CITY OF MERCED

Merced Civic Center
678 W. 18th Street
Merced, CA 95340

ADMINISTRATIVE REPORT

File #: 21-148 Meeting Date: 7/7/2021

Planning Commission Staff Report

Report Prepared by: Julie Nelson, Senior Planner, Development Services Department

SUBJECT: General Plan Amendment #20-01 and Site Utilization Plan Revision #23 to Planned Development (P-D) #16 for approximately 6.39 acres of land, generally located on the south side of Devonwood Drive, east of Wal-Mart. The General Plan Amendment would change the General Plan designation from Low-Medium Density Residential (LMD) to High Density Residential (HD). The Site Utilization Plan Revision would change the Site Utilization Plan designation from Single Family Residential to Multi-Family Residential and establish development standards for this property. These changes would allow the future development of a 156-unit apartment complex. **PUBLIC HEARING**

ACTION PLANNING COMMISSION:

Recommendation to City Council

1) Environmental Review #20-32 - Revised *(Mitigated Negative Declaration)*
2) General Plan Amendment #20-01
3) Site Utilization Plan Revision #23 to Planned Development (P-D) #16

CITY COUNCIL:

Approve/Disapprove/Modify

1) Environmental Review #20-32 -Revised *(Mitigated Negative Declaration)*
2) General Plan Amendment #20-01
3) Site Utilization Plan Revision #23 to Planned Development (P-D) #16

SUMMARY

This is a request to amend the General Plan Designation from Low-Medium Density (LMD) Residential to High Density (HD) Residential for a 6.39-acre site generally located on Devonwood Drive between Loughborough Drive and Austin Avenue. Additionally, the request includes Site Utilization Plan (SUP) Revision #23 to Planned Development (P-D) #16 to change the SUP

designation from single-family to multi-family and establish development standards for this site. These changes, if approved, would allow the construction of a 156-unit apartment complex, with a club house/office, and associated parking within a gated community.

RECOMMENDATION

Planning staff recommends that the Planning Commission recommend approval to the City Council of Environmental Review #20-32 -Revised (Mitigated Negative Declaration) and recommend approval of General Plan Amendment #20-01 and Site Utilization Plan Revision #23 to Planned Development (P-D) #16 (including the adoption of the Draft Resolution at Attachment A) subject to the conditions in Exhibit A and the findings/considerations in Exhibit B of the Draft Resolution.

DISCUSSION

The project site is located on the south side of Devonwood Drive, between Loughborough Drive and Austin Avenue (Attachment B). The site is currently part of the Devonwood Village Subdivision (formerly the Highland Park Subdivision) and consists of 63 single-family lots, open space area, and private streets. There is also a bike path that runs through an easement on the southwest portion of the property. In order for the apartment project to be constructed, the existing lots would have to be merged into one large lot ("reversion to acreage"). The proposed project would have a density of 26 units/acre (net) and 24.41 units/acre (gross) which is equivalent to the High-Density Residential land use designation (24.1 to 36 units/acre).

Project Description

The proposed project would construct 156 multi-family units within five three-story buildings as shown on the Site Plan at Attachment C. The project is a gated apartment complex with the main entrance on Devonwood near the center of the complex. A decorative entrance with gates would be the focal point of the entrance. The clubhouse/office building is located outside the gated area. There would be approximately 6 parking spaces to serve the office also outside of the gated area. (refer to the Site Plan at Attachment C). A secondary access is located at the western end of the complex and an emergency access point is located off of Bannon Lane.

There would be two different building types: Building A - three-stories with 36 units (12 units/floor) and Building B - three-stories with 24 units (8 units/floor). The buildings would contain a mixture of 1 -, 2-, and 3-bedroom units. Additional details on the buildings is found at Finding F of Exhibit B of Planning Commission Resolution #4059 (Attachment A)

Surrounding uses as noted in Attachment B.

Surrounding Land	Existing Use of Land	City Zoning Designation	City General Plan Land Use Designation
North	Merced Marketplace Shopping Center (across Devonwood Dr.)	P-D #16	Regional/Community Commercial (RC)
South	Single-Family Residential (across the railroad tracks)	RP-D #29	Low-Medium Density Residential (LMD)

East	Single-Family Residential (across Austin Ave)	P-D #16	Low-Medium Density Residential (LMD)
West	Walmart	P-D #16	Regional/Community Commercial (RC)

Background

Planned Development #16 was established in 1979. At that time, the project site was designated for multi-family residential. In 1999, the project site was part of the commercial project known as the Merced Marketplace. At that time the project site was anticipated to be developed with commercial uses. In 2006, the land use for the project site was changed from Regional/Community Commercial (RC) to Low-Medium Density Residential (LMD) to allow the construction of a 124-lot subdivision with small lots ranging in size from 2,500 to 3,500 square feet. Approximately one-half of the subdivision has been constructed. The proposed project would encompass the other half or approximately 6 acres of the subdivision.

On February 17, 2021, this project was to be presented to the Planning Commission. However, prior to the meeting, the owner advised that they were considering selling the property to another developer and asked to have the item tabled by the Planning Commission to allow time for the negotiations to take place. The sale of the property did not take place at that time, but the owners are now working with a different developer to construct a revised multi-family project. The project has the same number of overall units, but the unit mix has changed. As a result, in the change to the unit mix, additional parking spaces were needed. Therefore, the site plan was modified slightly to add parking spaces by adding compact spaces with a width of 8.5-feet, instead of 9-feet as required by the Zoning Ordinance. To allow this variation in parking space width, the Site Utilization Plan Revision includes a standard to allow compact spaces to have a minimum width of 8.5-feet and a minimum depth of 16 feet. These dimensions are consistent with the City's Engineering Standard for commercial and multi-family parking spaces (TC-8).

Findings/Considerations

Please refer to Exhibit B of the Draft Planning Commission Resolution at Attachment A.

ATTACHMENTS

A. Planning Commission Resolution #4059
B. Location Map
C. Site Plan
D. Elevations
E. Floor Plans
F. Landscape Plans
G. Email in Opposition
H. Initial Study 20-32-Revised

Attachments for Planning Commission Staff Report #21-148 have been merged with Administrative Report #21-574. Please see the table below for the corresponding attachment letters and numbers.

Planning Commission Report 21-148	Administrative Report 21-574
Attachment A – Planning Commission Resolution #4059	Attachment 8
Attachment B – Location Map	Attachment 1
Attachment C – Site Plan	Attachment 2
Attachment D – Elevations	Attachment 3
Attachment E – Floor Plans	Attachment 4
Attachment F – Landscape Plans	Attachment 5
Attachment G – Public Comment	Attachment 6
Attachment H – Initial Study #20-32	Refer to Planning Commission Staff Report Attachment H

INITIAL STUDY #20-32
Revised

General Plan Amendment #20-01
Site Utilization Plan Revision #23
to Planned Development (P-D) #16

DEVONWOOD DRIVE BETWEEN
LOUGHBOROUGH DRIVE AND AUSTIN AVENUE
Assessor's Parcel Numbers: 058-470-001 thru -036; 058-480-001 thru -017 & 058-480-034 thru -044

Proposed 156-Unit Multi-Family Project

CITY OF MERCED
PLANNING & PERMITTING DIVISION

TYPE OF PROPOSAL: **General Plan Amendment #20-01, Site Utilization Plan Revision #23 to Planned Development (P-D) #16 to construct a 156-unit, three-story apartment complex**

INITIAL STUDY: #20-32

DATE RECEIVED: October 1, 2020 (date application determined to be complete)
Revised application submitted 5-24-21

LOCATION: 63 Single-Family lots and private streets on the south side of Loughborough Drive, west of Devonwood Drive

ASSESSOR'S PARCEL NUMBERS: 058-470-001 thru -036; 058-480-001 thru -017; & 058-480-034 thru -044

Please forward any written comments by February 17, 2021, to:

Julie Nelson, Senior Planner
City of Merced Planning & Permitting Division
678 West 18th Street
Merced, CA 95340

Applicant Contact Information:

APPLICANT	OWNER
Meta Housing Corporation	Devonwood 64, L.P.
11150 West Olympic Blvd., Ste. 620	5732 Engineer Dr., Ste. 102
Los Angeles, CA 90064	Hunting Beach, CA 92649

General Plan and Zoning Designations

Current General Plan Designation: Low-Medium Density Residential (LMD) – refer to the General Plan and Zoning Map at Figure 3.

Current Zoning Designation: Planned Development (P-D) #16 – refer to the General Plan and Zoning Map at Figure 3.

Project Site

The proposed project is generally located in the northwestern portion of the City (refer to the vicinity map provided at Figure 1). The project site is an approximately 6-acre site located on the south side of Devonwood Drive, between Loughborough Drive and Austin Avenue (Figure 2). The project site currently consists of 63 single-family lots, open space area, and private streets. There is also a bike path that runs through an easement on the southwest portion of the property. The surrounding land uses are shown on the map at Figure 2 and listed in the table on Page 2.

Surrounding Land	Existing Use of Land	Zoning Designation	City General Plan Land Use Designation
North	Merced Marketplace Shopping Center (across Devonwood Dr.)	P-D #16	Regional/Community Commercial (RC)
South	Single-Family Residential (across the railroad tracks)	RP-D #29	Low-Medium Density Residential (LMD)
East	Single-Family Residential (across Austin Ave)	P-D #16	Low-Medium Density Residential (LMD)
West	Walmart	P-D #16	Regional/Community Commercial (RC)

Project Description

The proposed project would allow the construction of a 156-unit gated apartment complex, including a clubhouse/office building, required parking spaces, pool/recreation area and open space on an approximately 6-acre site generally located on the south side of Devonwood Drive, between Loughborough Drive and Austin Avenue (refer to the location map at Figure 2).

The proposed project includes a General Plan Amendment and Site Utilization Plan Revision for the approximately 6 acres of land. The project site currently consists of 63 single-family lots, open space area, and private streets. The proposed General Plan Amendment would change the General Plan designation from Low-Medium Density Residential (LMD) which allows 6 to 12 dwelling units/acre to High Density (HD) Residential which allows 24 to 36 dwelling units/acre. The Site Utilization Plan Revision would change the land use designation for the site within Planned Development (P-D) #16 from single-family residential to multi-family residential. The proposed land use changes are shown on Figure 3. The proposed project would have a density of 26 units/acre, which is consistent with the HD General Plan designation.

As part of the Site Utilization Plan Revision, standards are being proposed for the project. These standards include the density, setback requirements, building height, etc. The table below sets forth the proposed standards for this project within P-D #16.

PLANNED DEVELOPMENT #16 SITE UTILIZATION PLAN REVISION #23 DEVONWOOD APARTMENTS	
DESIGN CATEGORY	DESIGN/DEVELOPMENT STANDARD
Density	24 to 26 dwelling units/acre for this project
Land Use	High Density Residential uses including all uses as shown in Table 20.08-1 for property Zoned R-4
Building Height	40 ft.

DESIGN CATEGORY	DESIGN/DEVELOPMENT STANDARD
Setback Requirements	Setback from Devonwood Drive – 20 Ft. Setback from rear property line – 10 ft. for buildings up to 35 ft. in height; 1 additional foot setback for each additional 5 ft. in height. Setback from side property lines – 6 ft. for buildings up to 35 ft. in height; 1 additional foot setback for each additional 5 ft. in height.
Maximum Lot Coverage	65%
Distance Between Main Buildings	10 ft.
Building Design & Building Materials	All building designs and materials shall substantially comply with the elevations provided and approved with Site Utilization Plan Revision #23 for Planned Development (P-D) #16. Modifications may be approved by the Director of Development Services or referred to the Site Plan Review Committee.
Parking	As required by Section 20.38 of the City of Merced Zoning Ordinance, including bicycle parking. The Project may be eligible for all parking reductions allowed by Section 20.38. Compact Parking spaces are allowed with a minimum width of 8.5 feet and a minimum depth of 16 feet.
Fencing	All fencing along the front of the project shall be of high-quality materials, such as wrought-iron or tubular steel. Side-yard fencing shall be wood or other material approved by the Director of Development Services. Pedestrian access shall be provided to Devonwood Drive and the Bike Path at the rear of the property.

DESIGN CATEGORY	DESIGN/DEVELOPMENT STANDARD
Private Outdoor Space	Each ground unit floor shall be provided with a private outdoor usable space of a minimum of 8 feet by 5 feet. Each unit above the ground floor shall be provide with a usable outdoor balcony space of a minimum of 8 feet by 5 feet. Private outdoor space shall be screened with solid or near-solid fencing/railings. Materials shall be compatible with the building materials.
General Design Standards as required by Section 20.46.030 of the City of Merced Zoning Ordinance	The Project shall comply with these requirements, except as permitted by other design standard approved by Site Utilization Plan Revision #23 to P-D #16.
Specific Design Standards as required by Section 20.46.040 of the City of Merced Zoning Ordinance	The Project shall comply with these requirements, except as permitted by other design standard approved by Site Utilization Plan Revision #23 to P-D #16.

Processes and Procedures

The City Council takes final action to approve or deny a General Plan Amendment upon recommendation by the Planning Commission. A public hearing shall be held before both the Planning Commission and City Council. A General Plan Amendment becomes effective immediately following the adoption of the resolution by the City Council.

Within a Planned Development, specific land uses are identified with the Site Utilization Plan. Per Zoning Ordinance Section 20.20.020 Planned Development (P-D) Zoning Districts, subsection N, "A public hearing by the Planning Commission and City Council shall be required prior to approval of significant revisions to the Site Utilization Plan (SUP) which involve changes in land use, expansion or intensification of development or changes in the standards of development." Because the proposed change involves a land use change, an intensification of the density, and changes in the development standards, this request must be reviewed by the Planning Commission for a recommendation to the City Council, with City Council taking final action. Subsequent to the approval of the General Plan Amendment and Site Utilization Plan Revision, a Site Plan Review application is required to ensure the development complies with all the requirements of the Planned Development. Site Utilization Plan (SUP) Revisions are adopted by ordinance which require an introduction at one meeting, then a second reading/adoption at a second meeting and becomes effective 30 days later.

Zoning Ordinance Section 20.32 – Interface Regulations would apply to this project. Interface regulations are intended to protect existing residential neighborhoods and to ensure that new

development is designed in a manner to minimize negative impacts on nearby uses to the greatest extend possible.

Proposed Project

The proposed project would construct 156 multi-family units within five three-story buildings as shown on the Site Plan at Figure 4. The project is a gated apartment complex with the main entrance on Devonwood near the center of the complex. A decorative entrance with gates would be the focal point of the entrance. The clubhouse/office building is located outside the gated area. There would be approximately 6 parking spaces to serve the office also outside of the gated area. (refer to Figure 4). A secondary access is located at the western end of the complex and an emergency access point is located off of Bannon Lane.

There would be two different building types: Building A - three-stories with 36 units (12 units/floor) and Building B - three-stories with 24 units (8 units/floor). The buildings would contain a mixture of 1-, 2-, and 3-bedroom units. The table below provides the details for each unit type.

Unit	Bed/Bath	Net Living Area	Balcony with WH Closet	Total Sq. Ft.	Total Units
A1	1 bed/1 bath	582	55	626	69
B1	2 bed/2 bath	870	53	928	48
C1	3 bed/2 bath	1090	56	1156	39
					156

The table below provides the number of each unit type within each building type.

Building	A1	B1	C-1	Total Units/Building	No. of Buildings
A	15	12	9	36	3
B	12	6	6	24	2

The floor plans are provided at Figures 5A through 4B.

The three-story buildings would be 37’ 4” tall. The buildings would have a modern design with a mixture of exterior finishes including stucco, siding, glass, and metal finishes. and typical commercial store fronts with metal finishes. Balconies would be provided on the upper floor levels for the residential tenants. First floor tenants would have a small patio area. The elevations incorporate architectural features to enhance the building character and appearance. Three exterior stair wells will on the 36-unit (Type A) buildings provide access to the second and third floors. Building Type B would have two exterior stair wells for access to the upper floors. Building elevations are provided at Figure 6A through 6B.

