

**DRAFT  
INITIAL STUDY**

**for the**

**PARKIT! SHUTTLE PROGRAM  
& DAY-USE RESERVATION SYSTEM**

Lead Agency:

State of California  
DEPARTMENT OF PARKS AND RECREATION  
Monterey District  
Contact: Matthew Allen  
Senior Environmental Scientist Supervisor

Prepared by:



Denise Duffy & Associates  
947 Cass Street, Suite 5  
Monterey, CA 93940

**October 2021**



## TABLE OF CONTENTS

Background Information.....	iii
Chapter 1: Introduction and Project Description .....	1
1.1 Introduction.....	1
1.2 Project Overview & Location .....	2
1.3 Background .....	3
1.4 Project Description .....	6
1.5 Project Goals and Objectives .....	13
1.6 Required Permits and Approvals.....	13
Chapter 2: Environmental Factors Potentially Affected.....	15
Chapter 3: Determination .....	17
Chapter 4: Initial Study Environmental Checklist .....	19
4.1 Introduction.....	21
4.2 Aesthetics .....	21
4.3 Air Quality.....	30
4.4 Biological Resources .....	40
4.5 Cultural Resources .....	53
4.6 Energy .....	60
4.7 Geology and Soils .....	63
4.8 Greenhouse Gas Emissions.....	71
4.9 Hazards and Hazardous Materials .....	76
4.10 Hydrology and Water Quality.....	84
4.11 Land Use and Planning .....	92
4.12 Noise and Vibration .....	99
4.13 Public Services .....	106
4.14 Recreation .....	110
4.15 Transportation/Traffic .....	113
4.16 Tribal Cultural Resources .....	129
4.17 Utilities and Service Systems .....	136
4.18 Wildfire.....	140
4.19 Mandatory Findings of Significance.....	144
Chapter 5: Fish and Wildlife Environmental Document Fees.....	147
Chapter 6: References .....	149
6.1 Lead Agency.....	149
6.2 Preparation .....	149
6.3 Persons/Agencies Contacted .....	149
6.4 Literature/Checklist Sources.....	149

## FIGURES

Figure 1. Regional Map.....	4
Figure 2. Vicinity Map .....	5
Figure 3. Shuttle Route/Stops.....	9
Figure 4. Marathon Flats Site Plan .....	12
Figure 5. Site Photos – Marathon Flats .....	23
Figure 6. Biological Survey Area.....	42
Figure 7. Traffic Study Area .....	125

## TABLES

Table 1. North Central Coast Air Basin Attainment Status Designations.....	30
Table 2. Overview of Key Pollutants .....	33
Table 3. Federal and State Ambient Air Quality Standards .....	34
Table 4. Definitions of Acoustical Terms Used in this Report .....	100
Table 5. Construction Equipment Noise Emission Levels .....	103
Table 6. Recent Historical Traffic Volumes in Project Vicinity .....	116
Table 7. Project Trip Generation.....	118
Table 8. Crossroads Boulevard Approach Level of Service .....	126

## APPENDICES

Appendix A	Special-Status Species Database
Appendix B	Transportation Impact Analysis

## BACKGROUND INFORMATION

<b>Project Component</b>	<b>Information</b>
Project Title:	ParkIT! Shuttle Program & Day-Use Reservation System
Project Location(s):	Unincorporated Monterey County, California
Assessor Parcel Number:	N/A
Name of Property Owner:	California Department of Parks and Recreation
Name of Project Proponent:	California Department of Parks and Recreation
Acreage of Property:	1.4 acres (Marathon Flats Facility)
Zoning District:	N/A
Lead Agency:	California Department of Parks and Recreation
Prepared By:	DD&A, Inc.
Date Prepared:	October 2021
Contact Person:	Matthew Allen, Senior Environmental Scientist Supervisor
Contact Information:	(831) 649-2839; email: <a href="mailto:Matthew.Allen@parks.ca.gov">Matthew.Allen@parks.ca.gov</a>

## LIST OF ABBREVIATIONS

<b>Acronym or Abbreviation</b>	<b>Definition</b>
3CE	Central Coast Community Energy
AB	California Assembly Bill
AFY	acre-feet per year
AMBAG	Association of Monterey Bay Area Governments
AQMP	2012-2015 Air Quality Management Plan
BAU	Business as usual
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalAm	California American Water
CalGreen	California Green Building Standards Code
CARB	California Air Resources Board
CAWD	Carmel Area Wastewater District
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CFPD	Cypress Fire Protection District
CH <sub>4</sub>	methane
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	Carbon dioxide
Coastal Act	California Coastal Act
CPUC	California Public Utilities Commission
CVMP	Carmel Valley Master Plan
dB	Decibel
dBA	A-weighted sound level
DOT	U.S. Department of Transportation
EbC	Elder very fine sandy loam
ESHA	Environmentally Sensitive Habitat Areas
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act

<b>Acronym or Abbreviation</b>	<b>Definition</b>
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
Final EIR	Final Environmental Impact Report
General Plan	Carmel Area State Parks General Plan
GHGs	greenhouse gases
IS/MND	Initial Study/Mitigated Negative Declaration
LRA	Local Responsibility Area
LUST	Leaking Underground Storage Tank
Marathon Flats Facility	Marathon Flats Alternative Parking Facility
MBARD	Monterey Bay Air Resources District
MBTA	Migratory Bird Treaty Act
MD	Midday
MRWMD	Monterey Regional Waste Management District
MST	Monterey-Salinas Transit
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCAAB	North Central Coast Air Basin
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	Ozone
PM <sub>10</sub>	respirable particulate matter
PM <sub>2.5</sub>	fine particulate matter
Project or Proposed Project	ParkIT! Shuttle Program and Day-Use Reservation System
Point Lobos	Point Lobos State Natural Reserve
Point Lobos Visitor Study	Point Lobos State Natural Reserve Visitor & Parking Study
RCRA	Resources Conservation and Recovery Act
Reservation System	State Parks – Day Use Reservation System for Point Lobos
RPS	Renewables Portfolio Standard
RTDM	Regional Traffic Demand Model
RTPs	Regional Transportation Plans
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategies
So <sub>x</sub>	sulfur oxides
SR	State Route
SRA	State Responsibility Area
State Parks or Parks	California Department of Parks and Recreation
SWRCB	State Water Resources Control Board
TAMC	Transportation Agency for Monterey County

<b>Acronym or Abbreviation</b>	<b>Definition</b>
TAMC Fee	regional development impact fee
TCRs	Tribal Cultural Resources
TDM Plan	Big Sur Sustainable Transportation Demand Management Plan
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VHFHSZ	Very-High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled



# Chapter 1: INTRODUCTION AND PROJECT DESCRIPTION

## 1.1 INTRODUCTION

The California Department of Parks and Recreation (“State Parks”) prepared this Initial Study/Mitigated Negative Declaration (“IS/MND”) to evaluate the potential environmental effects associated with the ParkIT! Shuttle Project (“Project” or “Proposed Project”) located in unincorporated Monterey County, California. State Parks prepared this document in accordance with the California Environmental Quality Act (“CEQA”), Public Resources Code §21000 et. seq., and the State CEQA Guidelines, California Code of Regulations (“CCR”) §15000 et. seq.

An Initial Study is an informational document prepared by a lead agency to determine if a project may have a significant effect on the environment (CEQA Guidelines §15063 (a)). If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (“EIR”) must be prepared (CEQA Guidelines §15064(a)). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less than significant level, a Mitigated Negative Declaration may be prepared instead of an EIR (CEQA Guidelines § 15070(b)). The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements contained in CEQA Guidelines §15071.

This IS/MND is a “tiered” Mitigated Negative Declaration pursuant to CEQA Guidelines §15152(a)<sup>1</sup> and tiers off previous environmental analysis conducted by State Parks in connection with the Carmel Area State Parks General Plan (“General Plan”) and Final Environmental Impact Report (“Final EIR”). State Parks adopted the General Plan in 2021. The Final EIR contained an evaluation of potential environmental effects associated with the implementation of the General Plan at a programmatic level. The General Plan and associated Final EIR recognized that State Parks would potentially pursue a future shuttle program and day-use reservation system at Point Lobos, including potential parking facilities at Marathon Flats. The General Plan and Final EIR contained a generalized analysis of potential environmental effects and identified that State Parks would conduct future project-specific environmental review if State Parks and local partners elected to pursue a shuttle program and day-use reservation system. This IS/MND incorporates, by reference, the previous environmental analysis conducted in support of the General Plan pursuant to the requirements of CEQA Guidelines §15152(a) and §15150. This IS/MND provides

---

<sup>1</sup> Pursuant to CEQA Guidelines §15152, the analysis of general matters contained in a broader EIR may be incorporated into a later EIR or Negative Declaration on a narrower project wherein the previous analysis is incorporated by reference. This process allows future environmental analysis on narrower projects to focus on those issues that are specific to a later project. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program to an EIR or Negative Declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration (CEQA Guidelines §15152(b)).

additional, project-specific analysis and identifies appropriate mitigation, where necessary, to address the specific environmental impacts of the Proposed Project.

State Parks is acting as the Lead Agency pursuant to CEQA Guidelines §15050(a). As the Lead Agency, State Parks prepared an Initial Study pursuant to CEQA Guidelines §15063, §15070 and §15152. This Initial Study will be circulated for agency and public review during a 30-day public review period pursuant to CEQA Guidelines §15073. Comments received by State Parks on the Initial Study will be reviewed and considered as part of the deliberative process in accordance with CEQA Guidelines §15074.

## **1.2 PROJECT OVERVIEW & LOCATION**

### **1.2.1 PROJECT OVERVIEW**

The Proposed Project includes several separate and distinct project components, including a shuttle service, an alternative parking facility, and the implementation of a Day-Use Reservation System. Implementation of the Proposed Project would achieve several of the goals and objectives of the Carmel Area State Parks General Plan, including, but not limited to, the following: Access Guideline 1.1, Access Guideline 3.1, Access Guideline 3.4, Maintain Guideline 7.2, and Plan Guideline 2.1.

### **1.2.2 PROJECT LOCATION**

The Proposed Project is in unincorporated Monterey County, adjacent to the City of Carmel-by-the-Sea, California. The Proposed shuttle program (discussed below) includes the use of the Marathon Flats Alternative Parking Facility (“Marathon Flats Facility”), which is near the mouth of Carmel Valley, east of State Route 1 and south of Rio Road, west of the Carmel Crossroads Shopping Center. The Blue Roof Office Buildings, also known as the Carmel Center Place Office Complex, are located south of Rio Road on Carmel Center Place, adjacent to the Carmel Crossroads. This area represents an alternative parking area that may be used as part of the Shuttle Program. The Palo Corona Regional Park parking lot is located on Carmel Valley Road, approximately one (1) mile east of Carmel Rancho Boulevard. Point Lobos is located at 62 State Route 1 (“SR 1”), south of the City of Carmel-by-the-Sea. Regional and vicinity maps are presented in **Figure 1** and **Figure 2**.

Shuttle access to the proposed Marathon Flats Parking Facility would occur via an access easement through the Carmel Crossroads Shopping Center. The shuttle would transport park patrons along Rio Road and State Route 1 between the Marathon Flats Parking Facility and Point Lobos State Natural Reserve (“Point Lobos”). The shuttle would also provide service to Palo Corona Regional Park and the San Jose Creek Trail when it opens to the public.

### **1.2.3 EXISTING AND SURROUNDING LAND USES**

Point Lobos is located at 62 State Route 1 in Monterey County, south of Carmel. Point Lobos is surrounded by SR 1 and several single-family residences to the east, open space to the south and east, and the Pacific Ocean to the north and west.

The Marathon Flats Facility is located east of State Route 1 and south of Rio Road. The site is surrounded by commercial development to the south and east and State Route 1, and residential development to the north and west. The Carmel Crossroads Shopping Center lies east of the proposed parking facility, and the Carmel River is to the south. This site is regularly used for a variety of purposes, including the Big Sur International Marathon and other seasonal events.

The Blue Roof Office Buildings are located south of Rio Road on Carmel Center Place, adjacent to the Carmel Crossroads. The Palo Corona shuttle stop is proposed at the existing parking lot located south of Carmel Valley Road at the former Rancho Cañada Golf Course, now part of Palo Corona Regional Park. The San Jose Creek Trail shuttle stop is proposed on the northbound shoulder of SR 1 at the San Jose Creek Trailhead (San Jose Creek Canyon Road) directly across SR 1 from Monastery Beach. “No Parking” signage occurs along the east side of SR 1 from post-mile 70.07 to 70.75.<sup>2</sup>

### **1.3 BACKGROUND**

Over 600,000 visitors enter Point Lobos each year, which substantially exceeds the previous General Plan limit. High visitation to Point Lobos has resulted in vegetation loss, erosion of bluff areas, numerous user-created trails, and negative impacts on wildlife in a coastal area of special biological significance. In addition, visitation levels have led to the loss of native plants and tide pool species and the degradation and loss of cultural and archaeological resources. Infrastructure, such as bathrooms and park staff, are often overwhelmed during peak use periods.

The safety of the visitors parking and walking along SR 1 is at risk, and the quality of the visitor experience to the Reserve has degraded due to traffic, vegetation, and other resource destruction, and overcrowding. The severe traffic congestion from Carmel south to Big Sur is unsafe for visitors and the local community, especially during medical and other emergencies.

The Proposed Project consists of a sustainability project to facilitate the management of public access. Each component of the Project is intended to work in concert to protect Point Lobos, enhance the visitor experience, increase parklands access, improve public safety, and reduce traffic congestion on SR 1.

---

<sup>2</sup> On January 29<sup>th</sup>, 2019, the Monterey County Board of Supervisors (“BoS”) adopted the Ordinance No. 5307 establishing no parking at any time on the east side of SR 1 from a point 1800 feet north of the Point Lobos entrance to a point 1800 feet south of the entrance. At the time of adoption, Ordinance No. 5307 was temporary and would automatically terminate two years from the operative date. The Monterey County Board of Supervisors approved a permanent ban on parking in this area on June 4<sup>th</sup>, 2021.



