SUMMARY

The *Dairy Element* of the *Kings County General Plan* contains a series of goals, objectives, policies, and programs. These are designed to accomplish two equally important major objectives. One is to ensure that the dairy industry of Kings County continues to grow and contribute to the economic health of the County. The other is to ensure that the standards established in the *Dairy Element* protect public health and safety and the environment.

Part of the strategy to accomplish this is to set a limit on the number of cows that can be accommodated in Kings County. Section II describes the method used to determine this limit. This element derives the limit by using a model to evaluate the Nitrogen and salt loading capacity of Kings County farmland which utilizes manure generated by cows, which is further discounted by subtracting the acreage used for other types of animal husbandry manure and biosolids (sewage sludge) applications. The result is that the maximum herd size for Kings County is determined to be 381,980 milk cows (534,772 animal units) and 423,998 head of support stock (335,409 animal units), totaling 805,978 head (870,181 animal units).

The goals, objectives, policies, and programs in the *Dairy Element* include changes in the way dairies are regulated. Under existing general plan and zoning ordinance requirements, expansions of existing dairies and establishment of new dairies must be approved through the conditional use permit (CUP) process. Each review of a dairy proposal must undergo individual environmental review under the California Environmental Quality Act (CEQA). Under the proposed new *Dairy Element* the expansion of existing dairies and establishment of new dairies will be accomplished through the site plan review (SPR) process. Dairies may be proposed only within certain specified areas of the County designated in the *Dairy Element* (see Figure 2, page DE-14), and shall only be established after the issuance of a SPR. Expansions of existing dairies may also be processed by SPR as long as the expanded portion of the dairies are consistent with the standards adopted in the *Dairy Element* concerning design, operation, monitoring and reporting. Approval of an SPR is ministerial and exempt from individual environmental review as long as a finding of consistency with the Dairy Element can be made. These standards have undergone environmental review in the *Program Environmental Impact Report* (PEIR) prepared as part of the development of this *Dairy Element*. Necessary changes to the *Kings County Zoning Ordinance* are included in Appendix E.

Compliance monitoring and reporting of the dairies in Kings County will be more formal under the new system than in the past. Section V provides that the Code Compliance division of the Kings County Planning Agency will monitor new and expanded existing dairy operations to ensure that they operate according to their approval requirements. In addition, dairies established before permits were required will be more closely monitored to ensure they do not create nuisances.

The specific standards for design, operations, and monitoring and reporting requirements are detailed in the policies of this Dairy Element and its Appendices.

SECTION I

INTRODUCTION

A. Introduction

Milk production has become a major agricultural industry in Kings County, representing about 31.8% of the gross value of agricultural crops produced. According to the *1999 Kings County Agricultural Commissioner's Annual Report,* dairy production has been the largest cash crop in Kings County in recent years. Kings County is ranked as the 12th leading agricultural county in California (25th in the nation), and in the top fifteen milk producing counties in the nation. Kings County's boundaries abut the top four agricultural counties in California. These are Fresno, Tulare, Monterey, and Kern counties (see Figure 1 on page DE-4).

Since dairy production is the leading cash crop, the dairy industry is very important to Kings County's economy. It also has the potential to adversely effect the environment. To address these two issues this *Dairy Element* of the *Kings County General Plan* was prepared to establish specific development and operational policies to ensure that the dairy industry can continue to grow with the least amount of adverse environmental impacts.

B. Purpose

The intent of this *Dairy Element* is to guide the physical growth of the dairy industry in general, and the specific development, expansion, and operation of dairies in a manner that protects the public and the environment and enhances the economy in Kings County. This element sets out general policies related to:

1. Specific standards for the development, expansion, and operation of dairies.
2. Policies for the location of new dairies in Kings County by the site plan review (SPR) process.
3. Monitoring and reporting requirements to ensure and to demonstrate compliance with standards.
4. Dairy expansion policies:
   - A. For dairies with previously issued valid zoning permits, and
   - B. For dairies established prior to 1979 (when ERME-II was implemented), which do not require zoning permits for herds sizes at their 1979 level.

These policies and standards are important to ensure that the location, distribution, and operation of dairies do not cause significant adverse effects to other land uses, including, but not limited to, agricultural, residential, commercial, industrial, public, and military uses and to the environment. Monitoring and reporting are necessary to demonstrate that impacts are being mitigated to the extent feasible and that mitigation measures are accomplishing their intended purposes. This will also ensure

that other resources such as open space, natural resources, recreation, scenic vistas, and public facilities will not be adversely impacted.

C. Objectives of the Dairy Element

1. Evaluate the overall ability/capacity of Kings County to host dairies, from the standpoints of both the environment and the economy.
2. Provide standards, including mitigation of environmental impacts and monitoring and reporting of the effects of implementing the mitigation measures, for the establishment of new and expanded dairies.
3. Encourage a voluntary Dairy Quality Assurance Program within Kings County for those dairies which are not required to comply with the standards of this Dairy Element.

D. Consistency with Other Elements

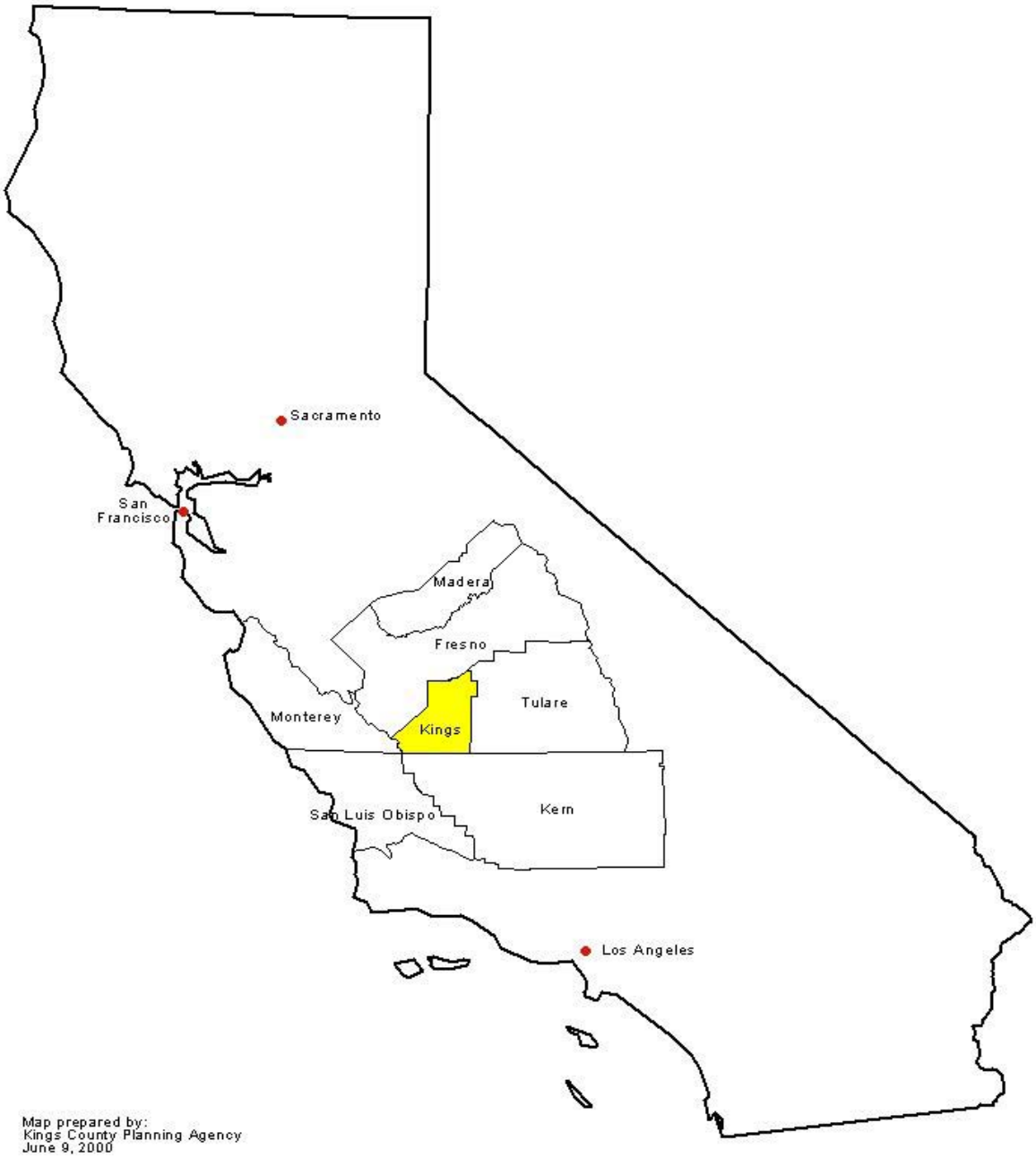
The *Dairy Element* is consistent with the other elements of the General Plan because all of the elements use the same population, housing, and employment projections. This Element also uses information in the other elements in conjunction with the evaluation of the new policies included herein, and makes recommended changes where necessary to ensure consistency (see Appendix K). Policies of the *Dairy Element* support, and are supported by, policies of the other elements and the policies of all elements are cross-referenced where necessary.

E. Scope and Organization

The *Dairy Element* contains eight sections, eleven appendices, an *Economic Impact Analysis*, and a *Program Environmental Impact Report*:

1. Section I: Introduction to the Dairy Element.
2. Section II: Determination of the theoretical capacity of Kings County to host dairies in order to establish an upper limit for evaluating the potential effects on the economy and the environment.
3. Section III: Policies addressing the general restrictions for the location and siting of new dairies and the expansion of existing dairies in Kings County, and streamlining the approval process through the use of the Site Plan Review (SPR) provisions of the Kings County Zoning Ordinance. These policies address siting constraints such as location relative to other development and protection of various sensitive resources such as wildlife habitat, groundwater, surface water bodies and stream courses.
4. Section IV: Policies addressing the design and management of dairy operations. These policies address minimum dairy operating standards for the protection of the environment and nearby development and land uses.

Figure 1
KINGS COUNTY LOCATION MAP



5. Section V: Monitoring Program to monitor the effectiveness of the mitigation measures for protecting the environment, and for compliance of each dairy regulated by the *Dairy Element*.
6. Section VI: The Voluntary Dairy Quality Assurance Program.
7. Section VII: Economic impact analysis and job creation potential of the dairy industry and the multiplier effect of ancillary or "spin off" industries on the economy in Kings County.
8. Section VIII: Program Environmental Impact Report (PEIR) for use as the environmental document for the *Dairy Element*.

The *Dairy Element* land use map (see Figure 2, page DE-14) reflects the dairy siting standards and policies of the *Dairy Element*. This map and the text must be used together in order to fully understand the standards and policies that apply to any particular proposed new or expanding dairy operation.

The *Dairy Element* land use map designations do not include a detailed study of any specific parcel of land. Development of individual parcels of land with dairies is regulated by the standards within the *Dairy Element* and implemented through the *Kings County Zoning Ordinance.* Parcels proposed for new dairies which are consistent with the generally acceptable areas for dairies shown in Figure 2 (page DE-14) must be evaluated in detail through the site plan review (SPR) process required in the *Zoning Ordinance*.

F. Optional General Plan Element

A County is required by law to prepare and adopt a comprehensive, long-term general plan for the physical development of its jurisdictional area (Cal. Gov't. Code Section 65300). Each general plan must include seven mandatory elements (i.e., Land Use, Circulation, Resource Conservation, Open Space, Housing, Noise and Safety), and may include *optional elements* judged by the legislative body to be related to the physical development of its jurisdiction (Section 65302 and 65303).

Since the growth of the dairy industry has the potential to significantly effect the physical development of the County, it is appropriate to address dairies in a separate general plan element. The County has determined that such a separate general plan element should be adopted to establish development and operational policies for the local dairy industry. Dairies are increasingly important to Kings County's economy, and the County is concerned about the potential effects dairies may have on the environment if they are not properly located, operated and maintained.

The Program Environmental Impact Report (PEIR) evaluates the policies of the Dairy Element and their effectiveness in protecting the environment from potential impacts associated with dairies. A more detailed discussion of the use of a PEIR is provided in Sections IV and VIII.

G. Background

Milk production has become a major agricultural industry in Kings County. According to the *1999 Kings County Agricultural Commissioner's Annual Report,* dairy production has been the largest

agricultural commodity in Kings County in recent years. Between 1979 and 1998, Kings County approved an average of 3.2 new or re-established dairies per year and 1.85 expanded dairies per year. Between 1990 and 1998, there was an average of 5.33 new or re-established dairies and 2.4 expanded dairies per year. (See Table No. 1 in Appendix A.)

The trend has fallen off since 1994. However, there are indications that new dairies will continue to come into the county, and existing dairies will expand to increase the number of cows that are being milked. This is partly due to the upcoming completion of the terms of many *Williamson Act* contracts in the Chino Basin area of Southern California resulting in those dairies relocating to other areas, such as Kings County. In addition, milk prices, competition and economies of scale require larger herd sizes to continue to compete profitably.