Figure 1
Proximity Map

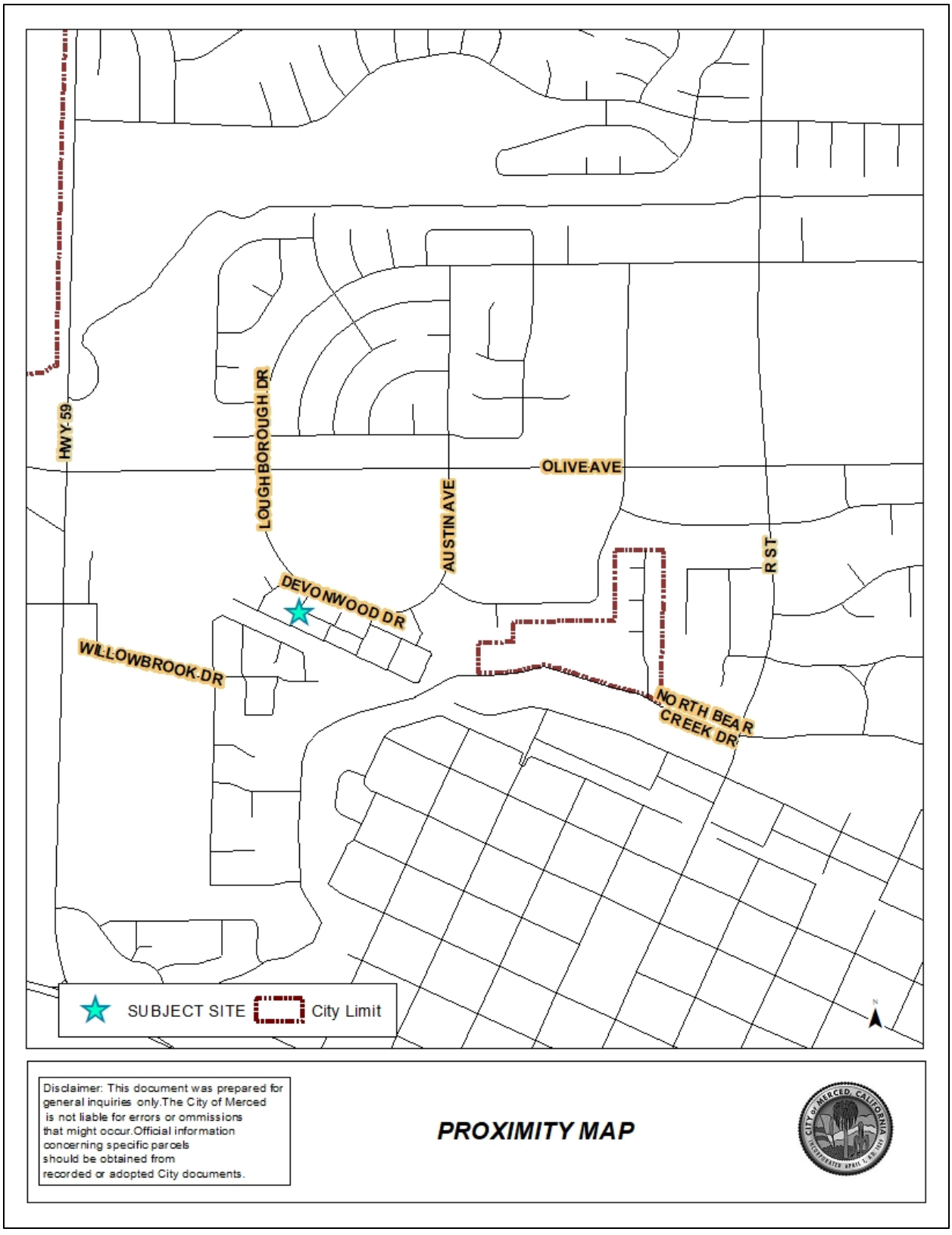


Figure 2
Subject Site & Surrounding Uses

Figure 3 - Proposed Land Use Changes

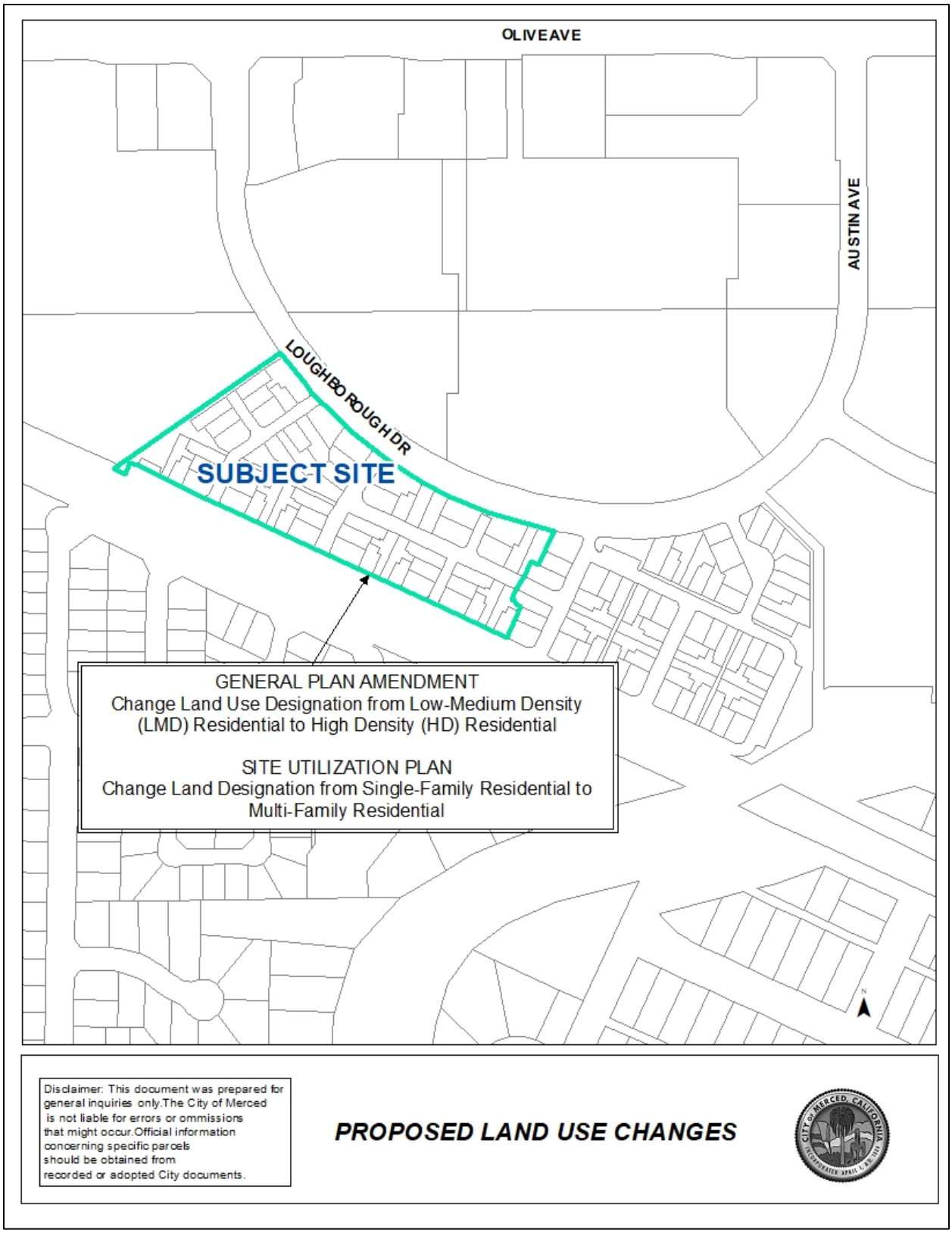


Figure 4 -Site Plan

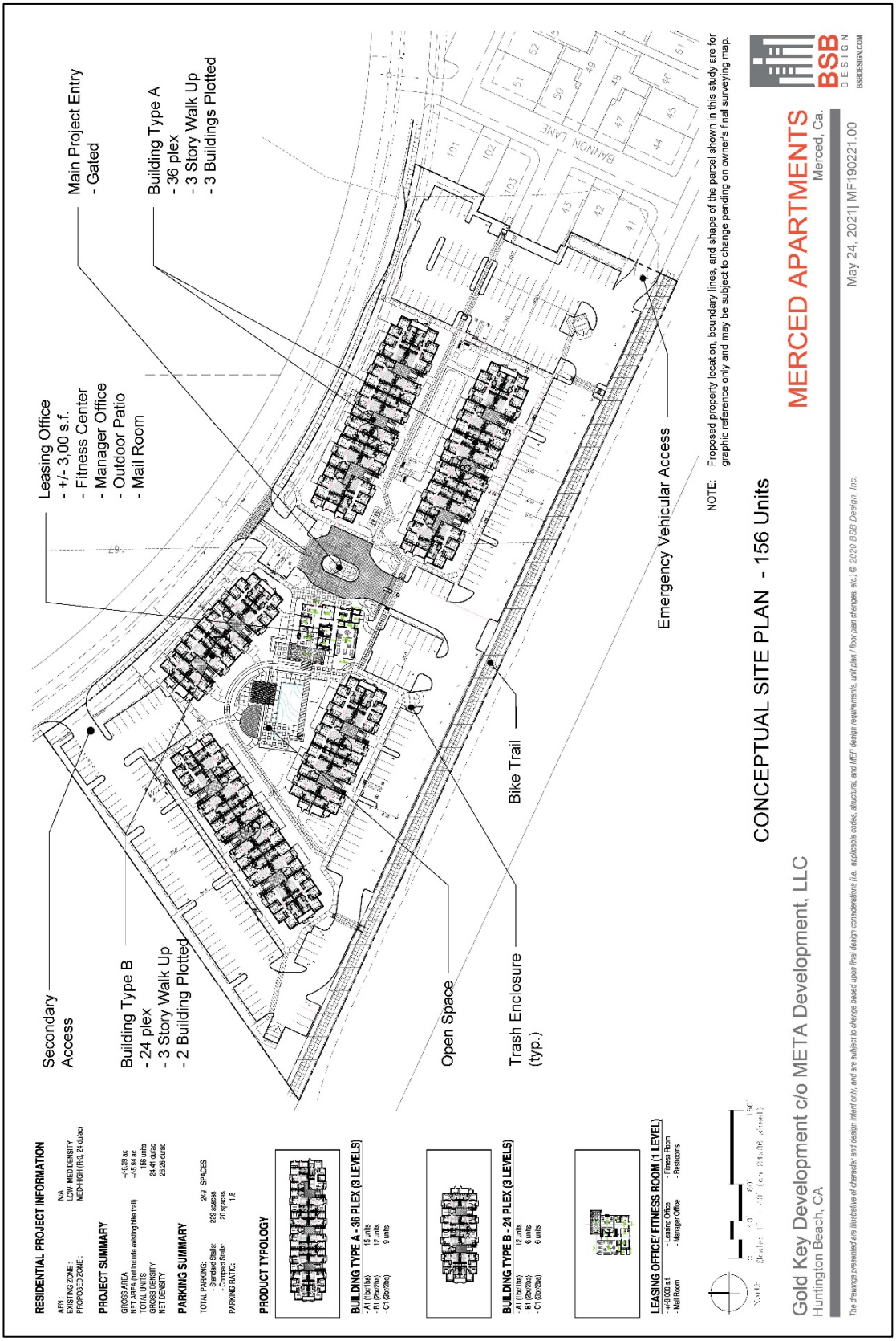
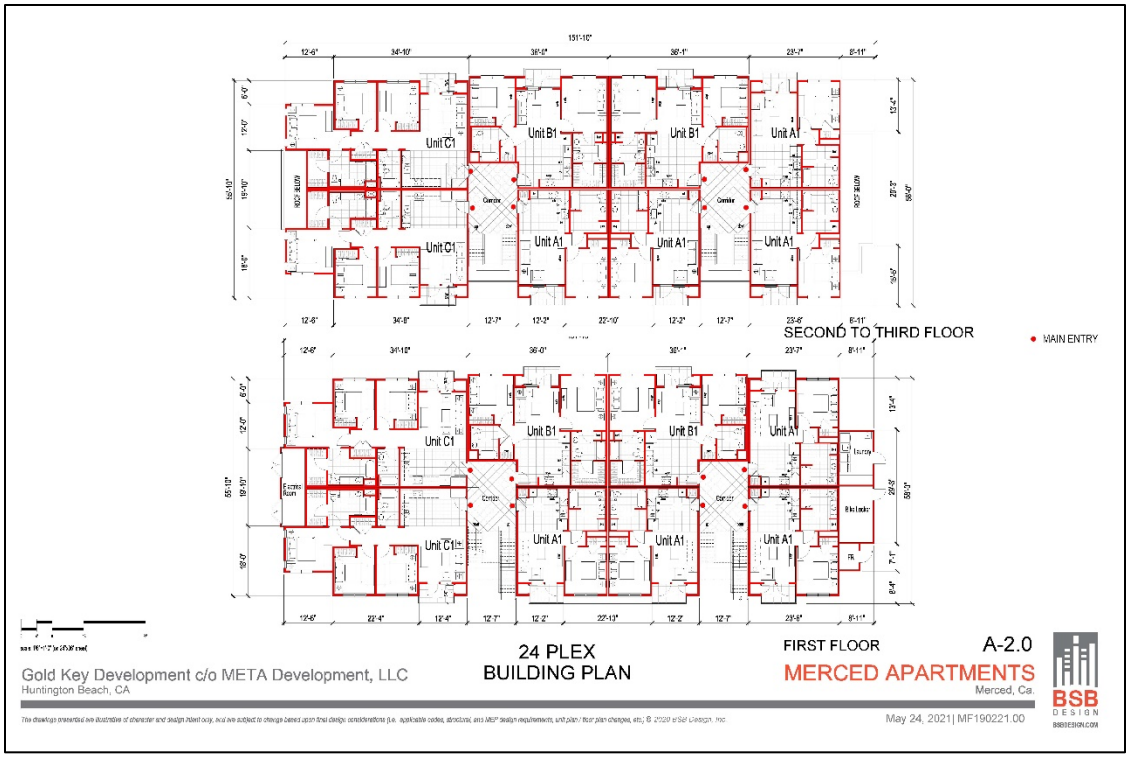


Figure 5A - Floor Plan



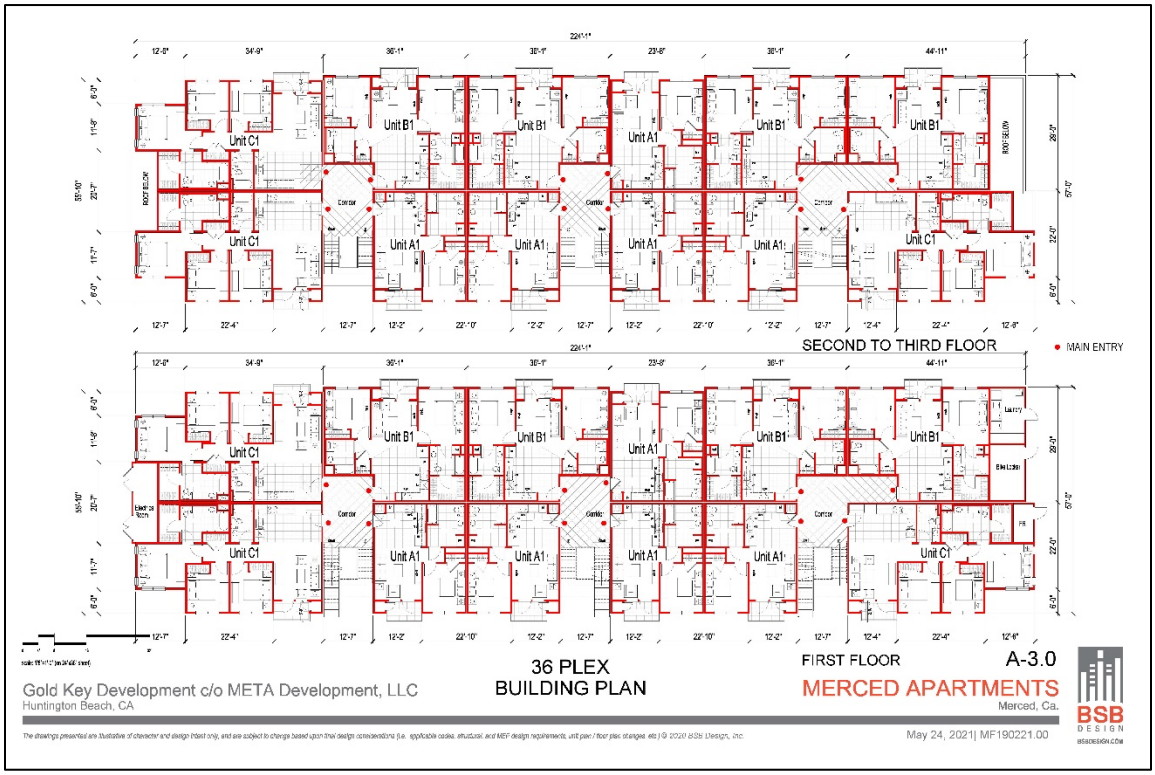
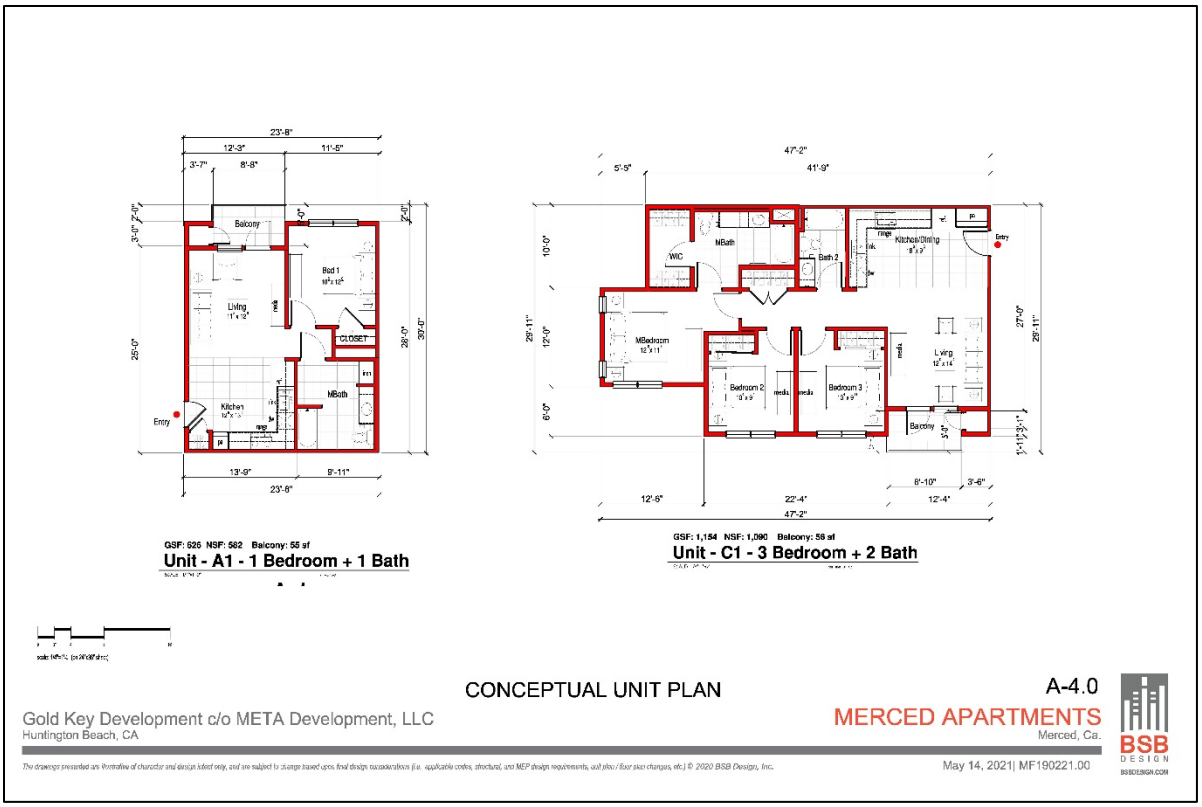


Figure 5B - Floor Plan



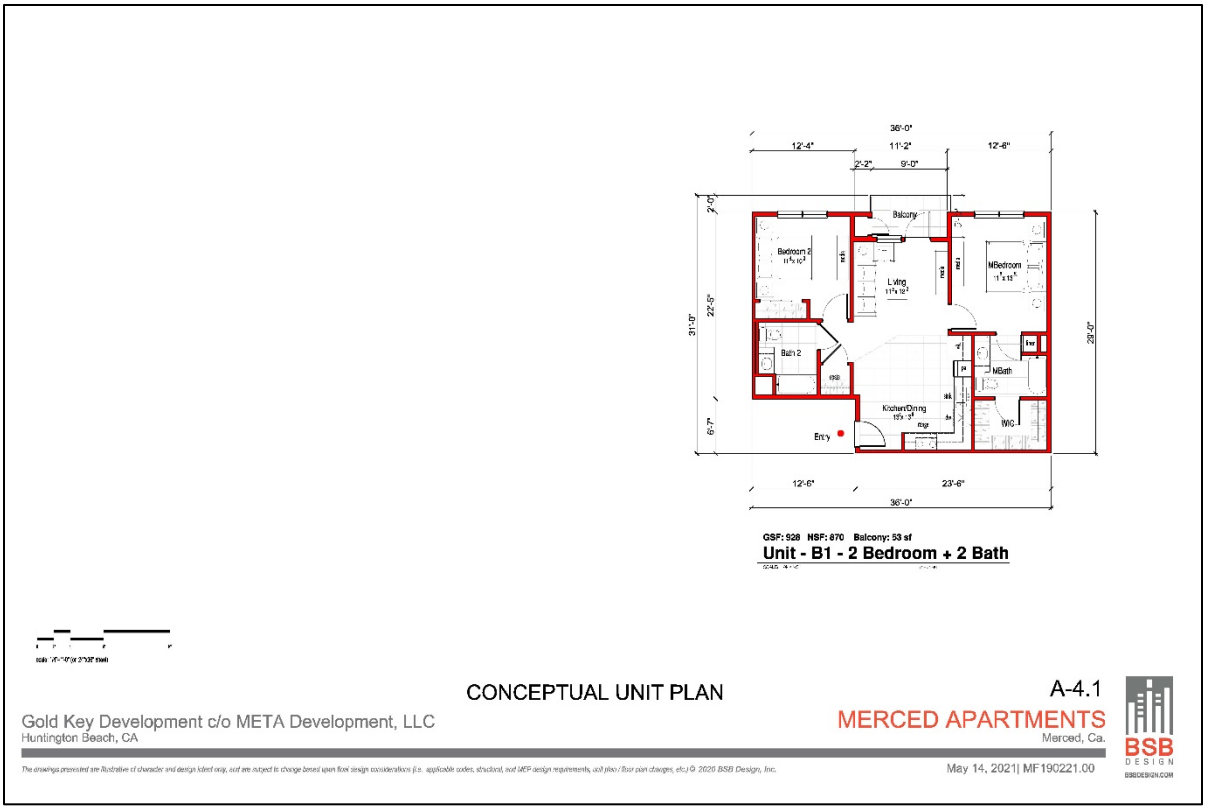


Figure 5C - Floor Plan (Clubhouse/Office)

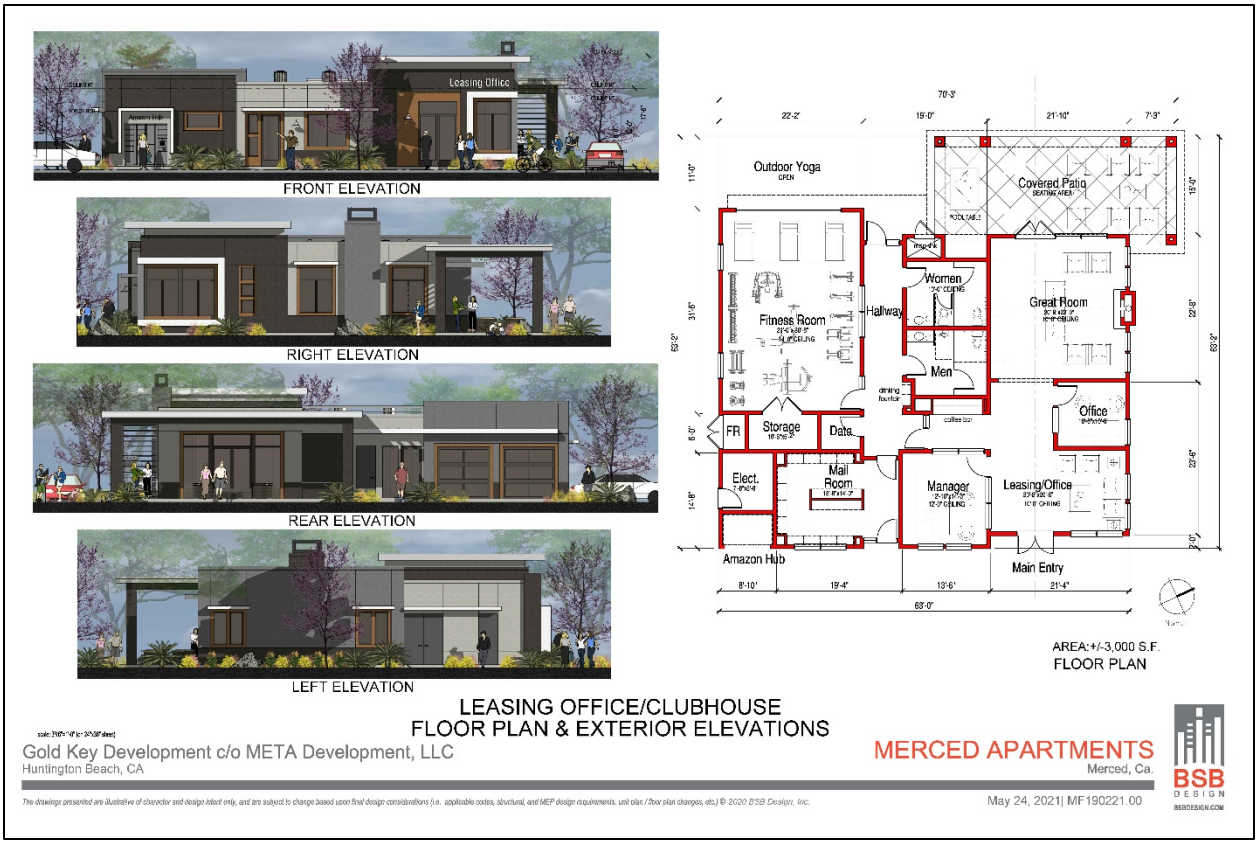


Figure 6A - Elevations

Figure 6B - Elevations

FRONT ELEVATION

PERSPECTIVE

RIGHT ELEVATION

Gold Key Development c/o META Development, LLC
Huntington Beach, CA

36 PLEX
EXTERIOR ELEVATIONS

A-3.1
MERCED APARTMENTS
Merced, Ca.

May 24, 2021| MF190221.00

BSB DESIGN
BSBDESIGN.COM

REAR ELEVATION

LEFT ELEVATION

Gold Key Development c/o META Development, LLC
Huntington Beach, CA

36 PLEX
EXTERIOR ELEVATIONS

A-3.2
MERCED APARTMENTS
Merced, Ca.

May 24, 2021| MF190221.00

BSB DESIGN
BSBDESIGN.COM

Background

Background

Planned Development #16 was established in 1979. In 1999, the project site was part of the project known as the Merced Marketplace. At that time the project site was anticipated to be developed with commercial uses. In 2006, the land use for the project site was changed from Regional/Community Commercial (RC) to Low-Medium Density Residential (LMD) to allow the construction of a 124-lot subdivision with small lots ranging in size from 2,500 to 3,500 square feet. Approximately one-half of the subdivision has been constructed. The proposed project would encompass the other half or approximately 6 acres of the subdivision.

On February 17, 2021, this project was to be presented to the Planning Commission. However, prior to the meeting, the owner advised that they were considering selling the property to another developer and asked to have the item tabled by the Planning Commission to allow time for the negotiations to take place. The sale of the property did not take place at that time, but the owners are now working with a different developer to construct a revised multi-family project. The project has the same number of overall units, but unit mix has changed. As a result, in the change to the the unit mix, additional parking spaces were needed. Therefore, the site plan was modified slightly to add parking spaces by adding compact spaces with a width of 8.5 feet, instead of 9 feet as required by the Zoning Ordinance. To allow this variation in parking space width, the Site Utilization Plan Revision includes a standard to allow compact spaces to have a minimum width of 8.5 feet and a minimum depth of 16 feet. These dimensions are consistent with the City's Engineering Standard for commercial and multi-family parking spaces (TC-8).

A. INITIAL FINDINGS

A. The proposal is a project as defined by CEQA Guidelines Section 15378.

B. The project is not a ministerial or emergency project as defined under CEQA Guidelines (Sections 15369 and 15369).

C. The project is therefore discretionary and subject to CEQA (Section 15357).

D. The project is not Categorically Exempt.

E. The project is not Statutorily Exempt.

F. Therefore, an Environmental Checklist has been required and filed.

B. CHECKLIST FINDINGS

A. An on-site inspection was made by this reviewer on December 2, 2020.

B. The checklist was prepared on January 13, 2021.

C. The *Merced Vision 2030 General Plan* and its associated EIR (SCH# 2008071069) were certified in January 2012. The document comprehensively examined the potential environmental impacts that may occur as a result of build-out of the 28,576-acre Merced SUDP/SOI. For those significant environmental impacts (Loss of Agricultural Soils and Air Quality) for which no mitigation measures were available, the City adopted a Statement of Overriding Considerations (City Council Resolution #2011-63). This document herein incorporates by reference the *Merced*

Vision 2030 General Plan, the General Plan Program EIR (SCH# 2008071069), and Resolution #2011-63.

As a subsequent development project within the SUDP/SOI, many potential environmental effects of the Project have been previously considered at the program level and addressed within the General Plan and associated EIR. (Copies of the General Plan and its EIR are available for review at the City of Merced Planning and Permitting Division, 678 West 18th Street, Merced, CA 95340.) As a second-tier environmental document, Initial Study #20-32 plans to incorporate goals, policies, and implementing actions of the *Merced Vision 2030 General Plan*, along with mitigation measures from the General Plan EIR, as mitigation for potential impacts of the Project.

Project-level environmental impacts and mitigation measures (if applicable) have been identified through site-specific review by City staff. This study also utilizes existing technical information contained in prior documents and incorporates this information into this study.

Project-level environmental impacts have been identified through site-specific review by City staff. This study also utilizes existing technical information contained in prior documents and incorporates this information into this study.

C. ENVIRONMENTAL IMPACTS:

Will the proposed project result in significant impacts in any of the listed categories? Significant impacts are those which are substantial, or potentially substantial, changes that may adversely affect the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. (Section 15372, State CEQA Guidelines. Appendix G of the Guidelines contains examples of possible significant effects.)

A narrative description of all "potentially significant," "negative declaration: potentially significant unless mitigation incorporated," and "less than significant impact" answers are provided within this Initial Study.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

X	Aesthetics		Agriculture/Forestry Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Energy
X	Geology/Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
X	Hydrology/Water Quality	X	Land Use/Planning		Mineral Resources
X	Noise	X	Population/Housing	X	Public Services
X	Recreation	X	Transportation		Tribal Cultural Resources
X	Utilities/Services Systems	X	Wildfire	X	Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

Prepared by: _____ 6/15/21
Julie Nelson, Senior Planner — Date

Approved by: _____ 6/16/21
Kim Espinosa, Planning Manager
Environmental Coordinator, City of Merced — Date

Distributed for Public Review: June 17, 2021

1) Aesthetics

SETTING AND DESCRIPTION

The project site consists of approximately 6 acres of land generally located on the south side of Devonwood Drive between Loughborough Drive and Austin Avenue. The site is currently vacant, but is surrounded by urban development. Single-family residential homes on small lots are located immediately adjacent to the east of the site. The Merced Marketplace shopping center is located to the north, across Devonwood Drive, and Wal-Mart is located to the west of the site. A City bike path is located along the southern property line of the site. Beyond the bike path is the BNSF Railroad track. An approximately 20-foot-tall concrete block wall separates the bike path and the proposed development from the railroad tracks. A landscape strip is located along the concrete block wall to provide visual appeal and trees for shade to the bike path.

The site is not located within a designated scenic corridor and there are no scenic vistas visible from the site. The topography of the site is level and there are no outstanding features noted.

The proposed project would include the construction of five 3-story buildings. The buildings would be 37'4" tall at the top of the parapet. Two of the five buildings would front Devonwood Drive. The other three buildings would be setback away from the streetscape. Landscaping would be provided along the street frontage. Parking for the project would be spread throughout the site for convenience to each of the buildings. The clubhouse/office would be located near the center of the site. The buildings would be located towards the interior of the site with parking surrounding the buildings (refer to the Site Plan at Figure 4 on page 7 and the building elevations at Figures 6A and 6B on pages 10 and 11).

