COUNTY PLANNING COMMISSION
TUESDAY, NOVEMBER 19, 2013

I. INTRODUCTION

PHILLIPS 66 COMPANY (APPLICANT & OWNER) COUNTY FILE #LP12-2073: This is a request for approval of a Land Use Permit to implement and construct the Propane Recovery Project, which proposes refinery processing equipment improvements to recover for sale additional amounts of propane and butane from refinery fuel gas (RFG) and other process streams; and to decrease sulfur dioxide (SO_2) emissions from the refinery as a result of removing sulfur compounds from RFG streams. The proposed project would add and modify processing and ancillary equipment within the Phillips 66 Rodeo refinery in Contra Costa County.

The proposed project would add: 1) a hydrotreater, 2) new fractionation columns to recover propane and butane, 3) six propane storage vessels and treatment facilities, 4) two new rail spurs, and 5) the removal of two 265-foot heater stacks. To provide the steam required by the project, either a new 140 million Btu/hr[1] steam boiler would be added or more steam would be provided by the existing steam power plant if the new boiler were not built. There would also be minor modifications to existing process units and utility systems for the purpose of tie-ins and to address any changes in operating pressure or temperature at the tie-in points. The project also would require hydrotreating a portion of the RFG, a process that would reduce the amount of sulfur in the fuel gas, and because fuel gas is now burned to produce heat for refinery processes, it would ultimately reduce the refinery's SO_2 emissions within the atmosphere.

The project would be built in two phases. Phase I would include all project components except propane storage and the additional railcar loading rack and rail spurs. Phase II will include the facilities to store and ship propane along with the piping and other ancillary equipment necessary to get the propane from the Propane/Butane Recovery Unit to the storage vessels and loading racks. The Phillips 66 Rodeo refinery is located at 1380 San Pablo Avenue in unincorporated Contra Costa County, in the town of Rodeo. (Zoning: Heavy Industrial District (H-I); Assessor's Parcel Numbers: 357-010-001 & 357-300-005)

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[1] **British Thermal Unit** (**BTU** or **Btu**) is a traditional unit of energy equal to about 1,055 Joules. It is the amount of energy needed to cool or heat one pound of water by one degree Fahrenheit. The unit is most often used as a measure of power (as **Btu/h**) in the power, steam generation, heating, and air conditioning industries.

II. STAFF RECOMMENDATIONS

Staff recommends that the County Planning Commission take the following actions:

A. ACCEPT the recommendation from the Zoning Administrator regarding the adequacy and completeness of the Final Environmental Impact Report (Final EIR).

B. ADOPT the Final EIR dated November 2013, finding it to be adequate and complete, finding that it has been prepared in compliance with the California Environmental Quality Act (CEQA) and with State and County CEQA Guidelines, and finding that the Final EIR reflects the County's independent judgment and analysis, and specify that the Department of Conservation and Development, Community Development Division (located at 30 Muir Road in Martinez, CA) is the custodian of the documents and other material which constitute the record of proceedings upon which this decision is based.

C. CERTIFY that the Commission has considered the contents of the Final EIR prior to making a decision on the project

D. APPROVE the Land Use Permit, County File #LP12-2073, based on the attached CEQA Findings, Land Use Permit Findings, Growth Management Standards, and subject to the attached conditions of approval (Exhibit A).

E. ADOPT the attached Mitigation Monitoring Reporting Program (Exhibit C).

F. DIRECT staff to file a Notice of Determination with the County Clerk.

III. GENERAL INFORMATION

A. General Plan: The majority of the Refinery, including the locations of all proposed Propane Recovery Project units and modifications, is designated Heavy Industry (HI). The HI designation allows activities such as oil refining and other manufacturing operations requiring large areas of land with convenient truck and rail access.

The following standards apply to the Heavy Industry designation:

- Maximum site coverage: 30%
- Maximum floor area ratio: 0.67
- Average employees per gross acre: 45 employees

The Propane Recovery Project is consistent with the overall goals, standards, and policies of the General Plan because it is consistent with the land use designation for the site; is consistent with the Growth Management Performance Standards; mitigates all potentially significant environmental impacts to less-than-significant levels; and provides

economic development in the form of temporary construction jobs and two new permanent jobs, which translates into a small increase in the tax base.