The expected growth in new dairies and expansion of existing dairies will increase the pressures on the local environment due to the addition of more cows to the area and the dairy process water, manure and nutrients they generate. While there are no direct indications at this time that the dairy industry in general is creating any significant adverse environmental problems in Kings County with the exception of certain air quality issues, the *Dairy Element* will examine the capacity of the County to handle additional dairies and increased herd sizes. The *Dairy Element* will examine dairy management practices and standards, analyze the adequacy of those standards, and present both policies and procedures to ensure that the dairy industry can continue to grow and improve the county's economy without causing avoidable significant adverse environmental impacts.

H. Regulatory History of the Kings County Dairy Industry

Kings County began regulating dairies in 1978. The policy relating to livestock concentrations was adopted in late 1976 with the adoption of the *Environmental Resources Management Element, Phase II*, (ERME II). Policy 15 (ERME II, page 33), which stated:

> *"15. Require administrative review and permit of all livestock concentrations to assure adequate waste disposal provisions and separation from conflicting uses."*

This policy was implemented in early 1978 with the amendment of the *Kings County Zoning Ordinance* which classified dairies as land uses subject to an Administrative Approval zoning permit before they could either be established or expanded.

The 1993 update of the *Kings County General Plan* included a statement that animal concentrations were allowed only within the General Agricultural zone districts (Land Use Element, page LU-8). This was to ensure their separation from urban and built-up areas. In 1994 the *Kings County Zoning Ordinance* was amended to eliminate Administrative Approval zoning permits, and concentrated animal feeding operation land uses, including dairies, were designated as conditional uses requiring environmental review, a public hearing, and Planning Commission approval.

I. Current Dairy Herd Sizes in Kings County (January 2000)

As part of the research for this *Dairy Element*, a survey of all known commercial dairy operations in Kings County has been conducted. The questionnaire is included in Appendix C. The following are the number of dairies that were mailed questionnaires and the number of responses:

Dairies (Milk Cows):	149 Questionnaires	34 Responses

The results of the herd size questions in the questionnaire are summarized in Appendix A Table No. 2. These results are compared to the information from the U.C. Cooperative Extension and the U.S. Census of Agriculture.

According to U.C. Cooperative Extension data, in January 2000, there were approximately 124,668 cows (milking and dry) in Kings County. The cows were confined on 149 commercial dairies for an average of 837 milk cows per herd. This number does not include replacement stock such as heifers and calves, or beef cattle grazing on open rangeland. Table No. 3 in Appendix A shows the relative sizes of the dairies and how they have changed since 1988.

This estimate differs somewhat from the data provided in the *1992 Census of Agriculture* by the U.S. Census Bureau. That difference is most likely due to the fact that the Census Bureau reports very small non-commercial dairies. The Census Bureau may include 4-H projects and personal use dairies in addition to commercial dairies. The Census Bureau reported between 20 to 27 small dairies (1 to 9 cows) from 1988 to 1992, and 3 to 7 dairies of less than 100 cows each, during these years (see Table No. 3A in Appendix A).

Thirty-four of the county's 149 dairies (23%) responded to the questionnaire, with 32 (21%) respondents representing an aggregate herd size of 26,635 milk cows in 1999. Extrapolating this data to all 149 dairies points to 124,019 milk cows. This is consistent with the U.C. Cooperative Extension data. This is an average of 832 milk cows per dairy, which is also consistent with the 837 indicated by U.C. Cooperative Extension data.

Note: The dairy herd figures for 2001 released by the U.C. Cooperative Extension became available in April 2001, after the analysis for the Dairy Element and the Program EIR was completed. The latest reported figures include 130,443 milk cows, on 147 dairies, for an average herd size of 887 milk cows.

SECTION II

THEORETICAL CAPACITY OF KINGS COUNTY TO HOST DAIRIES

A. Theoretical Capacity in Kings County for Dairies

Dairies generate liquid and solid (dry) manure. This liquid and dry manure contains nutrients that are essential for plant growth. Properly managed and applied to cropland at appropriate agronomic rates, these nutrients and other constituents become safe fertilizer and soil amendment for crops, including those crops used to feed the cows. However, the manure, and its constituents, if not properly managed could cause pollution to occur in ground and surface water, produce harmful and annoying insects, and create air emissions, odors, and dust at significant levels.

A finite amount of these nutrients can be safely managed by land application within a given area. The California Regional Water Quality Control Board Central Valley Region (RWQCB) has developed a set of worksheets for determining how much Nitrogen and salt are expected to be produced by dairy cows for various types of dairies (i.e., freestalls, flushed corrals, or scraped corrals). The method for estimating nutrients is presented in RWQCB's *Fact Sheet No. 4*. Using the factors developed by RWQCB and the Nitrogen and salt requirements for various crops provided by the U.C. Cooperative Extension and Natural Resource Conservation Service, a theoretical maximum number of dairy cattle (including support stock) can be estimated based on the crop acreage that is available to use these nutrients in Kings County.

The rationale for using the RWQCB methodology for estimating the theoretical maximum dairy herd in Kings County is based on the County's goal to protect water quality.

Various assumptions must be made in order to generate such a *theoretical estimate* and make sure that it is reasonable and does not underestimate the amount of cropland that is needed. The calculations for the estimate, based on the following assumptions, are presented in Table No. 5 in Appendix A. Reductions in the estimated available acreage for dairy manure application are made to account for the additional Nitrogen generated by other sources. These reductions are listed in Table 5A. After applying the other Nitrogen source adjustments, the theoretical limit of dairy cows can be estimated as shown in Table 5. The acreage estimate adjustments must be made on a continuous basis as land is converted to uses which no longer will support the use of manure from dairies as a fertilizer.

B. Assumptions for Theoretical Capacity of Kings County to Accommodate Dairies

ASSUMPTIONS:

- All assumptions are made using the more conservative estimates when a choice is required unless otherwise indicated.
- One Animal Unit (AU) is based on 1,000 pounds per AU (Source: RWQCB).
- A lactating Holstein cow is equivalent to 1.4 Animal Units (AU) (Source: RWQCB).
- Most existing and future dairies operating in Kings County will be supported by Holstein herds.
- The dairy model used in these assumptions is based on a theoretical herd with the following percentages of support stock and show the actual size of a typical milk cow dairy with support stock (Source: U.C. Cooperative Extension). For presentation purposes, a typical 1,000-milk cow dairy is used in this example:

Animal Type	Percentage Of Herd[1]	Head	AU Factor by Age[2]	Holstein Factor[3]	AU Equivalent
Milk Cows	--	1,000	1.00	1.40	1,400
Dry cows & bred heifers	15%	150	0.80	1.40	168
Heifers (2 yrs. & older)	32%	320	0.73	1.40	327
Heifers (1. to 2 yrs.)	16%	160	0.73	1.40	164
Calves (3 mo. to 1 yr.)	40%	400	0.35	1.40	196
Baby Calves (<3mo.)	8%	80	0.21	1.40	24
TOTALS		**2,110**			**2,278**

NOTES:

1 Based on various sources including the U. C. Cooperative Extension, the percentage figures are the typical ratio of support stock to milk cows in the herd necessary to sustain a herd.

2 A factor based on an animal's age and the amount of manure it produces as compared to a 1,000-lb. animal, which is defined as an Animal Unit.

3 A factor to take into account the fact that Holstein cows are bigger animals, i.e., an adult Holstein milk cow typically weighs 1,400 lbs., 1.4 times bigger than a 1,000 lb. animal.

- The *Dairy Development Overlay Zone* (DDOZ) is that portion of Kings County where the majority of dairies exist and new dairies may be located (see Table No. 4 in Appendix A and Figure 2 on Page DE-14). The zone contains nine separate areas totaling approximately 394 square miles, 341 of which can accommodate dairy facilities. The *Nutrient Spreading Overlay Zone* (NSOZ), adds another 642 square miles for liquid and solid manure spreading for a total of 983 square miles of area for dairy facilities and for management and recycling of the nutrients in the manure generated by those dairies (see Figure 2 and Table No. 4).

- All dairy facilities are assumed to have a freestall design. In the dairy model, the freestall design requires the most land for salt and Nitrogen recycling (thus the lowest density of cows). The results for each of the management types are as follows:
  - if all milk cows are in freestalls and support stock are in scraped corrals, Nitrogen is the controlling factor,
  - if all milk cows are in flushed corrals and support stock is in scraped corrals, salt is the controlling factor, and more cows could be accommodated,
  - if all cows are in scraped corrals, less land is required for both salt and Nitrogen application, and even more cows could be accommodated.
- Nitrogen is the principal limiting factor for protection of water quality, and salt is the secondary limiting factor for this model.
- Salt and Nitrogen usage assumes both single and double cropping farming methods will be used.
- Salt is generated at a rate of 1.29 lbs. per day per animal unit (AU). Using the "Holstein factor" of 1.4, each Holstein Milk cow will generate 1.81 lbs. of elemental salt per day.
- Nitrogen is generated at a rate of 0.56 lbs. per day per AU. Using the "Holstein factor" of 1.4, each Milk cow will generate 0.78 lbs. of Nitrogen per day.
- Transportation cost of solid manure may limit the range of hauling dry manure.
- Solid manure transported into Kings County from other counties is assumed to be offset by the amount of manure transported out of Kings County.
- In January of 2000 the total number of dairies in Kings County was 149 with an average herd of 837 milk cows plus support stock. These dairies and cows are subtracted from the calculated theoretical limit to determine the additional capacity that can be accommodated. (The January 2001 herd figures were received after the analysis for the Dairy Element and Program EIR was completed)
- "Harvested selected crops" are those crops on which dairy manure can be applied as fertilizer.
- Ratio of acres of "harvested selected crops" to all harvested crops countywide from the *1999 Agricultural Crop Report* by the Kings County Agricultural Commissioner is the ratio of "harvested selected crops" to all harvested crops countywide used for the "Dairy Development Overlay Zone" and "Nutrient Spreading Overlay Zone."
- The dairy process water and solid manure factors are assumptions used in calculating Nitrogen values based on RWQCB's *Fact Sheet 4*. The animals are housed for 365 days per year. The Nitrogen excretion rate is 0.56 lbs. per day per animal unit for the milk cows and 0.45 lbs. per day per animal unit for the support stock. Freestall systems generate 80% of the manure as liquid, and flushed corral systems generate 60% of the manure as liquid. For milk cows in dry corrals or where alleys and corrals are scraped, 10% of the manure is in process water generated at the milk barn.
- When dairy process water is held less than 30 days and then applied to cropland there is a 50% loss of Nitrogen. When dairy process water is held more than 60 days and applied to cropland there is a 75% loss of Nitrogen. These same rates are assumed for the Nitrogen loss from storage and application of dry manure. These values are based on RWQCB's *Fact Sheet 4*; however, the values may be modified in the future as new information becomes available.

- Adjustments in the acreage available for dairy manure use are made to reflect the Nitrogen loading from other livestock and poultry operations and sewage sludge (biosolids) application operations in the county.

C. Explanation of Tables No. 5 and 5A - Theoretical Dairy Capacity of Kings Co.

A model that calculates the theoretical capacity of Kings County to host dairies based on the nutrients, i.e., salt and Nitrogen, generated by the livestock on dairies is presented in Table 5 of Appendix A. The end result is the amount of nutrients (salt and Nitrogen) that can be utilized by the available cropland. As stated above, Nitrogen and salt are assumed to be the limiting factors for dairies using freestall facilities. Table No. 5 provides the gross acreage available with the selected types of crops where dairy manure and process water can be applied. Adjustments are made to account for the other Nitrogen sources listed in Table No. 5A. Table No. 5A calculates the acreage reduction necessary to account for the other Nitrogen sources applied to cropland.

As shown in Section A of Table No. 5, 381,980 milk cows (534,772 AU) plus 423,998 head of support stock (335,409 AU) can be accommodated based on the above assumptions. Generally a dairy includes both milk cows and support stock. Support stock includes dry cows that are periodically rotated into the milking portion of the herd. In addition, there are bred and young heifers, as well as calves and baby calves. The ratio of support stock to milking cows varies from operation to operation, but on average the ratio is as indicated in Section A of Table No. 5. In addition, Holstein cows are a large breed of cow, and a factor of 1.4 animal units (AU) per head is applied. An AU is equivalent to a 1,000 pound animal, characterized by a Jersey cow. Factors are also given for the age (and theoretical size) of the cows and calves. On average a dairy that milks 1,000 Holstein cows has a total herd of approximately 2,110 head of all ages that are equivalent to 2,278 AU.

Section A of Table No. 5 gives the estimate of the total head and equivalent AUs that can be accommodated based on the assumption as to the amount of cropland that is available to spread the liquid and solid manure at agronomic rates.

The manure and dairy process water generated from the dairy cows contains various nutrients that are essential to plant growth. These nutrients are a natural fertilizer. To estimate how much fertilizer can be used within Kings County, Section D of Table No. 5 estimates the Selected Crops to Harvested Crops (SC/HC) acreage ratio of crops that can use this kind of fertilizer, which is calculated to be 73.15%. This SC/HC ratio is based on the *1999 Agricultural Commissioner's Report* for Kings County. The estimate is then applied to the total amount of Nitrogen and salt each of these various crops can utilize. Each dairy operation must account for the nutrient load of dairy process water on the site controlled by the dairy operator. The solid, or dry, manure may be accounted for off site.