The three-story buildings would be 37' 4" tall. The buildings would have a modern design with a mixture of exterior finishes including stucco, siding, glass, and metal finishes. and typical commercial store fronts with metal finishes. Balconies would be provided on the upper floor levels for the residential tenants. First floor tenants would have a small patio area. The elevations incorporate architectural features to enhance the building character and appearance. Three exterior stair wells will on the 36-unit (Type A) buildings will provide access to the second and third floors. Building Type B would have two exterior stair wells for access to the upper floors. Building elevations are provided at Figure 5.

The site would be enhanced with landscaping along the perimeter and between the buildings as well as parking lot trees (refer to the Site Plan at Figure 4 on Page 7 for the conceptual landscape plan for the site).

Parking lot lighting and exterior building lighting would be added to the site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Aesthetics. Will the project:				
a) Have a substantial adverse effect on a scenic vista?				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		✓		

Impact Analysis

Would the project:

a) *Have a substantial adverse effect on a scenic vista?*

The site is not designated as a scenic vista and is not located near any designated scenic vistas. Therefore, the project would not have any adverse impacts on a scenic vista and there would be **no impact**.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

There are no officially designated State Scenic Highways or Routes in the project vicinity. Therefore, the project would have **no impact** on scenic resources, such as rock outcroppings, trees, or historic buildings within a scenic highway.

c) *If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The City's zoning ordinance does not regulate scenic quality other than building height and general aesthetics. The site is currently vacant and development would enhance the site and prevent future blight issues. Therefore, any changes to the visual character of the site would be a **less than significant impact.**

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The General Plan Amendment and Zone Change would not create any additional source of light or glare that would affect views in the area. The construction of the multi-family

development on the site would add artificial lighting to the area. The parking areas and buildings would add artificial lighting to the site and area. The site is surrounded by urban development. The proposed project may result in low level, off-site light and glare from streetlights, security lights, parking lot lighting and reflective material, such as glass. Off-site effects depend upon the type of lighting fixtures installed and building materials used to construct the buildings. All lighting would be required to meet the California Energy Code and would be required to be shielded so it doesn't spillover onto adjacent properties as required by the Energy Code. The addition of lighting would be a **less than significant impact with the following mitigation measure.**

Mitigation Measures:

AES 1) All exterior lighting shall be shielded to prevent spillover onto adjacent properties.

2) Agriculture Resources

SETTING AND DESCRIPTION

Merced County is among the largest agriculture producing counties in California (ranked fifth), with a gross income of more than $3.4 billion in 2017. The County's leading agriculture commodities include milk, chickens, almonds, cattle and calves, tomatoes, and sweet potatoes.

According to the Important Farmland Map prepared by the California Department of Conservation, this site is considered to be "Urban and Built-Up Land" (refer to Figure 7).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Agriculture and Forestry Resources. Will the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non - agriculture?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land [as defined in Public Resources Code Section 12220(g)], timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production [as defined by Government Code Section 51104(g)]?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

Impact Analysis

Would the project:

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non -agriculture?*

The project site is located within the City Limits of Merced and was annexed in 1979. The California Department of Conservation prepares Important Farmland Maps through its Farmlands Mapping and Monitoring Program (FMMP). The system of classifying areas is based on soil type and use. According to the 2018 Merced County Important Farmlands Map, the site is classified as "Urban and Built-Up Land" (Figure 7). Therefore, the proposed project would not have any effect on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The proposed project would not affect protected farmland and there would be **no impact.**

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

There are no Williamson Act contract lands in this area. Therefore, there is **no impact.**

c) *Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

There is no forest land or timberland on the site. The project would not conflict with any zoning or plan for forest land or timberland. Therefore, **there is no impact**.

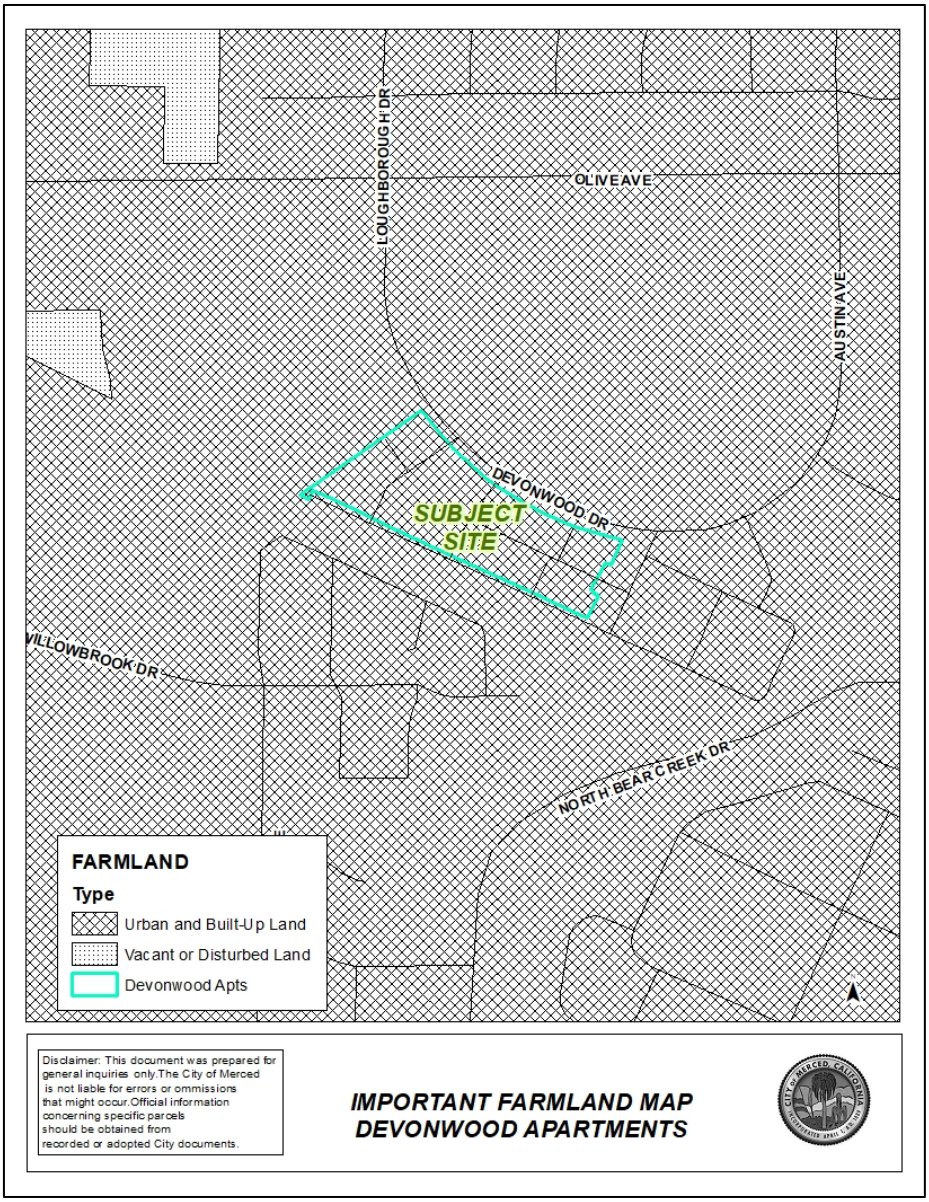
d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

See item 3 above. **No impact.**

e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

The nearest land being used for farming is more than one-half mile to the northwest, outside the City Limits. The proposed development would not cause the use of this land to change. Therefore, there is **no impact.**

Figure 7 - Important Farmland Map



3. Air Quality

SETTING AND DESCRIPTION

The San Joaquin Valley Air Pollution Control District (SJVAPCD) will review the project to assess the impact to air quality and to establish acceptable mitigation measures. Hence, the City recognizes that additional mitigation measures may be applied to subsequent phases of the development of this area. While the action of the SJVAPCD is independent of City reviews and actions, their process allows the City to review proposed mitigation measures that could affect project design and operation. Any proposed changes are subject to approval by the City.

The project is located in the San Joaquin Valley Air Basin (SJVAB), which occupies the southern half of the Central Valley and is approximately 250 miles in length and, on average, 35 miles in width. The Coast Range, which has an average elevation of 3,000 feet, serves as the western border of the SJVAB. The San Emigdio Mountains, part of the Coast Range, and the Tehachapi Mountains, part of the Sierra Nevada, are both located to the south of the SJVAB. The Sierra Nevada extends in a northwesterly direction and forms the eastern boundary of the SJVAB. The SJVAB is basically flat with a downward gradient to the northwest.

The climate of the SJVAB is strongly influenced by the presence of these mountain ranges. The mountain ranges to the west and south induce winter storms from the Pacific to release precipitation on the western slopes, producing a partial rain shadow over the valley. A rain shadow is defined as the region on the leeward side of the mountain where precipitation is noticeably less because moisture in the air is removed in the form of clouds and precipitation on the windward side. In addition, the mountain ranges block the free circulation of air to the east, resulting in the entrapment of stable air in the valley for extended periods during the cooler months.

Winter in the SJVAB is characterized as mild and fairly humid, and the summer is hot, dry, and cloudless. During the summer, a Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind.

For additional information, please refer to the Air Quality Analysis prepared by Ken Anderson & Associates, Inc. at Appendix A.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Air Quality. Would the project:		✓		
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Create objectionable odors affecting a substantial number of people?			✓	

Impact Analysis

Would the project:

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Thresholds of significance applied in this report are from the San Joaquin Valley Air Pollution Control District (SJVAPCD) is "Guidance for Assessing and Mitigating Air Quality Impacts" (GAMAQI) (San Joaquin Valley Air Pollution Control District 2015). These thresholds define an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Project-related emission levels which exceed any of the thresholds of significance means the project-related effect will normally be considered significant. Project related emissions at or below the thresholds of significance means the project-related effect normally will be considered to be less than significant. The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects. These Thresholds may be found in Table 1 of the Air Quality analysis at Appendix A.

The significance thresholds presented in the SJVAPCD GAMAQI are based on the attainment status of the San Joaquin Valley Air Basin in regard to air quality standards for specific criteria pollutants. Because the air quality standards are set at concentrations that protect public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. Per the Air Quality Analysis found at Appendix A, none of the emissions would exceed the SJVAPCD significance threshold. However, to ensure the project creates no air quality impacts during construction or operation and to ensure adherence to the requirements of the SJVAPCD, the following mitigation measure is required. This would reduce any possible impacts to **less than significant with mitigation.**

Mitigation Measures:

AIR-1) Consistent with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.

- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.

b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

The proposed project would generate air emissions during project construction and operation. Short- term construction emissions would occur in association with construction activities, including grading, and vehicle/equipment use. Long-term operational emissions are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of natural gas and electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. As noted above, specific criteria for determining whether the potential air quality impacts of a project are significant are set forth by the SJVAPCD.

Because neither the short-term or long-term construction and operation of the project would exceed the thresholds of significance set for the by the SJVAPCD, this impact is considered **less than significant.**

c) *Expose sensitive receptors to substantial pollutant concentrations?*

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, based on the findings of the Air Quality Analysis at Appendix A indicates the construction emissions would not exceed the SJVAPCD construction threshold levels. Additionally, the Analysis indicates that operational emissions would not exceed the SJVAPCD threshold levels. Therefore, this impact is considered **less than significant.**

d) *Create objectionable odors affecting a substantial number of people?*

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant. In addition, the proposed residential and commercial uses are not expected to produce any offensive odors that would result in frequent odor complaints. The proposed project would not create objectionable odors affecting a substantial number of people during project construction or operation, and this impact is considered **less than significant.**

4. Biological Resources

SETTING AND DESCRIPTION

The plan area is located in the Central California Valley eco-region. This eco-region is characterized by flat, intensively farmed plains with long, hot dry summers and cool, wet winters (14-20 inches of precipitation per year). The Central California Valley eco-region includes the Sacramento Valley to the north and the San Joaquin Valley to the south and it ranges between the Sierra Nevada Foothills to the east to the Coastal Range foothills to the west. Nearly half of the eco-region is actively farmed, and about three fourths of that farmed land is irrigated.

According to the State of California, Department of Fish and Game Natural Diversity Data Base (NDDB), the site does not include any plant and/or animal species listed as threatened or endangered by the State of California or the Federal Government. Furthermore, the biological resources evaluation, prepared as part of the *Merced Vision 2030 General Plan Program Environmental Impact Report* (EIR), does not identify the project area as containing any seasonal or non-seasonal wetland or vernal pool areas. Given the adjacent, built-up, urban land uses and major roadways, no form of unique, rare or endangered species of plant and/or animal life could be sustained on the subject site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			✓	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
c) Conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance?				✓
d) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓
e) Conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Impact Analysis

Would the project:

a) *Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

The proposed project would not have any direct effects on animal life by changing the diversity of species, number of species, reduce any rare or endangered species, introduce any new species, or deteriorate existing fish or wildlife habitat. Although the *Merced Vision 2030 General Plan* identifies several species of plant and animal life that exist within the City's urban boundaries, the subject site, which is surrounded by developed urban uses, does not contain any rare or endangered species of plant or animal life. This impact would be **less than significant.**

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

The proposed project would not have any direct effects on riparian habitat or other sensitive natural community. The City General Plan identifies Bear, Black Rascal, Cottonwood, Miles, Fahrens, and Owens Creeks within the City's growth area. The subject site is not located adjacent to any of these areas or any water way. Therefore, the project would have a **less than significant impact** on riparian habitat.

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The project site would not have any direct effect on wetlands as no wetlands have been identified in this area. All of the area surrounding the subject site has been modified from its original state and is developed with urban uses. There is **no impact.**

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The project would not have any adverse effects on any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridor, or impede the use of native wildlife nursery sites. There is **no impact.**

e) *Conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance?*

The proposed project would not conflict with local policies and/or ordinances protecting biological resources. There are no trees on the site. The only vegetation is some wild winter grass that has recently grown. The City's General Plan does not identify this site as being a biological resource and there is no evidence of any biological resource on the site. Therefore, there is **no impact.**

f) *Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The proposed project would not have any effects on a habitat conservation plan. There are no adopted habitat conservation plans, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan for the City of Merced or Merced County. There is **no impact.**

5. Cultural Resources

SETTING AND DESCRIPTION

The City of Merced area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur.

Merced County was first explored by Gabriel Moraga in 1806, when he named the Merced River, "El Rio de Nuestra Senra de la Merced." Moraga's explorations were designed to locate appropriate sites for an inland chain of missions. Moraga explored the region again in 1808 and 1810.

Archaeology

Archaeological sites are defined as locations containing significant levels of resources that identify human activity. Very little archaeological survey work has been conducted within the City or its surrounding areas. Creeks, drainage, and sloughs exist in the northern expansion area of the City, and Bear Creek and Cottonwood Creek pass through the developed area. Archaeological sites in the Central Valley are commonly located adjacent to waterways and represent potential for significant archaeological resources.

Paleontological sites are those that show evidence of pre-human existence. Quite frequently, they are small outcroppings visible on the earth's surface. While the surface outcroppings are important indications of paleontologic resources, it is the geologic formations that are the most important. There are no known sectors within the project area known to contain sites of paleontologic significance.

Historic Resources

In 1985, in response to community concerns over the loss of some of the City's historic resources, and the perceived threats to many remaining resources, a survey of historic buildings was undertaken in the City. The survey focused on pre-1941 districts, buildings, structures, and objects of historical, architectural, and cultural significance. The survey area included a roughly four square-mile area of the central portion of the City.

The National Register of Historic Places, the California Historical Landmarks List, and the California Inventory of Historic Resources identify several sites within the City of Merced. These sites are listed on the Merced Historical Site Survey and maintained by the Merced Historical Society. There are no listed historical sites on the Project site.

According to the environmental review conducted previously for this area, there are no listed historical sites and no known sectors within the project area known to contain sites of paleontological or archeological significance. However, mitigation measures will be adopted to ensure proper steps are taken in the event evidence of archeological artifacts area discovered during construction.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5. <u>Cultural Resources.</u> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

Impact Analysis

Would the project:

a) *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

The project would not alter or destroy any historic archaeological site, building, structure, or object, nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses.

A cultural resources records search was conducted by the Central California Information Center (CCIC) at California State University, Stanislaus as part of the City's General Plan update. No historic resources were found at or near the project site. However, in the case of an unexpected discovery of a cultural resource on the site, compliance with the following mitigation measure would reduce this impacts to **less than significant with mitigation.**

<u>Mitigation Measures:</u>

CUL-1) If unknown pre-contact or historic-period archaeological materials are encountered during project activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations.

Cultural resources materials may include pre-contact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations shall be required to mitigate adverse impacts from project implementation. These additional studies may include, but are not limited to, recordation, archaeological excavation, or other forms of significance evaluations.

The applicant shall inform its contractor(s) of the sensitivity of the project site for archaeological deposits, and include the following directive in the appropriate contract documents:

"The subsurface of the construction site is sensitive for archaeological deposits. If archaeological deposits are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist shall assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. Archaeological deposits can include, but are not limited to, shellfish remains; bones, including human remains; and tools made from, obsidian, chert, and basalt; mortars and pestles; historical trash deposits containing glass, ceramics, and metal artifacts; and structural remains, including foundations and wells."

The City shall verify that the language has been included in the grading plans prior to issuance of a grading permit or other permitted project action that includes ground-disturbing activities on the project site.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The project would not alter or destroy any prehistoric archaeological site, building, structure, or object, nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses.

A cultural resources records search was conducted by the Central California Information Center (CCIC) at California State University, Stanislaus as part of the City's General Plan update. No archeological resources were found at or near the project site. However, in the event of an unexpected discovery of an archeological resource, compliance with Mitigation Measure CUL 1 would reduce any impacts to less than significant. Therefore, this impact would be **less than significant with mitigation**.

Mitigation Measure:

CUL-2) Implementation of Mitigation Measure CUL-1 (above).

c) *Disturb any human remains, including those interred outside of formal cemeteries?*

Disturbance of human remains interred outside of formal cemeteries would result in a significant impact. If human remains are identified during project construction, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code shall apply, appropriate. Therefore, implementation of Mitigation Measure CUL-3 reduce potential impacts to human remains to **less than significant with mitigation.**

Mitigation Measure:

CUL-3) If human remains are identified during construction and cannot be preserved in place, the applicant shall fund: 1) the removal and documentation of the human remains from the project corridor by a qualified archaeologist

meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, 2) the scientific analysis of the remains by a qualified archaeologist, should such analysis be permitted by the Native American Most Likely Descendant, and 3) the reburial of the remains, as appropriate. All excavation, analysis, and reburial of Native American human remains shall be done in consultation with the Native American Most Likely Descendant, as identified by the California Native American Heritage Commission.

6. Energy

SETTING AND DESCRIPTION

Appendix F (Energy Conservation) of the CEQA Guidelines provides that potentially significant energy implications of a project must be considered in an EIR, with particular emphasis on avoiding or reducing the inefficient, wasteful and unnecessary consumption of energy. As such, this discussion considers the proposed Project's consumption of energy resources, particularly electricity, natural gas, and transportation fuels, during both the project's construction and operational phases.

The proposed apartment project would be built to meet the California Energy Code requirements and may include the installation of solar panels. Additionally, the project would provide bicycle parking and is located near a bus stop which would encourage the use of public transit to help reduce energy consumed for transportation. The project would incorporate recycling procedures for the disposal of recyclable materials in accordance with the City's recycling ordinance and AB 341.

According to data from the U.S. Energy Information Administration, apartment buildings with 5 or more units typically use less energy than other home types. Households in apartment buildings with 5 or more units use approximately 50% less energy as other types of homes. The lower energy consumption can be attributed, in part to smaller living spaces and units being bordered by other units or common areas which reduces exposure to outside temperatures and the number of windows in the unit.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6. **Energy.** Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?		✓		
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?		✓		

Impact Analysis

a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

The project is not expected to result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. The project would be constructed on an in-fill lot that has access to existing electrical and telecommunications services. No new transportation, electrical, or telecommunications facilities are required to support the project leading to unnecessary consumption of energy resources. Compliance with the California Green Building Standards Code, AB 341- Solid Waste Diversion, and the San Joaquin Valley Air Pollution Control District standards during construction and operation of the project will further ensure the efficient consumption of energy resources. Implementation of these regulations would reduce impacts to **less than significant with mitigation.**

Mitigation Measure:

ENE-1) The applicant shall comply with all applicable California Energy Code, AB 341, and San Joaquin Valley Air Pollution Control District rules and regulations regulating energy efficiency and waste.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

With the implementation of the regulations described in item "a" above, the proposed project would not conflict with a state or local plan for renewable energy or energy efficiency. This impact is **less than significant with mitigation.**

ENE-2) Implementation of Mitigation Measure ENE-1.

7. Geology and Soils

SETTING AND DESCRIPTION

The City of Merced is located approximately 150 miles southeast of San Francisco along the west side of the southern portion of the Great Valley Geomorphic Province, more commonly referred to as the San Joaquin Valley. The valley is a broad lowlands bounded by the Sierra Nevada to the east and Coastal Ranges to the west. The San Joaquin Valley has been filled with a thick sequence of sedimentary deposits of Jurassic to recent age. A review of the geologic map indicates that the area around Merced is primarily underlain by the Pleistocene Modesto and Riverbank Formations with Holocene alluvial deposits in the drainages. Miocene-Pliocene Mehrten and Pliocene Laguna Formation materials are present in outcrops on the east side of the SUDP/SOI. Modesto and Riverbank Formation deposits are characterized by sand and silt alluvium derived from weathering of rocks deposited east of the SUDP/SOI. The Laguna Formation is made up of consolidated gravel sand and silt alluvium and the Mehrten Formation is generally a well consolidated andesitic mudflow breccia conglomerate.

Faults and Seismicity

A fault, or a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side, is an indication of past seismic activity. It is assumed that those that have been active recently are the most likely to be active in the future, although even inactive faults may not be "dead." "Potentially Active" faults are those that have been active during the past two

million years or during the Quaternary Period. "Active" faults are those that have been active within the past 11,000 years. Earthquakes originate as movement or slippage occurring along an active fault. These movements generate shock waves that result in ground shaking.

Based on review of geologic maps and reports for the area, there are no known active or potentially active faults, or Alquist-Priolo Earthquake Fault Zones (formerly referred to as a Special Studies Zone) in the SUDP/SOI. In order to determine the distance of known active faults within 50 miles of the Site, the computer program EZ-FRISK was used in the General Plan Update.

Soils

According to the USDA Natural Resources Conservation Service website, the soil on the site includes Yokohl clay loam, 0 to 3 persent slopes (YbA). Soil properties can influence the development of building sites, including site selection, structural design, construction, performance after construction, and maintenance. Soil properties that affect the load-supporting capacity of an area include depth to groundwater, ponding, flooding, subsidence, shrink-swell potential, and compressibility.

The City of Merced regulates the effects of soils and geological constraints primarily through the enforcement of the California Building Code (CBC), which requires the implementation of engineering solutions for constraints to development posed by slopes, soils, and geology.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
7. <u>Geology and Soils.</u> Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?			✓	
b) Result in substantial soil erosion or loss of topsoil?		✓		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			✓	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	

Impact Analysis

Would the project:

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *Strong seismic ground shaking?*

ii) *Strong seismic ground shaking?*

iii) *Seismic-related ground failure, including liquefaction?*

iv) *Landslides?*

The project site is not located within a mapped fault hazard zone, and there is no record or evidence of faulting on the project site (City of Merced General Plan Figure 11.1). Because no faults underlie the project site, no people or structures would be exposed to substantial adverse effects related to earthquake rupture, and no impact would result from the project.

Ground shaking of moderate severity may be expected to be experienced on the project site during a large seismic event. All building permits are reviewed to ensure compliance with the California Building Code (CBC). In addition, the City enforces the provisions of the Alquist Priolo Special Study Zones Act that limits development in areas identified as having special seismic hazards. All structures shall be designed and built in accordance with the standards of the California Building Code. Pursuant to CEQA §15162, the project will not create any impacts that warrant additional environmental documentation over and above the impacts addressed in the City's General Plan EIR.

The project **may** expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. However, according to the City's *Merced Vision 2030 General Plan EIR,* the probability of soil liquefaction occurring within the City of Merced is

considered to be a low to moderate hazard; however, detailed geotechnical engineering investigation required in compliance with the California Building Code (CBC) would be required for the project.

APPLICABLE GENERAL PLAN GOALS AND POLICIES:

The City's *Merced Vision 2030 General Plan* contains policies that address seismic safety.

Goal Area S-2: Seismic Safety:	
Goal **Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity**	
Policies	
S-2.1	Restrict urban development in all areas with potential ground failure characteristics.

The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Landslides generally occur on slopes of 15 percent or greater. The project site's topography is generally of slopes between 0 and 3 percent, which are considered insufficient to produce hazards other than minor sliding during seismic activity.