B. Zoning: The vast majority of the refinery, including the locations of all proposed Propane Recovery Project units and modifications, is zoned Heavy Industrial District (H-I). Petroleum refining is a permitted use in the H-I District, but a land use permit is still required for this project because it involves large quantities of hazardous materials. There are no setback requirements or height limitations for this zoning district. A small area on the south side of the refinery is zoned Planned Unit District, and R-6—Single Family Residential and A-2—General Agricultural to the east, but these have no bearing on this application.

C. CEQA Status: The Department of Conservation and Development, Community Development Division (CDD) determined that an EIR was required for this project and distributed a Notice of Preparation (NOP) on July 24, 2012 (Exhibit H). The Draft Environmental Impact Report (Draft EIR) was released for public review on June 10, 2013. The initial public comment period was scheduled for 45 days and was extended an additional 15 days, ending on August 9, 2013. A public hearing before the Zoning Administrator to receive comments on the Draft EIR was held on July 15, 2013.

The Final EIR was published and distributed in November 2013. On November 18, 2013 the County Zoning Administrator will make a recommendation regarding certification of the Final EIR. Should the Zoning Administrator recommend certification of the Final EIR, then the resolution indicating such will be distributed to the Planning Commission at its November 19, 2013 hearing.

The EIR identified potentially significant environmental impacts that would occur if the project was implemented and recommended mitigation measures that would reduce all of the potentially significant impacts to less-than-significant levels. All mitigation measures are stated in the attached Mitigation Monitoring Reporting Program (Exhibit C) and are included as conditions of approval (Exhibit A). Further discussion of the project's environmental impacts is provided in Section VI below.

D. Regulatory Programs: None apply.

E. Refinery Vicinity: The Phillips 66 Rodeo refinery is located in unincorporated northwestern Contra Costa County, near the community of Rodeo. The refinery encompasses a total of 1,100 acres of land, consisting of a 495-acre active area of the refinery, where all its facilities and equipment are located, and another 600 acres of undeveloped land. The southern-most 300- to 600-foot wide portion of the refinery property serves as an undeveloped buffer area between the active or developed portion of the refinery and the adjacent residential area. Figure 3-1 (see

Draft EIR Figure 3-1 which is attached as Exhibit D) shows the location and property boundaries of the refinery.

The refinery is bordered by the Shore Terminal (formerly NuStar) to the north, an undeveloped area to the east, the Bayo Vista residential area to the south, and San Pablo Bay to the north and west (see Figure 3-2 which is attached as Exhibit E). Interstate Highway 80 (I-80) and San Pablo Avenue run parallel in a north-south direction through the Refinery's property. A portion of the property extends to the southeast ending along Highway 4.

Project components would occupy approximately one acre at three primary locations in the active area of the refinery. The propane/butane recovery unit and fuel gas hydrotreating unit would be located next to the existing hydrocracker (Unit 240), located in the central area of the refinery.

IV. PROPOSED PROJECT

The main objectives and elements of the Propane Recovery Project are described below. A detailed description of the project is provided in Chapter 3 of the Draft EIR entitled *Project Description.*

A. Propane Recovery Project Objectives: The primary objectives of the proposed project are as follows.

1. **Recover and Sell Additional Propane and Butane:** The refinery currently generates light hydrocarbon gases from many of its separation, distillation, and conversion steps. Most of the gases are treated and used by the refinery in the refinery fuel gas (RFG) system to provide heat and energy for refinery processes. Phillips 66's main objective for its Rodeo refinery is to have the capability to recover and produce propane and recover more butane for sale, thus producing more products from the crude oil it currently refines.

2. **Reduce Refinery Fuel Gas Sulfur (SO_2) Emissions:** A decrease in SO_2 emissions from refinery combustion sources would result from the removal of sulfur compounds from RFG as part of the process to recover propane and additional butane for sale. Phillips 66 plans to remove sulfur and other impurities from its light hydrocarbon gases, which includes the light hydrocarbon gases that are generated by the refinery's Crude/Delayed Coker Unit. The gases from this unit contain sulfur compounds, which would need to be removed to produce clean liquid propane and butane products. The proposed project includes a hydrotreating step to remove sulfur compounds from the coker fuel gas. Removal of sulfur from the light hydrocarbon gases produced at the coker would not only clean the propane and butane products, but would also reduce the sulfur in the remaining

light hydrocarbon gases that then become part of the refinery's fuel gas system.