The model assumes the capacity for managing the Nitrogen is a function of the SC/HC ratio of land in areas designated as the *Dairy Development Overlay Zone* (DDOZ) and the *Nutrient Spreading Overlay Zone* (NSOZ), where manure and process water may be spread at agronomic rates. These two areas of Kings County are shown on Figure 2 (page De-14). The DDOZ includes about 341 square miles

(217,657 acres) and includes all but about 15 of the existing dairies. The NSOZ includes about 642 square miles (411,055 acres) where new dairy facilities are not allowed, but manure may be transported and used to fertilize crops there. This model does not consider areas outside of Kings County based on the assumption that the same amount of manure is exported from the county as is imported into the county.

The total available acreage within Kings County, where both liquid and solid manure can be used to fertilize crops, is approximately 983 square miles (628,712 acres). This area is discounted by the SC/HC ratio of 73.15%, leaving a usable cropland area of approximately 459,903 acres to spread the dairy process water and dry manure. However, using the *1999 Agricultural Commissioner's Report* approximately 429,700 acres of selected crops were harvested in the entire County. Therefore, only 73.15% of the selected harvested crops are used in the model, leaving 314,313 acres available for the spreading of the liquid and solid manure. Using the liquid waste and solid waste factors for both the milk cows and the support stock in freestall dairy facilities (with support stock in scraped corrals), the number of cows can be determined.

This acreage must be further discounted to account for the land needed by other sources of Nitrogen (other livestock and poultry operations and sewage sludge applications). Table No. 5A provides this accounting to further reduce the available acreage for dairy manure use by 95,395 acres (including a 20% contingency factor).

D. Theoretical Dairy Herd Capacity for Kings County

The results of this model, as shown in Appendix A, Table 5, estimates that 381,980 milk cows (534,772 AU) and 423,998 head of support stock (335,409 AU) totaling 805,978 head (870,181 AU) can be accommodated within Kings County using current freestall designed dairies. In January 2000 there were estimated to be 124,668 milk cows in Kings County. Assuming the 52.6% support stock to milk cow ratio, there are currently approximately 138,344 head of support stock in the County. Thus theoretically, the potential available remaining capacity in the County is approximately 257,312 milk cows and 285,654 head of support stock.

E. Relationship of Capacity to Air Quality

There is no parallel process, such as using the RWQCB standards, to determine what the capacity is with regard to air quality in Kings County. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) does not regulate dairies directly. Rule 8081, however, regarding PM_{10} control measures, applies to certain activities on dairy operations. Compliance with those standards is part of the operational requirements of the Dairy Element. By requiring these and other feasible measures to control air emissions, the Dairy Element will reduce the impact of further dairy development and operation within the County and within the Basin.

SECTION III

POLICIES FOR THE LOCATION AND SITING OF DAIRIES

A. General Areas Suitable for the Location of New Dairies and the Expansion of Existing Dairies

Potential impacts associated with dairies could adversely affect their neighbors, including "urban" areas, as well as potential future development throughout the County. Uncontrolled development could have an adverse effect on the economy of the County as a whole. Therefore, dairies and their ancillary uses and support areas shall be located in areas of the County that will not result in significant adverse impacts by dairy development and operation. (See Figure 2, page DE-14).

GOAL DE 1: Restrict the location of new dairies and the expansion of existing dairies to those areas of the County where they are most compatible with surrounding uses and activities, and where they are consistent with environmental constraints.

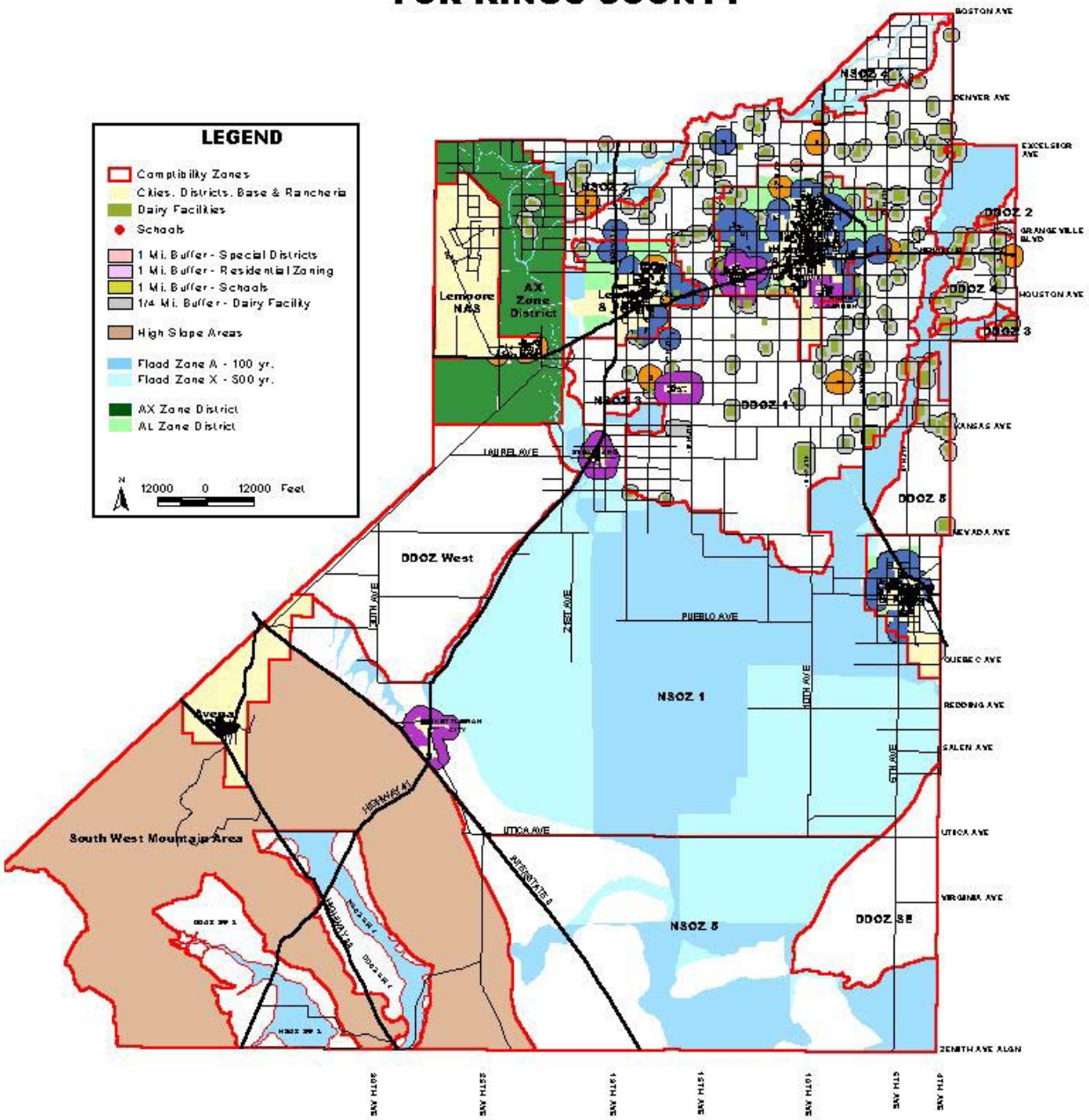
Objective DE 1.1: Protect agricultural uses and land from the encroachment of incompatible non-agricultural use of the land.

Policy DE 1.1a: *Agricultural Land Use Protection:* The *Kings County Right to Farm Ordinance*, Chapter 14, Article III, Section 14-38 of the *Kings County Code of Ordinances*, states that "agricultural operations are the principal and favored uses of land in areas of Kings County designated 'Agricultural' in the *Kings County General Plan* and included in the Agricultural zone districts of the *Kings County Zoning Ordinance*." Protection of agricultural activities is accomplished by the adopted policies to:

(1) Protect agricultural land, operations, and facilities from conflicting uses due to the encroachment of incompatible, non-agricultural uses of the land in agricultural areas of the county, and

(2) Advise developers, owners, and subsequent purchasers of property in the County of the inherent potential inconveniences and discomforts often associated with agricultural activities and operations, including, but not limited to, equipment and animal noise; farming activities conducted on a 24-hour a day, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds; dust; flies and other insects; and smoke from agriculture operations.

FIGURE 2
THEORETICAL DAIRY HERD CAPACITY
FOR KINGS COUNTY



These policies are tempered by providing buffer areas around sensitive uses where new more intensive agricultural uses, such as dairies, are prohibited from locating by zoning regulations.

Objective DE 1.2: Use specific standards to avoid potential land use conflicts when approving new dairies and expansions of existing dairies.

Policy DE 1.2a: *Limited Agricultural (AL-10) zone districts*. This zone district prohibits intensive agricultural activities and uses. It is applied to areas adjacent to cities and rural communities. Animal concentration facilities, including associated dairy process water and manure storage areas, are intensive agricultural uses that are not appropriate in this urban-to-agricultural buffer area. However, manure used as fertilizer and dairy process water used to irrigate cropland may be transported to, and used in, the AL-10 zone districts.

Dairies that have been in operation since before 1979 or were issued a zoning permit after 1979 may continue to operate and expand. However, the expansion portion of the activity will be subject to approval of a conditional use permit (CUP) by the Planning Commission.

(Mitigation for Impact 4.7-4)

Policy DE 1.2b: *Exclusive Agricultural (AX) zone districts*. This zone district is designed to protect the Lemoore Naval Air Station (LNAS) from encroachment of uses that are not compatible with the noise generated from the jet aircraft operations at the air station and potential hazards from aircraft accidents. This restriction is on new dairies and is designed to protect the huge investment of tax money at the air station from potential land use conflicts due to jet aircraft noise and accident potentials. Areas used for manure and dairy process water storage and use are not prohibited from the AX zone district, only the location of the actual animal concentration facilities, e.g., corrals, freestall barns, milk barns, pens, lagoons, feed storage, manure storage, etc.

Dairies that have been in operation since before 1979 or were issued a zoning permit after 1979 may continue to operate and expand. However, the expansion portion of the activity will be subject to a site plan review (SPR).

(Mitigation for Impact 4.5-3, 4.7-4)

Policy DE 1.2c: *Flood Zones (Flood Hazard Areas).* Flood Zones are areas of the County that are subject to periodic flooding. New Dairy Facilities or the expansion of existing dairies, including corrals, barns, manure storage areas, feed storage areas, dairy lagoons, etc., shall not be located on any territory designated on the latest adopted *National Flood Insurance Program, Flood Insurance Rate Maps (FIRM) (Community-Panel Numbers 060086 0001 - 0425)* as Special Flood Hazard Areas Inundated by 100-Year Flood, *Zones A, AE, AO and AH*, *Floodway*

Areas in Zone AE, or *Other Flood Areas in Zone X*. The latest Special Flood Hazard Areas Inundated Map is dated August 4, 1988. However, manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used in the flood zones, if specific safeguards are in place to prevent pollution from these materials (see Policy DE 3.2d).

Flood protection shall also be provided according to California Regional Water Quality Control Board regulations found in *Title 27, Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1, Section 22562, Calif. Code of Regulations*.

(Mitigation for Impact 4.3-2, 4.3-4, 4.3-7, 4.3-9)

Policy DE 1.2d: *High groundwater areas.* New dairies, or the expansion of existing dairies, are prohibited in shallow or perched groundwater areas of the County unless the applicant can demonstrate that the minimum vertical distance between proposed lagoon bottoms/corral surfaces and highest anticipated groundwater levels is at least five feet. Highest groundwater levels shall be established based on available records and site-specific geotechnical investigation by qualified registered professional engineer or hydrogeologist.

(Mitigation for Impact 4.3-7, 4.3-9, 4.5-3, 4.7-3)

Policy DE 1.2e: *Designated wetlands and wildlife habitat for sensitive species*. Except as allowed by the conditional use permit process, new Dairy Facilities or the expansion of existing dairies shall not locate on wetlands or habitat for sensitive species. The SPR process is only available for lands where the detailed survey required by Policy DE 3.3a does not identify wetlands or habitat for sensitive species. Where the survey identifies the presence of wetlands or habitat for sensitive species, a conditional use permit and additional environmental review will be required before any new dairy development or expansion may occur.

(Mitigation for Impact 4.4-1, 4.4-2, 4.7-3)

Policy DE 1.2f: *Areas of excessive slope*. New Dairies Facilities are prohibited in the mountainous southwestern part of Kings County West of Interstate-5 or the California Aqueduct (whichever is farther west), except for the Sunflower Valley and portions of the Kettleman Plains along State Route 33 south of Utica Avenue (see Figure 2, page DE-14). This is due to the prevalence of slopes exceeding 5% that will make it difficult to contain manure and dairy process water on site.

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-7, 4.3-9)

Policy DE 1.2g: *Areas in the immediate vicinity of schools.* New dairies facilities are prohibited from locating within a one-half (½) mile buffer zone around all existing public or private school sites. An existing dairy which proposes to decrease the separation between its dairy facilities and a school site to less than one-half (½) mile may do so only after approval of a conditional use permit by the Planning Commission. If the existing separation between an existing dairy's

facilities and a school site is not proposed to be reduced regardless of its distance to the school site, the site plan review process may be utilized.

Manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used within school buffer zones, but must be scheduled during weekends or summer vacation when the schools are closed.

(Mitigation for Impact 4.2-4, 4.7-4)

Policy DE 1.2h: *Separation of dairy facilities by ¼ mile.* The minimum distance between a Dairy Facility and other Dairy Facilities or confined animal feeding operations shall be one-quarter (¼) mile. This restriction includes only the actual dairy facilities, i.e., corrals, milk barns, feed storage areas, manure storage areas, etc., but not cropland used to spread dairy process water and manure. These separations are required to avoid potential nuisance problems, potential inter-herd disease transmission, soil and groundwater contamination, and cumulative air quality degradation.

An existing dairy which proposes to decrease the separation between its dairy facilities and another dairy's facilities to less than ¼ mile may do so only after approval of a conditional use permit by the Planning Commission. If the existing separation between the expanding dairy's facilities and the other dairy is not proposed to be reduced to a distance of less than ¼ mile, the site plan review process may be utilized.

(Mitigation for Impact 4.2-4, 4.6-2, 4.7-4)

Policy DE 1.2i: *Areas in the immediate vicinity of residential zones.* Facilities for new dairies, including corrals, barns, feed and manure storage areas, lagoons, etc., are prohibited from locating within a one-half (½) mile buffer zone around any residential zone (land zoned or designated for residential uses by Kings County or any city General Plan or zoning ordinance). However, manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used within a residential buffer zone.

Existing legally established dairies that do not meet the separation required from residential zones may only be expanded after the approval of a conditional use permit by the Planning Commission. However, the nonconformity in the separation shall not be increased by further encroachment of the actual Dairy Facility toward the residential zone.

(Mitigation for Impact 4.2-4, 4.6-2, 4.7-4, 4.7-5)

Policy DE 1.2j: The "compatibility zone" boundaries around the cities of Hanford, Lemoore, and Corcoran shall be updated periodically to ensure that changes, especially expansions of any city General Plan and/or Sphere of Influence area, are reflected in the "compatibility zone" boundaries.

(Mitigation for Impact 4.7-4)

B. Zoning Requirements for New and Existing Dairies

Site Plan Review (SPR) application approval by the Zoning Administrator (ZA) is a ministerial action requiring the ZA to insure all regulations, policies, mitigation requirements, standards, etc., in the *Zoning Ordinance*, *Dairy Element*, and *Dairy Element Program EIR* are met in the design of the facility. The monitoring program described in the *Dairy Element* will ensure that these policies, mitigation requirements, standards, etc., are being implemented or carried out.

The Zoning Administrator's review of the SPR application shall be formal and in writing. It shall include all steps as outlined in the Zoning Ordinance for SPR's, and for dairy reviews as outlined in the *Dairy Element*. No additional environmental review is required as long as the ZA makes a specific finding that all applicable provisions of the *Dairy Element* and *Program EIR for the Dairy Element* will be met. The monitoring program as outlined in the *Dairy Element* shall be implemented.

When an application for a new dairy or the expansion of an existing dairy does not or cannot meet all regulations, policies, mitigation requirements, standards, etc. in the Dairy Element, the application will instead be processed as an application for a conditional use permit (CUP). The review of such a CUP will include CEQA review beyond the Program EIR, which may include tiering of environmental documents as appropriate.

Failure to comply with policies, mitigation requirements, standards, etc., listed in the SPR will result in revocation proceedings before the Planning Commission. The Planning Commission may revoke the SPR and shut the operation down, or rescind the SPR and issue a new CUP with more conditions, monitoring, and reporting requirements. Upon request and after appropriate environmental review the Planning Commission, at its own discretion, may reinstate the dairy's SPR status.

GOAL DE 2: Streamline the permit process for establishing new dairies or expanding existing dairies.

Objective DE 2.1: All new dairies and the expansion of existing dairies with previously issued zoning permits shall be required to obtain a site plan review (SPR) pursuant to Article 21, or conditional use permit (CUP) pursuant to Article 19, of the *Kings County Zoning Ordinance* before construction or operation begins. For the expansions of existing lawfully established dairies the SPR process shall only apply to the expansion portion of the dairy. The CUP process shall be required if the *Dairy Element* standards are not met. Any additional environmental review associated with the CUP process shall only be required to address the deviation from the *Dairy Element* SPR process requirements.

Policy DE 2.1a: A SPR or CUP will be required for all proposed new or expanding dairies. Based on Regional Water Quality Control Board's (RWQCB) Table 1 of

Fact Sheet 4 for Dairies, the SPR or CUP review procedures will demonstrate the maximum number of animal units (AUs) the proposed new or expanding dairy site can potentially accommodate and establish the dairy's calculated capacity. The entire calculated capacity of the site will be removed from the theoretical capacity model for the County and will not be available for any other dairy project. If the dairy expands in the future within the original calculated capacity, it can claim the remaining capacity for its use as long as the farmland used in the calculation of the capacity remains under the dairy's control. In the event there is a variance between these standards and the RWQCB requirements, the more restrictive requirement shall prevail, unless RWQCB specifies a lesser standard in a Report of Waste Discharge (RWD). In the latter case, the RWQCB standard will prevail.

Policy DE 2.1b: For expansion of existing dairies, fluctuation in the herd size up to the calculated capacity does not require any zoning permits, unless the construction of new facilities including, but not limited to, barns, lagoons, feed and manure storage areas, corrals, etc. are part of the project. For example, if only 75% of the facility calculated capacity is being used and the herd is increased to 100% of capacity, and no construction of facilities will occur, the dairy is still operating within its original baseline limits of the permit.

Policy DE 2.1c: For dairies which have a previously-approved CUP or SPR, any construction of new facilities which were not addressed in the original CUP or SPR and which are intended to accommodate additional cows shall require a new SPR, regardless of whether the new construction will result in an increase in the dairy's calculated capacity or not. In such cases, the new SPR shall cover only the expanded facilities, not the entire dairy.

Policy DE 2.1d: Expansions above the originally approved calculated capacity limit of the zoning permit will require a new SPR for the new portion of the dairy facilities. Improvements to, and operation of, the dairy shall conform to all mitigation measures found in the Program EIR and policies of this Dairy Element.

Policy DE 2.1e: (Reserved)

Policy DE 2.1f: All applications for new dairies, or the expansion of existing dairies, shall include a *Technical Report*, pursuant to Policy DE 3.1a, with its required components. The contents of the *Technical Report* and its components are described in Appendix J.

(Mitigation for Impact 4.1-1, 4.1-3, 4.1-4)

Policy DE 2.1g: An application that does not, or cannot, meet all regulations, policies, mitigation requirements, standards, etc. of the Dairy Element shall be submitted as an application for a conditional use permit (CUP) which will include additional

environmental review. The Planning Commission may consider alternatives to the Dairy Element's regulations, policies, mitigation requirements, standards, etc., but must ensure that any alternative accomplish the same or higher level of performance as required by the Dairy Element, thus ensuring that the project is consistent with the Dairy Element of the General Plan.

Objective DE 2.2: Except in the AL-10 zone district, all dairies which existed prior to 1979, and which do not have previously-approved CUP, SPR, or Administrative Approval issued under a previous version of the Zoning Ordinance, shall be required to obtain a new SPR for either: (1) the construction of new facilities, or (2) an increase in the number of cows above the calculated capacity as determined by the Zoning Administrator. In the AL-10 zone district a CUP shall be required.

Policy DE 2.2a: Dairies that existed prior to 1979 that have not been the subject of a previously issued zoning permit may expand up to the calculated capacity of the dairy site, including the land that is currently under the dairy owner or operator's control, either by ownership or agreement, as of the date of adoption of this *Element*. Upon the request of the dairy owner or operator, the Zoning Administrator shall prepare a *Dairy Review Letter* providing the dairy owner or operator with the calculated capacity of the existing dairy site based on the capacity model described in Section II of this *Dairy Element*. The addition of new physical improvements or increase in the areal extent of the Dairy Facility, e.g., lagoons and separation pits, feed storage structures, barns, and expansion of corrals on to land that was not previously occupied by the dairy's facilities, will require approval of a new SPR by the Zoning Administrator.

Dairies with existing zoning permits are subject to the limits of their current zoning permit.

SECTION IV

DESIGN STANDARDS FOR INDIVIDUAL DAIRY PROJECTS

A. Design Capacity Component

A focus of this *Dairy Element*, and accompanying *Program EIR*, is on the capacity of dairy systems to recycle the by-products, i.e., nutrients in the manure, produced from a dairy operation. This concept is not based on a strict animal units (AU) count. Different methods of herd management, dairy process water and manure management, soil types, groundwater and surface water conditions, crop production management, proximity of receptors, etc., affect the ability of a dairy operator to properly use or recycle by-products generated by a dairy operation, and the degree to which those effects may be significant. The by-products generated by a dairy operation must be properly managed to ensure significant adverse effects will be reduced or eliminated. Therefore, the by-products that are generated are the controlling factor when considering a new or expanding dairy. A simple head count with assumptions about average by-product production per animal unit does not address the environmental differences from site to site. A simple animal unit calculation does not account for any innovative practices used to reduce the amount of dairy process water and manure that is generated in the first place, or the way in which it is managed. The *Dairy Element* takes the following principles into account when evaluating the capacity of a dairy system:

1. Manure contains unused nutrients from feed that needs to be controlled and directed to crops that could benefit from fertilization.
2. The reuse of water to flush manure at dairy sites is an efficient and environmentally sound management activity if combined with an effective manure and dairy process water collection and management system and a crop irrigation management program.
3. A total farm nutrient program that balances the utilization of manure nutrients through crops with the manure produced by the cattle is an essential step toward environmental accountability and sustainability.
4. Because of variations in production levels and systems used in feeding cows, each dairy shall develop its own program for manure and process water management.
5. Dairy farmers need to monitor their manure management system even after theoretical nutrient balance is achieved in order to avoid excess nutrient releases to the environment.

B. General Restriction for the Siting of New Dairies and the Expansion of Existing Dairies in Kings County

When dairies are not operated properly they can cause adverse impacts related to the environment and surrounding land uses. Goals Nos. 3, 4, 5, and 6, and their Objectives and Policies have been established to minimize any degradation of the environment due to the establishment and operation of new dairies, and the future expansion of existing dairies. These Goals, Objectives, and Policies apply to

the construction and operation of new dairies and the portions of the dairies that are expanded on existing dairies.

GOAL DE 3: Develop a countywide policy for the evaluation and distribution of dairy locations and their operation.

Objective DE 3.1: Apply the mitigation measures in the Program EIR to new or expanding dairies.

Policy DE 3.1a: With each application for a new or expanded dairy a technical report shall be prepared and shall address the following siting issues:

A. Ground and surface water quality and quantity,
B. Soil characteristics,
C. Air quality, including odors, dust and PM_{10} control during construction and operation at the Dairy Facility,
D. Traffic and road conditions,
E. Dead animal disposal management,
F. Insect, (i.e., fly and mosquito control), and rodent control,
G. Light, glare, and noise,
H. Biological resources,
I. Cultural and archeological resources,
J. Slope stability and potential for erosion,
K. Proximity to the nearest residences, and
L. Irrigation management.

This shall be accomplished by the preparation of the following components of the *Technical Report* as detailed in Appendix J:

1a. Geotechnical Report (Policy DE 2.1f and DE 3.2b),
1b. Groundwater Evaluation (Policy DE 3.2a),
1c. Soils Evaluation (Policy DE 3.2b),
1d. Hydrologic Sensitivity Assessment (HSA) (Policy DE 3.2h),
1e. Gas and Oil Well Evaluation (Policy DE 3.5a),
2a. Manure Nutrient Management Plan (MNMP) (Objective 4.1, Policy 4.1a, 4.1b, 4.1c, 4.1e, and 4.1f),
2b. Comprehensive Dairy Process Water Application Plan (CDPWAP) (Objective DE 4.2, Policy DE4.2a, 4.2b, 4.2c, and 4.2d),
2c. Odor Management Plan (OMP) (Policy DE 5.1b and 6.2d),
2d. Irrigation Management Program (IMP) (Policy DE 4.1b.C),
3. Hazardous Materials Business Plan (HMBP) (Policy DE 4.3a),
4. Pest and Vector Management Plan (PVMP) (Policy DE 4.3b),
5. Dead Animal Management Plan (DAMP) (Policy DE 4.1d),
6. Biological Resources Survey (Policy DE 3.3a),

7. Cultural Resources Evaluation by the California Historic Resources Information System (CHRIS) (Policy DE 3.1d and 3.1e),
8. Traffic Impact Study (Policy DE 3.1g),
9. Fugitive Dust Emissions Control Plan (FDECP) (Policy DE 5.1g, and 5.1h),
10. Light, Glare, and Noise Assessment (Policy DE 3.1h and 3.1i).

Additional details for specific areas are listed below in Policies DE 3.1b through 3.2j.

(Mitigation for Impact 4.1-1, 4.2-3,4.2-3a, 4.2-4, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-13, 4.2-14, 4.3-5, 4.3-7, 4.3-9, 4.5-1, 4.5-4, 4.6-2, 4.7-5, 4.9-1)

Policy DE 3.1b: No new Dairy Facility shall be constructed within one-quarter (¼) mile of any existing rural residence that is not associated with that dairy.