These impacts are considered **less than significant.**

b) *Result in substantial soil erosion or loss of topsoil?*

Construction of the proposed project could result in temporary soil erosion and the loss of topsoil due to construction activities, including clearing, grading, site preparation activities, and installation of the proposed drainage and on-site sewer and water systems. Construction activities disturbing one or more acres are required by the State Water Resources Board (SWRCB) to obtain a General Construction Activity Stormwater Permit, which would require the proposed project to implement a Storm Water Pollution Prevention Plan (SWPPP). Project compliance with SWRCB and the City of Merced regulations to avoid erosion siltation effects would reduce this impact to **less than significant with mitigation**.

Mitigation Measures:

GEO-1) The project shall comply with all requirements of the State Water Resources Board (SWRCB) and obtain a General Construction Activity Stormwater Permit.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

The City of Merced is located in the Valley area of Merced County and is therefore less likely to experience landslides than other areas in the County. The probability of soil liquefaction actually taking place anywhere in the City of Merced is considered to be a low hazard. Soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content. According to the *Merced Vision 2030 General Plan*

EIR, no significant free face failures were observed within the SUDP/SOI and the potential for lurch cracking and lateral spreading is, therefore, very low within the SUDP/SOI area. This impact is **less than significant.**

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they become wet). Expansive soils can also consist of silty to sandy clay. The extent of shrinking and swelling is influenced by the environment, extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls.

Implementation of General Plan Policies, adherence to the Alquist-Priolo Act, and enforcement of the California Building Code (CBC) Standards would reduce this impact to **less than significant.**

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

The EIR prepared for the City's *Merced Vision 2030 General Plan* states the following:

"According to the Geologic, Geohazards and Environmental Health Hazards Evaluation Report (Geocon Consultants, Inc.)", the soils in the SUDP/SOI are not generally considered to be expansive, have a generally low to moderate erosion potential, and are generally considered suitable for wastewater disposal using conventional septic systems."

However, no new septic systems are allowed in the City and any future construction on the site will be required to connect to the City's sewer system. Based on this evaluation, this impact is **less than significant.**

f) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The proposed project would be located on a previously developed in-fill site. The site has been used for agriculture as well as residential purposes and has been previously altered from its native state. Therefore, this impact would be **less than significant.**

8. Greenhouse Gas Emissions

SETTING AND DESCRIPTION

The issue of project-generated Greenhouse Gas (GHG) Emissions is a reflection of the larger concern of Global Climate Change. While GHG emissions can be evaluated on a project level, overall, the issue reflects a more regional or global concern. CEQA requires all projects to discuss a project's GHG contributions. However, from the standpoint of CEQA, GHG impacts on global climate change are inherently cumulative. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, it can safely be assumed that existing conditions do not measurably contribute to a noticeable incremental change in the global climate.

The project applicant provided an Air Quality and Greenhouse Gas study for the proposed project on this site which was prepared by Ken Anderson and Associates, Inc. (Appendix A). The study analyzed the emissions associated with a 156-unit apartment complex, including a clubhouse and associated parking. The City of Merced has not developed or adopted a CEQA threshold for determining the significance of GHG emissions at the project-level.

The SJVAPCD document *Addressing Greenhouse Gas Emission Impacts for New Projects* under the California Environmental Quality Act (San Joaquin Valley Air Pollution Control District 2009) presents a tiered approach to analyzing the significance of project-related GHG emissions. This approach was used in the analysis provided at Appendix A.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8. <u>Greenhouse Gas Emissions.</u> Would the project:				
a) Generate greenhouse gas emission, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

Impact Analysis

Would the project:

a) *Generate greenhouse gas emission, either directly or indirectly, that may have a significant impact on the environment?*

The following is an excerpt from the Greenhouse Gas Study provide by Ken Anderson and Associates, Inc. – Appendix C.

The SJVAPCD document *Addressing Greenhouse Gas Emission Impacts for New Projects under the California Environmental Quality Act* (San Joaquin Valley Air Pollution Control District 2009) presents a tiered approach to analyzing the significance of project-related GHG emissions. Project GHG emissions are considered less than significant if they can meet any of the following conditions, evaluated in the order presented:

- the project is exempt from CEQA requirements;
- the project complies with an approved GHG emission reduction plan or GHG mitigation program;
- the project implements Best Performance Standards (BPS); or

- the project demonstrates that specific GHG emissions would be reduced or mitigated by at least 29 percent compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002 - 2004 baseline period.

The SJVAPCD states,

"On December 17, 2009, the San Joaquin Valley Air Pollution Control District (District) adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards "*Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.*"

(San Joaquin Valley Air Pollution Control District 2020)

The City of Merced Climate Action Plan does not qualify as an approved GHG emission reduction plan or GHG mitigation program. Therefore, the first two tiers of the GHG significance criteria would not apply.

In applying the third tier of the GHG significance threshold, the impact of the Devonwood Apartments project on GHG emissions would be considered less than significant if the project implements BPS measures. Precise details of project features are not yet available. Therefore, Mitigation Measure GHG-1 would be required to reduce any impacts to l**ess than significant with mitigation**.

Mitigation Measure:

GHG-1) The project applicant shall demonstrate compliance with the applicable BPS strategies to the Planning Division prior to the issuance of a building permit. The following BPS strategies are considered to be applicable, feasible, and effective in reducing GHG emissions generated by the project:

- The project applicant shall provide a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities.
- The project applicant shall ensure site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between nonresidential uses that impede bicycle or pedestrian circulation shall be eliminated. In

addition, barriers to pedestrian access of neighboring facilities and sites shall be minimized.

- The project applicant shall design roadways to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming measures. Traffic calming measures include: bike lanes, center islands, closures (cul-de-sacs), diverters, education, forced turn lanes, roundabouts, and speed humps.
- The project applicant shall plant trees to provide shade.
- The project applicant shall install energy efficient heating and cooling systems, appliances and equipment, and control systems.

b) *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

According to the Air Quality and Greenhouse Gas analysis found at Appendix A, implementation of mitigation measure GHG-1 and compliance with state regulations, the proposed project would not conflict with any applicable plan, policy, or regulation adopted to reduce greenhouse gas emissions. Implementation of these measures would reduce an potential impacts to **less than significant with mitigation**.

In addition, the proposed project would support many of the goals identified in the City's Climate Action Plan. The project would help reduce vehicle miles traveled by providing neighborhood commercial services and providing bicycle parking and pedestrian access. As such, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and impacts would be **less than significant.**

Mitigation Measure:

GHG-2) Implementation of Mitigation Measure of GHG-1.

9. Hazards and Hazardous Materials

SETTING AND DESCRIPTION

Hazardous Materials

A substance may be considered hazardous due to a number of criteria, including toxicity, ignitability, corrosivity, or reactivity. The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

Wildland and Urban Fire Hazards

Both urban and wildland fire hazard potential exists in the City of Merced and surrounding areas, creating the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Wildland fires affect grassland, brush or woodlands, and any structures on or near these fires. Such fires can result from either human made or natural causes.

Urban fires comprise the majority of fires in the City of Merced while the potential for wildland fires could increase as large blocks of undeveloped land are annexed into the City. Most of the fires are caused by human activities involving motor vehicles, equipment, arson, and burning of debris.

Airport Safety

The City of Merced is impacted by the presence of two airports-Merced Regional Airport, which is in the southwest corner of the City, and Castle Airport (the former Castle Air Force Base), located approximately eight miles northwest of the subject site.

The continued operation of the Merced Regional Airport involves various hazards to both flight (physical obstructions in the airspace or land use characteristics which affect flight safety) and safety on the ground (damage due to an aircraft accident). Growth is restricted around the Regional Airport in the southwest corner of the City due to the noise and safety hazards associated with the flight path.

Castle Airport also impacts the City. Portions of the northwest part of the City's SUDP/SOI and the incorporated City are within Castle's safety zones. The primary impact is due to noise (Zones C and D), though small areas have density restrictions (Zone B2). The military discontinued operations at Castle in 1995. One important criterion for determining the various zones is the noise factor. Military aircraft are designed solely for performance, whereas civilian aircraft have extensive design features to control noise.

Potential hazards to flight include physical obstructions and other land use characteristics that can affect flight safety, which include: visual hazards such as distracting lights, glare, and sources of smoke; electronic interference with aircraft instruments or radio communications; and uses which may attract flocks of birds. In order to safeguard an airport's long-term usability, preventing encroachment of objects into the surrounding airspace is imperative.

Railroad

Hazardous materials are regularly shipped on the BNSF and SP/UP Railroad lines that pass through the City. While unlikely, an incident involving the derailment of a train could result in the spillage of cargo from the train in transporting. The spillage of hazardous materials could have devastating results. The City has little to no control over the types of materials shipped via the rail lines. There is also a safety concern for pedestrians along the tracks and vehicles utilizing at-grade crossings. The design and operation of at-grade crossings allows the City some control over rail-related hazards. Ensuring proper gate operation at the crossings is the most effective strategy to avoid collision and possible derailments.

Public Protection and Disaster Planning

Hospitals, ambulance companies, and fire districts provide medical emergency services. Considerable thought and planning have gone into efforts to improve responses to day-to-day emergencies and planning for a general disaster response capability.

The City's Emergency Plan and the County Hazardous Waste Management Plan both deal with detailed emergency response procedures under various conditions for hazardous materials spills. The City also works with the State Department of Health Services to establish cleanup plans and to monitor the cleanup of known hazardous waste sites within the City.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9. <u>Hazards and Hazardous Materials.</u> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
d) Be located on a site which is included on a list of hazardous materials site complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

Impact Analysis

Would the project:

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Construction activities of the proposed project would involve the use, storage, transport, and disposal of oil, gasoline, diesel fuel, paints, solvents, and other hazardous materials. No hazardous materials are anticipated to be used at the site after construction. The project would be required to adhere to all applicable federal and state health and safety standards. Construction activity must also be in compliance with the California Occupational Safety and Health Administration regulations (Occupational Safety and Health Act of 1970). This impact would be **less than significant** with compliance with these requirements.

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Construction on the project site would be reviewed for the use of hazardous materials at the building permit stage. Implementation of Fire Department and Building Code regulations for hazardous materials, as well as implementation of federal and state requirements, would reduce any risk caused by a future use on the site from hazardous materials to a **less than significant** level.

APPLICABLE GENERAL PLAN GOALS AND POLICIES:

The City of Merced *Vision 2030 General Plan* contains policies that address hazardous materials.

Goal Area S-7: Hazardous Materials	
Goal **Hazardous Materials Safety for City Residents**	
Policies	
S-2.1	Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.
Implementing Actions:	
7.1.a	Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.

7.1.b	Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

There are not schools within one-quarter mile of the site. Hazardous materials are not expected to be at the project site after construction. However, compliance with Fire Department regulations, as well as state and federal regulations through annual inspections and permitting requirements makes this impact **less than significant**.

d) *Be located on a site which is included on a list of hazardous materials site complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

According to the California Department of Toxic Substances Control EnviroStor database search, the project site is not listed as a hazardous waste site, and no significant hazard to the public or the environment would result with project implementation. Therefore, there is **no impact.**

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

The project site is located approximately 3.5 miles from the Merced Regional Airport and approximately 6.5 miles from the Castle Airport. The project site is not located in an area for which an Airport Land Use Plan has been prepared, and no public or private airfields are within two miles of the project area. Therefore, no at-risk population working at the site would be exposed to hazards due to aircraft over-flight. Therefore, implementation of the proposed project would not expose persons to airport-related hazards, and **no impact** would occur.

f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The proposed project will not adversely affect any adopted emergency response plan or emergency evacuation plan. No additional impacts will result from the development of the project area over and above those already evaluated by the EIR prepared for the *Merced Vision 2030 General Plan.* The project would not modify any roadways or cause any other changes that would impair the implementation of an adopted emergency response plan. Therefore, there is **no impact.**

APPLICABLE GENERAL PLAN GOALS AND POLICIES:

The *Merced Vision 2030 General Plan* contains policies that address disaster preparedness.

Goal Area S-1: Disaster Preparedness	
Goal **General Disaster Preparedness**	
Policies	
S-1.1	Develop and maintain emergency preparedness procedures for the City.
Implementing Actions:	
1.1.a	Keep up-to-date through annual review the City's existing Emergency Plan and coordinate with the countywide Emergency Plan.
1.1.b	Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters, including means for notifying residents of a need to evacuate because of a severe hazard as soon as possible.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

g) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

The project site is located within an urban area and is not located within a very high fire hazard severity zone. According to the EIR prepared for the *Merced Vision 2030 General Plan*, the risk for wildland fire in the City of Merced is minimal. According to the Cal Fire website, the Merced County Fire Hazard Severity Zone Map shows the project site is designated as a "Local Area of Responsibility" with a Hazard Classification of "Urban Unzoned."

The City of Merced Fire Department is the responsible agency for responding to fires at the subject site. The project site is located within Fire District #3, and is served by Station #53 located at 800 Loughborough Drive (approximately 1.5 miles from the project site). The proposed project would not expose people or structures to significant loss, injury or death involving wildland fires and there would be **no impact.**

10. Hydrology and Water Quality

SETTING AND DESCRIPTION

Water Supplies and Facilities

The City's water supply system consists of four elevated storage tanks with a combined storage capacity of approximately 1.4 million gallons, 23 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter.

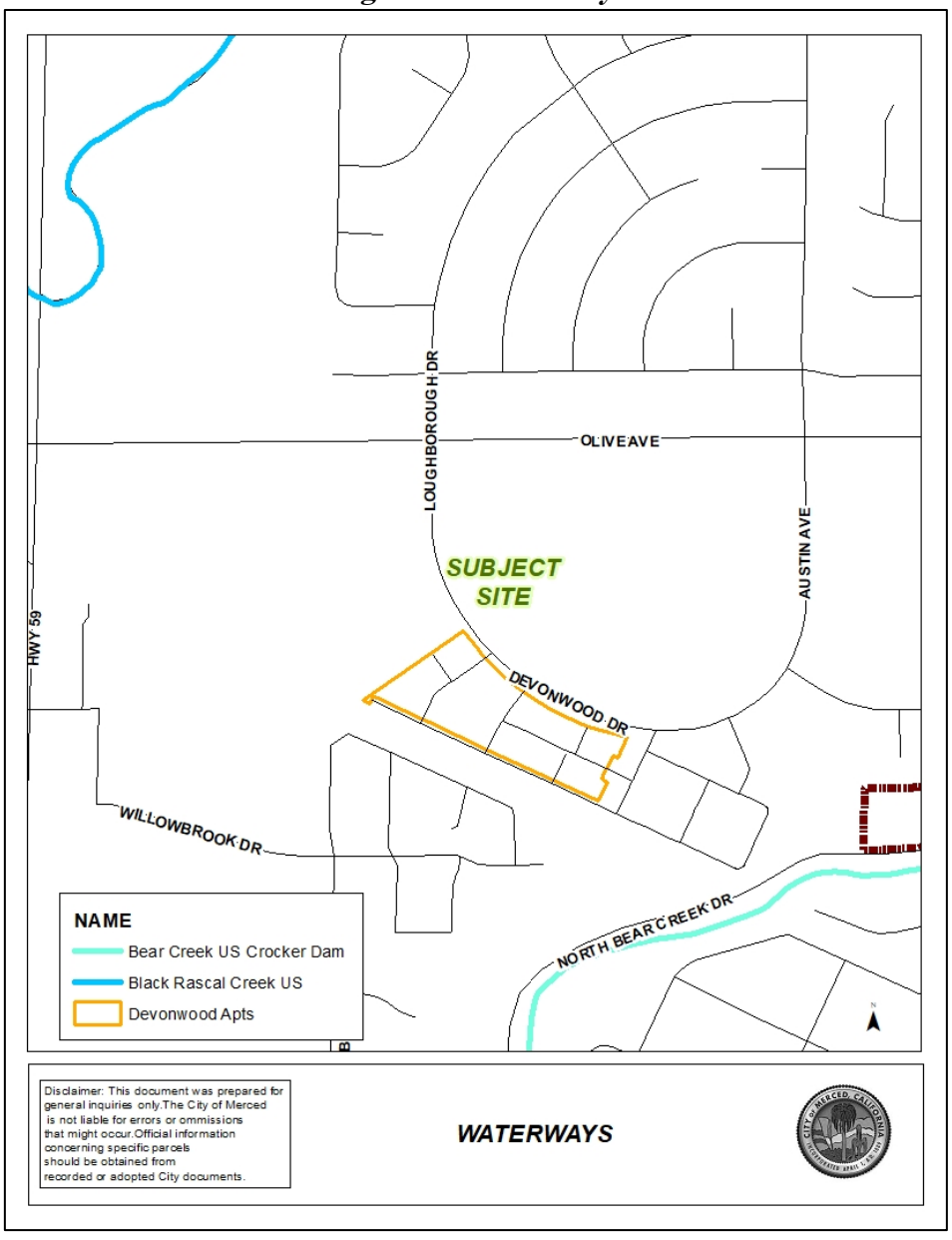
Storm Drainage/Flooding

In accordance with the adopted City of Merced Standard Designs of Common Engineering Structures, percolation/detention basins are designed to temporarily collect run-off so that it can be metered at acceptable rates into canals and streams which have limited capacity.

Proximity to Existing Waterways

The project site is located at the south side of Devonwood Drive, between Loughborough Drive and Austin Avenue. Bear Creek is located approximately less than one-quarter mile to the south of the site and Black Rascal Creek is located less than on-half mile to the north of the site. Refer to the map at Figure 8 below.

Figure 8 - Waterways



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
10. <u>Hydrology and Water Quality.</u> Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. i. result in a substantial erosion or siltation on- or off-site;		✓		
ii. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;		✓		
iii. iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or		✓		
iv. impede or redirect flood flows?		✓		
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				

Impact Analysis

Would the project:

a) *Violate any water quality standards or waste discharge requirements?*

The project site is currently vacant. Construction of the proposed apartment project and associated parking would result in the majority of the site being covered with impervious surfaces.

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate the water quality of surface water and groundwater bodies throughout California. The proposed project is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB).

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed with an increased potential to expose soils to wind and water erosion, which could result in temporary minimal increases in sediment load into the MID nearby water bodies, including the Black Rascal Creek, located approximately 0.4 miles to the north, and Bear Creek, located approximately 0.1 mile to the south. Any potential short-term water quality effects from project related construction activities can be minimized and reduced to a level of **less than significant with mitigation** by implementing the following mitigation measure.

Mitigation Measure:

HYDRO-1) To minimize any potential short-term water quality effects from project-related construction activities, the project contractor shall implement Best Management Practices (BMPs) in conformance with the California Storm Water Best Management Practice Handbook for Construction Activity. In addition, the proposed project shall be in compliance with existing regulatory requirements, including the Water Pollution Control Preparation (WPCP) Manual. In addition, implementation of a Storm Water Pollution Prevention Plan (SWPPP) would be required under the National Pollutant Discharge Elimination System (NPDES) to regulate water quality associated with construction activities.

HYDRO-2) If any storm drainage from the site is to drain into MID facilities, the developer shall first enter into a "Storm Drainage Agreement" with MID and pay all applicable fees.

The nearest water bodies to the proposed project include the Black Rascal Creek, located approximately 0.4 mile to the north, and Bear Creek, located approximately 0.1 mile to the south. Operation of the proposed project could result in surface water pollution associated with chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and waste that may be spilled or leaked and have the potential to be transported via runoff during periods of heavy precipitation into these water bodies. Implementation of Mitigation Measure HYDRO-2, described below, would ensure that stormwater runoff from the proposed project would be appropriately managed to prevent pollutants from being discharged into these water bodies, reducing any potential impacts to **less than significant with mitigation.**

Mitigation Measure:

HYDRO-3) To reduce the potential for degradation of surface water quality during project operation, a SWPPP shall be prepared for the proposed project. The SWPPP shall describe specific programs to minimize stormwater pollution resulting from the proposed project. Specifically, the SWPPP shall identify and describe source control measures, treatment controls, and BMP maintenance requirements to ensure that the project complies with post-construction stormwater management requirements of the RWQCB.

b) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The City receives all of its water supply from groundwater. Based on the City's Urban Water Management Plan (UWMP), water consumption in 2015 was estimated to be 15.9 million gallons of water per day (mgd) or approximately 17,855 acre-feet per year. The UWMP also estimates the projected acre-feet of water use for years 2020, 2025, 2030, and 2035, which are projected to increase each year. By 2035, the City's projected water use is expected to be 31,960 acre-feet of potable and raw water and 5,869 acre-feet of recycled water.

The proposed project would generate a need for approximately 64,500 gallons per day. Based on the 2015 water well production of 15.9 mgd, the proposed project would use approximately 0.41% of the total daily water demand for the City.

Although development of the site would restrict onsite recharge where new impervious surface areas are created, all alterations to groundwater flow would be captured and routed to the stormwater percolation ponds or pervious surfaces with no substantial net loss in recharge potential anticipated. This reduces this impact to a **less than significant** level.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i. result in a substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv. impede or redirect flood flows?

Implementation of the project would result in grading and landform alterations on the site that would expose native soils that could be subject to the effects associated with wind and water erosion unless adequate measures are taken to limit the transport of soils in surface water from the site to downstream locations. As discussed above, the project applicant would be required to implement a SWPPP that would identify specific measures to address erosion and siltation resulting from grading and construction as well as the potential long-term water quality impacts.

Construction of the project would include connecting on-site drainage facilities to the City's storm drain system. The City has approximately 112 miles of underground storm drain lines, underground storage pipes, and 141 acres of detention ponds. An 18-inch storm drain line exists in Devonwood Drive that the on-site storm drainage system would connect to. All storm water run-off would be required to be captured on-site and metered into the City's storm drainage per City Standards. Additionally, at the time of construction, the developer would be required to provide calculations to demonstrate that the proposed on-site retention and the City's storm water system would be able to accommodate the additional run-off from the site.

According to FEMA, the project site is located within the AE flood zone with a base flood elevation of 167. As previously mentioned any run-off from the site would be required to be captured on-site and metered into the City's storm drain system. Therefore runoff from the site would not increase the rate or amount of surface water flooding or impede or redirect flood flows.

Implementation of Mitigation Measure HYDRO-1 and Mitigation Measure HYDRO-4 below would reduce any impacts from site drainage to **less than significant with mitigation**.

Mitigation Measure:

HYDRO-4 Prior to issuance of a building permit or as required by the City Engineer, the developer shall demonstrate to the City that storm drainage facilities are adequate to meet the Project demands and that improvements are consistent with the City Standards and the City's Storm Drain Master Plan.

d) *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

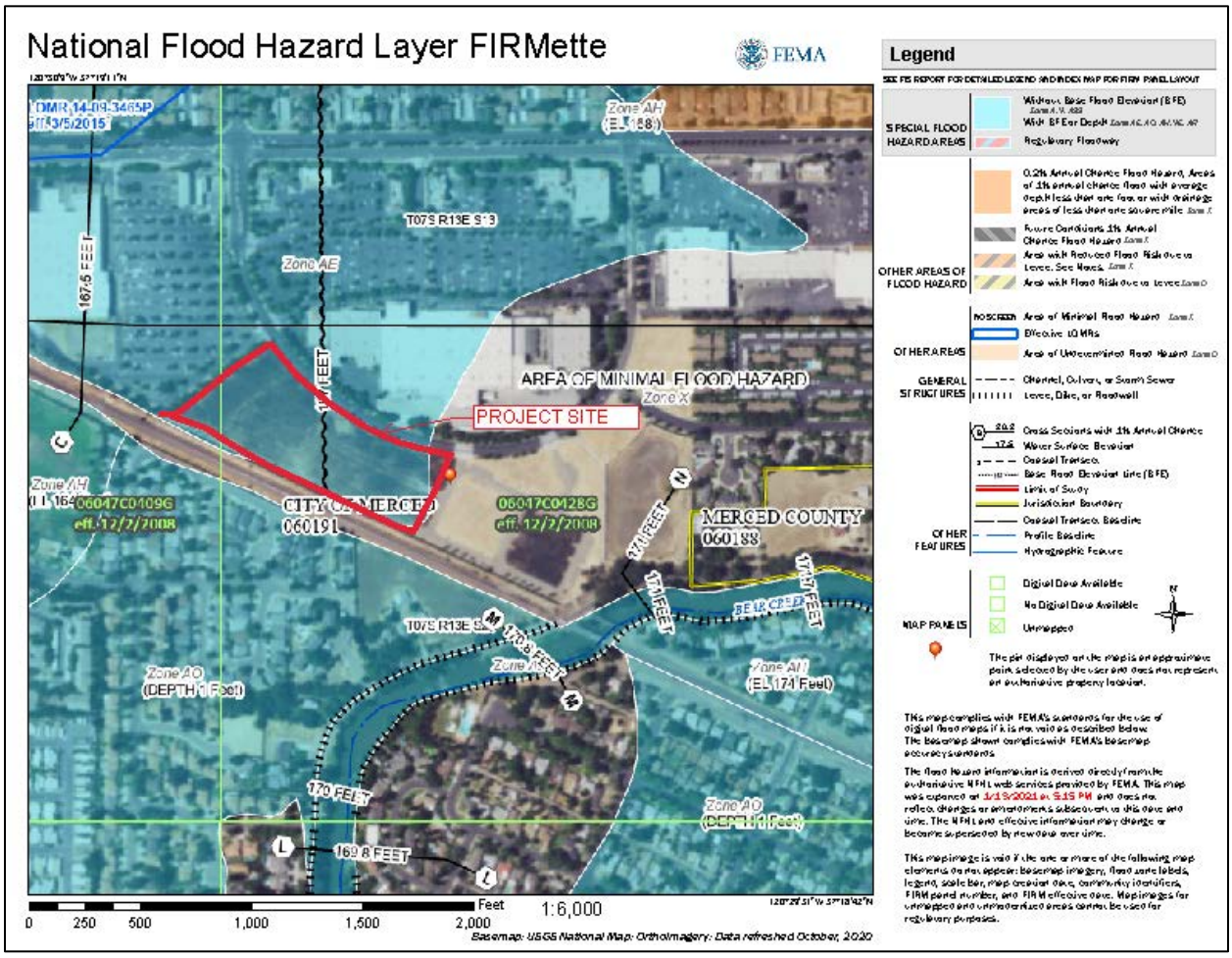
As shown on the map located at Figure 9 on the following page, the project site is located within Flood Zone "AE" with a base flood elevation of 167. As such, all building pads would be required to be above this base flood elevation in compliance with the California Building Code.