3. **Reduce Likelihood of Flaring Events:** Recovery of propane and additional butane from the refinery's fuel gas system would reduce the overall volume of fuel gas produced. One benefit of reducing the fuel gas volume occurs when large fuel gas consuming equipment or units are periodically taken out of service. On these occasions, the refinery runs the risk of having more fuel gas present than it can consume and must flare the excess fuel gas. Thus, another key objective of this proposed project is to reduce the likelihood of flaring during periods of RFG consumption imbalance by reducing the overall amount of fuel gas consumed at the refinery.

B. Propane Recovery Project Elements: Phillips 66 proposes to implement the following additions and modifications aimed at attaining the three objectives stated above.

New Refinery Components

1. **Refinery Fuel Gas (RFG) Propane/Butane Recovery Facilities:** The project would involve the construction of three (3) new fractionation towers and two (2) new absorber towers to recover propane and butane and to remove hydrogen sulfide (H_2S). Supporting the operation of the fractionators /absorbers are a total of fifteen (15) process heat exchangers, eleven (11) process vessels, and fifteen (15) process pumps. The propane/butane recovery unit would primarily be added at the existing Process Unit 240. The propane and butane recovery process would require an increase in energy consumption. The heat required by the process would be provided by steam from a new 140 million Btu/hr steam boiler or from the existing steam power plant. The project would be designed to recover approximately 4,200 barrels per day of propane and 3,800 barrels per day of additional butane. Natural gas consumption would increase to replace the propane and butane recovered from RFG. The additional natural gas would be purchased from PG&E. To meet propane product specifications, treatment facilities that use sodium hydroxide and potassium hydroxide pellets would be installed. The treatment facilities will remove trace sulfur compounds and water prior to rail loading.

2. **Refinery Fuel Gas Hydrotreating Unit:** Certain RFG streams that contain sulfur compounds would be hydrotreated prior to processing at the propane/butane recovery unit as part of the proposed project. Hydrotreating would remove the sulfur compounds from the light hydrocarbon gases, which would not only clean and improve the quality of the propane and butane products,

but would also reduce the sulfur in the remaining light hydrocarbon gases that become part of the RFG system.

3. **Propane Railcar Loading Rack:** The proposed project would add a new, two-sided railcar loading rack in order to increase the overall amount of propane and butane that could be loaded. The new loading rack would be added next to an existing butane railcar loading rack. This new loading facility would be designed to load an additional 8 rail cars per day. The total propane and butane loading capacity under the project would be 24 cars per day (16 existing + 8 new with the project). The existing butane loading capacity would be sufficient to accommodate the increased volume of recovered butane. Offloading of purchased butane will not be affected by the proposed project and will remain an infrequent occurrence. As part of this loading modification, two new rail spurs would be added with the capacity to hold 4 railcars on each spur. The new loading rack would be positioned between the two proposed rail spurs.

4. **Propane Storage Facilities:** Up to six (6) pressure tanks designed for storage of propane would be constructed. The combined total storage capacity of the storage tanks would be 15,000 barrels of propane. The propane storage tanks would be installed in a tank farm located west of San Pablo Avenue. This location allows for shorter piping runs and is farthest from sensitive receptors, ignition sources, and public roadways compared to other sites. In addition, this location has access to key utilities, such as fire water.

Project Related Modifications To Exisiting Refinery Process Units

5. The project would necessitate minor modifications to existing process units and utility systems for the purpose of tie-ins and to address any changes in operating pressure or temperature at the tie-in points. Additional piping would consist of new lines or tie-ins to existing lines outside of the process units. These include new rundown lines needed to send products to storage and interconnection lines between process units.

C. Increased Demand on Utilities: The Propane Recovery Project will result in the following demands on utility usage.

1. **Water:** The East Bay Municipal Utility District (EBMUD) is the water supplier to the refinery. The Refinery currently receives approximately 3,000 gallons per minute (4.32 million gallons/day) of fresh water from EBMUD. The Propane Recovery Project would require an increase in fresh water by approximately 20 gallons per minute (0.03 million gallons/day). The additional fresh water

required for the proposed project would be available from EBMUD's existing entitlements.