Title:  
Regional Map

Date: 1/26/2021  
 Scale: 1 inch = 2,100 feet  
 Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
1



Vicinity Map  
Carmel Area

Date: 1/27/2021  
 Scale: 1 in = 200 feet  
 Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
**2**

## 1.4 PROJECT DESCRIPTION

The Proposed Project consists of two (2) primary project components: 1) the ParkIT! Shuttle Program and associated subcomponents; and 2) State Park's proposed Day-Use Reservation System for visitors to Point Lobos. These components are collectively referred to as the "Proposed Project" for the purposes of this IS/MND. While each component is intended to work in concert, they also have separate and independent utility and may be implemented separately from each other (e.g., the shuttle program may be implemented prior to State Parks implementing the Reservation System). Each component is described below.

### 1.4.1 PARKIT! SHUTTLE PROGRAM

The ParkIT! Shuttle Program consists of three (3) distinct elements: 1) construction of an alternative parking facility located at a portion of vacant land commonly known as Marathon Flats; 2) temporary use of the Blue Roof Office Buildings' parking lot and/or Palo Corona Regional Park parking lot while the Marathon Flats parking facility is under construction; and 3) shuttle service between Marathon Flats (or temporarily from the Blue Roof Office Buildings' parking lot), Rancho Canada, Point Lobos, and access for the public to San Jose Creek trailhead when it opens to the public.

The proposed shuttle route and stops are presented in **Figures 3a** and **3b**, while **Figure 3c** shows the shuttle circulation route within the Marathon Flats Facility and the Carmel Crossroads Shopping Center. **Figure 4** shows the location of improvements associated with the Marathon Flats Facility. Each subcomponent listed above is described further below.

#### 1.4.1.1 Marathon Flats Facility and Temporary Parking

Day-use visitors to Point Lobos, San Jose Creek Trail, and Palo Corona Regional Park would utilize the Marathon Flats Facility as an alternative parking and access location to facilitate site access, reduce congestion on SR 1, and minimize potential pedestrian/vehicle conflicts along SR 1. **Figure 4** presents the site plan for the parking facility. The facility would be constructed on a strip of land commonly referred to as Marathon Flats. This site is owned by the State of California and controlled by State Parks. The proposed parking facility would include approximately 100 parking spaces, including required accessible spaces, temporary restroom facilities, and a permanent restroom building if/when Monterey Peninsula Water Management District ("MPWMD") water credits are available. The Project would also include accessible walkway connections between the proposed parking area, temporary restroom facilities (and potential future permanent restroom facility), and shuttle stop. A fee will be charged to park in the lot. While the Marathon Flats Facility is under construction, the equivalent number of spaces will be utilized on Saturdays, Sundays, and holidays at the Blue Roof Office Buildings' lot adjacent to the Carmel Crossroads and/or the Palo Corona parking lot. There will not be a fee to park at the temporary parking facilities.

The proposed Marathon Flats Facility's parking surface would consist of a gravel parking lot, promoting infiltration, and reducing runoff. Accessible parking spaces and accessible paths of travel will be surfaced in concrete. The Project includes minor grading to elevate the existing

Marathon Flats site slightly above the existing grade. The Project would leave an existing local depression at least 6 inches deep between the parking area and the existing multi-use path to the west to allow any collected stormwater to infiltrate. Trash containers will be located on-site for patron use. Access into the parking lot will be off Rio Road, through the existing Carmel Crossroads parking lot. Access easements will be obtained as needed from the Carmel Crossroads shopping center landowners.

#### **1.4.1.2 Shuttle Service between the Marathon Flats Facility, Palo Corona, Point Lobos, and San Jose Creek Trailhead**

The proposed shuttle program would provide safe and responsible public access. The shuttle program aims to preserve the natural environment south of the Carmel River by decreasing parking along SR 1, providing better management of the number of visitors to Point Lobos, and reducing potential pedestrian/vehicle conflicts along SR 1 near Point Lobos. The proposed service will run between the Marathon Flats Facility, Palo Corona parking lot, Point Lobos, and the San Jose Creek trailhead when it opens to the public. The proposed shuttle route is shown in **Figures 3a** and **3b**. The Project will include appropriate signage and related facilities (e.g., passenger refuge areas) at each shuttle stop.

The shuttle service would be available to Point Lobos visitors with a reservation and day-visitors using Palo Corona Regional Park and the San Jose Creek Trail. The proposed service would run daily between 10:00 am and 5:00 pm in 20 to 30-minute intervals via two (2) to three (3) 24-passenger minibuses. The shuttle would operate through a concession contract. The Proposed Project includes a fee for parking, a fee for the shuttle, and a park entrance fee (see **Section 1.4.2**, below). State Parks would determine the fees as part of a fee assessment study prior to implementing the reservation system. Prior to the construction of the Marathon Flats Facility, there will be a fee to ride the shuttle but not to park. Educational and interpretive opportunities will be maximized on the shuttle route to address traffic safety, the protection of cultural resources, the protection of environmentally sensitive habitats, and the riptide/beach safety at Monastery Beach.

At least 25 parking spaces at Palo Corona Regional Park will also be utilized for this Project. These parking spaces already exist and will serve Palo Corona Regional Park users hiking one-way through Palo Corona to the San Jose Creek trail and returning by shuttle bus.

#### **1.4.2 STATE PARKS - DAY-USE RESERVATION SYSTEM FOR POINT LOBOS**

The proposed Day-Use Reservation System will address the rapid, unsustainable visitation growth at Point Lobos, which has resulted in the substantial degradation of existing resources within the Reserve. The untenable use has also adversely affected visitor experience, created public safety issues related to parking along the shoulder of SR 1, and resulted in substantial congestion along SR 1 during peak periods of demand.

The proposed reservation system would enable better visitor management within Point Lobos and manage visitor access, which could alleviate direct and indirect impacts of visitor use. During periods of peak demand, this Project would limit visitation at peak times of the day (generally 11 am to 1 pm) and encourage visitation at less busy times by providing a reservation time to gain

access. For Palo Corona Regional Park, reservations are not envisioned as part of this Project. State Parks may include the San Jose Creek Trail as part of the reservation system to address potential biological and cultural resource-related concerns associated with the eventual public access and subsequent use of this trail.

To enter Point Lobos, all visitors other than State Parks staff, Point Lobos Foundation staff, and docents on duty will need a reservation. Reservations will be made for one (1) of four (4) locations: in-reserve parking (150 spaces); offsite parking at the Marathon Flats Facility (100 spaces); Palo Corona ( $\pm 25$  spaces), or walk-in (e.g., bicycle access or west side of SR 1 parking (120-150 spaces). Visitors can request a reservation for any of the four (4) locations online or in person. As part of this component, State Parks will implement a public outreach program to inform visitors that a reservation will be necessary to access Point Lobos. This outreach program will include updated signage, information on State Park's website, press releases, and other similar methods to inform the public about the reservation system. In addition, there will be a reservation fee determined by a fee assessment study completed by State Parks prior to implementing the reservation system.

A vendor will be responsible for implementing the reservation system. State Parks will hire the vendor to manage reservations, parking, and public educational outreach. Access to the system in multiple languages will be provided online; the vendor will collect all fees and handle cancellations and refunds. State Parks will continue to manage entrance into Point Lobos, using vendor-supplied hardware and software specific to the reservation system.

As discussed throughout this IS/MND, if, during Park operations, State Parks observes adverse impacts because of visitor overuse, State Parks would implement adaptive management strategies to mitigate and minimize the impacts. Currently, State Parks implements a number of adaptive management strategies as part of standard operating procedures. Applicable adaptive management strategies that State Parks may implement include:

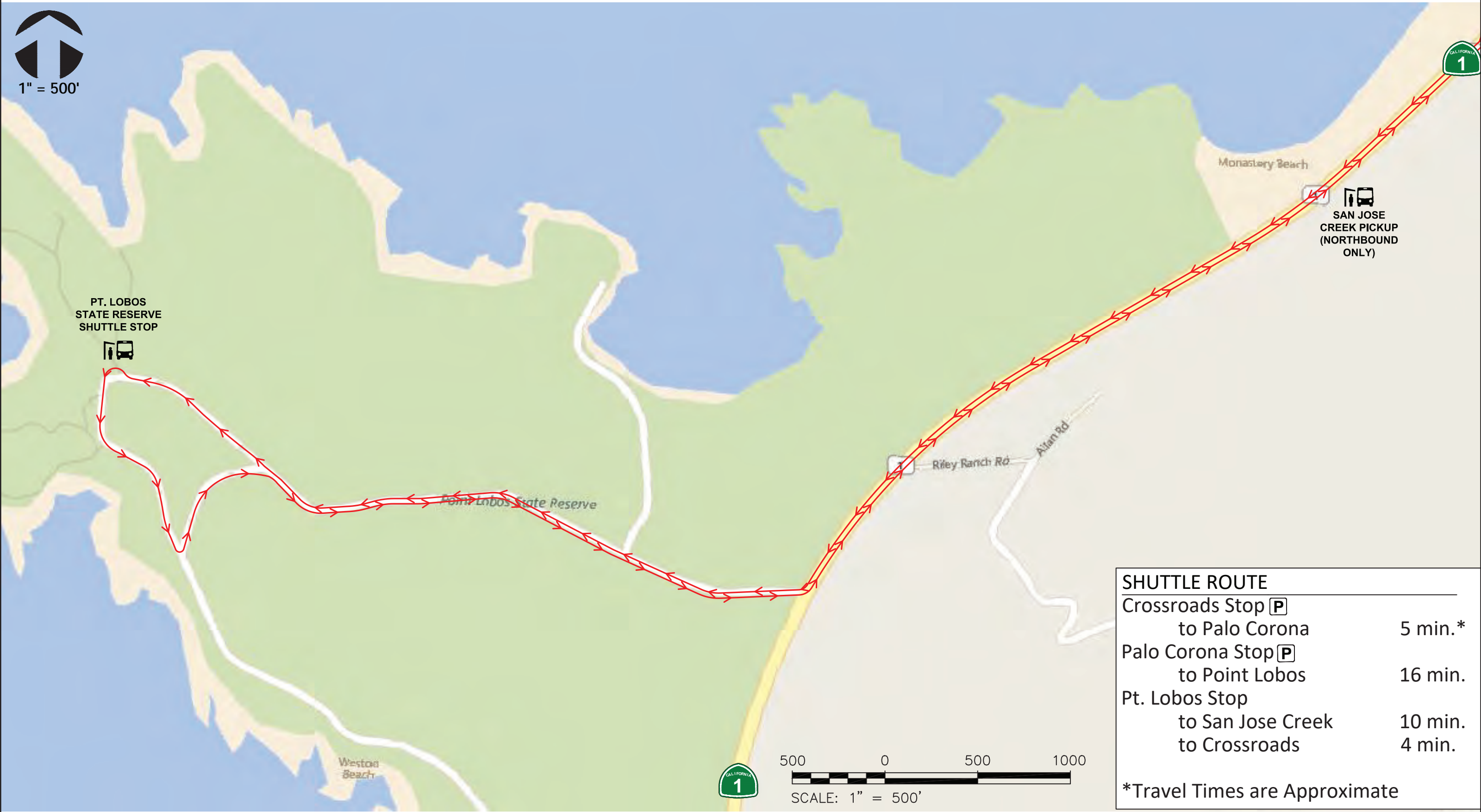




SHUTTLE ROUTE		
Crossroads Stop <b>P</b>	to Palo Corona	5 min.*
Palo Corona Stop <b>P</b>	to Point Lobos	16 min.
Pt. Lobos Stop	to San Jose Creek	10 min.
	to Crossroads	4 min.

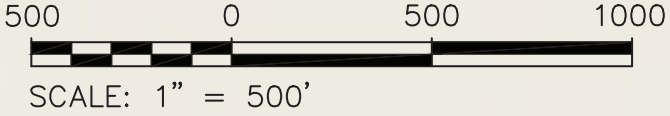
\*Travel Times are Approximate

Source: ParkIT!, February 2020



SHUTTLE ROUTE		
Crossroads Stop <b>P</b>	to Palo Corona	5 min.*
Palo Corona Stop <b>P</b>	to Point Lobos	16 min.
Pt. Lobos Stop	to San Jose Creek	10 min.
	to Crossroads	4 min.