(Mitigation for Impact 4.2-4, 4.6-2, 4.7-5)

Policy DE 3.1c: When nearby rural residences that are not associated with the dairy are within one-quarter (¼) mile of a proposed expansion of an existing Dairy Facility, the new improvements of the Dairy Facility shall be located so that the existing separation shall not be reduced.

(Mitigation for Impact 4.2-4, 4.6-2, 4.7-5)

Policy DE 3.1d: The *Technical Report* submitted for new or expanding dairies shall include documentation that a review of records of known cultural resources has been completed by the California Historical Resources Information System (CHRIS) and that no significant cultural (historic or archaeological) resources would be disturbed by the proposed dairy development (see Component 7 of Appendix J). In addition, the report shall document that a Sacred Lands File Check has been completed by the Native American Heritage Commission (NAHC). If CHRIS or NAHC indicates that known resources are present or suspected within the construction area of the proposed dairy development, the *Technical Report* shall include an evaluation of the resource by an archaeologist qualified under the Secretary of the Interior's Standards and Guidelines for archaeologists which includes an appropriate mitigation plan that will be implemented by the dairy developer. If the survey identifies any impacts on historical, archaeological or paleontological resources, then the applicant will not be eligible to obtain SPR approval by the Zoning Administrator and will instead complete a conditional use permit application process unless the area of concern is specifically excluded from the application.

(Mitigation for Impact 4.11-1)

Policy DE 3.1e: If potential historical, archaeological or paleontological resources are encountered during construction of any site proposed for dairy development, work in the vicinity of the find shall be suspended or diverted. The applicant shall

retain a qualified archaeologist to perform an assessment of the resource. Depending on the nature of any such find, evaluation may include determination of site boundaries and assessment of site integrity and significance. Standards for site evaluation shall comply with appropriate State and Federal requirements (including *California Public Resources Code Section 21083.2(i)*). Evaluation shall include, if necessary, site mapping and/or limited subsurface testing using standard archaeological methods in accordance with *CEQA Guidelines Section 15064.5*.

If, after evaluation, the qualified archaeologist judges an historical, archeological, or paleontological resource to be of importance, a mitigation plan shall be prepared in accordance with appropriate guidelines and submitted to the Zoning Administrator. Mitigation could include avoidance, site capping, data recovery, or a combination of these or other measures, as determined by the qualified archaeologist or paleontologist. Consultation with representatives of recognized local Native American groups shall be reflected in the development of any mitigation plan affecting Native American cultural resources.

(Mitigation for Impact 4.6-2, 4.11-1)

Policy DE 3.1f: All applications for new dairies or expansions of existing dairies shall continue to be submitted to the Kings County Public Works Department and CalTrans for a determination as to whether encroachment permits or other site-specific transportation improvements are required by those agencies.

(Mitigation for Impact 4.9-1)

Policy DE 3.1g: Upon the request of an applicant for a SPR or CUP, the Kings County Regional Transportation Planning Agency will evaluate the effect a new or expanding dairy project will have on surrounding roadways and highways using its traffic model. If the traffic model run demonstrates that the dairy project will not result in degradation of the Level of Service (LOS) of adjacent County roadways below LOS D, or below LOS C on State highways, no additional evaluation will be required.

If the Kings County Regional Transportation Planning Agency's traffic model demonstrated that the LOS will be degraded to a LOS E or lower on adjacent roadways, or to LOS D on State highways, a conditional use permit (CUP) will be required. In such a case the *Technical Report* accompanying the CUP application shall include a Traffic Impact Study (see Component 8 of Appendix J) prepared by a qualified traffic engineer in conformance with guidelines provided by the California Department of Transportation. Any additional environmental review shall focused on traffic related environmental issues and the Traffic Impact Study shall demonstrate that the proposed dairy project will not result in significant safety hazards.

(Mitigation for Impact 4.2-9, 4.9-1)

Policy DE 3.1h: The *Technical Report* for new and expanded dairies shall include a design of the outdoor lighting of the Dairy Facility which ensures that the outdoor lighting is so arranged as to reflect light away from adjoining properties (see Component 10 of Appendix J).

(Mitigation for Impact 4.6-2)

Policy DE 3.1i: The *Technical Report* for new and expanded dairies shall include an assessment of potential noise generated from the Dairy Facility showing that noise levels comply with the standards in the *Noise Element* of the *Kings County General Plan* (see Component 10 of Appendix J).

(Mitigation for Impact 4.5-1 and 4.5-4)

Policy DE 3.1j: The *Technical Report* for a new dairy, or the expansion of an existing dairy, shall evaluated the operations ability to accommodate the nutrients in the process water and manure generated by the dairy. For existing dairies, changes that reduce the dairy's process water and manure components of the operation may be implemented. However, under such circumstances, to receive credit for the nutrient reduction, and any corresponding increase in the herd size within the dairy's existing design capacity, a new site plan review (SPR) will be requirement. The new SPR is to document the new herd size limit, that the capacity of the dairy's nutrient balance system is not overloaded by the change, and it will operate in compliance with the regulations, policies, mitigation requirements, and standards of the *Dairy Element* and Program EIR.

Objective DE 3.2: Suitability for dairy facilities shall be based upon the ability of the site to adequately manage the dairy process water, manure, and associated nutrients generated by the dairy and other potential impacts. Specific nutrient management practices and other standards shall be used to make such determination.

Policy DE 3.2a: The *Technical Report* shall address water issues in the Groundwater Evaluation (see Component 1b of Appendix J), the Hydrologic Sensitivity Assessment (see Component 1d of Appendix J), the Manure Nutrient Management Plan (see Component 2a of Appendix J), the Comprehensive Dairy Process Water Application Plan (see Component 2b of Appendix J), and the Irrigation Management Plan (see Component 2d of Appendix J), including:

A. Minimum separation from bottom of all lagoons, manure and feed storage areas, and corrals and the groundwater level shall be at least five (5) feet at all times.

B. The source of potable water for the Dairy Facility, and the safeguards to protect that water source must be identified.

C. Identify adjacent watercourses and the improvements to protect those watercourses from discharges from a dairy into watercourses or water bodies.

In the event there is a variance between these standards and the RWQCB requirements, the RWQCB standard will prevail.

(Mitigation for Impact 4.3-7, 4.3-9)

Policy DE 3.2b: The Geotechnical Report (see Component 1a of Appendix J), Manure Nutrient Management Plan (see Component 2a of Appendix J), and the Irrigation Management Plan (see Component 2e of Appendix J), shall:

A. Include an evaluation by a certified agronomist of the soil type's capacity at the dairy site to assimilate the various nutrients in the dairy process water and manure produced on the dairy for crop production.

B. Demonstrate the agronomic rates for crop production needs for the nutrients for the various crops that are grown on cropland irrigated with dairy process water and fertilized with solid manure generated by the dairy, with consideration for the soil types and depth to groundwater.

(Mitigation for Impact 4.3-7, 4.3-9)

Policy DE 3.2c: Minimum Dairy Facility setbacks from water wells and water bodies shall be required:

A. Manured and feed storage areas on dairy facilities shall be set back 150 feet from wells and water bodies as required by the RWQCB.

B. Dairy Facilities shall be designed to ensure that no runoff into surface waters, including rivers, creeks, intermittent streams, canals, reservoirs, lakes, ponds, sloughs, stormwater basins, groundwater recharge basins, floodplains, floodways, etc., will occur. This can be done by constructing barriers or grading the facility away from such water bodies.

(Mitigation for Impact 4.3-2, 4.3-7, 4.3-8, 4.3-9)

Policy DE 3.2d: Dairy process water shall not be discharged into any surface water, including rivers, creeks, intermittent streams, canals, reservoirs, lakes, ponds, sloughs, stormwater basins, or groundwater recharge basins. Discharge of dairy process water onto land in floodplains or floodways shall not occur during periods of flooding. Solid manure applied to floodplains or floodways must be worked in to the soil immediately upon application. Additional storage capacity for dairy process water and solid manure shall be designed into the Dairy Facility to ensure there is sufficient capacity in case of flooding.

Flood protection shall also be provided according to California Regional Water Quality Control Board regulations found in *Title 27, Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1, Section 22562, Calif. Code of Regulations*.

(Mitigation for Impact 4.3-2, 4.3-4)

Policy DE 3.2e: Each dairy shall apply dairy process water to crops at agronomic rates, and ensure even distribution of nutrients over the entire crop area so excessive

amounts of nutrients do not cause "hot spots", where excessive amounts of the nutrients cause crop damage and migrate below the root zone where they cannot be used by the crops.

Policy DE 3.2f: Each dairy shall design, implement, and maintain a monitoring and reporting program to ensure that the operation is in conformance with the *Mitigation Monitoring Plan* (MMP) in the Program EIR, and that significant adverse impacts are avoided. See Section V (Goal 6) for monitoring and reporting standards.

Policy DE 3.2g: Existing Dairy Facilities proposing to expand that are preliminarily determined to be located within the 100-year flood hazard zone shall either:

A. Show that the location of the Dairy Facility is outside of the 100-year flood hazard zone; or

B. Be based on detailed site-specific hydraulic analysis conducted by a licensed civil engineer, demonstrate to the Zoning Administrator that the facilities are not located within the 100-year flood hazard zone by securing a letter of map amendment, letter of map revision, or similar instrument from the Federal Emergency Management Agency; or

C. Provide 100-year flood protection for the dairy facilities by constructing berms or other flood control structures. The applicant must acquire all necessary permits and regulatory approvals for such structures.

(Mitigation for Impact 4.3-4, 4.3-9)

Policy DE 3.2h: *A Hydrogeologic Sensitivity Assessment (HSA) (see Component 1d of Appendix J)*, Whenever groundwater is being pumped from a hydrogeologic setting within one-half (½) mile of a proposed dairy site, or an expanding dairy, which is underlain by karst, fractured bedrock, or gravel, the applicants shall retain a qualified Certified Hydrogeologist or Professional Engineer to conduct a HSA.

A. The HSA shall evaluate whether hydrogeologic setting would offer adequate barriers to pollutant migration to drinking water supplies. The evaluation shall be conducted in accordance with the principles contained in the EPA's Ground Water Rule.

B. *Dairies Proposed in the Kettleman Plain or Sunflower Valley*: Water supply in the Kettleman Plains and Sunflower Valley is limited due to the lack of substantial recharge of the aquifers. In addition to paragraph A above, dairies proposed in these areas must complete a HSA to demonstrate that an adequate sustainable water supply would be available for each proposed project. The HSA must provide a detailed description of the proposed project water demand and how that demand would be met without overdrafting groundwater supplies. If the project proposes use of groundwater supplies, the HSA must quantify the safe yield of the

underlying aquifer. Allowable groundwater use must be limited to the quantified safe yield.

(Mitigation for Impact 4.3-6, 4.3-7, 4.3-9, 4.10-1)

Policy DE 3.2i: All existing active and inactive domestic and irrigation water supply wells (including those located at the dairy site) at a proposed new dairy or proposed expansion of an existing dairy shall be inspected by a qualified professional to ensure that each well is properly sealed at the surface to prevent infiltration of waterborne contaminants into the well casing or surrounding gravel pack. If any of the wells are found not to comply with the California Well Standards or RWQCB Standards, the applicant or dairy operator shall retain a licensed well driller to install the required seal or functional equivalent certified by a licensed engineer or other qualified registered professional. Documentation of the inspections and seal installations, if any, shall be maintained on the dairy site and made available to the Code Compliance personnel upon their request. This policy applies to all wells located on the Dairy Facility or on any farmland controlled by the dairy and used for the application of dairy process water.

(Mitigation for Impact 4.3-7, 4.3-8)

Policy DE 3.2j: In addition to local zoning requirements all dairies must comply with the Report of Waste Discharge (RWD) issued by Regional Water Quality Control Board (RWQCB) for each dairy. The local zoning and RWQCB requirements are separate requirements and must both be followed. In the event there is a variance between these standards and the RWQCB requirements, the RWQCB standard will prevail.

Objective DE 3.3: Protect any sensitive biological and wetland resources when evaluating proposed new and expanded dairies.

Policy DE 3.3a: It is the policy of the County, for purposes of siting dairies under this *Element*, that land continuously cultivated since 1985, or before, will not be considered wetlands or sensitive species habitat. Temporarily fallow land which otherwise meets this requirement shall not be considered to be habitat for sensitive species simply because it is not being cultivated at any given time. All applications for new or expanded dairies must submit a Biological Resources Survey (see Component 6 of Appendix J). The survey shall be conducted in compliance with the U.S. Fish and Wildlife Services, California Department of Fish and Game, and U.S. Army Corps of Engineers guidelines, where applicable. If the survey identifies impacts on wetlands or habitat for sensitive species, then the applicant will not be eligible to obtain SPR approval by the Zoning Administrator and will instead complete a conditional use permit (CUP) process and additional environmental review.

(Mitigation for Impact 4.4-1, 4.4-2, 4.7-3)

Objective DE 3.4: Protect public roads from the potential adverse effect of dairies.