Approximately 31,500 gallons per minute of additional cooling water (salt water) is withdrawn and returned to San Pablo Bay via a once-through, non-contact cooling system. The intake structure for the once-through, non-contact salt water is located at the base of the Marine Terminal Causeway and consists of four intake bays with five pumps capable of withdrawing a maximum flow of all pumps combined of 49,000 gallons per minute. The project is estimated to increase once-through salt water use by approximately 8,500 gallons per minute for a total of 40,000 gallons per minute. Therefore, the existing salt water cooling system has sufficient capacity to supply the proposed project. The additional water supply required during project construction would be only a small, temporary increment as compared to existing and proposed water usage.

2. **Sewer/Wastewater:** The proposed project would be constructed and its operations conducted entirely within those areas of the refinery that are already served by the existing water and on-site wastewater collection and treatment systems. The refinery's wastewater treatment system has a capacity of approximately 10 million gallons per day. Current wastewater flows to the on-site treatment system are approximately 2.8 million gallons per day. Overall flows to the refinery's on-site wastewater treatment system would increase by approximately 10 to 20 gallons per minute or up to 0.03 million gallons per day. The treatment system has adequate capacity to handle increased wastewater flows; thus, no treatment-system expansion or modification would be required.

3. **Electricity and Natural Gas:** The refinery currently produces approximately 48 Mega Watts (MW) of electrical power, which, as of 2012, was consumed internally for its own use with no power exported. The refinery currently uses approximately 9,000 million standard cubic feet (SCF) of natural gas and 116,000 MW-hours of electricity supplied by PG&E annually. As a result of implementing the proposed project, natural gas consumption would increase at the refinery. An increase of approximately 30 million SCF per day of natural gas would replace propane and butane removed from the fuel gas. The additional natural gas would be purchased from PG&E. An increase of 10,900 MW-hours of electricity would be required annually from PG&E.

4. **Solid Waste to Landfills:** Solid waste from proposed project construction is expected to produce 2.8 pounds per person per day.

Assuming a peak construction workforce of 400 workers and a three-month peak construction period, the proposed project would generate approximately 37 tons of waste during the peak of construction activity. Additional solid waste would be recycled or transported to an approved solid waste landfill. Debris that could not be recycled would be sent to a sanitary landfill in compliance with the *Countywide Integrated Waste Management Plan.* The refinery's ongoing recycling programs also would reduce the quantities of proposed project solid wastes that require landfill disposal. Solid waste generated by the proposed project would be transported to the Keller Canyon Landfill, which has an allowable throughput of 3,500 tons per day, and an estimated closure date of 2050. The estimated 37 tons of solid waste produced during peak construction would represent the largest component of the solid waste produced by the project. This one-time contribution to the landfill would be well within the capacity of the landfill and would result in a less-than-significant impact.

During normal post-construction project operations, solid wastes would be generated from routine maintenance, office activities, etc. The additional waste quantities generated during project operations would be an insubstantial increase in comparison to the existing solid waste generation from normal operations at the refinery. Currently, normal operations produce approximately one-quarter ton per month of waste.

D. Propane Recovery Project Construction: Construction of the Propane Recovery Project is discussed in several sections of the Draft EIR. Chapter 3 provides an overview while other sections such as, but not limited to, 4.3 *Air Quality*, 4.13 *Noise* and 4.17 *Transportation and Traffic* discuss particular aspects of the construction process. Startup would occur after the completion of construction, which is estimated to take 12 to 15 months. The project would be constructed on existing refinery property that is zoned for heavy industrial use, and the proposed project would be a permitted use within the heavy industrial zoning district; however, a Land Use Permit is required under the Hazardous Waste or Hazardous Materials Ordinance §84-63.1002 of the Contra Costa County Code. Construction is proposed to begin after all required permits are received. Construction activity is summarized as follows.