\*Travel Times are Approximate



Source: ParkIT!, February 2020

Title: **Shuttle Stops/Route - Point Lobos**

Date: 1/28/2021  
 Scale: 1 inch = 500 feet  
 Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
**3b**



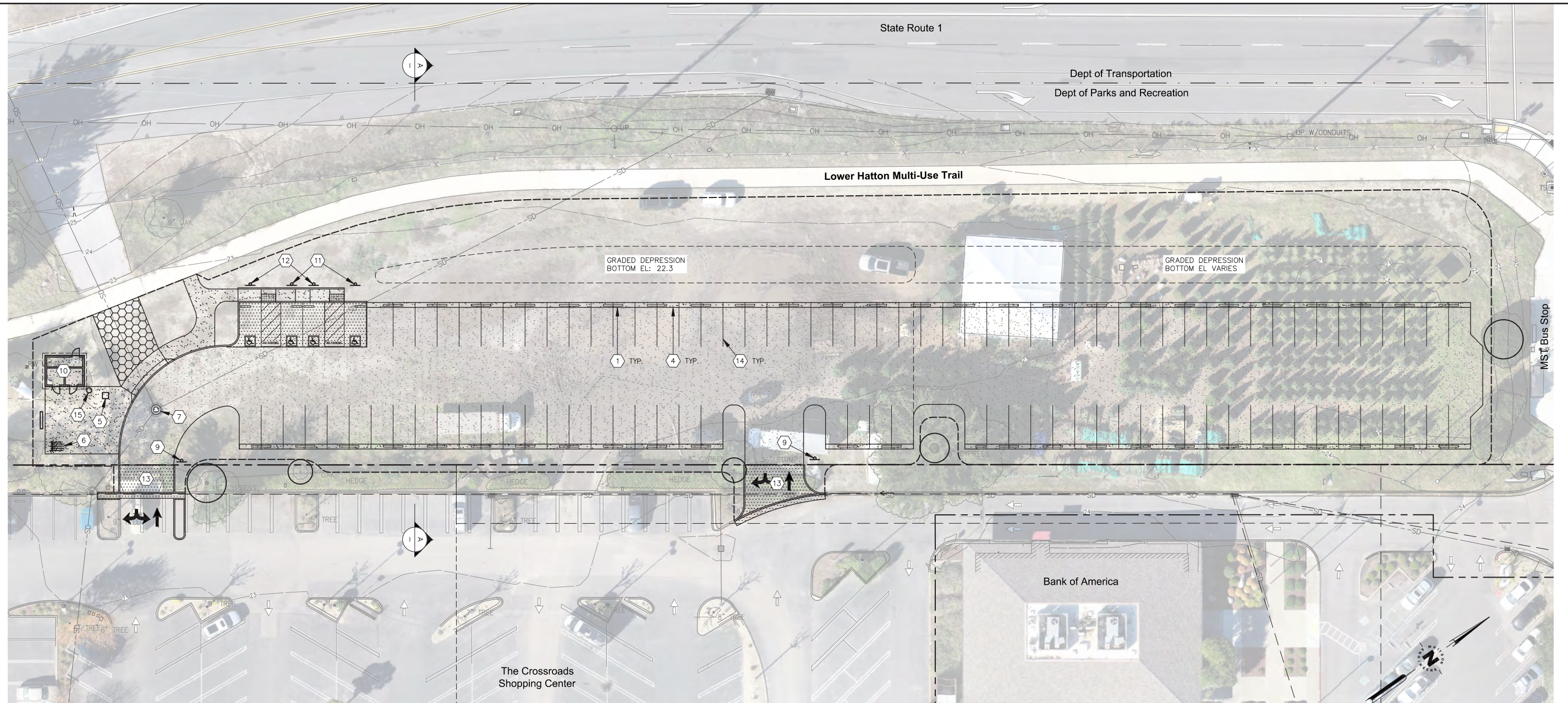
Title:  
**Shuttle Stops/ Route - Carmel Crossroads Center**

Date: 1/15/2021  
 Scale: N/A  
 Project: 2020-01



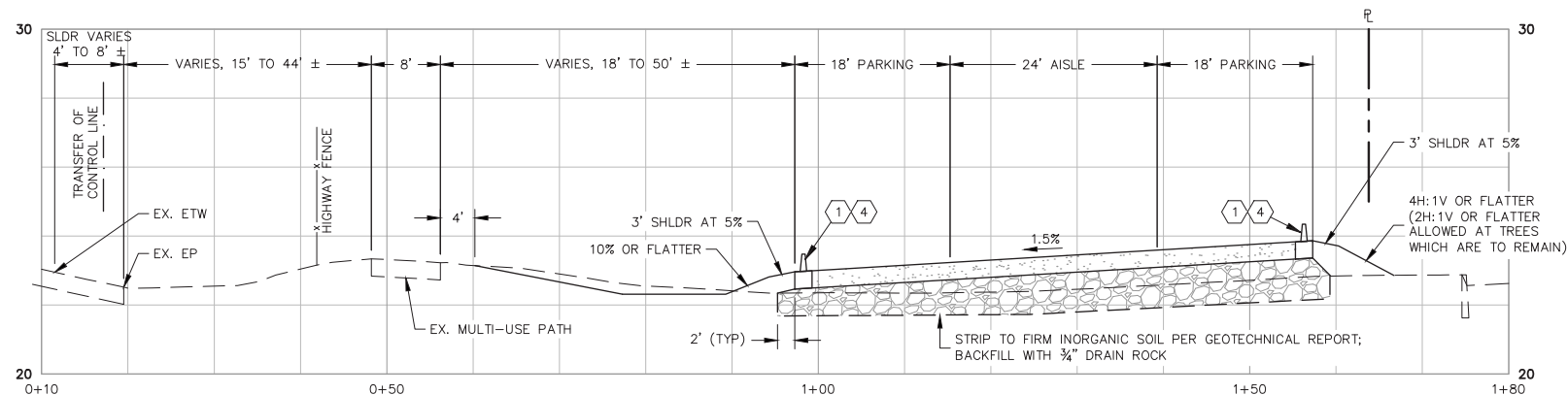
Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
**3c**



**A TYPICAL SECTION**

SCALE: 1"=10' H 1"=5' V



**CONSTRUCTION KEYNOTES:**

1. 24"-WIDE CONCRETE BAND.
2. ADJUST UTILITY BOX TO GRADE PER UTILITY OWNER REQUIREMENTS.
3. INTENTIONALLY OMITTED.
4. CONCRETE WHEEL STOP.
5. SOLAR-POWERED TICKET KIOSK.
6. BIKE RACK.
7. ADJUST SDMH TO FINISH GRADE.
8. SIGN: "NO PARKING FIRE LANE"
9. SIGN: "PERPENDICULAR PARKING ONLY. 24 FOOT WIDE FIRE LANE SHALL BE MAINTAINED AT ALL TIMES" AND TOW AWAY SIGN. TYPICAL OF 3 ENTRANCE LOCATIONS.
10. RESTROOM BUILDING.
11. ACCESSIBLE PARKING SIGN.
12. ACCESSIBLE PARKING SIGN WITH VAN ACCESSIBLE PLAQUE.
13. CONCRETE DRIVEWAY APRON.
14. NOTE: PARKING STALLS ARE OUTLINED FOR PLANNING PURPOSES ONLY. SEE DETAIL 1 | G0.1 FOR ACTUAL STALL MARKINGS.
15. TRASH AND RECYCLING RECEPTACLES

**LEGEND**

- HMA CONFORM PAVING PER DETAIL XX | XX
- PERMEABLE AGGREGATE PARKING LOT PER DETAIL XX | XX
- CONCRETE VEHICULAR PAVING PER DETAIL XX | XX
- CONCRETE PEDESTRIAN PAVING PER DETAIL XX | XX
- CAST-IN-PLACE DETECTABLE WARNING SURFACE (COLONIAL RED)
- PLANTER AREA
- SAWCUT LINE
- GRADING LIMIT



Source: Whitson Engineers, November 2020

Title:

**Marathon Flats (Crossroads) Parking Area**

Date: 12/16/2020

Scale: 1 inch = 20 feet

Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
**4**

- Trail delineation in high trafficked areas using rod & cable and other types of fencing with signs
- Regular patrols by staff and volunteers
- Docent-led tours and educational contacts
- Limiting access to sensitive areas and breeding habitat
- Signing closed areas
- Interpretation programs and signs
- Restoration of impacted areas
- Trail and facility improvements
- Park rules and announcements via website and social media
- Invasive species monitoring and treatments
- Law Enforcement contacts and citations

State Parks uses adaptive management strategies to address natural and cultural resource degradation from visitor use. These strategies help conserve and protect natural and cultural resources in response to ongoing monitoring.

### **1.4.3 SCHEDULE**

ParkIT! and State Parks are working on securing funding for the construction of the parking lot. This facility will be built when funding and the required Coastal Development Permit are obtained. State Parks is working on contracting with a vendor for the reservation system.

## **1.5 PROJECT GOALS AND OBJECTIVES**

State Parks' mission is to provide for the health, inspiration, and education of the people of California by helping to preserve the State's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation. The Proposed Project is a sustainability project to facilitate the management of public access. When taken as a whole, the two (2) components of the Project work in tandem to protect Point Lobos, enhance the visitor experience, increase parklands access, and improve public safety. **Figures 3a** and **3b** show the proposed route maps and planned stops for the Project.

## **1.6 REQUIRED PERMITS AND APPROVALS**

This IS/MND is an informational document for both agency decision-makers and the public. State Parks is the Lead Agency responsible for the certification of this Initial Study. The Project would be subject to other laws and applicable agency reviews. A list of state and local agencies that could have jurisdiction over the Project are as follows: Coastal Development Permit (California Coastal Commission and Monterey County).

*This Page Intentionally Left Blank*

## Chapter 2: 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 discussed within the Initial Study checklist analysis on the following pages.

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Aesthetics                | <input type="checkbox"/> Agricultural and Forest Resources   | <input checked="" type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources      | <input checked="" type="checkbox"/> Cultural Resources       | <input checked="" type="checkbox"/> Energy                             |
| <input checked="" type="checkbox"/> Geology/Soils             | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards/Hazardous Materials        |
| <input checked="" type="checkbox"/> Hydrology/Water Quality   | <input checked="" type="checkbox"/> Land Use/Planning        | <input type="checkbox"/> Mineral Resources                             |
| <input checked="" type="checkbox"/> Noise                     | <input type="checkbox"/> Population/Housing                  | <input checked="" type="checkbox"/> Public Services                    |
| <input checked="" type="checkbox"/> Recreation                | <input checked="" type="checkbox"/> Transportation/Traffic   | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input checked="" type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire                 | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

### ENVIRONMENTAL FACTORS NOT AFFECTED

As part of the scoping and environmental analysis conducted for the Project, the following environmental resources were considered, but no potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document.

**Agricultural Resources:** No known agricultural resources have been identified in the Project area. The Project would not impact agricultural resources since no portions of the site contain farmland. Therefore, the Project would have no impact on agricultural resources. Similarly, the Proposed Project would not impact any forest resources. No areas designed as forest land or timberland have been identified in the Project area. As a result, the Proposed Project would not cause the loss of forest land or the conversion of forest land to non-forest use. Additionally, the Project would not involve other changes in the existing environment that could cause the conversion of forest land to non-forest use. As a result, the Project would have no impact on forest resources.

**Mineral Resources:** The Project is not located in any areas identified by the Surface Mining and Reclamation Act protecting mineral resources. Therefore, the Project would have no impact on mineral resources.

**Population and Housing:** The Project is a shuttle service and would not induce substantial population growth, either directly or indirectly, nor would it displace a substantial number of existing housing units. Therefore, the Project would have no impact on population and housing.

*This Page Intentionally Left Blank*



### Chapter 3: DETERMINATION

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Signature

10/18/2  
\_\_\_\_\_  
Date

ERENT C. MARSHALL  
\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
For

*This Page Intentionally Left Blank*

## Chapter 4: INITIAL STUDY ENVIRONMENTAL CHECKLIST

The following chapter assesses the environmental consequences associated with the proposed Project. Mitigation, where appropriate, is identified to address potential impacts.

### EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on project-specific screening analysis).
2. All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level with mitigation measures.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were

incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - a) The significance criteria or threshold, if any, used to evaluate each question; and
  - b) The mitigation measure identified, if any, to reduce the impact to less than significant.

## **4.1 INTRODUCTION**

As described above, the Proposed Project consists of two (2) distinct project components: 1) a shuttle service with related improvements and 2) a day-use reservation system at Point Lobos. These components are collectively referred to as the Proposed Project for the purposes of this IS/MND.

### **IMPACT ANALYSIS APPROACH & METHODOLOGY:**

The following impact analysis evaluates the potential environmental effects associated with the implementation of the ParkIT! Shuttle Program and related improvements, as well as the proposed State Parks – Day Use Reservation System. The Proposed Project consists of two (2) distinct project components, both of which have separate and independent utility. Accordingly, each component may be implemented separately or concurrently depending on timing and availability of funding and other factors influencing implementation of each component. As a result, the following analysis: 1) evaluates each component separately to clearly identify potential environmental effects attributable to each component; 2) identifies corresponding mitigation measures (to the extent mitigation is necessary); and 3) includes an overall conclusion regarding the combined effects of both components. In most instances, the proposed Reservation System would not result in any potential direct or indirect effects. In those instances, that impact analysis includes a brief summary identifying that there would be no adverse effect associated with that component.

## **4.2 AESTHETICS**

### **4.2.1 INTRODUCTION**

This section evaluates the Project's potential aesthetic-related impacts. This section assesses the existing visual quality of the Project area and potential changes to the visual and aesthetic environment that could occur due to the Project. Photographs were taken from various vantage points that characterize the existing visual character of the site and surrounding area. Present representative photographs of the Marathon Flats site and shuttle stop sites are presented in **Figures 5a** and **5b**.

### **4.2.2 ENVIRONMENTAL SETTING**

The proposed shuttle route extends from Palo Corona parking lot to Point Lobos. The visual character along the proposed shuttle route consists of residential, commercial, and open space uses along Carmel Valley Road. Along SR 1 in the Project area, the visual character consists of views of the Pacific Ocean to the west and the Santa Lucia Mountains to the south-southeast.

The visual character of the existing Marathon Flats site consists predominantly of a vacant, previously disturbed dirt lot that has historically been used for a variety of purposes. The site includes some vegetation at the north and south ends of the site. The site also contains two (2) Monterey cypress trees, although most of the site is highly disturbed. This property has been repeatedly used as a parking and staging area for seasonal events, and disturbance from such

events has resulted in the placement of gravel on the site, stunted vegetation, non-native invasive plant growth, and areas of bare ground depressions.

SR 1 is a State Designated Scenic Highway in the vicinity of the Project site. This section of SR 1 traverses a series of hills, offering views of Carmel-by-the-Sea, Carmel Valley, Point Lobos, and the Pacific Ocean.

### **4.2.3 REGULATORY SETTING**

#### **4.2.3.1 State**

##### **California State Scenic Highway Program**

The State Legislature created the California State Scenic Highway program in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are either designated or eligible for designation as a scenic highway. Portions of SR 1 along the California coastline are designated as a State Scenic Highway or eligible for State Scenic Highway designation. The section of SR 1 adjacent to the Project is a designated State Scenic Highway. If a proposed project is located within an officially designated State Scenic Highway, a Scenic Resource Evaluation may be required and the environmental document must discuss whether the project has the potential to affect the scenic highway and, if so, whether the project is consistent with the Scenic Highway protection program.