The site is not in a tsunami or seiche zone and would not present a risk for release of pollutants due to inundation. This impact is **less than significant.**

e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable groundwater management plan. The project would be required to comply with all City of Merced standards and Master Plan requirements for groundwater and water quality control. This impact is **less than significant.**

Figure 9 - FEMA Flood Map



11. Land Use and Planning

SETTING AND DESCRIPTION

The project site is located within the City Limits of Merced and within its Specific Urban Development Plan and Sphere of Influence (SUDP/SOI). The majority of the site currently has a General Plan designation of Low-Medium Density Residential and is zoned Planned Development (P-D) #16. The project includes amending the General Plan designation from Low-Medium Density Residential to High Density Residential and revising the Site Utilization Plan (SUP) land use designation from single-family dwellings to multi-family dwellings. The current and proposed General Plan and Zoning Designations are shown on the map at Figure 3 on Page 6.

Surrounding Uses

Refer to Figure 2 on Page 5 and the table below for the surrounding land uses.

Surrounding Land	Existing Use of Land	Zoning Designation	City General Plan Land Use Designation
North	Merced Marketplace Shopping Center (across Devonwood Dr.)	P-D #16	Regional/Community Commercial (RC)
South	Single-Family Residential (across the railroad tracks)	RP-D #29	Low-Medium Density Residential (LMD)
East	Single-Family Residential (across Austin Ave)	P-D #16	Low-Medium Density Residential (LMD)
West	Walmart	P-D #16	Regional/Community Commercial (RC)

Current Use/Background

The project site is currently vacant. The site is part of a planned subdivision (Highland Park) for 125 small lots ranging in size from 2,500 to 3,500 square feet. The site is made up of 63 single-family lots, open space area, and private streets. Additional background information is available in the Project Description section of this report on Page 2

Project Characteristics

The proposed project includes a General Plan Amendment and Site Utilization Plan Revision to allow the construction of a 156-unit apartment complex. The development would be a gates complex consisting of five three-story buildings, a clubhouse/office building, associated parking, and a swimming pool/recreation area. The Site Plan is provided at Figure 4 on Page 7.

There would be two different building types: Building A - three-stories with 36 units (12 units/floor) and Building B - three-stories with 24 units (8 units/floor). The buildings would contain a mixture of 1-, 2-, and 3-bedroom units. The table below provides the details for each unit type.

Unit	Bed/Bath	Net Living Area	Balcony with WH Closet	Total Sq. Ft.	Total Units
A1	1 bed/1 bath	582	55	626	69
B1	2 bed/2 bath	870	53	928	48
C1	3 bed/2 bath	1090	56	1156	39
					156

The table below provides the number of each unit type within each building type.

Building	A1	B1	C-1	Total Units/Building	No. of Buildings
A	15	12	9	36	3
B	12	6	6	24	2

The floor plans are provided at Figures 5A ,5B, and 5C (pages 8 through 10).

The current density for the site is Low-Medium density which would allow 6 to 12 dwelling units/acre. The proposed land use of High Density would allow 24 to 36 units per acre. The proposed apartment complex would have a density of 26 units/acre.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
11. <u>Land Use and Planning.</u> Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			✓	

Impact Analysis

Would the project:

a) *Physically divide an established community?*

The project site is surrounded by urban uses. The proposed project would develop an existing vacant lot and would become a part of the adjacent, surrounding community. The project would not physically divide the community, therefore, there is **no impact.**

b) *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The Housing Element of the *Merced Vision 2030 General Plan* includes policies supporting affordable housing, mixed-use development, and higher densities.

Policy H-1.1 Support Increased Density in Residential Zoning Districts

The proposed land use change would increase the density for this site from 6 to 12 units/acre to 24 to 36 units/acre. The proposed apartment project would provide a density of 26 units/acre.

Policy 1.8b Prioritize City efforts to encourage residential development by focusing on in-fill development and densification within the existing City Limits.

The proposed project is an in-fill project on a vacant site. The surrounding area is developed with a mixture of commercial and residential uses. The higher density proposed helps achieve this policy.

Based on the forgoing analysis, the project would comply with the General Plan land use designation of High Density. Therefore, this impact would be **less than significant.**

12. Mineral Resources

SETTING AND DESCRIPTION

The City of Merced does not contain any mineral resources that require managed production, according to the State Mining and Geology Board. Based on observed site conditions and review of geological maps for the area, economic deposits of precious or base metals are not expected to underlie the Merced SUDP/SOI. According to the California Geological Survey, Aggregate Availability in California - Map Sheet 52, Updated 2006, minor aggregate production occurs west and north of the City of Merced, but economic deposits of aggregate minerals are not mined within the immediate vicinity of the SUDP/SOI. Commercial deposits of oil and gas are not known to occur within the SUDP/SOI or vicinity.

According to the Merced County General Plan Background Report (June 21, 2007), very few traditional hard rock mines exist in the County. The County's mineral resources are almost all sand and gravel mining operations. Approximately 38 square miles of Merced County, in 10 aggregate resource areas (ARA), have been classified by the California Division of Mines and Geology for aggregate. The 10 identified resource areas contain an estimated 1.18 billion tons of concrete resources with approximately 574 million tons in western Merced County and approximately 605 million tons in eastern Merced County. Based on available production data and population projections, the Division of Mines and Geology estimated that 144 million tons of aggregate would be needed to satisfy the projected demand for construction aggregate in the County through the year 2049. The available supply of aggregate in Merced County substantially exceeds the current and projected demand.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✓

Impact Analysis

Would the project:

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

Based on observed site conditions and review of geological maps for the area, economic deposits of precious or base metals are not known to occur in the Merced SUDP/SOI. Therefore implementation of the proposed project would have **no impact** on the availability of mineral resources or impact current or future mining operations.

b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

No Mineral Resource Zones or mineral resource recovery sites exist within the City of Merced or in the area designated for future expansion of the City (the SUDP/SOI). Therefore implementation of the proposed project would have **no impact** on the availability of mineral resources or impact current of future mining operations.

13. Noise

SETTING AND DESCRIPTION

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern. According to the *Merced Vision 2030 General Plan,* outdoor noise exposure not exceeding 60 db is considered to be a "normally acceptable" noise level for residential uses.

Potential noise impacts of the proposed project can be categorized as those resulting from construction and those from operational activities. Construction noise would have a short-term effect; operational noise would continue throughout the lifetime of the project.

The existing noise in the area is predominantly due to trains on the BNSF Railroad and traffic related to the surrounding commercial uses. Additionally, there is ongoing construction for the subdivision to the east.

An approximately 20-foot tall concrete block wall was constructed with the development of the Highland Park subdivision along the railroad tracks. Construction of this wall was a mitigation measure for the subdivision.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Noise. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	

Impact Analysis

Would the project result in:

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Construction Noise

Construction of the project would temporarily increase noise levels in the area during the construction period. The duration of construction is expected to be 120-180 days. Therefore, the noise from construction may be steady for several weeks and then cease all together. Construction activities, including site clearing, building construction, and paving would be considered an intermittent noise impact throughout the construction period. These activities could result in various effects on sensitive receptors, depending on the presence of intervening barriers or other insulating materials. Although construction activities would likely occur only during daytime hours, construction noise could still be considered disruptive to local residents. The City of Merced does not have a noise ordinance, but past practice has been to allow construction activities during daylight hours (between 7:00 a.m. and 7:00 p.m.). Implementation of the mitigation measures below would reduce potential impacts from construction noise to **less than significant with mitigation.**

Operational Noise

Noise from the multi-family development would be primarily traffic related. Additionally, there would be added noise from possible outdoor activities of the tenants, as well as more

frequent refuse collection to serve the site. Parking for the site is located throughout the site. Approximately 60 parking spaces would be constructed on the east end of the site adjacent to the single-family dwellings. A concrete block wall would be required to separate the parking spaces from the single-family homes and to buffer light and noise from the apartment complex affecting the single-family dwellings.

There is a swimming pool and open space throughout the site, but with such a small site, it is not expected to have large gatherings or generate a large amount of noise. The open space and pool area are located in the center of the apartment complex, surrounded by apartment buildings.

According to the General Plan acceptable outdoor noise levels in residential areas should not exceed 60 dB. While the project will contribute to additional noise in the area due to an increase in people and activity in the area and traffic, it is not anticipated to increase the noise level above the recommended 60 dB. Therefore, operational noise is expected to be **less than significant.**

Mitigation Measure:

NOI-1) To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the project:

- The construction contractor shall ensure that all internal combustion engine-driven equipment is equipped with mufflers that are in good condition and appropriate for the equipment.
- The construction contractor shall locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction disturbance area. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall prohibit unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes is prohibited).
- The construction contractor shall locate, to the maximum extent practical, on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall limit all noise producing construction activities, including deliveries and warming up of equipment, to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. No such work shall be permitted on Sundays or federal holidays without prior approval from the City.

b) *Generation of excessive groundborne vibration or groundborne noise levels?*

No permanent noise sources would be located within the project site that would expose persons to excessive groundborne vibration or noise levels. Construction activities associated with implementation of the proposed project are not expected to result in excessive groundborne vibration or groundborne noise levels. Therefore, implementation

of the proposed project would not permanently expose persons within or around the project sites to excessive groundborne vibration or noise and the project impacts would be ***less than significant***

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The nearest airports to the project site include Merced Regional Airport, located approximately 3.5 miles southeast of the project site, and Castle Airport, located approximately 7 miles west of the project site. No portion of the project site lies within the 55 dBA CNEL noise contours of these airports. Given the project site's distance from the nearest airports, project implementation would not expose people residing or working in the project area to excessive noise levels and impacts would be **less than significant**.

14. Population and Housing

SETTING AND DESCRIPTION

The implementation of the proposed project would result in the construction of a 156-unit apartment complex with one-, two-, and three-bedroom units. The project site is surrounded by urban uses.

Expected Population and Employment Growth

According to the State Department of Finance, the City of Merced's population for 2020 was estimated to be 88,120. Population projections estimate that the Merced SUDP area will have a population of 159,900 by the Year 2030. The 2019 population projections prepared by the State also indicate a vacancy rate of 6.31% and an average household size of 3.24 persons per household.

According to the *Merced Vision 2030 General Plan*, the City of Merced is expected to experience significant employment growth by the Year 2030.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Population and Housing. Would the project:				
a) Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓

Impact Analysis

Would the project:

a) *Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

The proposed apartment project includes the construction of 156 dwelling units, with a mixture of one-, two-, and three-bedroom units. The proposed land use change would allow a change in allowable density from 6 to 12 dwelling units/acre to 24 to 36 dwelling units/acre. The growth expected with this project would not exceed the project growth of the City General Plan. There are no new roads or other infrastructure being proposed with the project. Therefore, this impact would be **less than significant.**

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

Implementation of the proposed project would not displace any existing housing. There is **no impact.**

15. Public Services

SETTING AND DESCRIPTION

Fire Protection

The City of Merced Fire Department provides fire protection, rescue, and emergency medical services from five fire stations throughout the urban area. The City's Central Fire Station is located in the downtown area at 16th and G Streets. The City also has four other stations throughout the City. Station #53, located at 800 Loughborough Drive, would serve the project site.

Police Protection

The City of Merced Police Department provides police protection for the entire City. The Police Department employs a mixture of sworn officers, non-sworn officer positions (clerical, etc.), and unpaid volunteers (VIP's). The service standard used for planning future police facilities is approximately 1.37 sworn officers per 1,000 population, per the Public Facilities Financing Plan.

Schools

The public school system in Merced is served by three districts: 1) Merced City School District (elementary and middle schools); 2) Merced Union High School District (MUHSD); and, 3) Weaver Union School District (serving a small area in the southeastern part of the City with elementary schools). The districts include various elementary schools, middle (junior high) schools, and high schools. The Project site falls within the Merced City School District and Merced Union High School District (MUHSD).

As the City grows, new schools will need to be built to serve our growing population. According to the Development Fee Justification Study for the MUHSD, Merced City Schools students are generated by new multi-family development at the following rate:

Student Generation Rates

Commercial/Industrial Category	Elementary (K-8) (Students per 1,000 sq.ft.)	High School (9-12) (Students per 1,000 sq.ft.)
Retail	0.13	0.038
Restaurants	0.00	0.157
Offices	0.28	0.048
Services	0.06	0.022
Wholesale/Warehouse	0.19	0.016
Industrial	0.30	0.147
Multi-Family	0.559 (per unit)	0.109 (per unit)

Based on the table above, the proposed mixed-use project would be expected to generate 104 total new students [87 Elementary School (K-8) students, and 17 High School students].

Parks

Carol Gabriault Park located south of the railroad tracks within one-quarter mile of the site. Because of the railroad tracks, there is no direct access from the site to the park, but with the bike path adjacent to the site, one could walk or bicycle to the park.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i. Fire Protection?			✓	
ii. Police Protection?			✓	
iii. Schools?			✓	
iv. Parks?			✓	
v. Other Public Facilities?			✓	

Impact Analysis

Would the project:

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

i. *Fire Protection* - The City of Merced Fire Department would provide fire protection services to the site. The project site is located within Fire District #3 and would be served by Fire Station #53, located at 800 Loughborough Drive. The response from this station would meet the desired response time of 4 to 6 minutes, citywide. The proposed change in land use designation would not affect the City's ability to provide fire protection. The project would be required to be constructed with a fire sprinkler system and to meet all requirements of the California Fire Code and the Merced Municipal Code.

At the time a building permit is issued, the developer would be required to pay the fees required by the Public Facilities Financing Plan (PFFP). A portion of this fee goes to cover the City's costs for fire protection such as fire stations, etc. In addition, the developer would be required to annex into the City's Community Facilities District for Services (CFD #2003-2). This would result in an assessment paid with property taxes in which a portion of the tax would go to pay for fire protection services.

Compliance with all Fire, Building, and Municipal Code requirements as well as payment of the Impact Fees required by the Public Facilities Financing Program, and annexation into the City's CFD for services would reduce any potential impacts to a **less than significant level**.

ii. *Police Protection* - Development of the project would require additional police services in the area. The proposed mixed-use project is located on a site that is currently vacant. Any change to the status of the site would require additional services. However, the impacts from the proposed project would not substantially increase the impacts beyond what was anticipated with the previous General Plan Amendment and Zone Change that changed the land use for this site to Neighborhood Commercial. Payment of the required Public Facilities Impact Fees and annexation into the City's Community Facilities District (CFD) for services would reduce any potential impacts to a **less than significant** level.

iii. *Schools* - Based on the table provided in the "Settings and Description" section above, the proposed mixed-use project would generate a total of 104 students. The project would be required to pay all fees required by the Leroy F. Greene School Facilities Act of 1988. The payment of this statutory fee under California Government Code §65995 is deemed "full and complete mitigation" of school impacts.

iv. *Parks* - The development of the multi-family apartment project would not trigger the need to construct a new park in the area. Payment of the fees required under

the Public Facilities Financing Program (PFFP) as described above and payment of Quimby Act fees would be required at time of building permit issuance to help fund future parks and maintenance of existing parks as well as the payment of fees in lieu of land dedication for future parks would be required at the building permit stage. The proposed amenities onsite and the payment of fees would reduce this potential impact to **less than significant**.

v. *Other Public Facilities* - The development of the project could impact the maintenance of public facilities and could generate impacts to other governmental services. Payment of the fees required under the Public Facilities Financing Program (PFFP) as described above would mitigate these impacts to a **less than significant** level.

16. Recreation

SETTING AND DESCRIPTION

The City of Merced has a well-developed network of parks and recreation facilities. Carol Gabriault Park (a Neighborhood Park) is located to the south of the project site. This park is physically only about 300 feet from the project site. However, due to the railroad track, it is approximately ½ mile to walk or bicycle to the site. The City Bike path would be accessible from the project site with gated access to the path on the south side of the development. Access to Fahrens Park approximately 1.5 miles to the north is available via this bike path. Applegate Park is also located approximately 1 mile from the site and is also accessible via the bike trail system.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
16. <u>Recreation.</u> Would the project:				
a) Increase the use of neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

Impact Analysis
Would the project:

a) *Increase the use of neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

The construction of the proposed project would provide 156 new units to the area. This number of units replaces the previous 63 single-family lots, so the net increase in units is 93 units. As described above, there are 3 parks within a short distance of the site, the site would also have easy access to the City's bicycle trail system with access directly from the project site. The developer would be required to pay the fees described under the Parks section above which would help fund future recreation needs. This impact would be **less than significant.**

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

As described above, the project would provide a community/recreation area near the center of the complex and open space area throughout the site for residents to use for recreation. Also as previously described, the project would be required to pay all impact fees required at the time of building permit issuance which would reduce any impacts to a **less than significant** level.

17. Transportation

SETTING AND DESCRIPTION

The project site is located on the south side of Devonwood Drive between Lougborough Drive and Austin Avenue. All three of these streets are local streets with a 64-foot-wide right-of-way an form a "U" shape with slight curves (see the Location Map at Figure 2, page 5). Primary access to Loughborough Drive and Devonwood Drive is via Olive Avenue (Arterial), with a secondary route from R Street (Arterial), via Olivewood Drive. The proposed project will have a primary access point off of Devonwood Drive near the middle of the development. Two secondary access points are provided on Devonwood Drive as well, one at each end of the apartment complex. An emergency access is provided at the end of Bannon Lane. There is no access to the south of the project as the site abuts a City bicycle trail. Two bus stops are located on Loughborough Drive west of the project site with departures to various locations every 20 minutes to ½ hour. Because the road serving the project site is a local road, there is no bike lane. However, as mentioned above, there is a bike trail along the southern property line.

Background/History

The project site was evaluated as part of the Environmental Impact Report (EIR) for the Merced Marketplace. The City Council adopted this EIR on June 11, 1999. At that time the site was evaluated for approximately 152,000 square feet of Regional/Community Commercial (RC) uses. In 2006, a General Plan Amendment and Site Utilization Plan (SUP) Revision was approved changing the land use designation for the site to Low-Medium Density Residential (LMD) to allow the construction of a subdivision (Highland Park) with 124 small lots. A supplemental EIR was adopted by the City Council on November 6, 2006 as part of the General Plan Amendment and SUP Revision.

A Mitigation Monitoring Program was adopted with the Supplemental EIR in 2006. This EIR divided the area into two phases, Phase I, the Lowe's shopping center, and Phase II, the Highland Park subdivision. Certain improvements were required with each phase of construction as designated in the Traffic Improvement Phase Plan/September 20, 2006.

On January 31, 2019, the Site Plan Committee considered a request to modify the mitigation measures for certain improvements. Based on an analysis done by Ken Anderson and Associates, it was determined that Mitigation Measures 3.1-7, 3.1-9, 3.1-11, 3.1-12, and 3.1-13 were no longer required to be installed with the construction of the Highland Park Subdivision. All other Mitigation Measures would still apply.

Existing Conditions

A supplemental analysis was performed in 2019, by Ken Anderson and Associates. This supplemental analysis looked at the surrounding intersections, including Olive Avenue and Loughborough Drive, Olive and Austin Avenue, Olive and Meadows Avenue, and Olive and R Street. The analysis concluded that the intersections were all operating above Level of Service (LOS) D and would remain above LOS D with the construction of the Highland Park subdivision (LOS D is the minimum level of service allowed by the City's General Plan). Additionally, all roadways serving the site are currently operating at or above LOS D. Since this information cannot be sued to determine CEQA impacts, this information is provided for information only.

Trip Generation

Based on approved trip generation rates that account for the specific land use included in the project, the supplemental traffic analysis for Vehicle Miles Traveled prepared by DKS, estimates the proposed 156-unit apartment complex would generate approximately 849 average daily trips [the Multi-family Mid-Rise Residential Rate (Class 221) was used for this calculation]. The current 64 single-family residents located within the Highland Park Subdivision would generate 690 average daily trips (ADT's). If the entire site was constructed as originally proposed with the Highland Park subdivision, there would have a been 124 single-family homes which would equate to 1,208 ADT's. The change in land use for half of the subdivision or 64 lots to High-Medium Density Resolution to allow the construction of 156 multi-family apartments would increase the total ADT's from the project site and the Highland Park subdivision to 1,539 ADT's. This represents an increase of 331 ADT's or approximately 28% over the number of trips generated by the subdivision as originally planned. However, this number would still be less that was anticipated with the original EIR in 1999 when the project site was expected to be developed with approximately 152,000 s.f. of commercial uses.

Improvements

The project is assumed to complete frontage improvements on Devonwood Drive along the project frontage. These improvements would be required to be consistent with the City's Street standards.

Vehicle Miles Traveled Impacts

Under SB 743, evaluation of transportation impacts under CEQA requires that agencies move from Level of Service based analysis to consideration of a project's effect on regional Vehicle Miles Traveled (VMT). The CEQA Guidelines and the California Governor's Office of Planning and Research (OPR) document Technical Advisory on Evaluating Transportation Impacts in CEQA (California Governor's Office of Planning and Research 2018) provide general guidance as to thresholds of significance for determining when a project would have significant transportation impacts based on the new metric of VMT, rather than operating Level of Service (LOS) until local agencies adopt their own standards. Because Merced County and the City of Merced have not yet

adopted methods for estimating regional VMT or significance criteria for evaluating impacts based on VMT, the OPR technical advisory has been followed.

Screening

The OPR guidance identifies separate recommendations for residential portions and employment portions of a proposed project. VMT per capita (per resident) and VMT per employee of the proposed project are to be compared to existing development. The definition of "existing development" is left to the discretion of the lead agency. In this case, discussions with the City of Merced resulted in "existing development" being designated as the entirety of Merced County. In its guidance, OPR states the following *"OPR finds that in most instances a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold."*

For the purposes of this analysis, a project (residential or non-residential) would be screened from having to perform a VMT analysis if:

- Project generates less than 110 daily trips
- Project is a residential development that consists of 100% non-market rate housing units (i.e., low-income housing)
- Project is within a ½ mile of two or more high quality transit lines
- Is located in a low VMT area.

For the purposes of this analysis, an VMT impact would be considered significant if:

- The project cannot be "screened out" based on the above criteria; AND,
  - VMT per capita for the residential portion of the proposed project would exceed 85 percent of the regional (in this case Merced County) average; OR,
  - VMT per office employee for the non-residential portion of the proposed project would exceed 85 percent of the regional (in this case Merced County) average; OR,
  - Net VMT increases due to project-added "regional commercial" development
  - Net VMT increases due to project-added retail development.

Analysis Method

The proposed project would add residents to the study area. Vehicles driven by residents of the proposed residences would be added to the existing environment. Whereas CEQA impacts on study area roadways used to be based on roadway volumes and resultant Level of Service (LOS) changes, the passage and implementation of Senate Bill 743 (SB 743) has resulted in CEQA impacts now being based on changes in vehicle miles traveled (VMT) as discussed in sections above.