1. **Construction Duration:** The project would be built in two phases. The first phase (Phase I) would provide enhanced recovery and increased rail shipments of butane. Phase I would include all project components except propane storage and the additional rail loading rack and spurs. During the second phase, (Phase II), the facilities to store and ship propane would be added along with the piping and

other ancillary equipment necessary to get the propane from the Propane/Butane Recovery Unit to the storage vessels and loading racks.

Construction for Phase I is proposed to begin during the 2nd quarter 2014 after all required permits are received. Startup for Phase I would occur after the completion of construction, which is estimated to take 12 to 15 months. Construction for Phase II will likely begin within five years after the completion of Phase I and is expected to take 8 to 12 months to complete. Both phases of the proposed project will be constructed utilizing a single work shift, with construction occurring weekdays during an 8- to 10-hour shift, starting at 7:00 a.m., and ending as early as 3:30 p.m. and as late as 5:30 p.m. The plan is to complete construction of Phase I during a planned turnaround at the existing unicracker complex. The planned turnaround will occur regardless of the ultimate timing of this proposed project.

2. **Construction Areas:** The Propane Recovery Project would be constructed entirely within the 495-acre active processing section of the refinery property. The major project components would be constructed at three sites (see Draft EIR Figure 3-3, Locations of Site Modifications, which is attached in Exhibit F). The primary staging and laydown area would be located in an open area just south of the new propane recovery unit, and the backup laydown area would be on the Selby Slag site just north of the refinery along San Pablo Bay. Project construction workers would park in a number of adjacent and on-site refinery parcels or property. No development is proposed within the 600-acre undeveloped portion of the refinery.

3. **Site Preparation:** The new Fuel Gas Hydrotreating and Propane/Butane Recovery Unit would be constructed during Phase I on existing plot space that currently houses an out of service unit U-240-4 that would be dismantled. The propane storage facilities are proposed to be constructed during Phase II on an undeveloped space adjacent to Tank 78 (which would be demolished). The new propane railcar loading rack would be located east of the existing butane railcar loading racks and would require demolition of approximately 20 existing, small, out of service tanks. There also would be minor demolition activities (e.g., pipe supports, concrete slabs) associated with proposed new interconnecting piping. Excess soil generated from site preparation activities would be recycled or remain on-site. Other materials, such as asphalt and concrete, would be transported off-site for recycling or disposal at appropriately permitted disposal sites. Hydrocarbon-containing soils

would be handled consistent with the refinery's existing soils management plan.

4. **Construction Materials and Services:** During construction, deliveries would be required of materials such as concrete, structural steel, pipe and fittings, vessels and equipment, electrical equipment, and insulation. Deliveries would also be necessary for additional construction services equipment (e.g., portable toilets, temporary office trailers for construction contractors). Materials would be delivered by truck. It is estimated that up to 20 truck deliveries per day would occur during the construction period, which is anticipated to last approximately 12 to 15 months for Phase I and 8 to 12 months for Phase II.

5. **Construction Workforce:** The project's construction workforce for Phase I is expected to reach approximately 400 workers at its peak during 2014. This workforce would include cement finishers, ironworkers, pipe fitters, welders, carpenters, boilermakers, electricians, riggers, painters, operators, and laborers. The entire construction work force would be drawn from the region within an approximately 1-hour commute distance from the refinery. The project's construction workforce for Phase II is expected to reach approximately 200 workers at its peak.

   Phillips 66 anticipates a peak of 386 additional two-way trips per day during construction: 366 worker commute trips and 20 truck trips, bringing project equipment and supplies to the refinery. No physical entrance, roadway, or intersection improvements would be needed to accommodate the construction traffic volume. Construction traffic would be encouraged to use the Cummings Skyway interchange from I-80 and the north gate(s) of the Refinery. The Cummings Skyway interchange was constructed several years ago to minimize the refinery traffic through the community of Rodeo. Continued use of this access route by project construction-phase traffic would minimize the potential for project impacts on the residents of Rodeo. Project construction workers would park in a number of adjacent and on-site refinery parcels or property.

6. **Construction Hours:** Construction activities would be limited to the hours of 7:00 a.m. to 5:30 p.m. and would be prohibited on state and federal holidays.

V. PUBLIC AGENCY CONSULTATION & COMMENTS

The Department of Conservation and Development, Community Development Division conferred with a number of state and local agencies and other County departments prior to and during preparation of the EIR (see Exhibit G). Correspondence was received in response to the Notice of

Preparation (NOP), and the Draft Environmental Impact Report (Draft EIR) [see Section VII—Public Comments].