##### **California Coastal Act**

The State Legislature enacted the California Coastal Act ("Coastal Act") in 1976 to provide long-term protection of the state's 1,100-mile coastline for the benefit of current and future generations. Development activities, which are broadly defined by the Coastal Act to include (among others); construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters. Such activities generally require a coastal permit from either the California Coastal Commission ("CCC") or the local government. The Coastal Act includes specific policies (see Division 20 of the Public Resources Code) that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The following portion of the Coastal Act is pertinent to scenic and visual resources.



Photo #1: South facing view of Marathon Flats project site.  
Source: DD&A - April 2020



Photo #2: East facing view of Marathon Flats project site.  
Source: DD&A - April 2020



Photo #3: North facing view of Marathon Flats project site.  
Source: DD&A - April 2020



Photo #4: West facing view of Marathon Flats project site.  
Source: DD&A - April 2020

Title:  
**Site Photos - Marathon Flats**

Date: 1/18/2021  
Scale: N/A  
Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
Environmental Consultants Resource Planners  
947 Cass Street, Suite 5  
Monterey, CA 93940  
(831) 373-4341

Figure  
**5a**



Photo #5: North facing view of Point Lobos shuttle stop.  
Source: Google - January 2021



Photo #6: Northeast facing view of San Jose Creek shuttle stop.  
Source: Google - January 2021



Photo #7: South facing view of Carmel Valley shuttle stop.  
Source: Google - January 2021



Photo #8: East facing view of Blue Office Building interim shuttle stop.  
Source: Google - January 2021

Title:  
**Site Photos - Shuttle Stops**

Date: 1/18/2021  
Scale: N/A  
Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
Environmental Consultants Resource Planners  
947 Cass Street, Suite 5  
Monterey, CA 93940  
(831) 373-4341

Figure  
**5b**



*California Coastal Act Section 30251.*

This section of the Coastal Act specifies that coastal areas' scenic and visual qualities shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, minimize the alteration of natural landforms, be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

**4.2.3.2 Local**

**2010 Monterey County General Plan/Carmel Area Land Use Map**

The 2010 Monterey County General Plan and Carmel Area Land Use Plan (“LUP”) contain numerous policies related to preserving and protecting scenic resources. These policies are intended to preserve and enhance the County’s scenic character, minimize visual impacts on scenic resources, and ensure that future development activities are consistent with the area's visual character.

**4.2.4 THRESHOLDS OF SIGNIFICANCE**

Would the project:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista? (Source: 1, 9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Source: 1, 9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (Source: 1, 9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Source 1, 9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **4.2.5 IMPACT ANALYSIS**

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

##### **ParkIT! Shuttle Program**

The implementation of a shuttle service and the development of the Marathon Flats Facility would not have a substantial adverse effect on a scenic vista. The parking lot site is highly disturbed due to historical use for parking activities and other seasonal events and does not constitute a scenic vista or resource for the purposes of CEQA. Although scenic views toward the Santa Lucia Mountain range are available from the Marathon Flats Facility, the new parking facility proposes minimal structures, including temporary (and eventually permanent) restroom facilities and other site improvements (e.g., screening). The construction of the proposed restroom facilities would not impact or obstruct existing views. The proposed restrooms would be visually screened with landscaping and are located below SR 1. As a result, the ParkIT! Shuttle Program would not have a substantial adverse effect on a scenic vista. Moreover, landscaping and vegetative screening would be installed as part of this component to minimize potential visual impacts. This represents a less than significant impact. See also discussion b) below.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The proposed State Parks – Day Use Reservation System for Point Lobos (“Reservation System”) would not have a substantial direct adverse effect on a scenic vista. The proposed Reservation System could potentially result in indirect effects due to increased visitation and illicit site access due to individuals seeking to avoid the reservation system (e.g., informal trail creation, etc.). However, these effects are not anticipated to be significant - the proposed Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. As discussed previously, the Reservation System would minimize potential adverse environmental effects during peak visitation periods by distributing access more evenly across any given day/month/year to ensure that access is more sustainable and adverse environmental effects are minimized. Moreover, State Parks would continue to implement adaptive management strategies (as described above) as part of Park operations to ensure that access is managed in a sustainable manner, to ensure that Park access would not result in adverse environmental effects. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., increasing patrols, limiting access, trail closures, etc.) to minimize impacts. The implementation of adaptive management strategies would ensure that impacts would be less than significant.

##### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in any potentially significant impacts on a scenic vista. The ParkIT! Shuttle Program and associated parking facility would not obstruct existing views of distant scenic resources. Similarly, indirect impacts as a result of the Reservation System would

be unlikely and addressed through adaptive management strategies implemented by State Parks. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program, specifically the Marathon Flats Facility, is located adjacent to a State designated scenic highway. In addition, the proposed shuttle service would also operate on SR 1, which is a scenic highway. However, the operation of the shuttle service would not, in and of itself, constitute an adverse aesthetic-related impact that would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. A variety of vehicle types routinely use this segment of SR 1 and the operation of a shuttle service would not damage any scenic resources. Construction of the proposed Marathon Flats Facility could, however, result in a potential adverse aesthetic-related impact.

The proposed Marathon Flats Facility is adjacent to a section SR 1 that is a designated State Scenic Highway. This section of SR 1 traverses a series of hills, offering views of Carmel-by-the-Sea, Carmel Valley, Point Lobos, and the Pacific Ocean. As a result, construction of the Marathon Flats Facility could potentially result in an adverse aesthetic-related effect if the program would substantially damage existing scenic resources (e.g., trees, rock outcroppings, historic buildings, etc.) within view from SR 1.

While the ParkIT! Shuttle Program is located adjacent to a State designated scenic highway, the shuttle program would not result in a substantial adverse aesthetic-related effect. The ParkIT! Shuttle Program does not propose any tree or other major vegetation removal. No historic buildings or rock outcroppings are present in areas affected by the shuttle program. The ParkIT! Shuttle Program consists of designated shuttle stops and the development of the Marathon Flats Facility. In addition, it is also important to recognize that this site has historically been used for a variety of purposes, including special event parking and other uses.

The Marathon Flats Facility would include approximately 100 parking spaces, including required accessible spaces, temporary restroom facilities, and a permanent restroom building with two (2) stalls in the future (pending availability of MPWMD water credits). The proposed Marathon Flats Facility's parking surface would consist of a gravel parking lot. Accessible parking spaces and accessible paths of travel will be surfaced in concrete. These improvements would not damage an existing scenic resource and generally would be compatible with the existing visual environment, which consists primarily of existing parking and commercial development. Again, the site has also been historically used for special events, including parking.

The only vertical structure proposed is a bathroom facility located on the southwest portion of the Marathon Flats site. The bathroom facility is sited to minimize visual effects – State

Parks located the bathroom in the southern most portion of the site in an area that is surrounded by existing trees and is located below SR 1. In addition, the Proposed Project includes vegetative screening around the proposed restroom to further minimize potential aesthetic-related effects. As a result, the bathroom would not substantially damage a scenic resource. Construction of the proposed restroom would not require tree removal, damage a rock outcropping, or damage a historic structure. Similarly, the Marathon Flats Facility also includes vegetative screening along the western fence line (i.e., west of the recreational trail) to further obstruct views of the parking lot from SR 1. Finally, State Parks would design the proposed restroom to be visually compatible with the site's surrounding environment.

The proposed improvements to the Marathon Flats site would be typical of a parking area with a small bathroom facility. The surface level parking area would not be noticeably visible by vehicular traffic traveling on SR 1, and would not result in a significant change compared to existing conditions as seen from vantage points along the highway, especially given the site's historic use for a variety of purposes, including event parking and seasonal uses. Based on the above discussion, the Project would not substantially damage a scenic resource as viewed from this state designated scenic highway; this represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The proposed Reservation System would not substantially damage scenic resources as viewed from a state-designated scenic highway. The proposed Reservation System would be developed for Point Lobos, which is located along SR 1, and may include the future use of the San Jose Creek Trail. Indirect effects to scenic resources viewed from SR 1 could potentially result due to increased visitation. However, these effects are not anticipated to be significant since State Parks would implement adaptive management strategies (consistent with existing practices) to minimize potential environmental effects due to overuse and increased visitation. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., controlled access throughout the day) to minimize impacts. This would represent a less than significant effect.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in any potentially significant impacts on scenic resources as viewed from a state-designated scenic highway. The Proposed Project is located in a developed area and would not include structures that would obstruct views. Indirect impacts because of the day-use reservation system and increased visitation, while unlikely, would be addressed through adaptive management strategies implemented by State Parks. The combined effect of both components would be less than significant.

- 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?*

#### **ParkIT! Shuttle Program**

See a) and b) above. The Marathon Flats Facility is proposed in a relatively urbanized area surrounded by roads, driveways, and commercial development. The Shuttle Program would not conflict with applicable zoning and other regulations governing scenic quality because proposed parking lot improvements are located on a disturbed site, occur primarily at ground level, and include few visible structures, with the exception of a small bathroom facility at the southwest end of the site. Moreover, the site has historically been used for a variety of purposes, including event parking and seasonal events. This represents a less than significant impact.

#### **State Parks - Day-Use Reservation System for Point Lobos**

See a) and b) above. The proposed Reservation System could result in indirect impacts to public views as a result of increased use. However, the Reservation System is intended to manage use and minimize environmental effects due to overuse and increased visitation. This represents a less than significant impact.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not substantially degrade existing public views of the site and its surroundings. As discussed in a) and b) above, the Marathon Flats Facility is proposed in a relatively developed area and would not conflict with applicable zoning or other regulations governing scenic quality. Additionally, the Reservation System is intended to manage use and minimize environmental effects due to overuse and increased visitation. The combined effect of both components would be less than significant.

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

#### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program does not propose any new sources of light or glare. No night lighting is proposed for the shuttle stops or Marathon Flats Facility. Furthermore, while parking could create new sources of lighting and glare from vehicles, the site is located adjacent to existing parking and SR 1, which contribute varying levels of light and glare as part of existing baseline conditions. As a result, potential lighting and/or glare associated with parking would generally be consistent with the adjacent parking area and would not cause a substantial increase beyond existing levels. Additionally, as the hours of operation of the shuttle service are 10:00 am – 5:00 pm, visitors would likely arrive after sunrise, and leave before sunset. This represents a less than significant impact.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not require any new sources of light, day, or night. Therefore, there would be no impact.

### Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not create a new source of substantial light or glare. The ParkIT! Shuttle Program does not propose any new sources of light or glare; no night lighting is proposed. Furthermore, lighting and glare from parking at the Marathon Flats Facility would be consistent with the adjacent parking area. Similarly, the Reservation System would not require any new sources of light, day, or night. The combined effect of both components would be less than significant.

## 4.3 AIR QUALITY

### 4.3.1 INTRODUCTION

This section assesses the potential air quality effects associated with Project construction and operation.

### 4.3.2 ENVIRONMENTAL SETTING

The Project is located within the North Central Coast Air Basin (“NCCAB”), one of 14 statewide basins designated by the California Air Resources Board (“CARB”). This basin includes Monterey, Santa Cruz, and San Benito Counties and is regulated by the Monterey Bay Air Resources District (“MBARD”).

The U.S. EPA administers the National Ambient Air Quality Standards (“NAAQS”) under the Federal Clean Air Act. The U.S. EPA sets the NAAQS and determines if areas meet those standards. Violations of ambient air quality standards are based on air pollutant monitoring data and evaluated for each air pollutant. Areas that do not violate ambient air quality standards are considered to have attained the standard. The NCCAB is in attainment for all NAAQS and for all California Ambient Air Quality Standards (“CAAQS”) except O<sub>3</sub> and PM<sub>10</sub>. The primary sources of O<sub>3</sub> and PM<sub>10</sub> in the NCAAB are from automobile engine combustion. To address the exceedance of these CAAQS, the MBARD has developed and implemented several plans, including the 2005 Particulate Matter Plan, the 2007 Federal Maintenance Plan, and the 2012-2015 Air Quality Management Plan. NCCAB Attainment Status to National and California Ambient Air Quality can be found in **Table 1**.

**Table 1**  
**North Central Coast Air Basin Attainment Status Designations**

<b>Pollutant</b>	<b>State Standards<sup>1</sup></b>	<b>National Standards</b>
Ozone (O <sub>3</sub> )	Nonattainment <sup>1</sup>	Attainment/Unclassified <sup>2</sup>
Inhalable Particulates (PM <sub>10</sub> )	Nonattainment	Unclassified
Fine Particulates (PM <sub>2.5</sub> )	Attainment	Attainment/Unclassified <sup>3</sup>

Pollutant	State Standards <sup>1</sup>	National Standards
Carbon Monoxide (CO)	Monterey County-Attainment San Benito County-Unclassified Santa Cruz County-Unclassified	Attainment/Unclassified
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment/Unclassified <sup>4</sup>
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment/Unclassified <sup>5</sup>
Lead	Attainment	Attainment/Unclassified <sup>6</sup>

Notes:

- 1) Effective July 26, 2007, the ARB designated the NCCAB a nonattainment area for the state ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.
- 2) In 2015, EPA adopted a new 8-hour ozone standard of 0.070 ppm.
- 3) This includes the 2006 24-hour standard of 35 µg/m<sup>3</sup> and the 2012 annual standard of 12 µg/m<sup>3</sup>.
- 4) In 2012, EPA designated the entire state as attainment/unclassified for the 2010 NO<sub>2</sub> standard.
- 5) In June 2011, the ARB recommended to EPA that the entire state be designated as attainment for the 2010 primary SO<sub>2</sub> standard. Final designations to be addressed in future EPA actions.
- 6) On October 15, 2008, EPA lowered the NAAQS for lead to 0.15 µg/m<sup>3</sup>. Final designations were made by EPA in November 2011.

Source: ARB 2020, MBARD 2020.

