials that could enter into creeks and streams and cause eutrophication. Several Life Cycle Assessment studies have evaluated the potential for different carryout bags to result in eutrophication. The Franklin Associates study conducted in 1990 [16]suggests that paper bags generate up to 28 times the amount of waterbourne wastes as plastic bags.

[16]Franklin Associates. Resource and Environmental Profile Analysis of Polethylene and Unbleached Paper Grocery Sacks. 1990.

Implementation of the Single-Use Carryout Bag Ordinance will result in the removal of over 600,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags from distribution in the unincorporated areas, to be replaced by the use of 'green' paper bags (comprised of 100% recycled content) and reusable bags.

This change in distribution of bags would not result in any direct impacts on eutrophication, but could result in indirect impacts related to eutrrophication resulting from an increase or decrease in the manufacture of the different types of carryout bags. In order to evaluate the potential for the implementation of the Single-Use Carryout Bag Ordinance to have indirect impacts related to eutrophication, this Initial Study incorporates data from the Carrefour / Ecobilian Life Cycle Assessment, as summarized in the table below.

Table 18 – Eutrophication

	Type of Bag and number used	Eutrophication Rate (Ratio)	Eutrophication Impact (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	14	2,688
	Total		**3,328**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	14	3,494.4
	Reusable Bag 4.27[1]	2.8	7.07
	Total		**3,533**
	Net Change		*+205*

[1]In thousands

As shown, the resulting potential for Eutrophication resulting from implementation of the Carryout Bag Ordinance could increase by approximately 7%. However, the data used above for the 'Green' paper bag incorporates data from the Carrefour study that is unclear in how much recycled content is used within paper bags. As the Single-Use Carryout Bag Ordinance will only allow the distribution of 'Green' paper bags that are defined as comprised of 100% recycled content, this data is adjusted per the Environmental Defense Fund Paper (EDF) Calculator, which evaluates the reduction in environmental impacts that result from an increase in recycled content in paper. According to this Calculator, an adjustment from 50% recycled content paper to 100% recycled content paper would result in a 35% overall reduction in the amount of wastewater discharge used during the manufacturing process. (See Appendix 3). A shift from 75% to 100% recycled content paper would result in over a 20% reduction. The use of recycled content requires both less water and less bleaching during the manufacturing process, which reduces the potential for the discharge of process water or pollutants that could cause eutrophication. As it is unknown exactly how much recycled

content is included within the paper bags included in the Carrefour study, this initial study uses a conservative estimate of a 10% decrease in the eutrophication rate to account for any differences between the processes evaluated in the EDF calculator (which evaluates copy paper) versus processes used for paper bag manufacturing.

Table 19 – Eutrophication – adjusted for Recycled Content

	Type of Bag and number used	Eutrophication Rate (Ratio)	Eutrophication Impact (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	14	2,688
	Total		**3,328**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	12.6	3,144
	Reusable Bag 4.27[1]	2.8	7.07
	Total		**3,183**
	Net Change		*-145*

[1]In thousands

[2] Reduced 10% from ratio used in Carrefour Study (per Environmental Defense Fund Paper Calculator) to account for shift to 100% recycled content paper

As shown, by adjusting the potential eutrophication rate to account for the use of 100% recycled content in paper bags, the resulting potential for eutrophication as an indirect impact following implementation of the Single-Use Carryout Bag Ordinance decreases by approximately 5%.

In summary, implementation of the Single-Use Carryout Bag Ordinance will not result in the potential for any significant indirect impacts related to the eutrophication of water bodies associated with bag manufacturing.

I. LAND USE					
	IMPACT				
WOULD THE PROJECT:	**YES**			**NO**	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	**SOURCE**
a) Physically divide an established community?	☐	☐	☐	☒	2, 4
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, or zoning ordinance) adopted for the purpose of	☐	☐	☐	☒	8a, 9, 18a

avoiding or mitigating an environmental effect?						
c) Conflict with special policies:						
i) San Martin &/or South County?	☐	☐	☐	☒	1, 3, 8a, 20
ii) Los Gatos Specific Plan or Lexington Watershed?	☐	☐	☐	☒	1, 3, 8a, 22c
iii) Guadalupe Watershed?	☐	☐	☐	☒	1, 8a
iv) Stanford?	☐	☐	☐	☒	8a, 21
v) City of Morgan Hill Urban Growth Boundary Area?	☐	☐	☐	☒	8a, 17a
vi) West Valley Hillsides Preservation Area?	☐	☐	☐	☒	1, 8a
vii) Water Collaborative (Guidelines and Standards for Land Use Near Streams)	☐	☐	☐	☒	

DISCUSSION:
Adoption of the proposed Single-Use Carryout Bag Ordinance will not result in any land use impacts.