VI. ENVIRONMENTAL IMPACTS

The Draft EIR identified environmental impacts which would occur if the Propane Recovery Project were implemented. Most impacts were determined to be less than significant. However, potentially significant impacts were identified in the following Draft EIR topic areas: Air Quality, Cultural Resources, Noise, and Traffic and Transportation.

A. Air Quality: Potentially significant temporary and permanent air quality impacts would result from increased emissions of particulate matter less than 10 microns in diameter (PM_{10}), reactive organic gases (ROG), nitrogen oxide (NO_x) and sulfur dioxide (SO_2) during the construction and/or operation phases of the Propane Recovery Project. These impacts would be mitigated to less-than-significant levels by permanently decommissioning the B-401 process heater in Unit 240 to offset significant emissions related to the proposed project, and prior to operations of the project, Phillips 66 shall provide documentation to the Department of Conservation and Development that the Bay Area Air Quality Management District (BAAQMD) has relinquished its permit to operate for the process heater. The project will also decrease SO_2 emissions by removing sulfur for RFG streams, and, during the construction phases, emissions will be reduced by implementation of basic BAAQMD construction control measures outlined in the project's Mitigation and Monitoring Program. Air quality is discussed in detail in Section 4.3 of the Draft EIR and in

B. Cultural Resources: Potentially significant cultural resource impacts would result from earthwork performed at the various construction sites. These impacts would be mitigated to less-than-significant levels through implementation of standard protocols related to the discovery of cultural resources at construction sites. Specifically, construction must cease and appropriate professionals such as archaeologists, paleontologists, the County coroner, etc must be contacted in the event that artifacts or human remains are discovered. Cultural resources are discussed in detail in Section 4.5 of the Draft EIR.

C. Noise: Potentially significant temporary noise impacts would result from project construction activities. These impacts would be mitigated to less-than-significant levels by proper maintenance of construction equipment, such as ensuring that equipment is well-tuned and that noise control devices are in good working order; notifying residents of the construction schedule; and adherence to approved project work hours. Noise is discussed in detail in Section 4.13 of the Draft EIR.

D. Transportation and Traffic: Potentially significant transportation and traffic impacts would result from a large increase in truck and automobile traffic during the construction phase of the Propane Recovery

Project. The use of large trucks to transport equipment and material to and from the project work sites could affect road conditions on the designated construction route by increasing the rate of road wear. These impacts would be mitigated to less-than-significant levels by the requirement of the submittal of a pavement monitoring plan that describes measures that will be implemented to revitalize pavement along the proposed haul routes deteriorated by project-related construction traffic shall also be included and be submitted for review by the Public Works Department prior to the commencement of any construction on-site. Also, access and hauling routes shall be specified to minimize traffic impact to the area wide roadways. Transportation and traffic are discussed in Section 4.17 of the Draft EIR.

All mitigation measures are included in the Mitigation Monitoring Reporting Program (Exhibit C) and the conditions of approval (Exhibit A).

VII. PUBLIC COMMENTS

Forty-four (41) comments, in the form of letters and e-mail correspondence, were received from private citizens, public agencies, concerned-citizens groups, and other entities during the 60-day public comment period for the Draft EIR, and seven (7) late comments were accepted for the record. According to State and County CEQA Guidelines Section 15088, staff was under no obligation to respond formally to these late comments; nevertheless, staff has chosen to provide responses for this project. Twelve (12) oral comments related to the Draft EIR were received during the July 15, 2013 public hearing before the Zoning Administrator, which was held for the purpose of receiving public comments on the adequacy of the Draft EIR. The Final EIR responds to the comments submitted during the public review and comment period for the Draft EIR.

VIII. CONCLUSION

Staff recommends that the County Planning Commission APPROVE the Propane Recovery Project by taking the six actions listed above in Section II. The project as proposed is consistent with the General Plan and the Heavy Industrial zoning designation for the site; all environmental impacts would be mitigated to less-than-significant levels; the health, safety, and general welfare of the public would be preserved; and there would be economic benefits as a result of the project.

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