Plans to attain these standards already accommodate the future growth projections available at the time these plans were prepared. Any development project capable of generating air pollutant emissions exceeding regionally established criteria is considered significant for purposes of CEQA analysis, whether or not such emissions have been accounted for in regional air planning. Furthermore, any project that would directly cause or substantially contribute to a localized violation of an air quality standard would generate substantial air pollution impacts. The same is true for a project that generates a substantial increase in health risks from toxic air contaminants or introduces future occupants to a site exposed to substantial health risks associated with such contaminants.

Sensitive receptors are more susceptible to the effects of air pollution than the general population. Land uses that are considered sensitive receptors include residences, schools, and health care facilities. The nearest sensitive receptors to the proposed parking lot are located across SR 1 to the west, approximately 200 feet from the Marathon Flats Facility.

#### 4.3.2.1 Climate and Topography

Climatological conditions, an area's topography, and the quantity and type of pollutants released commonly determine ambient air quality. The NCCAB covers an area of 5,159 square miles along the central coast. The Santa Cruz Mountains dominate the northwest sector of the NCCAB. The Diablo Range marks the northeastern boundary. The Santa Clara Valley extends into the northeastern tip of the basin. Further south, the Santa Clara Valley becomes the San Benito Valley, which runs northwest southeast, with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to the south of King City. The coastal Santa Lucia Range defines the western side of the valley.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limiting upward mixing (dilution). Communities with cold climates may burn wood or other fuels for residential heating, whereas areas with hot climates may have higher emissions of some pollutants from

automobiles. Topography also plays a part, as valleys often trap emissions by limiting lateral dispersal.

A semi-permanent high-pressure cell in the eastern Pacific, the Pacific High, is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement. During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and the occasional storm systems usually results in good air quality for the basin in winter and early spring.

### **4.3.3 REGULATORY SETTING**

#### **4.3.3.1 Federal**

The CAA of 1970, as amended, establishes air quality standards for several pollutants. NAAQS are established for six (6) “criteria” air pollutants: carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), sulfur oxides (SO<sub>x</sub>), and lead. Pursuant to the California Clean Air Act, the State of California has also established ambient air quality standards, the CAAQS. These standards are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. **Table 2** identifies the characteristics, health effects, and typical sources of the six (6) federal air pollutants.

In addition to major pollutants, the U.S. regulates Hazardous Air Pollutants. One means by which the U.S. Environmental Protection Agency addresses Hazardous Air Pollutant exposure is through the National Emission Standards for Hazardous Air Pollutants,<sup>3</sup> which include source-specific regulations that limit allowable emissions of such pollutants.

#### **4.3.3.2 State**

CARB coordinates and oversees both state and federal air pollution control programs in California. As part of this responsibility, CARB monitors existing air quality, establishes state air quality standards, and limits allowable emissions from vehicular sources. Local air pollution control agencies provide regulatory authority within established air basins, which control stationary-source and most categories of area-source emissions and develop regional air quality plans. The Project is located within the jurisdiction of the MBARD.

California has established its own set of ambient air quality standards for the seven (7) pollutants with federal standards. In addition, California has standards for sulfates, hydrogen sulfide, vinyl

---

<sup>3</sup> The National Emission Standards for Hazardous Air Pollutants are promulgated under Title 40 of the Code of Federal Regulations, Parts 61 & 63.



chloride, and visibility reducing particles. The standards for the criteria pollutants are presented in **Table 3**. The “primary” standards have been established to protect the public health. The “secondary” standards are intended to protect the nation’s welfare and account for air pollutant effects on soils, water, visibility, materials, vegetation, and other aspects of general welfare.

The State also regulates Toxic Air Contaminants separately from those pollutants with California Ambient Air Quality Standards, primarily through the Tanner Air Toxics Act (Assembly Bill 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 2588). Within California, the Office of Environmental Health Hazard Assessment works with CARB to address health risk issues associated with toxic air contaminants. The Office of Environmental Health Hazard Assessment establishes Reference Exposure Levels as indicators of potential adverse health effects. In addition, in 2007 CARB approved a new regulation to reduce emissions from existing off-road diesel vehicles in California in construction, mining, and other industries. The regulation requires vehicle fleets to either meet a set of fleet average targets for NO<sub>x</sub> and particulate matter or turn over and apply exhaust retrofits to a certain percent of the fleet’s horsepower per year.

#### 4.3.3.3 Local

##### Monterey Bay Air Resources District (MBARD)

The MBARD regulates air quality in the NCCAB and is responsible for attainment planning related to criteria air pollutants, district rule development, and enforcement. It also reviews air quality analyses prepared for CEQA assessments and has published the CEQA Air Quality Guidelines document for use in the evaluation of air quality impacts. At the local level, the MBARD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Air quality is also managed through land use and development planning practices. The MBARD has adopted emission thresholds to determine the level of significance of a project’s emissions. MBARD adopted the 2012-2015 Air Quality Management Plan (“AQMP”) in 2017. NCCAB Attainment Status to National and California Ambient Air Quality are presented in **Table 1**.

**Table 2**  
**Overview of Key Pollutants**

<b>Pollutant</b>	<b>Characteristics</b>	<b>Health Effects</b>	<b>Major Sources</b>
Ozone (O <sub>3</sub> )	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen). Often called photochemical smog. Highest concentrations of ozone are found downwind of urban areas.	Respiratory function impairment.	Sources of ozone precursors (nitrogen oxides and reactive hydrocarbons) are combustion sources, such as factories and automobiles and evaporation of solvents and fuels.

Pollutant	Characteristics	Health Effects	Major Sources
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels. CO concentrations are highest in the winter, when radiation inversions over large areas can limit vertical dispersion.	Impairment of oxygen transport in the bloodstream. Aggravation of cardiovascular disease. Fatigue, headache, confusion, dizziness. Can be fatal in the case of very high concentrations.	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide (NO <sub>2</sub> )	Nitrogen dioxide is a reddish-brown gas that discolors the air, which formed during combustion. Nitrogen dioxide levels in California have decreased in recent years due to improved automobile emissions. Ambient standards are typically not exceeded in North Central Coast Air Basin.	Increased risk of acute and chronic respiratory disease.	Automobile and diesel truck exhaust, industrial processes, and fossil-fuel powered plants. Also formed via atmospheric reactions.
Sulfur Dioxide (SO <sub>2</sub> )	Sulfur dioxide is a colorless gas with a pungent, irritating odor. Ambient standards for sulfur dioxide are rarely exceeded in the North Central Coast Air Basin.	Aggravation of chronic obstruction lung disease. Increased risk of acute and chronic respiratory disease.	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM <sub>10</sub> & PM <sub>2.5</sub>	Solid and liquid particles of dust, soot, aerosols, and other matter that are small enough to remain suspended in the air for a long period of time. PM <sub>10</sub> is particulate matter with diameter less than 10 microns. PM <sub>2.5</sub> is particulate matter with diameter less than 2.5 microns. PM <sub>2.5</sub> has been found to be more harmful to humans.	Aggravation of chronic disease and heart/lung disease symptoms.	Combustion, automobiles, field burning, factories, and unpaved roads. Also, formed secondarily by photochemical processes of combustion emissions. PM <sub>2.5</sub> is primarily a secondary pollutant.

**Table 3  
Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standard <sup>a,c</sup>	Federal Standard <sup>b</sup> Primary <sup>c,d</sup>	Federal Standard <sup>b</sup> Secondary <sup>c,e</sup>
Ozone (O <sub>3</sub> )	1-Hour	0.09 ppm (180 µg/m <sup>3</sup> )	--	--
Ozone (O <sub>3</sub> )	8-Hour	0.07 ppm (137 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )
Carbon Monoxide (CO)	1-Hour	20 ppm (23mg/m <sup>3</sup> )	35.0 ppm (40mg/m <sup>3</sup> )	--
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10mg/m <sup>3</sup> )	9.0 ppm (10mg/m <sup>3</sup> )	--
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )	--	--

Pollutant	Averaging Time	California Standard <sup>a,c</sup>	Federal Standard <sup>b</sup> Primary <sup>c,d</sup>	Federal Standard <sup>b</sup> Secondary <sup>c,e</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	Annual <sup>f</sup>	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Sulfur Dioxide (SO <sub>2</sub> )	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )	--	--
Sulfur Dioxide (SO <sub>2</sub> )	3-Hour	--	--	0.5 ppm (1,300 µg/m <sup>3</sup> )
Sulfur Dioxide (SO <sub>2</sub> )	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )	--
Sulfur Dioxide (SO <sub>2</sub> )	Annual <sup>f</sup>	--	0.030 ppm (80 µg/m <sup>3</sup> )	--
PM <sub>10</sub>	24-Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
PM <sub>10</sub>	Annual <sup>f</sup>	20 µg/m <sup>3</sup>	--	--
PM <sub>2.5</sub>	24-Hour	no separate state standard	35 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual <sup>f</sup>	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
Lead <sup>f</sup>	Calendar quarter	--	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
Lead <sup>f</sup>	30-day	1.5 µg/m <sup>3</sup>	--	--
Lead <sup>f</sup>	3-Month <sup>h</sup>	--	0.15 µg/m <sup>3</sup>	0.15 µg/m <sup>3</sup>
Sulfate	24-Hour	25 µg/m <sup>3</sup>	--	--
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	--	--
Vinyl Chloride <sup>g</sup>	24-Hour	0.010 ppm (26 µg/m <sup>3</sup> )	--	--
Visibility Reducing Particles	8-hours (10 am - 6 pm)	In sufficient amounts to reduce prevailing visibility to < 10 miles when relative humidity is < 70% w/ equivalent instrument method	--	--

ppm = Parts per Million by volume (or micromoles of pollutant per mole of gas)

µg/m<sup>3</sup> = Micrograms per Cubic Meter

(a) Standards for ozone, carbon monoxide, sulfur dioxide (1 and 24-hour), nitrogen dioxide, suspended particulate matter – PM<sub>10</sub> and PM<sub>2.5</sub>, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

(b) National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three (3) years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three (3) years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

(c) Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to match reference temperature and pressure.

(d) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

(e) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(f) Annual Arithmetic Mean

(g) The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

(h) National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: California Air Resources Board. 2008. Ambient Air Quality Standards. Nov. 11. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

#### 4.3.4 THRESHOLDS OF SIGNIFICANCE

##### AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

Would the project:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan? (Source: 1, 15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation? (Source: 1, 15, 16)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Expose sensitive receptors to substantial pollutant concentrations? (Source: 1, 15)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Result in substantial emissions (such as odors or rust) adversely affecting a substantial number of people? (Source: 1, 15)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.3.5 IMPACT ANALYSIS

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

CEQA Guidelines §15125(b) requires that a project be evaluated for consistency with applicable regional plans, including the AQMP. The most recent AQMP update was approved in March of 2017. This plan addresses the attainment of the State ozone standard and federal air quality standard. The AQMP accommodates growth by projecting growth in emissions based on population forecasts prepared by the Association of Monterey Bay Area Governments (“AMBAG”) and other indicators. Consistency determinations are issued for commercial, industrial, residential, and infrastructure-related projects that have the potential to induce population growth. A project is considered inconsistent with the AQMP if it has not been accommodated in the forecast projections considered in the AQMP.

##### **ParkIT! Shuttle Program**

The proposed ParkIT! Shuttle Program would not cause and/or otherwise induce population growth. Therefore, the ParkIT! Shuttle Program would have no impact.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not cause and/or otherwise induce population growth. Therefore, the Reservation System would have no impact.

##### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not conflict with or obstruct implementation of applicable air quality plans. The Proposed Project would have no impact.

- b) *Violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation?*

The MBARD 2016 CEQA Air Quality Guidelines contain standards of significance for evaluating potential air quality effects of projects subject to the requirements of CEQA. According to MBARD, a project would violate an air quality standard and/or contribute to an existing or projected violation if it would:

- Emit (from all sources, including exhaust and fugitive dust) less than:
  - 137 pounds per day of oxides of nitrogen (NO<sub>x</sub>)
  - 137 pounds per day of reactive organic gases (ROG)
  - 82 pounds per day of respirable particulate matter (PM<sub>10</sub>)
  - 55 pounds per day of fine particulate matter (PM<sub>2.5</sub>)
  - 550 pounds per day of carbon monoxide (CO)

### **ParkIT! Shuttle Program**

#### *Construction Emissions*

The only construction that would occur with the implementation of the Shuttle Program is the Marathon Flats Facility. The site would require minor grading to accommodate the proposed gravel parking lot (approximately 1,400 cubic yards). There would be a total of about 1,000 cubic yards of aggregate imported to the site, assuming eight (8) inches of gravel over the approximately 40,000 square feet footprint.

Construction would involve the use of construction equipment to grade the site, haul materials, and install improvements such as some concrete paving; however, this is a minor construction project with a short duration. According to the MBARD's criteria for determining construction impacts, a project would result in a potentially significant impact if it would result in 8.1 acres of minimal earthmoving per day or 2.2 acres per day with major grading and excavation. Construction of the Project would involve less than 2.2 acres of disturbance (for the Marathon Flats Facility). In addition, construction would implement standard construction Best Management Practices (BMPs) related to dust suppression, which would include: 1) watering active construction areas; 2) prohibiting grading activities during periods of high wind (over 15 mph); 3) covering trucks hauling soil; and 4) covering exposed stockpiles. The implementation of BMPs would further ensure that potential construction-related emissions would be minimized. Since construction activities associated with the Shuttle Program would be under the threshold for construction air quality impacts, this impact is considered less than significant.

#### *Operational Emissions*

The main component of the ParkIT! Shuttle Program with the potential to result in operational emissions consists of the operation of the shuttle program and traffic associated with the use of the Marathon Flats Facility. The parking lot would operate as a

satellite parking facility. The Marathon Flats Facility is expected to have trip generation characteristics proportional to what is generated by Point Lobos and would not increase net new vehicular traffic generating operational air pollutant emissions. As discussed in **Section 4.15, Transportation and Traffic**, the Shuttle Program would reduce potential vehicular traffic operating on this segment of SR 1, thereby reducing potential vehicular emissions along this segment of SR 1. Moreover, the Proposed Project would also likely result in a net reduction of air quality emissions associated with vehicular traffic travel along SR 1 to Point Lobos due to the operation of the shuttle program. Alternative transportation, such as a shuttle program, tends to reduce vehicular air quality emissions by reducing the volume of traffic traveling on a particular roadway section. In this instance, the Proposed Project would reduce the extent of vehicular traffic traveling on SR 1 south to Point Lobos, which would likely result in a net positive air quality effect in this area.