J. NOISE

	IMPACTS				
WOULD THE PROJECT:	**YES**			**NO**	**SOURCE**
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Result in 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?	☐	☐	☐	☒	8a, 13, 22a, 45
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒	13
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	1, 2, 5
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	1, 2, 5
e) For a project located within an airport land use plan referral area or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or private airstrip would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1, 5, 22a

DISCUSSION:
Implementation of the Single-Use Carryout Bag Ordinance would not result in any potentially significant noise impacts. As discussed in the Traffic section, any implementation of the ordinance would not result in any significant increase in truck traffic that could result in an increase in ambient traffic noise within the unincorporated areas.

K. POPULATION AND HOUSING					
	IMPACT				
WOULD THE PROJECT:	YES			NO	SOURCE
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Induce substantial 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)?	☐	☐	☐	☒	1, 3, 4
b) Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1, 2, 3, 4

DISCUSSION:
Implementation of the proposed Single-Use Carryout Bag Ordinance will not result in any potentially significant impacts related to Population and Housing.

L. PUBLIC SERVICES					
	IMPACT				
WOULD THE PROJECT:	YES			NO	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) 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:					
i) Fire Protection?	☐	☐	☒	☐	1, 3, 5
ii) Police Protection?	☐	☐	☒	☐	1, 3, 5
iii) School facilities?	☐	☐	☐	☒	1, 3, 5
iv) Parks?	☐	☐	☐	☒	1, 3, 5
v) Other public facilities?	☐	☐	☒	☐	1, 3, 5

DISCUSSION:
Implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant impacts related to Public Services.

M. RESOURCES AND RECREATION					
	IMPACT				
WOULD THE PROJECT:	YES			NO	
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	SOURCE
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state?	☐	☐	☐	☒	1, 2, 3, 6, 44
b) Result in the loss of availability of a locally-important mineral resource recovery site as delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒	1, 2, 3, 6,8a
c) 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?	☐	☐	☐	☒	1, 2, 4, 5
d) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	1, 3, 4, 5
e) Be on, within or near a public or private park, wildlife reserve, or trail or affect existing or future recreational opportunities?	☐	☐	☐	☒	17h, 21a

f)	Result in loss of open space rated as high priority for acquisition in the "Preservation 20/20" report?	☐	☐	☐	☒	27

DISCUSSION:
Implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant impacts related to mineral resources (loss in the availability of known mineral resources) or recreation.

N. TRANSPORTATION / TRAFFIC

		IMPACT				SOURCE
	WOULD THE PROJECT:	YES			NO	
		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒	1, 4, 5, 6, 7, 49, 53
b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways?	☐	☐	☐	☒	6, 49, 50, 53
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?	☐	☐	☐	☒	5, 6, 7, 53
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒	3, 5, 6,7, 53
e)	Result in inadequate emergency access?	☐	☐	☐	☒	1, 3, 5, 48, 53
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒	8a, 21a
g)	Not provide safe access, obstruct access to nearby uses or fail to provide for future street right of way?	☐	☐	☐	☒	3, 6, 7, 53

DISCUSSION:
Implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant impacts related to traffic and transportation. Implementation of the ordinance would prohibit the distribution of single-use carryout plastic and paper bags at retail stores in the unincorporated areas and instead allow the distribution of 'green' paper bags (for a

minimum fee of $0.15) and reusable bags. Overall, the number of bags distributed on an annual basis would decrease by approximately 550,000 bags annually. Although the composition of bags being distributed to retail stores would shift from smaller and lighter bags (plastic bags) to heavier bags (green bags and reusable bags), it would be speculative to assume that this could result in any significant increase in truck traffic (due to carrying capacity).

A past study by the City of Palo Alto (Initial Study for Ordinance Amendment to Place a Limited Prohibition on Single-Use Plastic Checkout Bags, 2009) [17]estimated that a shift in the distribution of plastic to paper bags would result in one additional truck trip per day. The proposed Carryout Bag Ordinance will not shift the distribution of bags from plastic to paper bags but instead result in an overall decrease in the number of carryout bags distributed in the unincorporated areas. As described in the initial study, approximately 80 retail establishments would be affected by the Carryout Bag Ordinance, and these businesses are distributed throughout different parts of the County. Thus should there be any potential increase in truck traffic, although very unlikely, it would be geographically dispersed through different areas of the County, avoiding any concentrated effect upon the level of service (LOS) at specific intersections or street segments.