Policy DE 3.4a: All buildings and structures on dairy facilities shall be set back from all public road right-of-ways at least 50 feet. Corrals, feed and manure storage areas, open sided shade structures shall be set back at least 20 feet from public road right-of-ways.

(Mitigation for Impact 4.9-1)

Objective DE 3.5: Protect the public from potential hazards associated with active or abandoned oil or gas wells.

Policy DE 3.5a: All applicants for new or expanded dairies shall submit documentation with the *Technical Report* indicating that the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) has reviewed their records for the potential presence of active and abandoned oil or gas wells at or adjacent to (within 100 feet) the proposed dairy site (see Component 1e of Appendix J). If DOGGR identifies wells, the *Technical Report* shall include a scaled map showing the location of the wells on the site plan of the proposed Dairy Facility. Copies of the pertinent maps will be maintained by the Kings County Planning Agency for consultation purposes by applicants for new or expanding dairies.

(Mitigation for Impact 4.8-6)

Policy DE 3.5b: Any identified abandoned oil or gas wells identified by DOGGR within the proposed dairy site that are located beneath or within 300 feet of a proposed dairy structure shall be properly closed in accordance with specifications provided by DOGGR.

(Mitigation for Impact 4.8-6)

Objective DE 3.6: Minimize the potential for increased fire hazards at new and expanded dairy facilities.

Policy DE 3.6a: Applications for all new and expanded dairy projects shall demonstrate conformance with all applicable Kings County Fire Department minimum standards for dairy developments. These minimum standards include**:**

A. Twenty thousand gallons of water must be stored in a tank on site for fire suppression. The storage tank shall be equipped with a pressure system and a float devise to keep the tank full at all times. The tank shall have a 3-inch discharge line with a 2½ inch National Standard Hose Thread male fitting for Fire Department connection. The male fitting shall have a cap to prevent accumulation of trash and debris within the fitting. The discharge line shall have a valve capable of controlling the flow of water. In lieu of the storage tank a well with a pump capable of producing at least 300gallons per minute of water may be used to meet water requirements.

The well shall have a 2½ inch National Standard Hose Thread male fitting located on the discharge plumbing. The well location shall be on the initial property and approved by the fire department. Any other source of water supply shall be submitted to and approved by the fire department.

B. Fires involving the storage of hay and/or feed commodities shall be brought under control by the fire department. Once the exigent circumstances cease to exist, it is at the fire department's discretion to turn the incident over to the responsible party/property owner for final extinguishment and removal of additional exposure, such as additional hay and feed commodities that may be ignited by drifting ambers. The fire department may continue to remain on scene at the responsible parties/property owners request if the responsible party/property owner agrees to pay the costs of additional suppression activities and stand-by time for all personnel and equipment used after the fire department determines that the exigent circumstances cease to exist.

C. Access road 15 feet in width shall be provided to all structures, water storage and hay storage areas. The roads shall be of an all-weather surface capable of supporting heavy fire apparatus.

D. Hay storage shall not exceed 20 feet in height. Individual stacks of hay shall be limited to 1,000 tons and shall have a minimum 20-foot separation between aisles and rows of adjoining haystacks.

E. Hay storage shall not be allowed within 100 feet of a structure.

F. Storage of hay within structures shall be limited to 100 tons. This does not include pole barns.

G. Agricultural shops that have repair facilities may be required to have automatic fire suppression systems installed depending upon operations and size of the structure. Fire hydrants may be required around structures depending on operations and size.

H. The fire department reserves the right to address requirements on a case-by-case basis depending upon the hazard and size of the risk involved. The aforementioned standards are only a minimum and more stringent requirements may be applied.

(Mitigation for Impact 4.10-3)

Objective DE 3.7: The expanded portions of existing dairies must comply with the standards in the *Dairy Element* and all other regulatory requirements.

Policy DE 3.7a: Nothing in this *Dairy Element* shall be construed as a guarantee that any existing dairy that does not meet the standards and regulations for the operation of dairies will be able to make the changes necessary for future expansion. Any dairy that is improperly located, or has other specific characteristics that conflict with the standards of this *Element* or other regulatory requirements, may not be able to expand. Such dairies, with or without expansion, may become nuisances and may be required to take specific corrective action which may include, but not

limited to, reducing herd size, increasing cropland application area, or ceasing operation.

C. Dairy System Design Policy

The following policies are derived from various sources, including local experience with the regulation of the Kings County dairy industry, California Regional Water Quality Control Board (RWQCB) regulations, *CEQA*, the *Kings County Zoning Ordinance*, and the USDA/USEPA *Unified National Strategy for Animal Feeding Operations, dated March 9, 1999.*

GOAL DE 4: Use specific and comprehensive manure nutrient management techniques in the operation of dairies.

Objective DE 4.1: A *Manure Nutrient Management Plan* (MNMP) shall be required as part of the *Technical Report* (see Component 2a of Appendix J) submitted with each application to either establish a new dairy or expand an existing dairy. The specific practices used to implement each component may vary to reflect site-specific conditions or needs.

Policy DE 4.1a: MNMP Components: The following components shall be addressed in the MNMP.

A. *Feed Management* – Evaluate the possibility of modifying diets and feed of the animals to reduce the amounts of nutrients in manure.

B. *Manure Handling and Storage* – Manure must be handled and stored properly to prevent water pollution from dairies. Manure and dairy process water handling and storage practices shall consider odor and other environmental and public health problems. Handling and storage considerations shall include:

1. *Diversion of clean water* – Dairy siting and management practices may include diverting clean water from contact with any manured area, including, but not limited to, corrals, pens, freestalls, feeding lanes and areas, feed storage areas, interiors of barns and milking parlors, manure storage and handling areas, dead animal storage areas, and other areas exposed to manure, feed, or dead animals. Clean water includes rainfall falling on roofs of facilities and runoff from adjacent lands, or other sources. If clean water is not diverted from manured areas, the capacity of process water storage facilities (i.e., lagoons) shall be sufficient to collect the additional runoff.
2. *Prevent leakage* – Construction and maintenance of buildings, collection systems, conveyance systems, and storage facilities shall prevent releases of organic matter, nutrients, and pathogens to ground or surface water by implementing the following measures:

a. All manure separation pits and process water lagoons shall be constructed so that the bottoms of the pits and lagoons are at least five feet above the highest expected groundwater levels.
b. The pits and lagoons shall be maintained so that the integrity of the seal is ensured.
c. The specific discharge of process water through the soils lining the bottom and sides of the manure separation pits and lagoons shall not be greater than 1×10^{-6} centimeters per second in compliance with the Geotechnical, Design, and Construction Guidelines published by the Natural Resource Conservation Service (1997).
d. A qualified professional (i.e., Professional Engineer or Certified Engineering Geologist) shall certify that the liner system of a lagoon or pit is installed according to the NRCS design standards.
e. The soil sampling and permeability testing program shall be designed to be representative of all soils lining all proposed pond areas.
f. Construction of the lagoons shall be inspected by a qualified professional to ensure that geologic heterogeneities (e.g., channel deposits and sandy lenses) are identified and properly mitigated to ensure integrity of the liner in compliance with the NRCS standards. The liner must be protected against damage during operation and maintenance activities.
g. At the corrals, naturally occurring or imported clayey (not less than 20% clay and silt) soils shall underlie the corrals and dry manure storage areas. Site drainage shall be included in the project design and construction of any manured area, including but not limited to, dairy surroundings, corrals, and ramps, pursuant to *Title 3, Division 2, Chapter 1, Article 22, §646.1 of the California Code of Regulations* to ensure that ponding does not occur.
h. Regular maintenance of corrals and dry manure storage areas shall include filling of depressions. Care shall be taken not to disturb the seal layer in the corrals. Dairy personnel shall be taught to correctly use manure collection equipment.
i. The potential for discharge of water-borne pathogens to existing and proposed domestic water supply wells shall be minimized by ensuring that the domestic wells are constructed in accordance with the California Well Standards and that appropriate minimum setbacks (150 feet, or other distance set in the Waste Discharge Requirements issued for the dairy by the RWQCB) between domestic wells and potential sources of pollution are maintained.

3. *Provide adequate storage for manure:*
   a) Dry manure shall be stored in a manner to ensure all runoff from the manure storage areas is captured and diverted to the dairy process water collection system.
   b. Dairy process water storage systems shall be designed and constructed to store, handle, and transport all of the quantity and contents of dairy process water produced on the Dairy Facility, runoff from the Dairy Facility, and rainfall that falls on the Dairy Facility. Location of manure storage areas shall be consistent with Policy DE 3.2c.
4. *Manure Management* – Manure shall be managed to reduce the loss of nutrients to the atmosphere during storage, to make the managed manure a more stable fertilizer when land applied, and to reduce pathogens, vector attraction and odors.

(Mitigation for Impact 4.1-3, 4.3-5, 4.3-7, 4.3-9, 4.8-4, 4.10-2)

Policy DE 4.1b: *Land Application of Manure* – Land application is the most common, and usually most desirable method of utilizing process water and dry manure because of the value of the nutrients and organic matter to plant growth. Land application shall be planned to ensure that the proper amounts of all nutrients are applied in a way that does not cause harm to the environment or to public health. Land application of manure in accordance with the MNMP shall minimize water quality degradation and public health risk. Considerations for appropriate land application shall include:

A. *Nutrient balance* – The primary purpose of nutrient management is to achieve the application of nutrients at the agronomic rates required to grow the planned crop by balancing the nutrients that are already in the soil and from other sources with those that will be applied in manure and commercial fertilizer. At a minimum, nutrient management shall prevent the application of nutrients at rates that will exceed the capacity of the soil and planned crops to assimilate nutrients, and will reduce the potential for degradation of water resources.

Soils shall be tested at least annually to determine nutrient content. The results of the testing shall be evaluated by a qualified soil scientist or agronomist to determine whether adjustments to the *Manure Nutrient Management Plan* are required to prevent crop damage or salt buildup. In the evaluation of salinity, which requires data on concentration variation over time, a statistical methodology for determining trends shall be selected by a certified agronomist. The first trend analysis shall be conducted for each dairy after five years of data collection, and then each year thereafter. Buildup of salt in the soil is detrimental to growing crops. Consequently farmers will have a natural incentive to take remedial action upon receiving a report that a salt buildup has occurred.

B. *Timing and methods of application* – Care must be taken when applying manure and process water to the land to prevent it from entering groundwater, streams, other water bodies, or environmentally sensitive areas. The timing and method of application shall prevent the loss of excess nutrients to groundwater or surface water. Additionally, process water shall be applied to minimize unnecessary contact with air in order to minimize the release of ammonia into the atmosphere. Manure application equipment shall be calibrated to ensure that the quantity of material being applied is at agronomic rates. Manure application shall be avoided during periods of winds in excess of 20 miles per hour.

C. *Irrigation Management Program* – The owner/operator of the proposed new or expanded dairy shall include an Irrigation Management Program with the *Technical Report* (see Component 2e of Appendix J) to ensures that irrigation water and runoff from fields at each dairy unit would not be allowed to migrate away from the project site or into surface water features.

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-7, 4.3-9)

Policy DE 4.1c: *Land Management* – Tillage, crop residue management, grazing management, and other conservation practices shall be utilized to minimize movement to surface water and groundwater of soil, organic materials, nutrients, and pathogens from lands where manure is applied.

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-9)

Policy DE 4.1d: *Dead Animals Management Plan (DAMP)* – A Dead Animal Management Plan (see Component 5 of Appendix J) shall be prepared and implemented for the disposal of all dead animals in a way that does not adversely affect groundwater or surface water, create public health concerns, or cause nuisances due to odor or vectors. The plan shall specify at a minimum that dead animals shall be removed from the dairy within 72 hours. Carcasses shall be stored in an area screened from public view and accessible via an all weather road or driveway. No animals shall be buried on site unless by order of an officer of a regulatory agency with jurisdiction over dead animal management, including, but not limited to, the County Agricultural Commissioner, the County Health Officer, and State and Federal Agencies.

Since rendering is the most common method used to dispose of dead animals, a plan for the timely delivery of dead stock to appropriately permitted facilities that will process the dead stock will adequately serve as the *Dead Animal Management Plan (DAMP)*.

(Mitigation for Impact 4.3-5)

Policy DE 4.1e: *Record Keeping* - Dairy operators shall document the annual estimated quantity of solid manure produced at the dairy and transported off-site. Documentation of this

estimate shall be maintained by the dairy and shall be made available to the County Code Compliance personnel upon their request.

Objective DE 4.2: A "*Comprehensive Dairy Process Water Application Plan*" (CDPWAP) (see Component 2b of Appendix J) shall be required as part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy.

Policy DE 4.2a: The following components shall be addressed in the CDPWAP:

A. When an applicant for a new dairy or the expansion of an existing dairy will use his or her own land for the application of process water:
   1. The CDPWAP shall include a legal description of all lands that will be used for process water application.
   2. The CDPWAP shall include the estimated amount of water that will be generated by the dairy (including an estimate of the Nitrogen and salt content of the dairy process water).
   3. Prior to selling any land on which process water is applied, the dairy owner/operator shall notify the Zoning Administrator and:
      a. Provide substitute land or enter into an agreement with another land owner to replace the land upon which the process water is applied, or
      b. Immediately reduce the dairy herd to a level that can be accommodated by the remaining land identified in the SPR or CUP.
   4. Changes made in the operation pursuant to section 3. above must be reflected in an amendment to the dairy's SPR or CUP.