While the use of the Marathon Flats Facility could result in a localized increase in air quality emissions due to vehicles parking at the Marathon Flats parking area, this is not anticipated to result in a net increase in air quality emissions. This site is routinely used for parking and seasonal events, and the primary source of localized air quality emissions is associated with vehicular traffic traveling along SR 1. The proposed Shuttle Program would reduce trips on SR 1 and, therefore, would have a net beneficial impact in terms of air quality emissions.

In summary, the Project is not anticipated to exceed the MBARD thresholds for operational emissions and would have a less than significant air quality impact from operations.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System is intended to manage park access to minimize potential environmental effects due to overuse and increased visitation. No construction is required for the Reservation System; furthermore, operation of the Reservation System would likely result in a net positive air quality effect as it would reduce vehicle traffic traveling on SR 1 south to Point Lobos. As such, the Reservation System is not anticipated to exceed the MBARD thresholds for operational emissions and would have a less than significant air quality impact.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation. Construction of the ParkIT! Shuttle Program, specifically the construction of the Marathon Flats Facility, would be under the threshold of construction-related air quality impacts. Standard BMPs would be implemented to further minimize construction related emissions. Operation of the ParkIT! Shuttle Program would likely result in a net reduction of air quality impacts, as vehicular trips would be reduced between Carmel and Point Lobos. No construction is required for the Reservation System, and operation of the Reservation System would also reduce

vehicular trips between Carmel and Point Lobos. The combined effect of both components would be less than significant.

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

**ParkIT! Shuttle Program**

The Shuttle Program would not expose sensitive receptors to substantial pollutant concentrations. No sensitive receptors are located in the immediate vicinity of the Marathon Flats Facility, the only location where construction-related activities would occur. The nearest sensitive receptors to the Marathon Flats Facility are located across SR 1 to the west, approximately 200 feet from the site. The Project would result in minor temporary air quality emissions of short duration during construction that would not exceed MBARD thresholds. In addition, the Shuttle Program would not result in net increase in new vehicular traffic that would substantially increase operational air pollutant emissions. Therefore, no sensitive receptors would be exposed to substantial pollutant concentrations. This represents a less than significant impact.

**State Parks - Day-Use Reservation System for Point Lobos**

See b) above. The Reservation System is intended to manage park access to minimize potential environmental effects due to overuse and increased visitation. No sensitive receptors would be exposed to substantial pollutant concentrations. Moreover, the operation of the Reservation System would likely result in a net positive air quality effect as it would reduce vehicle traffic traveling on SR 1 south to Point Lobos. As such, this represents a less than significant impact.

**Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not expose sensitive receptors to substantial pollutant concentrations. The only construction-related activities associated with the ParkIT! Shuttle Program would occur at the Marathon Flats site. The nearest sensitive receptor is approximately 200 feet from the site. Construction would result in temporary air quality emissions that would not exceed MBARD thresholds. Additionally, the ParkIT! Shuttle Program would not result in a net increase in new vehicular traffic that would increase operational air pollutant emissions. As discussed in **Section 4.15, Transportation and Traffic**, the Shuttle Program would result in a net reduction of vehicular traffic on this segment of SR 1. As a result, the operation of the shuttle would reduce potential emissions as compared to existing conditions. As discussed above, the Reservation System does not require construction, and operation would likely result in a net positive air quality effect as it would reduce vehicle traffic on SR 1 between Carmel and Point Lobos. The combined effect of both components would be less than significant.

- d) *Result in substantial emissions (such as odors or rust) adversely affecting a substantial number of people?*

### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program could generate intermittent odors during construction associated with diesel exhaust that could be noticeable at times to nearby uses. However, given the limited construction duration and lack of sensitive receptors in the immediate vicinity, and minimal nature of construction activities, these potential intermittent odors are not anticipated to result in odor impacts nor affect a substantial number of people. Any odors generated during construction activities would cease upon completion. This represents a less than significant effect.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in substantial emissions, such as odors, adversely affecting a substantial number of people. Construction is not required for the Reservation System; therefore, there would be no potential for intermittent odors.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in substantial emissions adversely affecting a substantial number of people. The ParkIT! Shuttle Program could generate intermittent odors during construction but would be minimal in nature and not anticipated to result in odor impacts, nor affect a substantial number of people. Similarly, the Reservation System would not require construction and therefore would not result in substantial emissions, such as odors adversely affecting a substantial number of people. The combined effect of both components would be less than significant.

## **4.4 BIOLOGICAL RESOURCES**

### **4.4.1 INTRODUCTION**

This section assesses the potential impacts to biological resources from the Project. A focused botanical survey and general biological reconnaissance was conducted on April 30, 2020. These survey results were used to assess potential effects on biological resources associated with the Project. Prior to survey efforts, aerial photographs, site plans, areas of special interest or areas of potential biological value, California Natural Diversity Database (“CNDDDB”), California Natural Plant Society Database (“CNPS”), and other rare plant databases were reviewed and subsequently assessed during the field survey.

### **4.4.2 ENVIRONMENTAL SETTING**

The Project is located within unincorporated Monterey County. The required construction for the Proposed Project is associated with improvements at the Marathon Flats Facility, adjacent to the Carmel Crossroads Shopping Center. This site is approximately 1.4 acres in size. The Marathon Flats site is regularly operated as a parking/staging area for several seasonal events annually. As



a result of this historical usage, the site is disturbed. Disturbance from these events is evidenced by the import of gravel infill, stunted vegetation, non-native invasive plant infestation, and several bare ground depressions.

#### **4.4.3 SURVEY METHODOLOGY**

A biological reconnaissance survey was conducted for the Marathon Flats Project site on April 30, 2020. The biological reconnaissance survey methods included walking the Project site, using aerial maps and GPS to identify general habitat types and potential sensitive habitat types. DD&A also conducted a focused survey for special-status plant species. The site was surveyed for botanical resources following the applicable guidelines outlined in the U.S. Fish and Wildlife Service (“USFWS”) *Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed and Candidate Plants* (USFWS, 2000), the California Department of Fish and Wildlife (“CDFW”) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2018), and the CNPS *Botanical Survey Guidelines* (CNPS, 2001). A reconnaissance-level wildlife habitat survey to identify any special-status wildlife species occurring within the site, or suitable habitat for those species, was also conducted.

Data collected during the survey was used to assess the environmental conditions of the Project site and its surroundings, evaluate environmental constraints at the site and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts to biological resources. The surveyed Project site includes all areas where permanent and temporary impacts are expected to occur as a result of Project activities (**Figure 6**).

##### **4.4.3.1 Special-Status Species**

Special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS; those listed or proposed for listing as rare, threatened, or endangered by CDFW; plants occurring on Lists 1B and 2 of the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2020); animals designated as “Species of Special Concern” by CDFW, and species which meet the CEQA criteria for endangered, rare or threatened under 14 Cal. Code Reg. § 15380(b).<sup>4</sup>

Current agency status information was obtained from the USFWS and CDFW for species that are listed, proposed for listing, or are candidates for listing as Threatened or Endangered under federal Endangered Species Act (“ESA”) or the California Endangered Species Act (“CESA”), or are CDFW species of special concern. RareFind Reports from the California Natural Diversity Database (CDFW, 2020) were reviewed for special-status species occurrences in the quadrangle containing the Project site (Monterey quadrangle) and the four (4) surrounding quadrangles (Marina, Seaside, Mount Carmel, and Soberanes Point). The Information, Planning, and Consultation System Report (USFWS, 2020) was also reviewed for special-status species occurrences within the Marathon Flats site.

---

<sup>4</sup> Species on CNPS List 3 (Plants About Which We Need More Information - A Review List) and List 4 (Plants of Limited Distribution - A Watch List) may, but generally do not, qualify for protection under this provision. This analysis considers species on CNPS Lists 1 or 2 as special-status species.

Permanent Impact Area

Survey Area



Title: **Biological Survey Area**

Date: 1/26/2021  
Scale: 1 inch = 90 feet  
Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
Environmental Consultants Resource Planners  
947 Cass Street, Suite 5  
Monterey, CA 93940  
(831) 373-4341

Figure  
**6**

**Appendix A** includes special-status plant and wildlife species known to occur or with the potential to occur within the Project vicinity, along with their legal status, habitat requirements, and potential to be impacted by the Project. This information represents documented occurrences reported in the CNDDDB RareFind Reports, personal communication with relevant resources, agency staff and local biologists, field observations, and published literature. Species documented as known or with the potential to occur within the Project boundaries, based on comparing geographic ranges and habitat requirements of the species and habitat conditions on the property, are discussed further below. This analysis assumes that all other species are absent based on the species-specific rationale provided in **Appendix A**.

#### **4.4.3.2 Sensitive Habitats**

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted habitat types. Habitat types considered sensitive include those listed on the CDFW's working list of high priority and rare natural communities' habitats (i.e., those habitats that are Rare or Endangered within the borders of California; CDFW, 2020), those designated as critical habitat in accordance with the federal ESA, and those designated as Environmentally Sensitive Habitat Areas ("ESHA") under the Coastal Act.

#### **4.4.4 EXISTING CONDITIONS**

##### **4.4.4.1 Vegetation Communities within the Project Boundary**

Within the boundaries of the Marathon Flats site, one (1) vegetation community (Ruderal/Disturbed) was identified; this vegetation community is described below.

##### **Ruderal/Disturbed**

Ruderal areas are those areas which have been disturbed by human activities and are dominated by nonnative annual grasses and other "weedy" species. Landscaped areas are also included within this vegetation type. Ruderal areas within the Project site include vegetation dominated by false barley (*Hordeum murinum*), buck's-horn plantain (*Plantago coronopus*), English plantain (*Plantago lanceolata*), and slender wild oat (*Avena barbata*). Approximately 1.4 acres of ruderal/disturbed areas are present within the Project site.

This vegetation type is considered to have low biological value as it is generally dominated by non-native plant species and consists of relatively low-quality habitat from a wildlife perspective. However, common wildlife species which do well in urbanized and disturbed areas, such as the American crow (*Corvus brachyrhynchos*), California ground squirrel, raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), western scrub jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), coast range fence lizard (*Sceloporus occidentalis bocourtii*), and rock pigeon (*Columba livia*), may forage within this vegetation type.

Developed areas can also be found directly adjacent to the Project boundaries, including paved biking paths and existing parking infrastructure. These areas have little biological value, and no vegetation is present.

#### 4.4.4.2 Special-Status Plant Species

Focused botanical surveys were conducted on April 30, 2020, during the appropriate blooming period for species determined to be likely to be found within the Project boundaries. No special-status plant species were identified during the survey efforts.

One (1) CNPS list 1B plant, Monterey cypress, was observed during the rare plant survey effort; however, for reasons discussed below, this plant was not given special-status designation. No trees are planned for removal during the course of construction.

#### Special-Status Plant Species Identified During Focused Rare Plant Surveys

##### *Monterey cypress*

Monterey cypress is a CNPS List 1B species in the Cupressaceae family. This evergreen tree is associated with closed-cone coniferous forest at elevations of 10-30 meters. This species natively occurs only at Cypress Point in Pebble Beach and Point Lobos but is widely planted and naturalized elsewhere. It is assumed that the Monterey cypress trees identified at the site are horticultural plantings. Therefore, they are generally not given the same management consideration as Monterey cypress trees within the known geographical native range.

#### 4.4.4.3 Special-Status Wildlife Species

##### Raptors

Raptors and their nests (including hawks, eagles, falcons, kestrels, and owls) are protected under the Migratory Bird Treaty Act of 1918 (“MBTA”) and CDFW Code Sections 3503 and 3503.5. All active nests are protected from take by CDFW Code Sections 3503 and 3503.5. While the life histories of these species vary, overlapping nesting similarities (approximately from mid-March to August 1) allows their concurrent discussion. These species include, but are not limited to, ferruginous hawk (*Buteo regalis*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*B. lineatus*), short-eared owl (*Asio flammeus*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), American kestrel (*Falco sparverius*), and sharp-shinned hawk (*Accipiter striatus*).

Most raptors are breeding residents throughout most of the wooded portions of the state. Raptors can be found from sea level to above 9,000 feet. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently. Nesting also occurs in isolated stands of trees adjacent to foraging habitat. Most species nest in tree crotches 10 to 80 feet, but usually 20 to 50 feet, above ground. Breeding occurs between March and August, with peak activity May through July. Prey for these species include small birds (especially young during the nesting season), small mammals, and some reptiles and amphibians. Many raptor species hunt in open woodland and habitat edges and often in agricultural fields. Potential nesting trees appropriate for many raptor species occur adjacent to the site.

#### 4.4.5 REGULATORY SETTING

##### 4.4.5.1 State

##### California Fish and Wildlife Code

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. Section 3503 of the CDFG Code prohibits the killing, possession, or destruction of bird eggs or bird nests. Section 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds (including raptors and passerines). Section 3503.5 states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto.” Section 3513 prohibits the take or possession of any migratory non-game birds designated under the federal Migratory Bird Treaty Act. Section 3800 prohibits the take of non-game birds.

#### 4.4.6 THRESHOLDS OF SIGNIFICANCE

BIOLOGICAL RESOURCES		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal filling, hydrological interruption, or other means? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**BIOLOGICAL RESOURCES**

Would the project:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	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? (Source: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**4.4.7 IMPACT ANALYSIS**

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

**ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Mature trees within and adjacent to the Marathon Flats site may provide nesting habitat for migratory birds, including raptors. Raptors and their nests are protected under the Migratory Bird Treaty Act of 1918 and California Fish and Game Code Sections 3503 and 3503.5. An increase in noise disturbance, due to construction-related activities, may result in nest abandonment. This is considered a potentially significant impact that would be reduced to a less than significant level with mitigation identified below.