In summary, implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant impacts related to traffic and transportation.

O. UTILITIES AND SERVICE SYSTEMS					
	IMPACT				
WOULD THE PROJECT:	**YES**			**NO**	**SOURCE**
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	1, 3, 5,
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?	☐	☐	☐	☒	1, 3, 5, 21a, 38
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?	☐	☐	☐	☒	1, 3, 5
d) Require new or expanded entitlements in order to have sufficient water supplies available to serve the project?	☐	☐	☐	☒	1, 3, 5, 21,
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in	☐	☐	☐	☒	1, 3, 5

17 Palo Alto. Draft Mitigated Negative Declaration – Ordinance Amendment to Place a Limited Prohibition on Single-Use Plastic Checkout Bags. February 2009

	addition to the provider's existing commitments?					
f)	Not be able to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	1, 3, 5
g)	Be in non-compliance with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒	5, 6

WATER & WASTWEWATER

Implementation of the Single-Use Carryout Bag Ordinance would not result in any potentially significant impacts related to increased water or wastewater use within Santa Clara County. As described in the Introduction, implementation of the Single-Use Carryout Bag Ordinance will result in the removal of over 600,000 single-use carryout plastic bags and 192,000 single-use carryout paper bags from distribution in the unincorporated areas, to be replaced by the use of 'green' paper bags (comprised of 100% recycled content) and reusable bags.

As opposed to single-use carryout bags, reusable bags are intended to be used multiple times over many months (or years). As these bags become soiled or dirty from multiple uses (to carryout retail items or to carry other items) it is expected that owner will hand wash or launder the bags. The hand washing of reusable bags or inclusion of reusable bags in routine laundering would not result in any substantial increase in the demand for potable water or significantly impact wastewater treatment capacity within Santa Clara County. Those who launder their bags would likely place the bags in laundry loads with other clothes and materials, resulting in no new significant water demand. The cleaning of reusable bags by hand usually entails the use of soap with a damp sponge, which requires no significant amounts of water.

Indirect Water Use (bag manufacturing)

Several of the LCA's for carryout bags compared water use associated with the manufacturing processes for the different bags. The Ecobilian / Carrefour report indicates that water consumption over a paper bag's life cycle is 4 times that of a HDPE plastic bag. The HyderConsulting study concluded that both plastic and the majority of reusable bags available (except calico bags) use less water than Kraft paper bags. This study concluded that if every household in Australia shifted from the use of plastic bags to non-woven polypropylene bags, approximately 50,000 kiloliters of water per year would be saved. [18]

Implementation of the ordinance will result in the net removal of over 500,000 carryout bags in distribution per year within the unincorporated areas, with a shift from single-use carryout bags (net decrease of approximately 800,000 bags annually) to 'green' paper bags and reusable bags (increase by approximately 250,000 bags annually). The table below, incorporating data from the Carrefour / Ecobilian study, shows the potential indirect change in water usage associated with bag manufacturing following implementation of the ordinance.

Table 20 – Water Use

	Type of Bag and number used	Water Usage	Resulting Water

[18] Hyder Consulting. Comparison of existing life cycle analysis of shopping bag alternatives. April 2007.

		(Ratio)	Usage (Ratio)
Existing Conditions	Single-use Carryout Plastic Bag 640[1]	1	640
	Single-use Carryout Paper Bag 192[1]	4.0	768
	Total		**1408**
Post ordinance Implementation	Single-use Caryout Plastic Bag 32[1]	1	32
	'Green' Paper Bag 249.6[1]	4.0	998
	Reusable Bag 4.27[1]	2.6	11.1
	Total		**1,041.1**
	Net Change		*-367*

[1] in thousands

As shown, implementation of the ordinance would result in over a 25% drop in potential indirect water usage associated with bag manufacturing. As the Carrefour / Ecobilian study does not specific the amount of recycled material used in the paper bag, this decrease may be higher if adjusted to account for the use of 100% recycled material in the 'green' paper bags as prescribed under the ordinance.