B. When the application for a new dairy or the expansion of an existing dairy will use land other than his or her own land for application of dairy process water:
   1. The CDPWAP shall include a legal description of all lands that will be used for process water application.
   2. The CDPWAP shall include the estimated amount of water that will be generated by the dairy (including an estimate of the Nitrogen and salt content of the dairy process water).
   3. The agreement shall be recorded by the dairy owner/operator and the owner of the land identified in the CDPWAP where the dairy's process water will be used. The agreement shall contain the following provisions:
      a) The agreement shall include a legal description of all lands burdened by the obligation of the agreement.
      b) The agreement shall identify the Dairy Facility generating the process water by name and location.

c) The agreement shall state that the identified land shall not be converted to any use which cannot accommodate the dairy's process water.

d) The agreement shall be binding on all successors in interest as long as the agreement is in force.

e) The agreement must restrict the use of the land to cropping patterns which use all of the nutrients from the process water generated from the new or expanded Dairy Facility (less any nutrients used on the dairy owners own land). The nutrient utilization rate used in the calculations for nutrient utilization of the cropping pattern shall be established by a Certified Agronomist.

f) The agreement shall coordinate timing of the delivery of the dairy process water in conformity with the Dairy Facility's IMP (Policy DE 4.1b.C) and MNMP (Policy DE 4.1a) to assure adequate storage capacity is available at he Dairy Facility.

g) To ensure that the process water is applied to crops in accordance with the requirements of the *Dairy Element*, the agreement shall either:

   i. Allow the dairy owner/operator to enter the land identified in the agreement to carry out the application of the dairy process water in accordance with the requirements of the *Dairy Element*, or

   ii. Obligate the owner of the land identified in the agreement to carry out the application of the dairy process water in accordance with the requirements of the *Dairy Element*.

4. The agreement shall be recorded after the SPR or CUP is approved, but before any cows are brought to the site.

5. Prior to terminating the agreement, the dairy owner/operator shall notify the Zoning Administrator and either:

   a. Provide a substitute agreement with another land owner to replace the land within the terminated agreement, or

   b. Immediately reduce the dairy herd to a level that can be accommodate by the remaining land under the SPR or CUP, or agreement.

6. Changes made in operation of the dairy pursuant to section 5 above shall be reflected in an amendment to the dairy's SPR or CUP.

7. The land identified in the agreement for the use of dairy process water shall not already be subject to any other dairy process water use agreement.

8. The Zoning Administrator for an amendment of the SPR, or the Planning Commission for an amendment of the CUP must approve any change in the terms of the agreement.
9. If application of process water on land identified in the agreement is not carried out in conformity with the requirements of the *Dairy Element*, it shall be the responsibility of the dairy owner/operator to correct such problems. Any such violations of the Dairy Element Standards shall subject the owner/operator of the Dairy Facility to enforcement action by the County or other responsible agency, as provided in the *Dairy Element*, the *Zoning Ordinance*, or State law.

C. When the applicant for a new dairy or the expansion of an existing dairy uses a combination of his or her land and land other than his or her own land for application of dairy process water, both A and B above shall apply.

(Mitigation for Impact 4.8-5)

Policy DE 4.2b: Lagoons may be used for treating and storing dairy process water and manure. All areas occupied by cows shall be graded in such a manner that ensures runoff water will flow into and be contained within a lagoon until used for fertilizer or irrigation purposes. Water that does not come into contact with manured areas or feed storage areas may be diverted away from such areas and not allowed into the lagoon. All contents of a lagoon shall be managed so that it is applied to cropland at agronomic rates and used only for approved purposes and in an approved manner.

Policy DE 4.2c: The sale of solid manure from a dairy to other farmers or commodity brokers shall not require an agreement as described in Policy DE 4.2a above. Sale of solid manure produced on a dairy is not regulated.

Transporting manure from other dairies into a dairy for subsequent sale or distribution to a third party would constitute a "fertilizer sale yard" and is subject to a separate conditional use permit application and approval.

Policy DE 4.2d: Failure to obtain the Zoning Administrator's approval of any change to the agreement described in Policy DE 4.2a will be a violation of the *Kings County Zoning Ordinance* and the site plan review (SPR), and may result in the revocation of the dairy's SPR or CUP approval. Failure to implement an agreement as approved by the Zoning Administrator shall also be a violation and may be grounds for revocation of the dairy's SPR or CUP approval.

Objective DE 4.3: Promote dairy management facility practices that protect workers, public health, and the environment.

Policy DE 4.3a: Dairy operators shall conform to all applicable laws and regulations controlling the management of hazardous materials, including fuels, pesticides, and other agricultural chemicals (see Component 3 of Appendix J).

(Mitigation for Impact 4.8-1)

Policy DE 4.3b: A *Pest and Vector Management Plan* (PVMP) shall be submitted with each application to either establish a new dairy or expand an existing dairy as part of the *Technical Report* (see Component 4 of Appendix J). In addition, dairies are encouraged to implement an *Integrated Pest Management* (IPM) system.

(Mitigation for Impact 4.8-3)

Policy DE 4.3c: The County shall require that all dairy operators follow all Kings Mosquito Abatement District requirements concerning vector control at the Dairy Facility.

(Mitigation for Impact 4.8-3)

Objective DE 4.4: Promote protection of San Joaquin Valley water quality through the adoption of compliance with the water quality objectives of the Water Quality Control Plan for the Tulare Lake Basin-Second Edition 1995 (Tulare Lake Basin Plan) for dairy projects.

Policy DE 4.4a: On August 17, 1995, the California Regional Water Quality Control Board, Central Valley Region, adopted the current Water Quality Control Plan for the Tulare Lake Basin. Such plans are required by the state *Porter-Cologne Water Quality Control Act* and federal *Clean Water Act*.

Under *CEQA Guidelines section 15064.7*, a County may adopt thresholds of significance to determine the significance of environmental effects. The County hereby adopts compliance with the water quality objectives of the Basin Plan as the threshold of significance for impacts to water quality from implementation of the Dairy Element. Therefore, dairy projects that 1) comply with the Basin Plan and 2) comply with the provisions in the Element allowing approval of a site plan review (SPR), do not create cumulatively significant environmental impacts on water quality.

(Mitigation for Impact 4.3-9)

GOAL DE 5: Promote protection of the San Joaquin Valley air quality through the reduction of potential adverse air emissions from dairies.

Objective DE 5.1: Implement air emissions control practices and technologies at dairies to reduce the potential for degradation of air quality and odor generation.

Policy DE 5.1a: The County shall monitor the efforts of the San Joaquin Valley Unified Air Pollution District (SJVUAPCD) in developing air emissions control guidelines for agricultural uses, including dairy operations.

Policy DE 5.1b: An "Odor Management Plan" (OMP) (see Component 2c of Appendix J) shall be required as part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The Plan shall specifically address standard operating practices for livestock handling, and manure collection, treatment, storage, and land application.

The plan shall also identify existing residences located within a ¼-mile radius of the proposed new or expanded dairy facility. The OMP shall also provide standard operating procedures/control measures to be implemented to protect these residents from odors that may be generated from dairy operations.

In addition, the standard operating practices in the OMP shall also include quality assurance/quality control protocol to monitor the implementation and effectiveness of the OMP. The OMP shall be revised as necessary, based on the results of the monitoring program, to ensure that standard operating procedures are conducted in a manner that will reduce or control odor from dairy operations.

(Mitigation for Impact 4.2-4)

Policy DE 5.1c: (Reserved)

Policy DE 5.1d: The owner/operator of a proposed new dairy development or expansion shall comply with the most recently adopted Regulation VIII rules established by the SJVUAPCD for construction activities, during facility pre-construction, construction, inactive construction period, and post construction, when applicable.

(Mitigation for Impact 4.2-1)

Policy DE 5.1e: To ensure that potential fugitive dust emissions from cattle movement and maintenance activities in unpaved corrals, perimeter roadways, and other unpaved areas throughout Dairy Facilities are reduced, unpaved areas shall be effectively stabilized. Water (expected efficiency of 50 percent) or chemical stabilizer/suppressant (expected efficiency of 75 percent) that is safe for the environment and cattle may be used. Stabilization shall be conducted in a manner that will not result in the potential for breeding of mosquitoes and other vectors. The owner/operator shall also ensure that manure generated in the corrals is removed frequently to minimize the extent to which the manure becomes a PM_{10} source.

(Mitigation for Impact 4.2-3, 4.2-3a, 4.2-3b, 4.2-6, 4.2-10)

Policy DE 5.1f: The owner/operator of a proposed dairy development or expansion shall follow measures to control emissions (ROG, NOx, and PM_{10}) generated during construction as required by the SJVUAPCD.

(Mitigation for Impact 4.2-2)

Policy DE 5.1g: All applications for proposed dairies and all dairy expansions requiring a site plan review (SPR) shall include a *Fugitive Dust Emissions Control Plan* (FDECP) as part of the *Technical Report* (see Component 9 of Appendix J) which describes and demonstrates conformance with Policy DE 5.1e and the most recently adopted SJVUAPCD Regulation VIII controls for fugitive dust emissions.

(Mitigation for Impact 4.2-3, 4.2-4, 4.2-10)

Policy DE 5.1h: All new and expanding dairies shall comply with the control measures for fugitive dust emissions from agricultural sources as established by the most recently adopted SJVUAPCD Regulation VIII. The *Fugitive Dust Emissions Control Plan*, as required by Policy DE 5.1g, shall specify the control measures that will be implemented during dairy operation.

(Mitigation for Impact 4.2-3, 4.2-10)

Policy DE 5.1i: (Reserved)

Policy DE 5.1j: Prior to conversion of dairy facilities to other land uses not involving livestock, the operator/owner of the facility shall submit documentation to the County Code Compliance personnel demonstrating that all residual manure and process water has been removed or managed in an appropriate manner consistent with the facility's CDPWAP.

(Mitigation for Impact 4.8-5)

SECTION V

DAIRY MONITORING PROGRAM

A. Monitoring Component

This requirement is based on the CEQA requirement set forth in *CEQA Guidelines Section 15097*. CEQA requires that a *mitigation monitoring and reporting program,* or *plan,* be adopted and carried out to ensure that potential significant adverse effects to the environment and required mitigation measures are monitored to ensure that the operation stays within the limits of the approval. Monitoring that is documented by record keeping is also part of the *USDA/USEPA Strategy*.

This will be accomplished by a tracking program through the Code Compliance division of the Kings County Planning Agency. This division shall operate a program that tracks the accumulated data, analyzes it to determine whether the standards are being met, and makes periodic reports. This division is under the direction of the Director of Planning and Building Inspection (Zoning Administrator), who will be responsible for submitting annual reports to the Planning Commission concerning the implementation of the policies in this Dairy Element of the General Plan. The report shall include at least the following information:

1. The results of the monitoring program,
2. Whether the goals, objectives, and policies are being met,
3. Any failures by operating dairies to report required data, and
4. Whether changes in standards or conditions of approval are necessary.

All records, reports, plans, programs, documentation and other material required as part of the monitoring and reporting requirements shall be maintained on the dairy site, and shall be made available to the County Code Compliance personnel upon request for review and inspection. The monitoring and reporting requirements are applicable to new dairies approved under this Dairy Element or the portion of a previously existing dairy that is expanded or affected by the expansion.

GOAL DE 6: Establish a *Dairy Monitoring Program* in the *Kings County Planning Agency,* and implement a monitoring program that both demonstrates the *Dairy Element's* effectiveness in protecting the environment, and the effectiveness of those mitigation measures for each Dairy Facility regulated by these policies.

Objective DE 6.1: Establish a *Dairy Monitoring Program*: Develop and implement as part of the monitoring program a method to document the data for all of the dairies as the overall county monitoring program. Individual dairy information will include such data as:

A. Location of the animal concentrations on dairies,
B. "Dairy process water/nutrient use areas" covered by dairy process water use agreements,

C. Soil characteristics, including types and classification,
D. Dairy process water and nutrient usage and demand,
E. Groundwater conditions, including depth, local perched water, etc.,
F. Crop patterns and production,
G. Floodplain designation, inundation potential, and incidental flooding,
H. Other Confined Animal Feeding Operations (CAFOs) within one-quarter (¼) mile,
I. Urban area development within one (1) mile,
J. Dust control practices and Fugitive Dust Emissions Control Plan,
K. Odor control practices as specified in the Odor Management Plan (OMP), and

Policy DE 6.1a: Under the direction of the Director of Planning and Building Inspection the Code Compliance division of the Kings County Planning Agency shall:

A**.** Track required data from the new and expanding dairies to determine whether the *Dairy Element* and Program EIR standards and conditions of approval are being complied with.

B**.** Prepare, as needed, specific reports on a case-by-case basis to address problems, and work with dairies to solve any problems and ensure compliance in a timely manner.

C. Prepare a written report at least annually, and submit it to the Planning Commission on the general results of the monitoring program.