*Mitigation*

**MM 4.4-1:** State Parks will ensure that the following measures are implemented during all phases of construction (i.e., pre-, during, and post-construction).

- A qualified biologist will conduct an Employee Education Program for the construction crew prior to construction activities. A qualified biologist will meet with the construction crew at the onset of construction at the Project site to educate the construction crew on the following: 1) the appropriate access route in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded by the USFWS and CDFW; and 6) the proper procedures if a special-status species is encountered within the Project site.
- Trees and vegetation not planned for removal or trimming immediately adjacent to the Project site will be protected prior to and during construction. This includes the use of

exclusionary fencing, such as hay bales, protective wood barriers, or orange construction fencing. Only certified weed-free straw will be used to avoid the introduction of non-native, invasive species. A biological monitor will supervise the installation of protective fencing. The monitor will remain on-site during the initial grading activities and vegetation removal. After these activities are completed, the biological monitor will check at least once per week until the construction is complete that the protective fencing remains intact, and that all construction work is maintained within the limits of construction.

- Grading, excavating, and other activities that involve substantial soil disturbance shall be planned and carried out in consultation with a qualified hydrologist, engineer, or erosion control specialist, and will utilize standard erosion control techniques to minimize erosion and sedimentation to native vegetation.
- No firearms will be allowed on the Project site at any time, with the exception of State Parks Peace Officers.
- To reduce the attractiveness of work areas to predators, food-related trash must be kept in closed containers and removed regularly, wildlife must not be fed, and pets are prohibited at the construction site at all times.

**MM 4.4-2:** Construction activities that may affect nesting raptors and other protected avian species (e.g., migratory birds, bank swallow, and western snowy plover) can be timed to avoid the nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 16 and before January 31. Alternatively, a qualified biologist will conduct pre-construction surveys for nesting raptors and other protected avian species within 500 feet of proposed construction activities if construction occurs between February 1 and September 15. Pre-construction surveys should be conducted no more than 15 days prior to the start of construction. If raptors or other protected avian species nests are identified during the preconstruction surveys, the qualified biologist will notify State Parks and an appropriate no-disturbance buffer will be imposed within which no construction activities or disturbance should take place (generally 500 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist and/or State Parks.

### **State Parks - Day-Use Reservation System for Point Lobos**

The proposed Reservation System would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Indirect effects could potentially occur in connection with illicit site access to avoid payment of entrance fees. Illicit access could result in several potential indirect effects due to informal trail creation and access. This could result in habitat loss and vegetation removal, impacts to migratory birds, and other similar impacts. While illicit site access could have indirect biological impacts, the proposed Reservation System is intended to manage Park access

to minimize potential environmental effects due to overuse, including indirect effects. Moreover, as noted previously, State Parks routinely implements adaptive management strategies to ensure that potential adverse environmental effects are avoided and minimized as part of existing Park operations. If adverse impacts are identified in connection with the implementation of the Reservation System, or due to illicit access, State Parks would implement additional adaptive management measures (e.g., increased patrols, trail closures, docent-led tours, symbolic fencing, etc.) to ensure impacts are avoided and/or minimized. This would represent a less than significant effect.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The ParkIT! Shuttle Program could result in an increase in noise disturbance due to construction-related activities at the Marathon Flats Facility site which may result in nest abandonment. This is considered a potentially significant impact that will be reduced to a less than significant level with **Mitigation Measure 4.4-1** and **Mitigation Measure 4.4-2**. While the proposed Reservation System could result in indirect effects due to increased visitation and use, these effects are not anticipated to be significant since the proposed Reservation System is intended to manage Park access sustainably and minimize potential environmental effects due to overuse and increased visitation. Furthermore, if effects are observed during Park operations, State Parks would implement additional adaptive management measures to ensure impacts are avoided and/or minimized. The combined effect of both components would be less than significant with mitigation incorporated.

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

## **ParkIT! Shuttle Program**

Implementation of the proposed Shuttle Program, including the construction of the Marathon Flats Facility, would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified 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 only physical impacts associated with the Shuttle Program entail the construction of parking facilities at Marathon Flats. The Marathon Flats site is maintained and disturbed. No sensitive natural communities or habitats were documented during the survey effort. The proposed Shuttle Program, therefore, would have no impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.



## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not have direct adverse effects on any riparian habitat or other sensitive natural communities identified 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 Reservation System could, however, potentially result in indirect effects due to increased visitation and increased Park use. Sensitive natural communities (e.g., Environmentally Sensitive Habitat Areas (“ESHAs”)) within the Park include Monterey cypress forests, Monterey pine forests, central maritime chaparral, and coastal prairie, as well as several aquatic habitat communities. Potential indirect effects associated with increased visitation and use could include illegal off-trail use, introduction of invasive species, habitat trampling, and erosion. As mentioned above, potential adverse effects to ESHAs and other sensitive natural communities as a result of the implementation of the Reservation System is possible but unlikely, and not anticipated to be significant since the Reservation System is intended to address the overuse of the Park. State Parks currently implements a variety of management strategies to address adverse impacts as part of existing operations. If adverse effects were observed, State Parks would implement additional adaptive management measures (e.g., limiting access to sensitive areas, signing closed areas, increased patrol, docent-led tours) to ensure that impacts would be minimized. The proposed Reservation System would have a less than significant impact.

### Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation system would not have a substantial adverse impact on riparian habitat or other sensitive natural communities. The implementation of the ParkIT! Shuttle Program requires the construction of the Marathon Flats Facility which consists of a previously disturbed site. Furthermore, no sensitive natural communities or habitats were documented during the survey effort for the Shuttle Program. Similarly, the Reservation System would not result in direct impacts, and while indirect effects could result from increased visitation and Park use, these effects are not anticipated to be significant given the nature of the Proposed Project and the implementation of adaptive management strategies by State Parks. The combined effect of both components would be less than significant.

- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal filling, hydrological interruption, or other means?*

### ParkIT! Shuttle Program

Implementation of the proposed Shuttle Program, including the construction of the Marathon Flats Facility, would not have a substantial adverse effect on any state or federally protected wetlands. The only physical impacts associated with the Shuttle Program entail the construction of parking facilities and restrooms at Marathon Flats. The Marathon Flats site does not contain any wetland resources; therefore, the Project would have no impact on state or federally protected wetlands.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no direct impact on state or federally protected wetlands. The National Wetlands Inventory identifies a 1.75-acre Freshwater Emergent Wetland (classification PEM1A) within the Park. The Reservation System could have indirect effects to this wetland due to Park use (and potentially illicit site access), but these impacts would be consistent with existing Park operations. These effects are not anticipated to be significant since the Reservation System is intended to manage Park access sustainably and minimize environmental impacts. Furthermore, adaptive management measures implemented by State Parks addresses visitor use, and additional measures would be used to address effects and minimize impacts if observed following the implementation of the Reservation System. This represents a less than significant impact.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation system would not have a substantial adverse effect on state or federally protected wetlands. The only physical component of the ParkIT! Shuttle Program is associated with the construction of the Marathon Flats Facility. The Marathon Flats Facility site does not contain any wetlands resources, therefore, would have no impact. While the Reservation System would have no direct impact on wetlands, indirect effects could result from Park use consistent with existing Park operations. Indirect adverse effects are not anticipated to be significant since the Reservation System is intended to manage Park use sustainably. Additionally, State Parks implements adaptive management strategies to manage existing visitor use; if adverse effects were observed following the implementation of the Reservation System, State Parks would implement additional management measures to minimize and/or avoid impacts. The combined effect of both components would remain less than significant.

- 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?*

### **ParkIT! Shuttle Program**

The proposed Shuttle Program would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. The Marathon Flats site is disturbed and surrounded by existing development. Although the site has proximity to large blocks of natural habitats, such as the Carmel River, the surrounding level of development and the site's historical usage likely preclude the site as a wildlife corridor. With the exception of potential nesting habitat within the mature trees adjacent to the Marathon Flats site, no other habitat for native resident or wildlife species was documented during the survey effort. The Marathon Flats site is not located within a designated wildlife corridor. Therefore, the proposed Shuttle Program would not 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. As discussed above, construction of the Marathon Flats Facility could result in potential impacts to migratory bird species due to construction-related activities. This is considered a potentially significant impact that would be reduced to a less than significant level with mitigation identified above.

### **State Parks - Day-Use Reservation System for Point Lobos**

See a) above. Indirect effects to native resident or migratory fish or wildlife species (e.g., nesting migratory birds) could potentially result due to increased visitation. However, these effects are not anticipated to be significant since the proposed Reservation System is intended to manage Park access in a manner to minimize potential environmental effects due to overuse and increased visitation. Moreover, as noted previously, if adverse impacts are identified due to increased visitation, State Parks would implement additional adaptive management measures (e.g., controlled access throughout the day, docent-led tours, symbolic fencing, etc.) to minimize the extent of potential impacts due to increased visitation. The implementation of adaptive management measures as part of on-going Park operations would ensure that this impact would be less than significant.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not 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 ParkIT! Shuttle Program's Marathon Flats site is disturbed and surrounded by existing developed areas. Therefore, this site is unlikely to serve as a wildlife corridor. Moreover, as noted previously, the site has been historically used for event parking and other seasonal events and is regularly disturbed. With the exception of potential nesting migratory birds, no other habitat for native resident or wildlife species were documented. Additionally, the Reservation System is intended to manage Park access in a sustainable manner, and State Parks would implement adaptive management strategies to ensure that impacts are minimized and/or avoided. The combined effects of both components would be less than significant with mitigation incorporated.

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

### **ParkIT! Shuttle Program**

The proposed Shuttle Program would not conflict with any local policies or ordinances protecting biological resources. Monterey cypress trees are located within the Marathon Flats site. No tree removal is, however, planned as part of the construction. As a result, the proposed Shuttle Program would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No mitigation is necessary. There would be no impact from this component.

## **State Parks - Day-Use Reservation System for Point Lobos**

The proposed Reservation System would not result in any direct physical impacts to the environment. Moreover, the proposed Reservation System would not directly conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy. While indirect effects to biological resources could result from Park use, these effects are not anticipated to be significant since the Reservation System is intended to manage Park access sustainably and minimize environmental impacts as a result of increased visitation. Indirect effects to biological resources include, but are not limited to, informal trail use and vegetation trampling, erosion, and introduction of invasive species. State Parks currently implements a variety of adaptive management strategies to manage, minimize and/or avoid environmental impacts. These strategies include:

- Docent-led tours
- Limiting access to sensitive habitats
- Signing closed areas
- Increased patrol by staff, volunteers, and law enforcement

If adverse effects were observed after the implementation of the Reservation System, State Parks would implement additional adaptive management measures to minimize and/or avoid environmental impacts. This represents a less than significant impact.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not conflict with any local policies or ordinances protecting biological resources. Construction of the Marathon Flats Facility would not require tree removal. The Reservation System would not result in direct impacts to biological resources, however indirect effects could result from Park use and increased visitation. Although adverse effects are not anticipated to be significant, State Parks would implement adaptive management strategies as part of ongoing Park operations. These adaptive management strategies would ensure that impacts would be less than significant. The combined effect of both components would be less than significant.

- 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?*

### **ParkIT! Shuttle Program**

The proposed Shuttle Program is not located within the boundaries of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, the Shuttle Program would have no impact on any habitat conservation plans.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no impact on any habitat conservation plans.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not 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 Shuttle Program is not located within the boundaries of an adopted habitat conservation plan, nor would the Reservation System impact any habitat conservation plans. The Proposed Project would have no impact.

## **4.5 CULTURAL RESOURCES**

### **4.5.1 INTRODUCTION**

This section describes the historical and archaeological history in the Project area and the Project's potential effects on cultural resources.

### **4.5.2 ENVIRONMENTAL SETTING**

#### **4.5.2.1 Regional History**

Radiocarbon and archaeological evidence indicate that human occupation of the California Coast began at least 10,000 years ago. Settlement of the coastal areas of Monterey County, however, did not begin until around 5,000 B.C. The Proposed Project lies within the currently recognized ethnographic territory of the Costanoan (also known as Ohlone) linguistic group. The Costanoan followed a general hunting and gathering subsistence pattern with partial dependence on the natural acorn crop. Costanoans are considered to be semi-sedentary, and occupation sites are generally found at the confluence of streams, other areas of similar topography along streams, or in the vicinity of springs. Also, resource gathering and processing areas and associated temporary campsites are frequently found on the coast and other locations containing the group's resources. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, ecotones, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

European contact began with the arrival of Spanish explorers in the 16th Century. However, it was not until 1770 that the Portola expedition arrived in Monterey Bay and established the first mission and Royal Presidio. With the arrival of the Portola expedition and the establishment of the first mission, a period of intense Native American conversion to Catholicism began. As a result, by 1778 most of the Costanoan Indians in Carmel and Monterey were baptized and settled around the mission to farm church lands. This resettlement marks the beginning of the disintegration of Native American traditional way of life in this area.

After Mexico gained its independence from Spain in 1820, a period of secularization ensued, and the remaining Indian groups were employed as ranch hands and domestic servants. By 1840 the Mission was in a state of ruin, and many Indians returned to pre-Spanish food collecting and hunting practices. As the competition for land increased with the arrival of Anglo settlers, Indian

communities began to disappear. By the turn of the century, vestigial Indian communities disappeared.

### **4.5.3 REGULATORY SETTING**

#### **4.5.3.1 State**

##### **California Health and Safety Code Sections 7050.5 and 7054**

Section 7050.5 states that “[i]n the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined... that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation.” The coroner shall make his or her determination within two (2) working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Section 7054 of the California Health and Safety Code regulates the disposal of human remains, classifying the disposal of human remains in any place, except in a cemetery, as a misdemeanor offense, punishable by imprisonment in a county jail not exceeding one (1) year, by a fine not exceeding ten thousand dollars (\$10,000), or both that imprisonment and fine. This section does not apply to the reburial of Native American remains.