In summary, implementation of the ordinance would not result in any potential indirect significant impacts on water usage associated with bag manufacturing.

Solid Waste

Implementation of the ordinance would result in a decrease in the distribution of approximately 500,000 bags annually. The composition of carryout bags being used in the unincorporated areas will shift from single-use carryout plastic and paper bags to 'green' paper bags and reusable bags. Although many of the LCA studies show that paper bags have a higher impact on solid waste than plastic bags, they often do not account for the high rates of paper bag recycling. The Single-Use Carryout Bag Ordinance will prohibit both single-use carryout plastic and paper bags within the unincorporated areas, instead allowing 'green' paper bags and reusable bags. The 'green' paper bags allowed to be sold for $0.15 per the ordinance are required to be 100% recyclable. As described in the introduction, a reusable bag is expected to replace the use of approximately 78 plastic bags.

Solid waste within Santa Clara County is collected and disposed of within several different landfills, depending on location of pickup and trash hauler.

Using the data and ratio's from the Carrefour / Ecobilian study (which does not account for any recycling of bags), implementation of the ordinance would result in over a 30% decrease solid waste production.

In summary, implementation of the single-use carryout bag ordinance will not result in any potentially significant impacts related to increased water use, wastewater use, or solid waste.

P. MANDATORY FINDING OF SIGNIFICANCE					
	IMPACT				
WOULD THE PROJECT:	YES			NO	SOURCE
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	
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?	☐	☐	☐	☒	1 to 53
b) Does the project have impacts that are individually limited, but cumulatively considerable ("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)?	☐	☐	☒	☐	1 to 53
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒	1 to 53

DISCUSSION:
Implementation of the Single-Use Carryout Bag Ordinance will not trigger any mandatory thresholds of significance with respect to potential impacts to fish and wildlife species or examples of California history or prehistory. As discussed in the Biology section, implementation of the ordinance will not have any potential significant impacts on biological resources. The ordinance will also not result in any potential substantial impacts on human beings, either directly or indirectly.

Cumulative Impacts
Over the last several years, there has been numerous legislation proposed at the National, State, and local level regarding the use of Carryout Bags. As discussed in the Introduction Section, Several other countries, such as Ireland, have implemented a fee or ban on single-use carryout plastic bags. In 2009, Washington DC enacted a fee of 5 cents on both single-use carryout plastic and paper bags. San Francisco adopted an ordinance prohibiting the distribution of plastic bags at certain stores in 2007. The City of Palo Alto adopted a similar ordinance affecting certain large grocery stores in 2009.

The California state legislature recently considered a proposed bill (AB 1998) that would have prohibited the distribution of single-use carryout plastic bags starting in 2013. The bill would

have allowed the sale of a recycled paper bag and distribution of reusable bags. This legislation was defeated in the Senate in August 2010.

There are several cities and counties within California that are currently considering or actively pursuing a Carryout Bag Ordinance. Of these, four have published CEQA documents that evaluate the potential environmental impacts that could result from implementation of a Carryout Bag Ordinance. This includes the County of Los Angeles, City of Manhattan Beach, City of Santa Monica, and City of San Jose. The Manhattan Beach Ordinance was approved in 2008, including adoption of a Negative Declaration but was subsequently legally challenged based on the adequacy of the CEQA document. The County of Los Angeles, City of Santa Monica, and City of San Jose have all published Environmental Impact Reports (EIR's) as the CEQA documents for their proposed ordinances. Several other cities are known to be preparing a Carryout Bag Ordinance (Berkeley, San Francisco – second phase), however no CEQA documents are available to date that evaluate these proposals. A summary of the environmental conclusions within the four referenced CEQA documents is summarized in the table below.

Table 20: CEQA Documents for Bag ordinances in California

Jurisdiction	Proposed ordinance	CEQA Document (date)	Potentially Significant Environmental Impacts
City of Manhattan Beach	Bans the distribution of plastic bags at point of sale for all retail establishments	Negative Declaration	None (CEQA under judicial review)
County of Los Angeles	Ban distribution of plastic bags at all supermarkets and retail establishments with over 10,000 s.f. CEQA document evaluates all incorporated and unincorporated areas	EIR	Greenhouse Gas Emissions
City of Santa Monica	Bans distribution of plastic bags at all retail establishments. Allows sale of a 'green' paper bag for $0.25.	EIR	None[1]
City of San Jose	Bans distribution of plastic bags at retail stores. Allows sale of a 'green' paper bag for $0.10 initially, increasing to $0.25	EIR	None

[1] The EIR acknowledges that implementation of the ordinance would result in a small increase in Greenhouse Gases (501 Carbon Dioxide Equivalent units per year), however the document concludes this would be less than significant.