(Mitigation for Impact 4.2-3, 4.2-3a, 4.2-3b, 4.2-4, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-10, 4.2-11, 4.2-12, 4.2-13, 4.2-14)

Policy DE 6.1b: The Code Compliance division shall include a qualified compliance specialist capable of reviewing the data of the monitoring programs prepared by the dairies subject to the *Dairy Element*. The compliance specialist shall be familiar with environmental issues associated with dairy operations. The compliance specialist shall determine whether the practices documented are consistent with the monitoring and reporting requirements of all of the components of the Technical Report as outlined in Appendix J, and shall provide recommendations to modify the ongoing practices.

(Mitigation for Impact 4.2-3, 4.2-3a, 4.2-3b, 4.2-4, 4.2-6, 4.2-7, 4.2-8, 4.2-10, 4.2-12, 4.2-13, 4.2-14)

Objective DE 6.2: Protect the environment through monitoring individual dairy operational activities so that adjustments in the operation can be made when necessary to comply with the standards.

Policy DE 6.2a: *Continuous monitoring:* Although the total county capacity of cows in the dairy industry in Kings County can only be estimated in terms of dairy process water, manure, and nutrients generated, the overall industry can be monitored to determine whether the individual operations are being operated within the limits of the standards established by this Element, and whether the theoretical limit of the County has been reached.

If the "Theoretical Dairy Herd Capacity" for Kings County is exceeded then proposed new or expanded dairies will be required to go through a full conditional use permit and individual project environmental assessment process under CEQA.

(Mitigation for Impact 4.3-7)

Policy DE 6.2b: Every operator shall be responsible for conducting an annual inspection of the interior and exterior slopes surrounding the manure separation pits and process water lagoons following the rainy season of each year. The inspections shall document the occurrence of any significant erosion (e.g., formation of rills or gullies longer than ten feet and/or deeper than one foot) or any significant slope failures (e.g., soil slips greater than 100 square feet in area). A report of the inspections shall be maintained at the dairy site and made available to the County Code Compliance personnel upon request. The report shall include recommendations and schedule for completing any necessary corrective action.

(Mitigation for Impact 4.1-1, 4.2-4, 4.2-6, 4.7-5)

Policy DE 6.2c: *Minimum standards for dust control monitoring:* The County Code Compliance division shall establish requirements for monitoring the dust control measures specified under Policy DE 5.1d and e. At a minimum, the requirements shall include:

A. Performance of periodic visual inspections at dust sources throughout the dairy (i.e., cattle movement at unpaved corrals and all other unpaved or gravel paved areas).

B. Visual inspections shall be conducted and documented by the dairy operator to determine the effectiveness of dust control measures required under Policy DE 5.1e and presence/absence of breeding of mosquitoes and other vectors due to the implementation of dust control measures.

C. Visual inspections shall be conducted at the dairy site boundaries and shall be conducted at least on a monthly basis during the dry season (April through October), once during the remainder of the year, and during periods of high winds.

D. All visual inspections shall be documented by the dairy operator and the documentation shall be maintained at the Dairy Facility.

E. Performance of inspection and documentation of the implementation of the *Fugitive Dust Emissions Control Plan* (FDECP) required by Policy DE 5.1g and control measures required by the most recently adopted SJVUAPCD Regulation VIII by the dairy operator at the dairy shall be done at least monthly.

(Mitigation for Impact 4.2-3, 4.2-3a, 4.2-8, 4.2-9, 4.2-10)

Policy DE 6.2d: *Minimum standards for Odor Management Plan (OMP) monitoring:* The Code Compliance division shall establish requirements for monitoring the

implementation of the OMP specified under Policy DE 5.1b. At a minimum, the requirements shall include:

A. The dairy operator shall conduct quality assurance/quality control on the implementation of the standard operating procedures described in the OMP.

B. Quality assurance/quality control shall be conducted and documented by the dairy operator in a manner that will determine whether the implementation of the specified standard operating procedures indicated in the OMP are effectively reducing or controlling odors generated from livestock handling, manure collection, treatment, storage, and land application.

C. Quality assurance/quality control shall be conducted by the dairy operator when the potential for odor release/migration is high (e.g., high temperature) and on a monthly basis during the remainder of the year.

D. The results of quality assurance/quality control shall be documented. The documentation shall be maintained at the Dairy Facility.

(Mitigation for Impact 4.2-3, 4.2-3b, 4.2-5, 4.2-7, 4.2-8, 4.2-9, 4.2-11, 4.2-12, 4.2-13, 4.2-14)

Policy DE 6.2e: (Reserved)

Policy DE 6.2f: *Minimum standards for water quality monitoring program:* Water quality monitoring shall comply with all requirements and orders of the RWQCB. Copies of all reports that are required by, and submitted to, the RWQCB by any new or expanded dairy regulated under this *Dairy Element* shall also be provided a copy of those reports to the Kings County Zoning Administrator.

A. Installation of groundwater monitoring wells at each dairy adequate to characterize the variations in depth to uppermost groundwater at the Dairy Facility and chemical quality of the uppermost groundwater zone. If non-continuous perched groundwater zones underlie the facility, deeper aquifers may require monitoring. Vadose zone monitoring using lysimeters shall be required to monitor the quality of soil water, particularly in the vicinity of the lagoons. The design and installation of water quality monitoring system shall be preformed under the direction of a Registered Geologist or a Professional Engineer in accordance with California Well Standards.

B. Groundwater and soil water samples shall be analyzed, at minimum, for TDS, electrical conductivity, general mineral content, Nitrogen as nitrate and nitrite, phosphorus, and coliform or other appropriate indicator of biological contamination. This list of constituents to be analyzed may be modified at the request of the RWQCB. All samples should be analyzed by a State-certified analytical laboratory.

C. Sampling of all wells and/or lysimeters shall be conducted prior to dairy operation to establish background levels and thereafter on an annual basis. In addition, the depth to water in each well shall be measured to within an

accuracy of 0.01 feet twice each year, once in the spring and once in the fall.

D. Reporting requirements shall be according to the RWQCB and Policy DE 6.4d, below.

(Mitigation for Impact 4.3-7, 4.3-9)

Policy DE 6.2g: The documentation shall be kept on-site at all times and shall be made available to the *Code Compliance personnel* upon request.

Objective DE 6.3: Implement a continuous monitoring program for each dairy regulated by these policies so that adjustments in the operation can be made when necessary.

Policy DE 6.3a: *Continuous Evaluation Program:* Each new or expanded dairy will be required to conduct an annual evaluation to demonstrate that the dairy is operating within its approved parameters. The evaluation results shall be kept on the dairy site and shall be made available to the Code Compliance personnel upon request. If those parameters are exceeded, the operator must make changes to bring the dairy into conformance with the requirements of the *Dairy Element*. If the changes in operation cannot or do not correct the problem, the County may modify or revoke the facility zoning permit.

(Mitigation for Impact 4.2-3, 4.2-3b, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-11, 4.2-12, 4.2-13, 4.2-14, 4.3-7)

Objective DE 6.4: Establish a formal and effective process to evaluate and respond to public complaints regarding nuisances or conditions of approval violations at specific dairy operations to be managed by Code Compliance personnel.

Policy DE 6.4a: All public complaints regarding dairy operations and facilities shall be recorded with the Code Compliance division. It is the responsibility of that office to authenticate the conditions cited in the complaint through inspection of the subject dairy. As necessary, the Code Compliance personnel shall rely on the expertise of other County Departments to verify the basis and severity of a complaint and establish appropriate corrective action. Timely performance of necessary corrective action shall be required of dairy operators and verified by the Code Compliance personnel.

(Mitigation for Impact 4.2-4, 4.5-4, 4.6-2)

Policy DE 6.4b: All applications for new or expanded dairies shall include the name of, and contact information for, the person(s) responsible for responding to complaints regarding that dairy.

(Mitigation for Impact 4.2-5)

Policy DE 6.4c: Code Compliance personnel shall notify dairy operators of complaints and provide them opportunity to participate in the development of corrective action, if required.

(Mitigation for Impact 4.2-4, 4.5-4, 4.6-2)

Policy DE 6.4d: Each dairy operator shall retain a qualified professional (i.e., Professional Engineer or Certified Hydrogeologist) to compile and evaluate the water quality data required by Policy DE 6.2f. The Code Compliance personnel shall review the data to determine whether violations have occurred, or if corrective action is required. When considering response action for identified violations, the County shall consult with the RWQCB.

(Mitigation for Impact 4.3-9)

SECTION VI

DAIRY QUALITY ASSURANCE

To ensure that the dairy industry remains healthy and does not adversely affect other sectors of the Kings County community, Kings County encourages all dairies to operate in environmentally sound ways. Kings County encourages, but does not require, dairies to work toward certification by the California Dairy Quality Assurance Program. For further information about the California Dairy Quality Assurance Program contact the U.C. Cooperative Extension.

SECTION VII

ECONOMIC ANALYSIS OF THE DAIRY INDUSTRY IN KINGS COUNTY

This Section considers the economic impact and job creation potential of the dairy industry, including the multiplier effect attributable to the creation of "spin off" industries that will occur as a result of a strong dairy industry.

The dairy industry is a significant contributor to the Kings County economy. Although dairy production and processing jobs are only 4.5% of private sector employment, this industry has very high multiplier effects. Total direct and indirect jobs related to milk production, processing, transportation and services represent 19% of total county employment. Dairy farm production is 13% of total output, with dairy processors adding another 6%, but total output associated with support industries and local businesses serving dairy employees increase the total contribution of the industry to about 30 percent.

The potential for rapid dairy growth over the next several years indicates an even greater future contribution to the Kings County economy. Over the long term, it is estimated that the milk cow herd size and associated employment will grow at an average annual rate of 2.3 percent per year. The growth of the dairy herd would mean that over 20 years, the industry can be expected to show an employment increase of nearly 60 percent and achieve full buildout under Kings County land capacity parameters in less than 50 years.

Full dairy build-out of triple the current herd size would mean a total of:

- 369,000 milk cows -- 245,000 new;
- 4,600 dairy jobs -- 3,100 new;
- 9,800 related jobs -- 7,400 new;
- 14,400 total jobs -- 10,500 new;
- $434 million in dairy worker payrolls -- $370 million new;
- $616 million in total payroll -- $510 million new;
- $2.4 billion in dairy output -- $2.1 billion new;

Dairies purchase most of their supplies from the local area, and processors purchase 57% of their commodities locally, including milk. Milk processing (fluid products, cheese, ice cream, yogurt, etc.) is lower in Kings County because the City of Tulare has a large concentration of processors. However, Leprino's announced expansion in Lemoore could ultimately absorb almost half the future growth in county milk production.

At an average of $3,000 to $6,000 per acre of assessed valuation spread over 4,756 acres, year 2000 property tax revenues from dairy operations are $2.45 million, with $392,000 going to the county General Fund. However, the expected new dairy value could be as high as $3,500 per milk cow. Buildout of the *Dairy Element* capacity (and additional 257,000 milk cows) at this per milk cow rate

could generate as much as $2,166,000 for the County General Fund, $855,000 for the County Fire Fund, and $254,000 for the Library Fund.

SECTION VIII

PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)

A. PEIR Component

A *Program EIR*, pursuant to *Article 11 (beginning at Section 15168) of the CEQA Guidelines*, has been prepared in support of the *Dairy Element* program. The PEIR provides the required environmental assessment for the adoption of the *Dairy Element*, and the construction of projects that meet the standards established in the PEIR. Projects that do not meet the standards in the PEIR and thus require further environmental review, may utilize information in the PEIR to complete the environmental review required under CEQA. This will streamline the permit review process while providing standards with which to evaluate new projects. The PEIR is hereby included by reference in the *Dairy Element* and made a part hereof.

B. PEIR Format

A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project or are related either:

1. Geographically,
2. As logical parts of a chain of contemplated actions,
3. In connection with the issuance of rules, regulations, plans, or other general standards to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The advantages of preparing a program EIR are that the PEIR can:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action.
2. Ensure consideration of cumulative impacts that might be overlooked in a case-by-case analysis.
3. Avoid duplicative reconsideration of basic policy considerations.
4. Allow the lead agency to consider broad alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.
5. Allow reduction in paperwork.

Subsequent activities in the program must apply the standards established or identified in the PEIR. If a later activity would have effects that were not examined in the PEIR, a new Initial Study would need to

be prepared leading to either an EIR or negative declaration. If the agency finds that no new effects will occur and no new mitigation measures are required, then the agency can approve the activity as within the scope of the project covered by the PEIR, and no new environmental document is required. The agency shall incorporate feasible mitigation measures and alternatives developed in the PEIR into subsequent actions under the program.

Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the proposed activities to ensure that the operation is covered in the PEIR. A PEIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the PEIR, and no further environmental documents would be required. In the case where a subsequent project is exempt from environmental review, such as site plan reviews, the project shall be compared to the standards and mitigation measures in the PEIR. These standards and mitigation measures shall be incorporated into the project review and subsequent issuance of a site plan review.

A PEIR can be used to simplify the task of preparing environmental documents on later parts of the program, where appropriate. It can:

1. Provide the basis in an initial study for determining whether the later activity may have any significant effects.
2. Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
3. Focus an EIR on a subsequent project to permit discussion solely of new effects that had not been considered before.

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