For the purposes of this analysis, a "Big Data" source (provided by Streetlight Data) was utilized to estimate project VMT per capita and compare it to the existing environment. Streetlight Data was used to determine existing VMT per capita for the project site and adjacent areas. In simple terms, the anonymized personal trip data provided by Streetlight Data is based on a large sample size of mobile location sources, including mobile phones and other location-enabled devices. Streetlight Data uses trip patterns to determine home and work locations for each device, and then can approximate daily trip patterns for that device.

Sampled devices and people are anonymized and then factored to determine total trips and trip lengths per resident and employee, and results are then summarized by a specific geography, in this case Census Block Groups. The data set obtained for the purposes of this study consisted on ten Census Block Groups, including the Block Group where the project is located, and nine others in the immediate vicinity of the project site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. <u>Transportation/Traffic.</u> Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			✓	
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			✓	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
d) Result in inadequate emergency access?			✓	

Impact Analysis

Would the project:

a) *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

As described above this site has undergone several phases of analysis elated to traffic impacts. The previous analyses were done based on Level of Service (LOS), but the most recent analysis prepared by DKS analyzed Vehicle Miles Traveled in compliance with SB 743. Based on this analysis (Appendix B), the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system. Therefore, this impact is **less than significant.**

Because CEQA now analyzes only VMT's and not Level of Service (LOS), all previously adopted mitigation measures for this site, would be included in the Conditions of Approval, if applicable.

b) *Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?*

As previously described in this section, a VMT analysis was prepared by DKS for this project. The analysis identified ten Block Groups for which data was obtained. The results of this data is found at Figure 1 of the VMT analysis at Appendix B. Based on this analysis,

the proposed project would be well below 85% of the Countywide average for vehicle miles traveled. Therefore, this impact is **less than significant.**

c) *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Implementation of the proposed project would not create new roads. This is an in-fill site on existing local roads. However, Loughborough Drive curves around to become Devonwood Drive, which then turns into Austin Avenue. This segment of road is somewhat of a "U" shape. Although there are curves in the street, the streets are local streets with limited traffic. The line of site from all driveways would be at least 400 feet in each direction and would not be interrupted by the curves. Therefore, this impact is considered **less than significant.**

d) *Result in inadequate emergency access?*

The proposed project has three driveway entrances from Devonwood Drive and one from Bannon Lane. As previously described, the southern edge of the property line abuts a bike trail. Just beyond the bike trail is the BNSF Railroad. There is no way to gain access to the site from the south. The site has been analyzed by the City's Police and Fire Departments and determined sufficient emergency access would be provided. This impact is **less than significant.**

18. Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
18. Tribal Cultural Resources Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

Impact Analysis

Would the project:

a) *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

   i. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

   ii. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

As stated in the Cultural Resources Section of this Initial Study, improvements associated with the project include site excavation, grading, paving, and construction of buildings. The areas of the project subject to demolition and construction facilities are likely to have been subject to ground disturbance in the past. No tribal resources are known to have occurred or have been identified at the project site or in the vicinity of the project site. However, as noted in the Cultural Resources Section, implementation of Mitigation Measures CUL-1 and CUL-3 would protect previously unrecorded or unknown cultural resources, including Native American artifacts and human remains, should these be encountered during project construction.

In addition, Assembly Bill (AB) 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. Since AB 52 was enacted in July 2015, the City has not been contacted by any California Native American tribes requesting that they be notified when projects are proposed in Merced. As a result, the City is not required to notify any tribes of this project, and no tribes have requested consultation pursuant to Public Resources Code

section 21080.3.1. Therefore, it is assumed that no Tribal Cultural Resources would be adversely affected by the project. As a result, ***no impact*** would occur.

19. Utilities and Service Systems

SETTING AND DESCRIPTION

Water

The City's water system is composed of 23 groundwater production wells located throughout the City, approximately 350 miles of main lines, and 4 water tower tanks for storage. Well pump operators ensure reliability and adequate system pressure at all times to satisfy customer demand. Diesel powered generators help maintain uninterrupted operations during power outage. The City of Merced water system delivers more than 24 million gallons of drinking water per day to approximately 20,733 residential, commercial, and industrial customer locations. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter. The City of Merced Water Division is operated by the Public Works Department.

The City of Merced's wells have an average depth of 414 feet and range in depth from 161 feet to 800 feet. The depth of these wells would suggest that the City of Merced is primarily drawing water from a deep aquifer associated with the Mehrten geologic formation. Increasing urban demand and associated population growth, along with an increased shift by agricultural users from surface water to groundwater and prolonged drought, have resulted in declining groundwater levels due to overdraft. This condition was recognized by the City of Merced and the Merced Irrigation District (MID) in 1993, at which time the two entities began a two-year planning process to assure a safe and reliable water supply for Eastern Merced County through the year 2030. Integrated Regional Water Planning continues today through various efforts.

Wastewater

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City.

The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about two miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a capacity of 11.5 million gallons per day (mgd), with an average flow of 8.5 mgd. The City has recently completed an expansion project to increase capacity to 12 mgd and upgrade to tertiary treatment with the addition of filtration and ultraviolet disinfection. Future improvements would add another 8 mgd in capacity (in increments of 4 mgd), for a total of 20 mgd. This design capacity can support a population of approximately 174,000. The collection system will also need to be expanded as development occurs.

Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land application area and the on-site City-owned wetland area south of the treatment plant.

Storm Drainage

The Draft *City of Merced Storm Drainage Master Plan* addresses the collection and disposal of surface water runoff in the City's SUDP. The study addresses both the collection and disposal of storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve present and projected urban land uses.

It is the responsibility of the developer to ensure that utilities, including storm water and drainage facilities, are installed in compliance with City regulations and other applicable regulations. Necessary arrangements with the utility companies or other agencies will be made for such installation, according to the specifications of the governing agency and the City (Ord. 1342 § 2 (part), 1980: prior code § 25.21(f)). The City requires the construction of storm water percolation/detention basins with new development. Percolation basins are designed to collect storm water and filter it before it is absorbed into the soil and reaches groundwater tables. Detention basins are designed to temporarily collect runoff so it can be metered at acceptable rates into canals and streams which have limited capacity. The disposal system is mainly composed of MID facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area.

The City of Merced has been involved in developing a Storm Water Management Plan (SWMP) to fulfill requirements of storm water discharges from Small Municipal Separate Storm Sewer System (MS4) operators in accordance with Section 402(p) of the Federal Clean Water Act (CWA). The SWMP was developed to also comply with General Permit Number CAS000004, Water Quality Order No. 2003-0005-DWQ.

Solid Waste

The City of Merced is served by the Highway 59 Landfill and the Highway 59 Compost Facility, located at 6040 North Highway 59, one and one-half miles north of Old Lake Road. The County of Merced is the contracting agency for landfill operations and maintenance, while the facilities are owned by the Regional Waste Authority. The City of Merced provides services for all refuse pick-up within the City limits and franchise hauling companies collect in the unincorporated areas. In addition to these two landfill sites, there is one private disposal facility, the Flintkote County Disposal Site, at SR 59 and the Merced River. This site is restricted to concrete and earth material.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
19. Utilities and Service Systems. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?		✓		
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

Impact Analysis

Would the project:

a) *Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The proposed project would be served by the City's existing water, wastewater treatment, and storm water drainage systems. No extension of any lines or installation of new facilities would be required to serve this project. This impact is **less than significant.**

b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

The City's water supply system consists of four elevated storage tanks with a combined storage capacity of approximately 1.4 million gallons, 23 wells and 14 pumping stations. The project is expected to use approximately 18,150 gallons of water per day. There is a 10-inch water line in Devonwood Drive to serve the project site. The City's water supply would be sufficient to serve the proposed project. This impact would be **less than significant.**

c) *Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The City's wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City. The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about 2 miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry.

The WWTP recently finished two major upgrades (Phase IV and Phase V) to improve the quality of the treated water, referred to as plant effluent, and to improve the quality of biosolids and methods of treatment. The Merced Wastewater Treatment Plant is now one of the most advanced facilities in the state. It is capable of treating up to 12 million gallons of influent a day. The proposed project is estimated to generate approximately 33,228 gallons of wastewater per day (based on 213 gallons/unit). The current land use for the site would have allowed 63 single-family lots. These lots would have generated 22,302 gpd (based on 354 gallons/unit). Therefore, the net increase would be 10,926 gpd above what was originally anticipated for the Highland Park subdivision. The additional wastewater generated by the net increase for this project would be approximately 0.09% of the overall capacity of the WWTP. The City's WWTP has sufficient capacity to handle this increase. This project is **less than significant with mitigation.**

d) *Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Solid wastes within the County of Merced are disposed of at two landfill sites owned and operated by the Merced County Regional Waste Management Authority. The west side of the County is served by the Billy Wright Road landfill, and the east side (including the City of Merced) by the Highway 59 landfill, 1.5 miles north of Old Lake Road. The County of Merced is the contracting agency for landfill operation and maintenance. It is estimated that the remaining capacity of the Highway 59 site will last until the year 2030. The City of Merced provides services for all refuse pick-up within the City limits, including green waste and recycling. Street sweeping services are also offered.

The proposed project would be required to provide recycling containers as well as general garbage containers. Additionally, in order to reduce the number of containers on site for general waste, the developer may install trash compactors. CalRecycle estimates that the average multi-family unit generates approximately 4 pounds of waste per day (combined trash and recyclables). This equates to 624 pounds/day for the overall project. It is expected that approximately ½ of the total waste generated could be recycled. The City's Refuse Department would be able to serve the project and sufficient capacity is available at the landfill to serve the project. This impact would be **less than significant.**

e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The California Integrated Waste Management Act of 1989 (AB 939) changed the focus of solid waste management from landfill to diversion strategies such as source reduction, recycling, and composting. The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000. The proposed project would be required to comply with all federal, State, and local regulations related to solid waste. Furthermore, the

proposed project would be required to comply with all standards related to solid waste diversion, reduction, and recycling during project construction and operation of the project. Therefore, the proposed project is anticipated to result in **less-than-significant** impacts related to potential conflicts with federal, State, and local statutes and regulations related to solid waste.

20. Wildfire

SETTING AND DESCRIPTION

Both urban and wildland fire hazard potential exists in the City of Merced and surrounding areas, creating the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Wildland fires affect grassland, brush or woodlands, and any structures on or near these fires. Such fires can result from either human made or natural causes.

Urban fires comprise the majority of fires in the City of Merced. The site is surrounded by urban uses. The City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
20. Wildfire. If located in or near stat responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			✓	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

Impact Analysis

Would the project:

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

The project does not include the construction of new roadways or major changes to existing roads. The project would also be required to comply with all applicable requirements of the California Fire Code. As such, the project would not impact an adopted emergency response plan or emergency evacuation plan. This impact would be **less than significant.**

b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

According to the California Department of Forestry and Fire Protection, the project site is not located in any fire hazard zone. The areas surrounding the project site are mostly developed, urban land.

There is a low potential for wildland fires within these parameters. Additionally, the California Building Code and the California Fire Codes work together to regulate building construction and related items such as the care of vacant lots and the storage of flammable liquids.

To provide effective fire prevention activities for low hazard occupancies, the Fire Department conducts seasonal hazard removal programs (primarily weed abatement). The City of Merced employs a weed abatement program, which requires property owners to eliminate flammable vegetation and rubbish from their properties. Each property within the City is surveyed each spring and notices are sent to the property owners whose properties have been identified to pose a fire risk. Since inception of this program in 1992, grass or brush related fires within the City have been greatly reduced. A "bulky item" drop off station has been opened near Highway 59 and Yosemite Avenue. Further, staging areas, building areas, and/or areas slated for development using spark-producing equipment are cleared of dried vegetation or other materials that could serve as fuel for combustion; impacts are considered **less than significant**.

c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project would be required to repair/replace any missing or damaged infra-structure along their property frontage. However, the on-going maintenance of roadways would fall to the City. All other infra-structure or utilities exist in the area. No additional infra-structure or on-going maintenance would be required that would cause an impact to the environment. This impact is **less than significant.**

d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site and surrounding area is relatively flat with no risk of downslope or downstream flooding or landslides. Therefore, there is **no impact.**

21. Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
21. Mandatory Findings of Significance. Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			✓	
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects?)			✓	
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

Impact Analysis

Would the project:

a) *Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As previously discussed in this document, the project does not have the potential to adversely affect biological resources or cultural resources because such resources are lacking on the project site, and any potential impacts would be avoided with implementation of the mitigation measures and other applicable codes identified in this report. Also, the project would not significantly change the existing urban setting of the project area. Thus, this impact would be **less than significant.**

b) *Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects?)*

The Program Environmental Impact Report conducted for the *Merced Vision 2030 General Plan, and the General Plan Program EIR* (SCH# 2008071069) has recognized that future development and build-out of the SUDP/SOI will result in cumulative and unavoidable impacts in the areas of Air Quality and Loss of Agricultural Soils. In conjunction with this conclusion, the City has adopted a Statement of Overriding Considerations for these impacts (Resolution #2011-63) which is herein incorporated by reference.

The certified General Plan EIR addressed and analyzed cumulative impacts resulting from changing agricultural use to urban uses. No new or unaddressed cumulative impacts will result from the Project that have not previously been considered by the certified General Plan EIR or by the Statement of Overriding Considerations, or mitigated by this Expanded Initial Study. This Initial Study does not disclose any new and/or feasible mitigation measures which would lessen the unavoidable and significant cumulative impacts.

The analysis of impacts associated with the development of the proposed change will contribute to the cumulative impacts identified in the General Plan EIR. The nature and extent of these impacts, however, falls within the parameters of impacts previously analyzed in the General Plan EIR. No individual or cumulative impacts will be created by the Project that have not previously been considered at the program level by the General Plan EIR or mitigated by this Initial Study. This impact is **less than significant.**

c) *Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Development anticipated by the *Merced Vision 2030 General Plan* will have significant adverse effects on human beings. These include the incremental degradation of air quality in the San Joaquin Basin, the loss of prime agricultural soils, the incremental increase in traffic, and the increased demand on natural resources, public services, and facilities. However, consistent with the provisions of CEQA previously identified, the analysis of the

Project is limited to those impacts which are peculiar to the Project site or which were not previously identified as significant effects in the prior EIR. The previously-certified General Plan EIR and the Statement of Overriding Considerations addressed those cumulative impacts; hence, there is no requirement to address them again as part of this Project.

This previous EIR has concluded that these significant adverse impacts are accounted for in the mitigation measures incorporated into the General Plan EIR. In addition, a Statement of Overriding Considerations has been adopted by City Council Resolution #2011-63 that indicates that the significant impacts associated with development of the Project are offset by the benefits that will be realized in providing necessary jobs for residents of the City. The analysis and mitigation of impacts has been detailed in the Environmental Impact Report prepared for the *Merced Vision 2030 General Plan*, which are incorporated into this document by reference.

While this issue was addressed and resolved with the General Plan EIR in an abundance of caution, in order to fulfill CEQA's mandate to fully disclose potential environmental consequences of projects, this analysis is considered herein. However, as a full disclosure document, this issue is repeated in abbreviated form for purposes of disclosure, even though it was resolved as a part of the General Plan.

Potential impacts associated with the Project's development have been described in this Initial Study. All impacts were determined to either be **less than significant** or **less than significant with mitigation measures.**

Attachments:

A) Public Hearing Notice and Notice Area Map
B) Mitigation Monitoring Program

Appendices:

A) Air Quality Analysis and Greenhouse Gas Analysis
B) Traffic Analysis Update for VMT's

NOTICE OF PUBLIC HEARING FOR GENERAL PLAN AMENDMENT #20-01, SITE UTILIZATION PLAN REVISION #23 TO PLANNED DEVELOPMENT (P-D) #16, AND NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

A public hearing will be held by the Merced Planning Commission on Wednesday, July 7, 2021, at 7:00 p.m., or as soon thereafter as may be heard in the Council Chambers of City Hall, 678 W. 18th Street, Merced, CA, concerning General Plan Amendment #20-01 and Site Utilization Plan Revision #23 to Planned Development (P-D) submitted by Meta Housing on behalf of Devonwood 64 LP, property owner, for approximately 6.39 acres of land, generally located on the south side of Devonwood Drive, east of Wal-Mart. The property currently has a General Plan designation of Low-Medium Density Residential (LMD) and is zoned Planned Development (P-D) #16. The General Plan Amendment would change the General Plan designation from Low-Medium Density Residential (LMD) to High Density Residential (HD). The Site Utilization Plan Revision would change the Site Utilization Plan designation from Single Family Residential to Multi-Family Residential. These changes would allow the future development of a 156-unit apartment complex, with one-; two-; and three-bedroom units. The property is more particularly described as: "Lots 1-40; 104-124; Lot A; and Lot B" of that certain Map entitled "Highland Park Subdivision" recorded in Volume 77 at Page 40 of Merced County Records; also known as Assessor's Parcel Numbers (APN's): 058-470-001 thru -033; -035; -036; 058-480-001 thru -017; 058-480-034 thru –044.

An environmental review checklist has been filed for this project, and a draft mitigated negative declaration has been prepared under the California Environmental Quality Act. A copy of this staff evaluation (Initial Study #20-32-amended) is available for public inspection at the City of Merced Planning Department or City Clerk's office during regular business hours, at 678 West 18th Street, Merced, CA, or on the City's website, or by request by emailing planningweb@cityofmerced.org. A copy of this document can also be purchased at the Planning Department for the price of reproduction.

All persons in favor of, opposed to, or in any manner interested in this request for a General Plan Amendment and Site Utilization Plan Revision are invited to comment via email or voicemail (see instructions below). The public review period for the environmental determination begins on June 17, 2021, and ends on July 7, 2021. Please feel free to call the Planning Department at (209) 385-6858 for additional information. If you challenge the decision of the Planning Commission in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Merced at, or prior to, the public hearing.

After the Planning Commission makes its decision on this matter, the matter will also be considered at a public hearing before the City Council. A separate notice of that public hearing will also be given.

For at-risk individuals or those not wanting to attend an in-person meeting during the current Covid-19 pandemic, please submit your public comment to the Planning Commission electronically no later than 1:00 PM on the day of the meeting. Comments received before the deadline will become part of the record. Material may be emailed to planningweb@cityofmerced.org and should be limited to 300 words or less. Please specify which portion of the agenda you are commenting on, i.e. item # or Oral Communications. Your comments

will be provided to the Planning Commission at the appropriate time. Any correspondence received before, during, or after the meeting will be distributed to the Planning Commission and retained for the official record.

You may provide telephonic comments via voicemail by calling (209) 388-7390 by no later than 1:00 PM on the day of the meeting to be added to the public comment. Voicemails will be limited to a time limit of three (3) minutes. Please specify which portion of the agenda you are commenting on, i.e. item # or Oral Communications. Your comments will be provided to the Planning Commission at the appropriate time.

To view video (if available) or listen to the Planning Commission meeting live, go to the City's website www.cityofmerced.org, Facebook Live, or Comcast Public Access Channel 96.

/s/ Kim Espinosa

June 11, 2021 KIM ESPINOSA,
Planning Manager

ENVIRONMENTAL REVIEW #20-32
Revised
Mitigation Monitoring Program

MITIGATION MONITORING CONTENTS

This mitigation monitoring program includes a brief discussion of the legal basis and purpose of the mitigation monitoring program, a key to understanding the monitoring matrix, a discussion of noncompliance complaints, and the mitigation monitoring matrix itself.

LEGAL BASIS AND PURPOSE OF THE MITIGATION MONITORING PROGRAM

Public Resource Code (PRC) 21081.6 requires public agencies to adopt mitigation monitoring or reporting programs whenever certifying an environmental impact report or mitigated negative declaration. This requirement facilitates implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process.

The City of Merced has adopted its own "Mitigation Monitoring and Reporting Program" (MMC 19.28). The City's program was developed in accordance with the advisory publication, *Tracking CEQA Mitigation Measures*, from the Governor's Office of Planning and Research.

As required by MMC 19.28.050, the following findings are made:

1) The requirements of the adopted mitigation monitoring program for the General Plan Amendment #20-01 and Site Utilization Plan (SUP) Revision #23 to Planned Development (P-D) #16 shall run with the real property. Successive owners, heirs, and assigns of this real property are bound to comply with all of the requirements of the adopted program.
2) Prior to any lease, sale, transfer, or conveyance of any portion of the subject real property, the applicant shall provide a copy of the adopted program to the prospective lessee, buyer, transferee, or one to whom the conveyance is made.

MITIGATION MONITORING PROCEDURES

In most cases, mitigation measures can be monitored through the City's construction plan approval/plan check process. When the approved project plans and specifications, with mitigation measures, are submitted to the City Development Services Department, a copy of the monitoring checklist will be attached to the submittal. The Mitigation Monitoring Checklist will be filled out upon project approval with mitigation measures required. As project plans and specifications are checked, compliance with each mitigation measure can be reviewed.

In instances where mitigation requires on-going monitoring, the Mitigation Monitoring Checklist will be used until monitoring is no longer necessary. The Development Services Department will be required to file periodic reports on how the implementation of various mitigation measures is progressing or is being maintained. Department staff may be required to conduct periodic inspections to assure compliance. In some instances, outside agencies and/or consultants may be required to conduct necessary periodic inspections as part of the mitigation monitoring program. Fees may be imposed per MMC 19.28.070 for the cost of implementing the monitoring program.

General Plan Mitigation Measures

As a second-tier environmental document, Initial Study #20-32 incorporates some mitigation measures adopted as part of the *Merced Vision 2030 General Plan Program Environmental Impact Report* (SCH# 2008071069), as mitigation for potential impacts of the Project.

Noncompliance Complaints

Any person or agency may file a complaint asserting noncompliance with the mitigation measures associated with the project. The complaint shall be directed to the Director of Development Services in written form providing specific information on the asserted violation. The Director of Development Services shall cause an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure has occurred, the Director of Development Services shall cause appropriate actions to remedy any violation. The complainant shall receive written confirmation indicating the results of the investigation or the final action corresponding to the particular noncompliance issue. Merced Municipal Code (MMC) Sections 19.28.080 and 19.28.090 outline the criminal penalties and civil and administrative remedies which may be incurred in the event of noncompliance. MMC 19.28.100 spells out the appeals procedures.

Monitoring Matrix

The following pages provide a series of tables identifying the mitigation measures proposed specifically for General Plan Amendment #20-01 and Site Utilization Plan Revision #23 to Planned Development (P-D) #16. The columns within the tables are defined as follows:

Mitigation Measure:	Describes the Mitigation Measure (referenced by number).
Timing:	Identifies at what point in time or phase of the project that the mitigation measure will be completed.
Agency/Department Consultation:	This column references any public agency or City department with which coordination is required to satisfy the identified mitigation measure.
Verification:	These columns will be initialed and dated by the individual designated to verify adherence to the project specific mitigation.

General Plan Amendment #20-01/Site Utilization Plan Revision #23 to Planned Development (P-D) #16 Mitigation Monitoring Checklist

Project Name:_____ **File Number:**_____
Approval Date:_____ **Project Location** _____
Brief Project Description_____

The following environmental mitigation measures were incorporated into the Conditions of Approval for this project in order to mitigate identified environmental impacts to a level of insignificance. A completed and signed checklist for each mitigation measure indicates that this mitigation measure has been complied with and implemented, and fulfills the City of Merced's Mitigation Monitoring Requirements (MMC 19.28) with respect to Assembly Bill 3180 (Public Resources Code Section 21081.6).