Sources: Manhattan Beach Ordinance, County of Los Angeles Draft EIR (June 2010), City of Santa Monica Draft EIR (June 2010), City of San Jose EIR (July 2010).

The four jurisdictions above are preparing to implement a single-use carryout bag ordinance similar to the ordinance proposed by the County of Santa Clara. While two of the jurisdictions propose an ordinance that will simply prohibit the distribution of single-use carryout plastic bags (Manhattan Beach, County of Santa Clara), the other two jurisdictions (Santa Monica, San Jose) include a fee on 'green' paper bags as a disincentive to using those bags. In contrast with the proposed County ordinance (which requires that 'green' paper bags be comprised of 100% recycled content), the 'green' paper bag within these ordinances must be constructed of 40% post consumer recycled content.

A potentially significant cumulative impact could occur if the implementation of these ordinances together with the County's proposed ordinance could cumulatively result in a significant impact. As shown above, the CEQA documents prepared for the four other proposed bag ordinances have concluded that no potentially significant impacts could result, except for greenhouse gas emissions. The County of Los Angeles EIR concludes that implementation of their ordinance could result in potentially significant impacts related to greenhouse gas emissions. The City of Santa Monica EIR concludes that implementation of their ordinance would result in an increase of greenhouse gas emissions, but these emissions would be less than significant.

As disclosed within this Initial Study, implementation of the Single-Use Carryout Bag Ordinance will not result in any potentially significant environmental impacts. In all environmental categories discussed, there would be no increase in environmental impacts. For example, implementation of the ordinance is projected to result in over a 20% reduction in Greenhouse Gas emissions, 50% reduction in Air Quality Emissions, a 5% decrease in the potential for Eutrophication, and a 25% reduction in Water Use in association with the life cycle of affected carryout bags.

Thus, supposing a significant cumulative environmental impact could result from the implementation of other proposed Carryout Bag Ordinances, implementation of the County's Carryout Bag Ordinance would result in no environmental impacts that could be considered "cumulatively considerable".

In summary, implementation of the Single-Use Carryout Bag Ordinance will not result in any cumulatively considerable significant impacts.

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Initial Study Source List*

1) 1. Environmental Information Form
2. **Field Inspection**
3. **Project Plans**
4. **Planner's Knowledge of Area**
5. **Experience With Other Projects of This Size and Nature**
6. **County Expert Sources: Geologist, Fire Marshal, Roads & Airports, Environmental Health, Land Development Engineering, Parks & Recreation, Zoning Administration, Comprehensive Planning, Architectural & Site Approval Committee Secretary**
7. **Agency Sources: Santa Clara Valley Water District, Santa Clara Valley Transportation Authority, Midpeninsula Openspace Regional District, U.S. Fish & Wildlife Service, CA Dept. of Fish & Game, Caltrans, U.S. Army Core of Engineers, Regional Water Quality Control Board, Public Works Depts. of individual cities, Planning Depts. of individual cities,**

8a. **Santa Clara County (SCC) General Plan**

8b. **The South County Joint Area Plan**

9. **SCC Zoning Regulations (Ordinance)**
10. County Grading Ordinance
11. **SCC Guidelines for Architecture and Site Approval**
12. **SCC Development Guidelines for Design Review**
13. County Standards and Policies Manual (Vol. I - Land Development)
14. Table 18-1-B of the Uniform Building Code [1994 version]
15. Land Use Database
16. **Santa Clara County Heritage Resource (including Trees) Inventory [computer database]**
17. **GIS Database**
    a. **SCC General Plan Land Use, and Zoning**
    b. **Natural Habitat Areas & Riparian Plants**
    c. **Relative Seismic Stability**
    d. **Archaeological Resources**
    e. **Water Resources & Water Problems**
    f. **Viewshed and Scenic Roads**
    g. **Fire Hazard**
    h. **Parks, Public Open Space, and Trails**
    i. **Heritage Resources**
    j. **Slope Constraint**
    k. **Serpentine soils**
    l. **State of California, Alquist-Priolo Earthquake Fault Zones, and County landslide & fault zones**
    m. **Water Problem/Resource**
    n. **USGS Topo Quad, and Liquefaction**
    o. **Dept. of Fish & Game, Natural Diversity Data**
    p. **FEMA Flood Zones**