1) Aesthetics				
Impact	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
d	AES 1**)** All exterior lighting shall be shielded to prevent spillover onto adjacent properties.	Building Permit	Planning Department	
3) Air Quality				
a	AIR-1) Consistent with SJVAPCD Regulation VIII (FugitivePM_{10} Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site: • All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. *(continued on next page)*	Building Permit/Grading Permit	Building / Engineering Departments	

Impact No.	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
a	• When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.). • Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.	Building Permit/Grading Permit	Building / Engineering Departments	

5) Cultural Resources					
a	CUL-1)	If unknown pre-contact or historic-period archaeological materials are encountered during project activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resources materials may include pre-contact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations shall be required to mitigate adverse impacts from project implementation. These additional studies may include, but are not limited to, recordation, archaeological excavation, or other forms of significance evaluations. The applicant shall inform its contractor(s) of the sensitivity of the project site for archaeological deposits, and include the following directive in the appropriate contract documents: *(continued on next page)*	Building Permit	Planning Department	

Impact No.	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
	"The subsurface of the construction site is sensitive for archaeological deposits. If archaeological deposits are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist shall assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. Archaeological deposits can include, but are not limited to, shellfish remains; bones, including human remains; and tools made from, obsidian, chert, and basalt; mortars and pestles; historical trash deposits containing glass, ceramics, and metal artifacts; and structural remains, including foundations and wells." The City shall verify that the language has been included in the grading plans prior to issuance of a grading permit or other permitted project action that includes ground-disturbing activities on the project site.	Building Permit	Planning Department	
b	CUL-2) Implementation of Mitigation Measure CUL-1 (above).	Building Permit	Planning Department	

c	CUL-3) If human remains are identified during construction and cannot be preserved in place, the applicant shall fund: 1) the removal and documentation of the human remains from the project corridor by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, 2) the scientific analysis of the remains by a qualified archaeologist, should such analysis be permitted by the Native American Most Likely Descendant, and 3) the reburial of the remains, as appropriate. All excavation, analysis, and reburial of Native American human remains shall be done in consultation with the Native American Most Likely Descendant, as identified by the California Native American Heritage Commission.	Building Permits	Planning Department	
6) Energy				
a	ENE-1) The applicant shall comply with all applicable California Energy Code, AB 341, and San Joaquin Valley Air Pollution Control District rules and regulations regulating energy efficiency and waste.	Building Permits	Building Department	
b	ENE-2) Implementation of Mitigation Measure ENE-1.	Building Permits	Building Department	

7) Geology and Soils				
Impact No.	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
b	GEO-1) The project shall comply with all requirements of the State Water Resources Board (SWRCB) and obtain a General Construction Activity Stormwater Permit.	Building/ Encroachment Permits	Engineering Department	
8) Greenhouse Gas Emissions				
a	GHG-1) The project applicant shall demonstrate compliance with the applicable BPS strategies to the Planning Division prior to the issuance of a building permit. The following BPS strategies are considered to be applicable, feasible, and effective in reducing GHG emissions generated by the project: • The project applicant shall provide a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities. • The project applicant shall ensure site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between nonresidential uses that impede bicycle or pedestrian circulation shall be eliminated. In addition, barriers to pedestrian access of neighboring facilities and sites shall be minimized. ***(continued on next page)***			

8) Greenhouse Gas Emissions (continued)				
	• The project applicant shall design roadways to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming measures. Traffic calming measures include: bike lanes, center islands, closures (cul-de-sacs), diverters, education, forced turn lanes, roundabouts, and speed humps. • The project applicant shall plant trees to provide shade. • The project applicant shall install energy efficient heating and cooling systems, appliances and equipment, and control systems.			
b	*GHG-2)* Implementation of Mitigation Measure of GHG-1.			

10) Hydrology and Water Quality					
a	HYDRO-1)	To minimize any potential short-term water quality effects from project-related construction activities, the project contractor shall implement Best Management Practices (BMPs) in conformance with the California Storm Water Best Management Practice Handbook for Construction Activity. In addition, the proposed project shall be in compliance with existing regulatory requirements, including the Water Pollution Control Preparation (WPCP) Manual. In addition, implementation of a Storm Water Pollution Prevention Plan (SWPPP) would be required under the National Pollutant Discharge Elimination System (NPDES) to regulate water quality associated with construction activities.	Building/ Encroachment Permits	Engineering Department	
a	HYDRO-2	If any storm drainage from the site is to drain into MID facilities, the developer shall first enter into a "Storm Drainage Agreement" with MID and pay all applicable fees.	Building/ Encroachment Permits	Engineering Department	
a	HYDRO-3)	To reduce the potential for degradation of surface water quality during project operation, a SWPPP shall be prepared for the proposed project. The SWPPP shall describe specific programs to minimize stormwater pollution resulting from the proposed project. Specifically, the SWPPP shall identify and describe source control measures, treatment controls, and BMP maintenance requirements to ensure that the project complies with post-construction stormwater management requirements of the RWQCB.	Building/ Encroachment Permits	Engineering Department	

c	HYDRO-4	Prior to issuance of a building permit or as required by the City Engineer, the developer shall demonstrate to the City that storm drainage facilities are adequate to meet the Project demands and that improvements are consistent with the City Standards and the City's Storm Drain Master Plan.	Building/ Encroachment Permits	Engineering Department	

13) Noise				
Impact No.	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
a	NOI-1) To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the project: • The construction contractor shall ensure that all internal combustion engine-driven equipment is equipped with mufflers that are in good condition and appropriate for the equipment. • The construction contractor shall locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction disturbance area. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site. • The construction contractor shall prohibit unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes is prohibited). • The construction contractor shall locate, to the maximum extent practical, on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. *(continued on next page)*	Building Permit	Building Department	

Impact No.	***Mitigation Measures***	***Timing***	***Agency or Department***	***City Verification (date and initials)***
	• The construction contractor shall limit all noise producing construction activities, including deliveries and warming up of equipment, to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. No such work shall be permitted on Sundays or federal holidays without prior approval from the City.	Building Permit	Planning Department	

Certificate of Completion:
By signing below, the environmental coordinator confirms that the required mitigation measures have been implemented as evidenced by the Schedule of Tasks and Sign-Off Checklist, and that all direct and indirect costs have been paid. This act constitutes the issuance of a *Certificate of Completion*.

_____ _____
Environmental Coordinator Date

APPENDICES

APPENDIX A
AIR QUALITY & GREENHOUSE GAS
INITIAL STUDY #20-32

KD Anderson & Associates, Inc.
Transportation Engineers

RECEIVED
By Planning Dept at 2:03 pm, Dec 03, 2020

November 25, 2020

Mr. Craig Potter
Devonwood 64, LP
5732 Engineer Drive, Suite 102
Huntington Beach, CA 92649

Subject: ***Devonwood Apartments Project Air Quality Analysis***

Dear Mr. Potter,

On behalf of KD Anderson & Associates (KDA), I am pleased to submit this letter report presenting the results of air quality analysis of the Devonwood Apartments project. This letter report presents a description of the project, the methods used in the air quality analysis, and the results of the air quality analysis.

PROJECT DESCRIPTION

The following is a brief description of the Devonwood Apartments project (Ferrero pers. comm.).

Project Components

The Devonwood Apartments project would include 156 multi-family apartments and 1.75 acres of asphalt-paved area for parking and circulation.

Project Location

As shown in the enclosed **Figure 1**, the Devonwood Apartments project site is located in the City of Merced, northwest of the downtown area. The site is in the general area southeast of Olive Avenue and State Route (SR) 59. More specifically, the project site on the south side of Loughborough Drive / Austin Avenue.

Project Construction

Construction of the Devonwood Apartments project is expected to begin in June 2021 and be completed during the latter half of 2022.

SIGNIFICANCE THRESHOLDS

Implementation of the Devonwood Apartments project would result in short-term construction activity, which would generate air pollutant emissions. Construction activities such as grading, excavation and travel on unpaved surfaces would generate dust, and could lead to elevated concentrations of inhalable particulate matter smaller than 10 microns in diameter (PM_{10}) and fine particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$). The operation of construction equipment results in exhaust emissions. A substantial portion of the construction equipment would be powered by diesel engines, which produce relatively high levels of nitrogen oxide (NO_x) emissions. The use of architectural coatings results in the release of reactive organic gas (ROG) emissions.

Implementation of the Devonwood Apartments project would result in long-term operational activity, which would generate air pollutant emissions. The residential land uses would generate motor vehicle trips, which would result in ROG, NO_x, and carbon monoxide (CO) emissions. In addition, household activities (e.g., use of aerosols and landscaping equipment) would result in ROG and NO_x emissions.

Criteria Pollutant Emissions

Thresholds of significance applied in this letter report are from the San Joaquin Valley Air Pollution Control District (SJVAPCD) document *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (San Joaquin Valley Air Pollution Control District 2015). These thresholds define an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Project-related emission levels which exceed any of the thresholds of significance means the project-related effect will normally be considered significant. Project-related emissions at or below the thresholds of significance means the project-related effect normally will be considered to be less than significant. The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in the enclosed **Table 1**.

The significance thresholds presented in the SJVAPCD GAMAQI are based on the attainment status of the San Joaquin Valley Air Basin in regard to air quality standards for specific criteria pollutants. Because the air quality standards are set at concentrations that protect public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Greenhouse Gas Emissions

The SJVAPCD does not recommend assessing the significance of construction-related GHG emissions separate from operational emissions because construction-related emissions would be temporary. However, other air quality districts recommend accounting for construction emissions by amortizing them over a project life, and adding the amortized emissions to operational GHG emissions. The South Coast Air Quality Management District, for example, recommends amortizing construction-related emissions over a 30-year project life (South Coast Air Quality Management District 2020). This approach is applied in this letter report.

The SJVAPCD document *Addressing Greenhouse Gas Emission Impacts for New Projects under the California Environmental Quality Act* (San Joaquin Valley Air Pollution Control District 2009) presents a tiered approach to analyzing the significance of project-related GHG emissions. Project GHG emissions are considered less than significant if they can meet any of the following conditions, evaluated in the order presented:

- the project is exempt from CEQA requirements;
- the project complies with an approved GHG emission reduction plan or GHG mitigation program;
- the project implements Best Performance Standards (BPS); or
- the project demonstrates that specific GHG emissions would be reduced or mitigated by at least 29 percent compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002 - 2004 baseline period.

The SJVAPCD states,

> "On December 17, 2009, the San Joaquin Valley Air Pollution Control District (District) adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA.
>
> "Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively

> significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change." (San Joaquin Valley Air Pollution Control District 2020)

METHODOLOGY

The following describes methods used to assess project-related impacts on criteria pollutant and GHG emissions.

Criteria pollutant and GHG emissions associated with implementation of the Devonwood Apartments project were estimated using the CalEEMod emissions modeling program (California Air Pollution Control Officers Association 2016).

CalEEMod is a land use emissions computer model designed to provide a platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The CalEEMod emissions model contains default data characterizing the construction and operation of projects. The CalEEMod default values were used except where:

- project-specific data are available, and
- updated technical data are available.

More detailed information on the CalEEMod model is available at the internet website http://caleemod.com/. Output files from the CalEEMod model, as applied to the Devonwood Apartments project, are presented in the enclosed technical appendix.

AIR QUALITY ANALYSIS RESULTS

The following describes the results of the air quality analysis and the significance of air quality impacts of the Devonwood Apartments project.

Construction-Related Criteria Pollutant Emissions

Construction of the Devonwood Apartments project would result in the generation of criteria pollutant emissions. The enclosed **Table 2** shows construction-related emissions. The project would be constructed during two years, and the amounts of the various pollutants would vary over the years with different levels of and types of construction activity. During the construction period, construction activity would generate a maximum of:

- 1.50 tons per year (tpy) of CO,
- 1.65 tpy of NO_x,
- 0.90 tpy of ROG,
- <0.01 tpy of SO_x,
- 0.31 tpy of PM_{10}, and
- 0.08 tpy of $PM_{2.5}$.

None of the above values would exceed the SJVAPCD significance thresholds. Therefore, this impact is considered less than significant, and no mitigation measures are required.

Operational Criteria Pollutant Emissions

Operation of the Devonwood Apartments project would result in the generation of criteria pollutant emissions. The enclosed **Table 3** shows operational emissions. Operation of the project would result in:

- 5.49 tpy of CO,
- 1.21 tpy of NO_x,
- 1.09 tpy of ROG,
- 0.01 tpy of SO_x,
- 1.25 tpy of PM_{10}, and
- 0.35 tpy of $PM_{2.5}$.

None of the above values would exceed the SJVAPCD significance thresholds. Therefore, this impact is considered less than significant, and no mitigation measures are required.

Greenhouse Gas Emissions

Construction and operation of the Devonwood Apartments project would result in the generation of GHG emissions. The enclosed **Table 4** shows GHG emissions that would be generated by the project. As noted earlier in the *Significance Thresholds* section of this report, the GHG emissions estimates include amortized construction-related emissions combined with operational emissions.

As described earlier in the *Significance Thresholds* section, this report applies the tiered approach to determining the significance of GHG emissions impacts presented in the SJVAPCD document *Addressing Greenhouse Gas Emission Impacts for New Projects under the California Environmental Quality Act* (San Joaquin Valley Air Pollution Control District 2009).

The proposed project is not exempt from CEQA requirements, and the City of Merced Climate Action Plan does not qualify as an approved GHG emission reduction plan or GHG mitigation program. Therefore, the first two tiers of the GHG significance criteria would not apply.

In applying the third tier of the GHG significance threshold, the impact of the Devonwood Apartments project on GHG emissions would be considered less than significant if the project implements BPS measures. Precise details of project features are not yet available. Therefore, Mitigation Measure GHG-1 would require the proposed project to implement the following applicable BPS strategies.

Mitigation Measure GHG-1: The project applicant shall demonstrate compliance with the applicable BPS strategies to the Planning Division prior to the issuance of a building permit. The following BPS strategies are considered to be applicable, feasible, and effective in reducing GHG emissions generated by the project:

- The project applicant shall provide a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities.

- The project applicant shall ensure site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between nonresidential uses that impede bicycle or pedestrian circulation shall be eliminated. In addition, barriers to pedestrian access of neighboring facilities and sites shall be minimized.

- The project applicant shall design roadways to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming measures. Traffic calming measures include: bike lanes, center islands, closures (cul-de-sacs), diverters, education, forced turn lanes, roundabouts, and speed humps.

- The project shall provide car sharing programs, accommodations such as parking spaces for the car share vehicles at convenient locations accessible by public transportation.

- The project applicant shall plant trees to provide shade.

- The project applicant shall install energy efficient heating and cooling systems, appliances and equipment, and control systems.

Implementation of Mitigation Measure GHG-1 would implement various BPS strategies recommended by the SJVAPCD that are applicable to the project to reduce GHG emissions. Overall, the mitigated project would implement GHG reduction strategies in compliance with the SJVAPCD and, therefore, would not be a significant source of GHG emissions. In addition, the proposed project would implement several measures required by State regulations to reduce GHG emissions by 2020, including the following:

- Pavley II (LEV III) Advanced Clean Cars Program;
- California Green Building Code Standards;
- Renewable Portfolio Standard;
- California Model Water Efficient Landscape Ordinance; and
- CalRecycle Waste Diversion and Recycling Mandate.

The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. The California Green Building Code Standards reduce GHGs by including a variety of different measures, including reduction of construction waste, wastewater, water use, and building energy use. The 2016 Green Building Standards reduce energy use by 28 percent compared to 2013 standards and 32 percent compared to the 2008 standards, representing a substantial reduction compared to 2005 levels. The Renewable Portfolio Standard requires electricity purchased for use at the project site to be composed of at least 33 percent renewable energy by 2020. The Water Efficient Landscape Ordinance will reduce outdoor water use by 20 percent, and the CalRecycle Waste Diversion and Recycling Mandate will reduce solid waste production by 25 percent.

Implementation of these measures is expected to allow the State to achieve AB 32 emission targets by 2020. Therefore, with implementation of Mitigation Measure GHG-1 and compliance with State requirements, it is expected that the proposed project would achieve the reductions required by regulations to meet the AB 32 target.

Therefore, with implementation of Mitigation Measure GHG-1 and compliance with State regulations, the Devonwood Apartments project would not be a significant source of GHG emissions. Therefore, the impact of the project with mitigation would be less than significant.

KDA

CLOSING

Thank you for providing KDA with this opportunity to provide you with air quality analysis services on the Devonwood Apartments project. Please let me know if you have any questions about this letter report.

Sincerely,

KD Anderson & Associates, Inc.

Wayne Shijo
Project Manager

enclosures

Bibliography

Publications Cited

California Air Pollution Control Officers Association. 2016. CalEEMod – California Emissions Estimator Model User's Guide – Version 2016.3.1. Sacramento, CA.

San Joaquin Valley Air Pollution Control District. 2009. Addressing Greenhouse Gas Emission Impacts for New Projects under the California Environmental Quality Act. Fresno, CA.

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South Coast Air Quality Management District. 2020. South Coast Air Quality Management District Internet Website. http://www.aqmd.gov

The Climate Registry. 2020. CRIS Public Reports Internet Webpage. https://www.theclimateregistry.org/our-members/cris-public-reports/

Personal Communications

Ferrero, Michael. Senior Planner. Devonwood 64, LP. November 13, 2020 E-mail message to Craig Potter, O,Rhyan Capital Management; and Wayne Shijo, KD Anderson & Associates.

Figure 1. Project Site Location

Table 1. San Joaquin Valley Air Pollution Control District Criteria Pollutant Significance Thresholds

Pollutant	Construction Phase Thresholds	Operational Phase Thresholds
Carbon Monoxide (CO)	100	100
Nitrogen Oxides (NO_x)	10	10
Reactive Organic Gases (ROG)	10	10
Sulfur Oxides (SO_x)	27	27
Inhalable Particulate Matter (PM_{10})	15	15
Fine Particulate Matter ($PM_{2.5}$)	15	15

Source: San Joaquin Valley Air Pollution Control District 2020.
Note: All thresholds are expressed in tons per year.

Table 2. Construction-Related Emissions

Pollutant	Significance Thresholds	Year 2021		Year 2021	
		Emissions	Significant Impact?	Emissions	Significant Impact?
Carbon Monoxide (CO)	100	1.50	No	1.39	No
Nitrogen Oxides (NO_x)	10	1.65	No	1.23	No
Reactive Organic Gases (ROG)	10	0.19	No	0.90	No
Sulfur Oxides (SO_x)	27	< 0.01	No	< 0.01	No
Inhalable Particulate Matter (PM_{10})	15	0.31	No	0.14	No
Fine Particulate Matter ($PM_{2.5}$)	15	0.18	No	0.07	No

Source: San Joaquin Valley Air Pollution Control District 2020,
CalEEMod emissions model, and KD Anderson & Associates 2020.
Note: All values are expressed in tons per year.

Table 3. Operational Emissions

Pollutant	Significance Thresholds	Emissions	Significant Impact?
Carbon Monoxide (CO)	100	5.49	No
Nitrogen Oxides (NO_x)	10	1.21	No
Reactive Organic Gases (ROG)	10	1.09	No
Sulfur Oxides (SO_x)	27	0.01	No
Inhalable Particulate Matter (PM_{10})	15	1.25	No
Fine Particulate Matter ($PM_{2.5}$)	15	0.35	No

Source: San Joaquin Valley Air Pollution Control District 2020,
CalEEMod emissions model, and KD Anderson & Associates 2020.
Note: All values are expressed in tons per year.

Table 4. Greenhouse Gas Emissions

Emissions Category	Carbon Dioxide	Methane	Nitrous Oxide	Carbon Dioxide Equivalent
Construction-Related Emissions				
Year 2021 Construction Related Emissions	278.89	0.05	0.00	280.18
Year 2022 Construction Related Emissions	261.63	0.04	0.00	262.75
a. Total Construction Period Emissions	540.52	0.10	0.00	542.93
b. Construction Emissions Amortized Over 30-Year Project Lifetime (a ÷ 30)	18.02	0.00	0.00	18.10
Operational Emissions				
c. Area Source	1.89	0.00	0.00	1.94
d. Energy (Electricity and Natural Gas)	124.55	0.01	0.00	125.69
e. Mobile Source	1,211.71	0.06	0.00	1,213.25
f. Solid Waste Generation	14.57	0.86	0.00	36.09
g. Water Consumption	10.47	0.33	0.01	21.17
h. Total Operational Emissions (c + d + e + f + g)	1,363.19	1.27	0.01	1,398.14
i. Annual Greenhouse Gas Emissions (b + h)	**1,381.21**	**1.27**	**0.01**	**1,416.24**

Source: Emissions values are from the CalEEMod Emissions Model (http:/www/caleemod.com)
Notes: Unless noted, all values are in metric tons (MT/yr).
Total may not equal sum of components due to rounding.

Technical Appendix –
CalEEMod Model Output File

Devonwood Apartments

Merced County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.75	Acre	1.75	76,230.00	0
Apartments Low Rise	156.00	Dwelling Unit	4.25	156,000.00	446

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	49
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor from The Climate Registry 2020. CalEEMod does not include Merced Irrigation District.

Land Use - Project description information from Ferrero pers. comm. Lot acreage for apts = 6 acres total less ashpalt-paved area.

Construction Phase -

Architectural Coating - Per SJVAPCD Rule 4601. Mix of flat coatings and nonflat coatings for residential.

Vehicle Trips - Per ITE Trip Generation Manaul 10th Edition, 7.32 weekday, 8.14 Saturday, 6.28 Sunday.

Woodstoves - No wood-burning or natural gas fireplaces per Ferrero pers. comm.

Area Coating - Per SJVAPCD Rule 4601. Mix of flat coatings and nonflat coatings for residential.

Energy Use -

Energy Mitigation - Per California Energy Commission 2016 and California Energy Commission 2018.

Fleet Mix - Default heavy duty truck percent (19.33%) unrealistically high for residential land use. Shift all except 2% to light-duty automobiles.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	75.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	75.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	75.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	75
tblAreaCoating	Area_EF_Nonresidential_Interior	150	75
tblAreaCoating	Area_EF_Parking	150	100
tblAreaCoating	Area_EF_Residential_Exterior	150	75
tblAreaCoating	Area_EF_Residential_Interior	150	75
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	NumberGas	85.80	0.00
tblFireplaces	NumberNoFireplace	70.20	156.00
tblFleetMix	HHD	0.15	0.02

tblFleetMix	LDA	0.50	0.67
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	4.6010e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblLandUse	LotAcreage	9.75	4.25
tblProjectCharacteristics	CO2IntensityFactor	641.35	206.29
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.28
tblVehicleTrips	WD_TR	6.59	7.32
tblWoodstoves	NumberCatalytic	4.25	0.00
tblWoodstoves	NumberNoncatalytic	4.25	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1919	1.6508	1.5038	3.1500e-003	0.2342	0.0775	0.3117	0.1044	0.0725	0.1769	0.0000	278.8883	278.8883	0.0518	0.0000	280.1836
2022	0.8965	1.2301	1.3912	2.9500e-003	0.0813	0.0544	0.1357	0.0219	0.0511	0.0730	0.0000	261.6307	261.6307	0.0448	0.0000	262.7506
Maximum	**0.8965**	**1.6508**	**1.5038**	**3.1500e-003**	**0.2342**	**0.0775**	**0.3117**	**0.1044**	**0.0725**	**0.1769**	**0.0000**	**278.8883**	**278.8883**	**0.0518**	**0.0000**	**280.1836**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1919	1.6508	1.5038	3.1500e-003	0.2342	0.0775	0.3117	0.1044	0.0725	0.1769	0.0000	278.8881	278.8881	0.0518	0.0000	280.1834
2022	0.8965	1.2301	1.3912	2.9500e-003	0.0813	0.0544	0.1357	0.0219	0.0511	0.0730	0.0000	261.6305	261.6305	0.0448	0.0000	262.7504
Maximum	**0.8965**	**1.6508**	**1.5038**	**3.1500e-003**	**0.2342**	**0.0775**	**0.3117**	**0.1044**	**0.0725**	**0.1769**	**0.0000**	**278.8881**	**278.8881**	**0.0518**	**0.0000**	**280.1834**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-15-2021	9-14-2021	0.9169	0.9169
2	9-15-2021	12-14-2021	0.7711	0.7711
3	12-15-2021	3-14-2022	0.7033	0.7033
4	3-15-2022	6-14-2022	0.7004	0.7004
5	6-15-2022	9-14-2022	0.8819	0.8819
		Highest	0.9169	0.9169

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7235	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378
Energy	0.0119	0.1016	0.0432	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	188.4576	188.4576	0.0122	4.2200e-003	190.0191
Mobile	0.3577	1.1413	4.3033	0.0133	1.2332	0.0104	1.2436	0.3292	9.6600e-003	0.3389	0.0000	1,211.7107	1,211.7107	0.0616	0.0000	1,213.2515
Waste						0.0000	0.0000		0.0000	0.0000	14.5666	0.0000	14.5666	0.8609	0.0000	36.0882
Water						0.0000	0.0000		0.0000	0.0000	3.2246	7.2448	10.4693	0.3322	8.0300e-003	21.1679
Total	**1.0931**	**1.2563**	**5.5062**	**0.0140**	**1.2332**	**0.0250**	**1.2582**	**0.3292**	**0.0243**	**0.3535**	**17.7912**	**1,409.3051**	**1,427.0964**	**1.2688**	**0.0123**	**1,462.4645**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7235	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378
Energy	6.1100e-003	0.0522	0.0222	3.3000e-004		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	124.5526	124.5526	0.0102	2.9700e-003	125.6926
Mobile	0.3577	1.1413	4.3033	0.0133	1.2332	0.0104	1.2436	0.3292	9.6600e-003	0.3389	0.0000	1,211.7107	1,211.7107	0.0616	0.0000	1,213.2515
Waste						0.0000	0.0000		0.0000	0.0000	14.5666	0.0000	14.5666	0.8609	0.0000	36.0882
Water						0.0000	0.0000		0.0000	0.0000	3.2246	7.2448	10.4693	0.3322	8.0300e-003	21.1679
Total	**1.0873**	**1.2069**	**5.4851**	**0.0137**	**1.2332**	**0.0210**	**1.2542**	**0.3292**	**0.0203**	**0.3495**	**17.7912**	**1,345.4001**	**1,363.1914**	**1.2667**	**0.0110**	**1,398.1380**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.53**	**3.93**	**0.38**	**2.29**	**0.00**	**15.99**	**0.32**	**0.00**	**16.47**	**1.13**	**0.00**	**4.53**	**4.48**	**0.16**	**10.20**	**4.40**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/15/2021	6/28/2021	5	10	
2	Grading	Grading	6/29/2021	7/26/2021	5	20	
3	Building Construction	Building Construction	7/27/2021	6/13/2022	5	230	
4	Paving	Paving	6/14/2022	7/11/2022	5	20	
5	Architectural Coating	Architectural Coating	7/12/2022	8/8/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 1.75