Base Map Overlays & Textual Reports (GIS)

18. **Paper Maps**
    a. **SCC Zoning**
    b. **Barclay's Santa Clara County Locaide Street Atlas**
    c, **Color Air Photos (MPSI)**
    d. Santa Clara Valley Water District - Maps of Flood Control Facilities & Limits of 1% Flooding
    e. **Soils Overlay Air Photos**
    f. **"Future Width Line" map set**
19. **CEQA Guidelines [Current Edition]**

Area Specific: San Martin, Stanford, and Other Areas

San Martin

20a.San Martin Integrated Design Guidelines

20b.San Martin Water Quality Study

20c.Memorandum of Understanding (MOU) between Santa Clara County & Santa Clara Valley Water District

Stanford

21a. Stanford University General Use Permit (GUP), Community Plan (CP), Mitigation and Monitoring Reporting Program (MMRP) and Environmental Impact Report (EIR)

21b. Stanford Protocol and Land Use Policy Agreement

Other Areas

22a.ALUC Land Use Plan for Areas Surrounding Airports [1992 version]

22b.Los Gatos Hillsides Specific Area Plan

22c.County Lexington Basin Ordinance Relating to Sewage Disposal

22d. User Manual Guidelines & Standards for Land Uses Near Streams: A Manual of Tools, Standards and Procedures to Protect Streams and Streamside Resources in Santa Clara County by the Santa Clara Valley Water Resources Protection Collaborative, August 2005 – Revised July 2006.

22e. Guidelines and Standards for Land Use Near Streams: Streamside Review Area – Summary prepared by Santa Clara County Planning Office, September 2007.

Soils

23.USDA, SCS, "Soils of Santa Clara County

24.USDA, SCS, "Soil Survey of Eastern Santa Clara County"

Agricultural Resources/Open Space

25. **Right to Farm Ordinance**
26. **State Dept. of Conservation, "CA Agricultural Land Evaluation and Site Assessment Model"**
27. Open Space Preservation, Report of the Preservation 2020 Task Force, April 1987 [Chapter IV]

Air Quality

28. BAAQMD Clean Air Plan (1997)
29. **BAAQMD Annual Summary of Contaminant Excesses & BAAQMD, "Air Quality & Urban Development - Guidelines for Assessing Impacts of Projects & Plans" [1999]**

Biological Resources/
Water Quality & Hydrological Resources/
Utilities & Service Systems"

30. **Site-Specific Biological Report**
31. **Santa Clara County Tree Preservation Ordinance Section C16, Santa Clara County Guide to Evaluating Oak Woodlands Impacts**

Initial Study Source List*

32. Clean Water Act, Section 404
33. Riparian Inventory of Santa Clara County, Greenbelt Coalition, November 1988
34. CA Regional Water Quality Control Board, Water Quality Control Plan, San Francisco Bay Region [1995]
35. Santa Clara Valley Water District, Private Well Water Testing Program [12-98]
36. SCC Nonpoint Source Pollution Control Program, Urban Runoff Management Plan [1997]
37. County Environmental Health / Septic Tank Sewage Disposal System - Bulletin "A"

38. County Environmental Health Department Tests and Reports

39. Calphotos website: http://www.elib.cs.berkeley.edu/photos

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40. State Archaeological Clearinghouse, Sonoma State University

41. Site Specific Archaeological Reconnaissance Report

Geological Resources

42. Site Specific Geologic Report

43. State Department of Mines and Geology, Special Report #42
44. State Department of Mines and Geology, Special Report #146

Noise

45. County Noise Ordinance

Hazards & Hazardous Materials

46. Section 21151.4 of California Public Resources Code
47. State Department of Toxic Substances, Hazardous Waste and Substances Sites List

48. County Office of Emergency Services Emergency Response Plan [1994 version]

Transportation/Traffic

49. Transportation Research Board, "Highway Capacity Manual", Special Report 209, 1995.
50. SCC Congestion Management Agency, "2000 Monitoring and Conformance report"

51. Official County Road Book
52. County Off-Street Parking Standards
53. Site-specific Traffic Impact Analysis Report

***Items listed in bold are the most important sources and should be referred to during the first review of the project, when they are available. The planner should refer to the other sources for a particular environmental factor if the former indicate a potential environmental impact.**