Residential Indoor: 315,900; Residential Outdoor: 105,300; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 4,574 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	144.00	29.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	2.7300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6340	0.6340	2.0000e-005	0.0000	0.6345
Total	**3.8000e-004**	**2.6000e-004**	**2.7300e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6340**	**0.6340**	**2.0000e-005**	**0.0000**	**0.6345**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	2.7300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6340	0.6340	2.0000e-005	0.0000	0.6345
Total	**3.8000e-004**	**2.6000e-004**	**2.7300e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6340**	**0.6340**	**2.0000e-005**	**0.0000**	**0.6345**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.3000e-004	4.5500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0567	1.0567	3.0000e-005	0.0000	1.0576
Total	**6.3000e-004**	**4.3000e-004**	**4.5500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0567**	**1.0567**	**3.0000e-005**	**0.0000**	**1.0576**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.3000e-004	4.5500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0567	1.0567	3.0000e-005	0.0000	1.0576
Total	**6.3000e-004**	**4.3000e-004**	**4.5500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0567**	**1.0567**	**3.0000e-005**	**0.0000**	**1.0576**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1084	0.9936	0.9448	1.5300e-003		0.0546	0.0546		0.0514	0.0514	0.0000	132.0333	132.0333	0.0319	0.0000	132.8296
Total	**0.1084**	**0.9936**	**0.9448**	**1.5300e-003**		**0.0546**	**0.0546**		**0.0514**	**0.0514**	**0.0000**	**132.0333**	**132.0333**	**0.0319**	**0.0000**	**132.8296**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8100e-003	0.1831	0.0382	4.7000e-004	0.0109	5.6000e-004	0.0115	3.1600e-003	5.4000e-004	3.7000e-003	0.0000	44.5680	44.5680	4.3100e-003	0.0000	44.6756
Worker	0.0344	0.0235	0.2492	6.4000e-004	0.0655	5.0000e-004	0.0660	0.0174	4.6000e-004	0.0179	0.0000	57.8248	57.8248	1.7700e-003	0.0000	57.8690
Total	**0.0402**	**0.2067**	**0.2874**	**1.1100e-003**	**0.0764**	**1.0600e-003**	**0.0775**	**0.0206**	**1.0000e-003**	**0.0216**	**0.0000**	**102.3927**	**102.3927**	**6.0800e-003**	**0.0000**	**102.5446**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1084	0.9936	0.9448	1.5300e-003		0.0546	0.0546		0.0514	0.0514	0.0000	132.0331	132.0331	0.0319	0.0000	132.8294
Total	**0.1084**	**0.9936**	**0.9448**	**1.5300e-003**		**0.0546**	**0.0546**		**0.0514**	**0.0514**	**0.0000**	**132.0331**	**132.0331**	**0.0319**	**0.0000**	**132.8294**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8100e-003	0.1831	0.0382	4.7000e-004	0.0109	5.6000e-004	0.0115	3.1600e-003	5.4000e-004	3.7000e-003	0.0000	44.5680	44.5680	4.3100e-003	0.0000	44.6756
Worker	0.0344	0.0235	0.2492	6.4000e-004	0.0655	5.0000e-004	0.0660	0.0174	4.6000e-004	0.0179	0.0000	57.8248	57.8248	1.7700e-003	0.0000	57.8690
Total	**0.0402**	**0.2067**	**0.2874**	**1.1100e-003**	**0.0764**	**1.0600e-003**	**0.0775**	**0.0206**	**1.0000e-003**	**0.0216**	**0.0000**	**102.3927**	**102.3927**	**6.0800e-003**	**0.0000**	**102.5446**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0990	0.9057	0.9491	1.5600e-003		0.0469	0.0469		0.0442	0.0442	0.0000	134.4006	134.4006	0.0322	0.0000	135.2056
Total	**0.0990**	**0.9057**	**0.9491**	**1.5600e-003**		**0.0469**	**0.0469**		**0.0442**	**0.0442**	**0.0000**	**134.4006**	**134.4006**	**0.0322**	**0.0000**	**135.2056**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4400e-003	0.1765	0.0352	4.7000e-004	0.0111	5.0000e-004	0.0116	3.2200e-003	4.8000e-004	3.6900e-003	0.0000	44.9284	44.9284	4.2600e-003	0.0000	45.0350
Worker	0.0323	0.0214	0.2308	6.3000e-004	0.0666	4.9000e-004	0.0671	0.0177	4.5000e-004	0.0182	0.0000	56.7321	56.7321	1.6100e-003	0.0000	56.7723
Total	**0.0377**	**0.1979**	**0.2660**	**1.1000e-003**	**0.0777**	**9.9000e-004**	**0.0787**	**0.0209**	**9.3000e-004**	**0.0219**	**0.0000**	**101.6605**	**101.6605**	**5.8700e-003**	**0.0000**	**101.8072**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0990	0.9057	0.9491	1.5600e-003		0.0469	0.0469		0.0442	0.0442	0.0000	134.4005	134.4005	0.0322	0.0000	135.2054
Total	**0.0990**	**0.9057**	**0.9491**	**1.5600e-003**		**0.0469**	**0.0469**		**0.0442**	**0.0442**	**0.0000**	**134.4005**	**134.4005**	**0.0322**	**0.0000**	**135.2054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4400e-003	0.1765	0.0352	4.7000e-004	0.0111	5.0000e-004	0.0116	3.2200e-003	4.8000e-004	3.6900e-003	0.0000	44.9284	44.9284	4.2600e-003	0.0000	45.0350
Worker	0.0323	0.0214	0.2308	6.3000e-004	0.0666	4.9000e-004	0.0671	0.0177	4.5000e-004	0.0182	0.0000	56.7321	56.7321	1.6100e-003	0.0000	56.7723
Total	**0.0377**	**0.1979**	**0.2660**	**1.1000e-003**	**0.0777**	**9.9000e-004**	**0.0787**	**0.0209**	**9.3000e-004**	**0.0219**	**0.0000**	**101.6605**	**101.6605**	**5.8700e-003**	**0.0000**	**101.8072**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0133**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0189	1.0189	3.0000e-005	0.0000	1.0196
Total	**5.8000e-004**	**3.8000e-004**	**4.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0189**	**1.0189**	**3.0000e-005**	**0.0000**	**1.0196**

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0133**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0189	1.0189	3.0000e-005	0.0000	1.0196
Total	**5.8000e-004**	**3.8000e-004**	**4.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0189**	**1.0189**	**3.0000e-005**	**0.0000**	**1.0196**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7427					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7448**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	7.4000e-004	8.0100e-003	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9699	1.9699	6.0000e-005	0.0000	1.9713
Total	**1.1200e-003**	**7.4000e-004**	**8.0100e-003**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.1000e-004**	**2.0000e-005**	**6.3000e-004**	**0.0000**	**1.9699**	**1.9699**	**6.0000e-005**	**0.0000**	**1.9713**

3.6 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7427					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7448**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	7.4000e-004	8.0100e-003	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9699	1.9699	6.0000e-005	0.0000	1.9713
Total	**1.1200e-003**	**7.4000e-004**	**8.0100e-003**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.1000e-004**	**2.0000e-005**	**6.3000e-004**	**0.0000**	**1.9699**	**1.9699**	**6.0000e-005**	**0.0000**	**1.9713**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3577	1.1413	4.3033	0.0133	1.2332	0.0104	1.2436	0.3292	9.6600e-003	0.3389	0.0000	1,211.7107	1,211.7107	0.0616	0.0000	1,213.2515
Unmitigated	0.3577	1.1413	4.3033	0.0133	1.2332	0.0104	1.2436	0.3292	9.6600e-003	0.3389	0.0000	1,211.7107	1,211.7107	0.0616	0.0000	1,213.2515

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,141.92	1,269.84	979.68	3,311,800	3,311,800
Parking Lot	0.00	0.00	0.00		
Total	1,141.92	1,269.84	979.68	3,311,800	3,311,800

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	46.90	17.40	35.70	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.671773	0.030090	0.155509	0.109662	0.000000	0.000000	0.000000	0.020000	0.002397	0.002156	0.006230	0.001554	0.000628
Parking Lot	0.498498	0.030090	0.155509	0.109662	0.018147	0.004601	0.015536	0.154991	0.002397	0.002156	0.006230	0.001554	0.000628

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	64.0851	64.0851	9.0100e-003	1.8600e-003	64.8658
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	70.7751	70.7751	9.9500e-003	2.0600e-003	71.6372
NaturalGas Mitigated	6.1100e-003	0.0522	0.0222	3.3000e-004		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	60.4675	60.4675	1.1600e-003	1.1100e-003	60.8268
NaturalGas Unmitigated	0.0119	0.1016	0.0432	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	117.6826	117.6826	2.2600e-003	2.1600e-003	118.3819

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.20529e+006	0.0119	0.1016	0.0432	6.5000e-004		8.2200e-003	8.2200e-003		8.2200e-003	8.2200e-003	0.0000	117.6826	117.6826	2.2600e-003	2.1600e-003	118.3819
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0119**	**0.1016**	**0.0432**	**6.5000e-004**		**8.2200e-003**	**8.2200e-003**		**8.2200e-003**	**8.2200e-003**	**0.0000**	**117.6826**	**117.6826**	**2.2600e-003**	**2.1600e-003**	**118.3819**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.13312e+006	6.1100e-003	0.0522	0.0222	3.3000e-004		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	60.4675	60.4675	1.1600e-003	1.1100e-003	60.8268
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.1100e-003**	**0.0522**	**0.0222**	**3.3000e-004**		**4.2200e-003**	**4.2200e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**60.4675**	**60.4675**	**1.1600e-003**	**1.1100e-003**	**60.8268**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	729693	68.2785	9.6000e-003	1.9900e-003	69.1103
Parking Lot	26680.5	2.4965	3.5000e-004	7.0000e-005	2.5270
Total		**70.7751**	**9.9500e-003**	**2.0600e-003**	**71.6372**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	658198	61.5886	8.6600e-003	1.7900e-003	62.3389
Parking Lot	26680.5	2.4965	3.5000e-004	7.0000e-005	2.5270
Total		**64.0851**	**9.0100e-003**	**1.8600e-003**	**64.8658**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7235	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378
Unmitigated	0.7235	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0743					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6142					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0350	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378
Total	**0.7235**	**0.0134**	**1.1596**	**6.0000e-005**		**6.4100e-003**	**6.4100e-003**		**6.4100e-003**	**6.4100e-003**	**0.0000**	**1.8921**	**1.8921**	**1.8300e-003**	**0.0000**	**1.9378**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0743					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6142					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0350	0.0134	1.1596	6.0000e-005		6.4100e-003	6.4100e-003		6.4100e-003	6.4100e-003	0.0000	1.8921	1.8921	1.8300e-003	0.0000	1.9378
Total	**0.7235**	**0.0134**	**1.1596**	**6.0000e-005**		**6.4100e-003**	**6.4100e-003**		**6.4100e-003**	**6.4100e-003**	**0.0000**	**1.8921**	**1.8921**	**1.8300e-003**	**0.0000**	**1.9378**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.4693	0.3322	8.0300e-003	21.1679
Unmitigated	10.4693	0.3322	8.0300e-003	21.1679

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.164 / 6.40776	10.4693	0.3322	8.0300e-003	21.1679
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.4693**	**0.3322**	**8.0300e-003**	**21.1679**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.164 / 6.40776	10.4693	0.3322	8.0300e-003	21.1679
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.4693**	**0.3322**	**8.0300e-003**	**21.1679**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.5666	0.8609	0.0000	36.0882
Unmitigated	14.5666	0.8609	0.0000	36.0882

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	71.76	14.5666	0.8609	0.0000	36.0882
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.5666**	**0.8609**	**0.0000**	**36.0882**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	71.76	14.5666	0.8609	0.0000	36.0882
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.5666**	**0.8609**	**0.0000**	**36.0882**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B
VMT ANALYSIS
INITIAL STUDY #20-32

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Received Merced
City Planning Dept.
Jan.5, 2021

MEMORANDUM

DATE: January 5, 2021

TO: Mike Ferrero, Craig Potter | Devonwood 64, LP

FROM: David Tokarski | DKS Associates

SUBJECT: Merced Pacific Pride Villas VMT Analysis Project #P20211

This memorandum provides a summary of the Vehicle Miles Traveled (VMT) analysis for the Proposed Pacific Pride Villas project in Merced, California. While a complete project description has not yet been provided, the initial estimate is for 64 single-family residences on 3,000 square foot lots, with 156 apartment units on the remaining six gross acres of the site.

BACKGROUND

In accordance with Senate Bill 743 (SB 743) which officially took effect as of July 1, 2020, CEQA (California Environmental Quality Act) impacts can no longer be determined by the project's impact on the study area's roadway system in terms of capacity or operations (i.e., Level of Service). Instead, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR). The intent of SB 743 is to bring CEQA transportation analyses into closer alignment with other statewide policies regarding land use efficiency and smart growth. Using VMT as a performance measure instead of LOS is intended to encourage infill and mixed use developments, greater mix of complimentary land uses, complete streets, and multimodal transportation networks. This will in turn will discourage suburban sprawl and reduce greenhouse gas and criterial health-based vehicular emissions.

PROJECT SCREENING

In accordance with OPR guidance, the first step in CEQA VMT analysis is to determine if the project can be "screened out" from having to perform a more detailed VMT analysis under CEQA.

Neither the City of Merced or the County of Merced (the project is located in the City of Merced) have yet to adopt comprehensive policies or standards of significance to determine significant impacts based on VMT. Although OPR gives discretion to local jurisdictions to establish their own screening criteria and impact thresholds, OPR guidance specifies screening criteria and thresholds for local jurisdictions to apply for determining impacts of development projects. As such, OPR's guidance on project screening criteria (to establish whether a VMT analysis is even warranted) and for determining VMT impacts for development projects was explicitly followed for this analysis.

The OPR guidance identifies separate recommendations for residential portions and employment portions of a proposed project. VMT per capita (per resident) and VMT per employee of the proposed project are to be compared to existing development. The definition of "existing development" is left to the discretion of the lead agency. In this case, discussions with the City of Merced resulted in "existing development" being designated as the entirety of Merced County. In its guidance, OPR states the following *"OPR finds that in most instances a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold."*

For the purposes of this analysis, a project (residential or non-residential) would be screened from having to perform a VMT analysis if:

- Project generates less than 110 daily trips
- Project is a residential development that consists of 100% non-market rate housing units (i.e., low-income housing)
- Project is within a ½ mile of two or more high quality transit lines
- Is located in a low VMT area

For the purposes of this analysis, an VMT impact would be considered significant if:

- The project cannot be "screened out" based on the above criteria; AND,
  - VMT per capita for the residential portion of the proposed project would exceed 85 percent of the regional (in this case Merced County) average; OR,
  - VMT per office employee for the non-residential portion of the proposed project would exceed 85 percent of the regional (in this case Merced County) average; OR,
  - Net VMT increases due to project-added "regional commercial" development
  - Net VMT increases due to project-added retail development.

PROJECT TRIP GENERATION

The proposed project consists of 64 single family dwelling units and 156 apartment units on six (6) gross acres of the site. Based on the Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition*, the proposed project's estimated trip generation is shown in **Table 1**. The table shows the trip generation results of the two methods presented by ITE (fitted curve equation and average rate). The results of this table confirm that the project does not meet criteria for being screened out based in the number of daily trips generated (greater than 110 daily trips)[1]. The remaining three OPR screening criteria are also not met.

[1] Trip generation worksheets prepared using ITE's trip generation web-based tool (https://itetripgen.org/index.html) are included as an attachment to this memorandum.

TABLE 1: ESTIMATED PROJECT TRIP GENERATION

ITE LAND USE	# OF UNITS	AM PEAK HOUR			PM PEAK HOUR			DAILY
		In	Out	Total	In	Out	Total	Total
210 – SINGLE FAMILY RESIDENTIAL (FITTED CURVE)	64	12	38	50	42	24	66	690
210 – SINGLE FAMILY RESIDENTIAL (AVERAGE RATE)	64	11	36	47	40	23	63	604
221 – MULTI-FAMILY MID-RISE RESIDENTIAL (FITTED CURVE)	156	14	39	53	41	27	68	848
221 – MULTI-FAMILY MID-RISE RESIDENTIAL (AVERAGE RATE)	156	14	42	56	42	27	69	849
TOTAL PROJECT (FITTED CURVE)		26	77	103	83	51	134	1,538
TOTAL PROJECT (AVERAGE RATE)		25	78	103	82	50	132	1,453

Source: *ITE Trip Generation, 10th Edition*

VMT IMPACT ANALYSIS

The proposed project would add residents to the study area. Vehicles driven by residents of the proposed residences would be added to the existing environment. Whereas CEQA impacts on study area roadways used to be based on roadway volumes and resultant Level of Service (LOS) changes, the passage and implementation of Senate Bill 743 (SB 743) has resulted in CEQA impacts now being based on changes in vehicle miles traveled (VMT) as discussed in sections above.

Various methodologies exist to estimate project VMT statistics and compare it to that of the existing environment, including travel demand models, tabulation of existing known trip lengths for the proposed project, and "Big Data" sources. For the purposes of this analysis, a "Big Data" source (provided by Streetlight Data) was utilized to estimate project VMT per capita and compare it to the existing environment. Streetlight Data was used to determine existing VMT per capita for the project site and adjacent areas. In simple terms, the anonymized personal trip data provided by Streetlight Data is based on a large sample size of mobile location sources, including mobile phones and other location-enabled devices. Streetlight Data uses trip patterns to determine home and work locations for each device, and then can approximate daily trip patterns for that device.

Sampled devices and people are anonymized and then factored to determine total trips and trip lengths per resident and employee, and results are then summarized by a specific geography, in this case Census Block Groups. The data set obtained for the purposes of this study consisted on ten Census Block Groups, including the Block Group where the project is located, and nine others in the immediate vicinity of the project site.

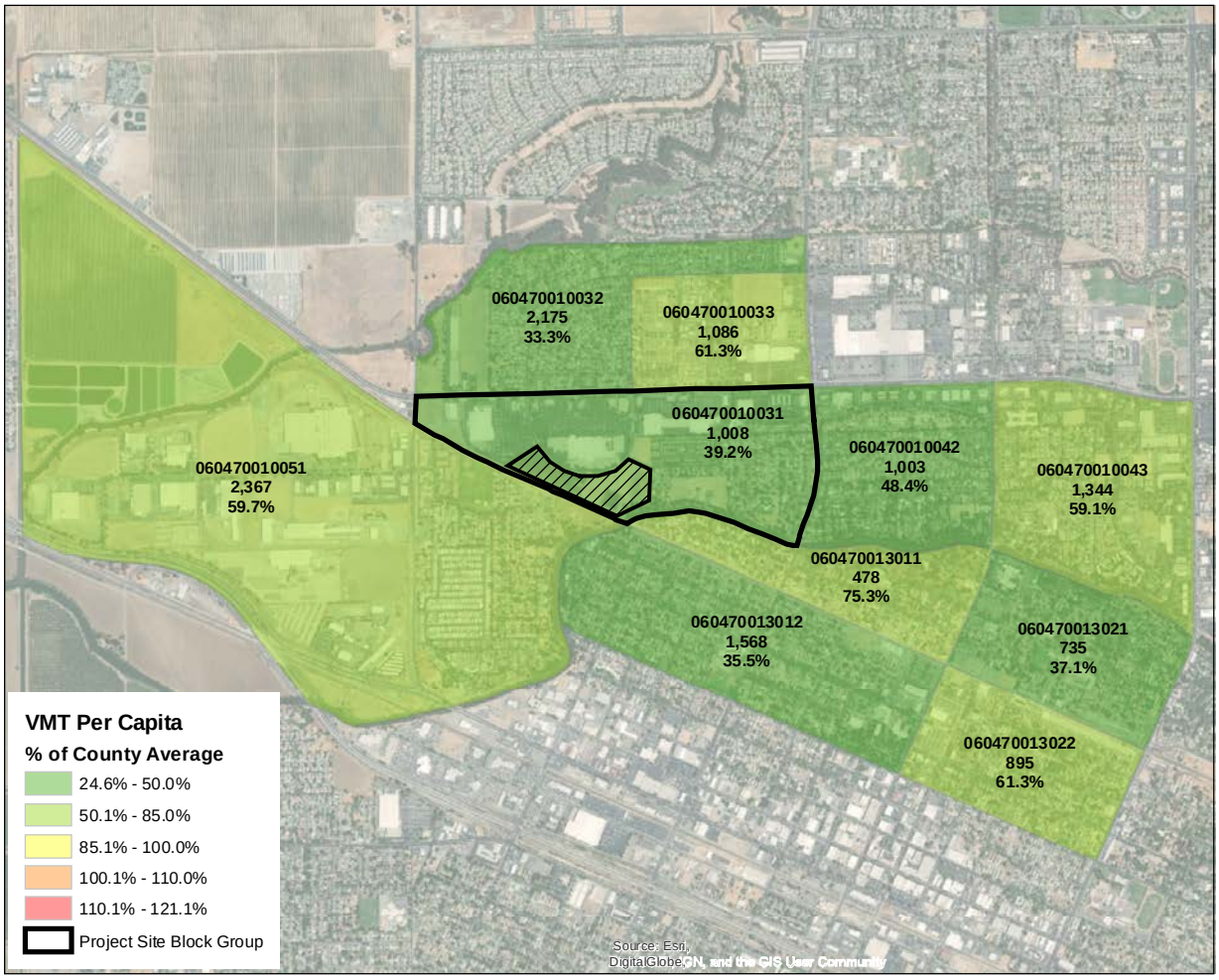
Figure 1 shows the locations of the ten Block Groups for which data was obtained and summarized, based on input on Block Group choice from City of Merced staff. Block Groups are color coded by their relative VMT per capita compared to the overall VMT per capita of Merced County. Block Groups that have VMT per capita more than 15% below the Merced County average are shown in green. Block Groups that have VMT per capita less than 15% below the Merced County average are shown in yellow. Block Groups that have VMT per capita greater than the Merced County average are shown in orange and red. Relative population based on the American Community Survey (ACS) are labeled for each Block Group for reference. As shown, the ten Block Groups all have VMT per capita more than 15% below that of the County average. The Block Group where the project site is located (Block Group 060470010031) shows VMT per capita that is approximately 39.2% of the Merced County Average. This result is significantly lower than the threshold of 15% below the Countywide average (or 85% of the Countywide average).

For informational purposes, a weighted average has been calculated for all ten Block Groups for which VMT per capita data was obtained. The results show that while the weighted average trip length and VMT per capita for all ten block groups is higher than the project block group, the result is still well below 85% of the Countywide average, and thus represents a **less than significant impact**.

TABLE 2: ESTIMATED VMT PER CAPITA

	COUNTYWIDE	PROJECT SITE BLOCK GROUP (060470010031)	TEN BLOCK GROUPS COLLECTED
TOTAL POPULATION	269,075	1,008	12,659
RESIDENT AVERAGE TRIP LENGTH	10.6 mi	6.3	6.7
WEIGHTED VMT PER CAPITA (AS PERCENT OF COUNTYWIDE)	18.6 100%	7.3 (39.2%)	9.1 (49.1%)

FIGURE 1: ESTIMATED VMT PER CAPITA AS PERCENTAGE OF COUNTYWIDE AVERAGE



MITIGATION MEASURES

Because the project does not exceed OPR's VMT threshold and represents a less than significant impact, no mitigation measures related to vehicle miles traveled are required for the proposed project.