##### **Native American Heritage Commission**

The Native American Heritage Commission (“NAHC”), created by statute in 1976, is a nine-member body appointed by the Governor to identify and catalog cultural resources (i.e., places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands) in California. The Commission is responsible for preserving and ensuring accessibility of sacred sites and burials, the disposition of Native American human remains and burial items, maintaining an inventory of Native American sacred sites located on public lands, and reviewing current administrative and statutory protections related to these sacred sites.

##### **Archaeological Resources and Human Remains**

Archaeological sites are protected by policies and regulations under the California Public Resources Code, California Code of Regulations (Title 14 Section 1427), and California Health and Safety Code. California Public Resources Code Sections 5097.9-5097.991 require notification of discoveries of Native American remains and identifies appropriate measures for the treatment and disposition of human remains and grave-related items.

Both State law and County Code require that the Monterey County Coroner be notified if human remains are found. If the Coroner determines the remains are Native American, the NAHC and a “most likely descendant” must also be notified.

#### 4.5.4 THRESHOLDS OF SIGNIFICANCE

CULTURAL RESOURCES		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to 15064.5? (Source: 1, 9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5? (Source: 1, 9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Disturb any human remains, including those interred outside of formal cemeteries? (Source: 1, 9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4.5.5 IMPACT ANALYSIS

- a) *Cause a substantial adverse change in the significance of a historical resource pursuant to 15064.5?*

CEQA Guidelines §15064.5 describes a historical resource as: 1) any resource that is listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources; 2) a resource included in a local register of historical resources; and, 3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant based on substantial evidence in light of the whole record. The fact that a resource is not listed in or determined to be eligible for listing does not preclude a lead agency from determining that the resource may be a historical resource (CEQA Guidelines §15064.5(4)). A substantial change includes the physical demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that the significance would be materially impaired (CEQA Guidelines §15064.5(b)).

#### **ParkIT! Shuttle Program**

The proposed Shuttle Program would not have a substantial adverse change in the significance of a historical resource. As noted previously, the only direct physical impacts to the environment associated with the Shuttle Program would occur in connection with the construction of the Marathon Flats Facility. This site does not contain any historic structures. Moreover, the site has been extensively disturbed in connection with prior use for event parking and other seasonal events. As a result, the Shuttle Program would have no impacts to historical resources as defined in CEQA 15064.5.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no direct impact to historical resources as defined by CEQA 15064.5, but could potentially result in indirect impacts associated with increased use and visitation. These effects would be minimized through the implementation of adaptive management practices. Furthermore, the proposed Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. This would be a less than significant impact.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would have a less than significant impact on historical resources as defined in CEQA 15064.5. As discussed above, the only direct physical impact would occur in connection with the construction of the Marathon Flats Facility, which would not affect an existing historical resource. Furthermore, the site has been extensively disturbed. While indirect impacts could occur as a result of increased use and visitation from the Reservation System, these effects would be minimized through the implementation of adaptive management practices. The combined effect of both components would have a less than significant impact.

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

Public Resources Code §21083.2 requires that lead agencies evaluate potential impacts to archaeological resources. Specifically, lead agencies must determine whether a project may have a significant effect or cause a substantial adverse change in the significance of an archaeological resource.

### **ParkIT! Shuttle Program**

#### *Marathon Flats Parking Facility*

Construction of the Marathon Flats Facility could potentially result in an adverse effect to an archaeological resource. More specifically, construction could potentially affect Archaeological site CA-MNT-290 (P-27-393), a shell mound/habitation site that was previously recorded in the vicinity of Marathon Flats in 1951. However, a subsequent survey by Caltrans in 1984 determined that the site was largely destroyed; but a small remnant of the site, containing shell midden, burnt animal bone, fire-affected rock, charcoal, a mano fragment and a light scatter of chert flakes, remained. Given the location of this site on a terrace above the Carmel River, it probably represented an important habitation site. Development in the Monterey/Carmel area over the last 70 years has destroyed most of the pre-contact village sites in the area, which further increases the value of any remnant habitation sites.

Although the proposed Marathon Flats Facility is located in the vicinity of a previously, albeit partially destroyed, archaeological site, it is unlikely that construction of the



proposed Marathon Flats Facility would adversely affect this site due to historical site disturbance. As noted above, the site has been extensively disturbed in connection with prior use for parking and other seasonal events. In addition, the extent of construction related activities are relatively minor in nature, and proposes only minor grading. Although disturbance to archaeological resources is unlikely, construction activities could potentially impact a previously unknown or buried archaeological resource. The implementation of the following mitigation measure would ensure that any potential impact would be less than significant.

#### *Mitigation*

**MM 4.5-1:** In order to minimize potential impacts to previously unknown or subsurface archaeological resources, all ground-disturbing work shall be monitored by a qualified archaeologist. Work shall stop in the event that a cultural resource is discovered during the course of construction. Archaeologist will notify California State Parks Archaeologist to evaluate the resource to determine whether the finding is significant. If the finding is a historical resource or unique archaeological resource, avoidance measures or appropriate mitigation shall be implemented. Work will cease in the immediate vicinity of the find until mitigation can be implemented. In accordance with CEQA Guidelines §15064.5(f) work may continue in other parts of the Project Site during the implementation of potential resource mitigation (if necessary). The California Department of Parks and Recreation will be responsible for reviewing and approving the mitigation plan in consultation with the qualified professional prior to the resumption of ground-disturbing activities.

#### *San Jose Creek Shuttle Stop*

The ParkIT! Shuttle Program would establish a shuttle stop at the San Jose Creek Trailhead. This shuttle stop is located near archaeological site CA-MNT-12/H, which contains significant and sensitive cultural resources. Additionally, this site is considered a sacred site to the local Rumsen and Esselen tribes. While the San Jose Creek shuttle stop would not directly impact this site, there is potential for indirect impacts due to increased visitation and use in connection with the eventual opening of San Jose Creek Trail to public use. While the opening of this trail is not proposed as part of the proposed Shuttle Program, the Shuttle Program could potentially indirectly increase visitation which could result in potential indirect effect to this resource. The mitigation measure below would be implemented to minimize the potential effects to less than significant. Moreover, as discussed in greater detailed in **Section 4.16, Tribal Cultural Resources**, State Parks would implement a number of management actions identified under the Carmel Area State Parks General Plan intended to minimize potential adverse effects to cultural resources, including tribal cultural resources. Similarly, State Parks would also continue to implement adaptive management strategies to minimize adverse effects as part of existing operations. Please refer to **Section 4.16, Tribal Cultural Resources** for further discussion.

### *Mitigation*

**MM 4.5-2:** Prior to the operation of the San Jose Creek shuttle stop, State Parks shall develop a Cultural Resource Management Plan. The plan shall address the use of the shuttle stop, as well as potential indirect effects associated with future public use of the San Jose Creek Trail. The plan shall identify resource protective measures to address potential secondary effects due to increased visitation and associated use. Applicable resource protective measures may include:

- Trail delineation in high trafficked areas using rod & cable and other types of fencing with signs;
- Regular patrols by staff and volunteers;
- Docent-led tours and educational contacts;
- Signing closed areas;
- Law Enforcement contacts and citations;
- On-going monitoring; and,
- Adaptive management strategies to minimize resource related impacts.

State Parks shall coordinate with Native American representatives during the preparation of the Cultural Resource Management Plan to solicit input and comment on appropriate resource protective measures. As part of the Cultural Resource Management Plan, State Parks will implement Best Management Practices and adaptive management strategies to minimize resource related effects.

### **State Parks - Day-Use Reservation System for Point Lobos**

Indirect effects on archaeological resources could potentially result due to increased visitation. However, these effects are not anticipated to be significant since the proposed Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., controlled access throughout the day, docent-led tours, symbolic fencing, increased ranger patrol, etc.) to ensure impacts are minimized and/or avoided, where feasible. This would represent a less than significant effect.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System could potentially affect existing archaeological resources during construction and operation. The construction of the Marathon Flats Facility would be minor in nature, and require minimal grading. While disturbance to resources is unlikely, construction could disturb previously unknown or buried resources. Implementation of **Mitigation Measure 4.5-1** would minimize potential effects to less than significant. Operation of the San Jose Creek Shuttle Program could indirectly impact sensitive cultural resources identified near

the shuttle stop. To minimize and/or avoid these potentially significant impacts, State Parks would implement **Mitigation Measure 4.5-2**. While the Reservation System would not result in direct impacts, indirect effects to archaeological resources could potentially result from increased visitation. While these effects are not anticipated to be significant, State Parks would implement additional adaptive management strategies during operation to ensure that these effects are minimized to a less than significant level. The combined effects of both components would have a less than significant impact with mitigation incorporated.

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

### **ParkIT! Shuttle Program**

No known human remains, including those interred outside of formal cemeteries, are known to occur within the Marathon Flats site. While the likelihood of human remains, including those interred outside of a formal cemetery, on the Marathon Flats site is low, it is possible that previously unknown human remains may be present. Previously unknown human remains could be impacted during construction. Implementation of the following mitigation measure would ensure that any potential impacts would be less than significant. See **Section 4.16** for a discussion of Tribal Cultural Resources.

#### *Mitigation*

**MM 4.5-3:** The California Department of Parks and Recreation will immediately halt work in the event of the discovery or recognition of any human remains. No further excavation or ground-disturbing activities will occur at the site or nearby area suspected to overlie adjacent remains until the Monterey County coroner has been contacted in accordance with §7050.5 of the California Health and Safety Code. If the coroner determines that the human remains are of Native American origin, the appropriate Native American tribe will be contacted to provide recommendations for the disposition of the remains. Work will not resume in the immediate area of the discovery until such time as the remains have been appropriately removed from the site.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System could have indirect effects on human remains, including those interred outside formal cemeteries by facilitating access to Point Lobos, illicit access, and by facilitating access to San Jose Creek. The proposed Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation by reducing peak visitation and distributing access more sustainably. As noted previously above, future access at San Jose Creek could potentially result in adverse effects to tribal cultural resources. As a result, it is possible that access to San Jose Creek, which would be facilitated through the proposed Reservation System, could indirectly affect human remains, including those interred outside formal cemeteries. San Jose Creek is a culturally sensitive area – therefore, human remains could be affected indirectly due to site access. These effects would be minimized through the implementation of the mitigation measures outlined above. Moreover, if adverse impacts

are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., increased patrols, docent-led tours, symbolic fencing, trail closures, etc.) to ensure minimized impacts. This would represent a less than significant effect.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System could potentially disturb human remains, including those interred outside of formal cemeteries during construction and operation. While the likelihood of human remains is low, impacts during construction and operation would be reduced to less than significant with implementation of mitigation measures identified above, and the use of adaptive management strategies developed by State Parks. The combined effects of both components would have a less than significant impact with mitigation incorporated.

## **4.6 ENERGY**

### **4.6.1 INTRODUCTION**

This section addresses the Project's effect on energy use and evaluates the potential for wasteful, inefficient, or unnecessary consumption of energy from the Project.

### **4.6.2 ENVIRONMENTAL SETTING**

Beginning in 2018, all PG&E customers within Monterey, San Benito, and Santa Cruz Counties were automatically enrolled in Central Coast Community Energy ("3CE"). 3CE is a locally controlled public agency providing carbon-free electricity to residents and businesses. 3CE is a joint power authority and based on a local energy model called community choice energy. 3CE partners with PG&E, which continues to provide billing, power transmission and distribution, customer service, grid maintenance services and natural gas services to Monterey County.

### **4.6.3 REGULATORY SETTING**

#### **4.6.3.1 State**

##### **California Renewable Energy Standards**

In 2002, California established its Renewables Portfolio Standard ("RPS") Program, with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent of retail sales by 2010. In 2006, California's 20 percent by 2010 RPS goal was codified under Senate Bill ("SB") 107. Under the provisions of SB 107 (signed into law in 2006), investor-owned utilities were required to generate 20 percent of their retail electricity using qualified renewable energy technologies by the end of 2010. In 2008, Executive Order S-14-08 was signed into law and requires that retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. As described previously, PG&E's (the electricity provider to the Project site) 2015 electricity mix was 30 percent renewable.

In October 2015, Governor Brown signed SB 350 to codify California’s climate and clean energy goals. A key provision of SB 350 for retail sellers and publicly owned utilities, requires them to procure 50 percent of the State’s electricity from renewable sources by 2030.

**California Building Codes**

At the State level, the Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California’s energy consumption. Title 24 is updated approximately every three (3) years. Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.

The California Green Building Standards Code (“CalGreen”) establishes mandatory green building standards for all buildings in California. The code covers five (5) categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality.

**4.6.4 THRESHOLDS OF SIGNIFICANCE**

ENERGY		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation? (Sources: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (Sources: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**4.6.5 IMPACT ANALYSIS<sup>5</sup>**

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

**ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would not result in a potentially significant environmental effect due to the wasteful, inefficient, or unnecessary consumption of energy, or wasteful

<sup>5</sup> The following impact analysis specifically evaluates the potential direct and indirect effects associated with the implementation of the Proposed Project. It is important to recognize, however, that the General Plan and Final EIR for the Carmel Area recognized that the implementation of alternative transportation measures, including a shuttle service, would reduce personal vehicle use and would result in a corresponding reduction in energy consumption. The Final EIR recognized that the implementation of a shuttle program would: 1) contribute to statewide goals of reducing air pollutants; 2) reduce greenhouse gas emissions; and, 3) promote energy efficiency. Several policies contained in the General Plan

use of energy resources, during construction or operation. Temporary use of energy would result from construction, as well as operational energy use in connection with the operation of the Marathon Flats Facility and associated shuttle service. Energy use associated with the ParkIT! Shuttle Program would not constitute an adverse effect under CEQA.

The construction of the Marathon Flats Facility would require energy for the procurement and transportation of materials, and preparation of the site (e.g., minor grading, materials hauling). Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these activities. The construction energy use has not been quantified; however, the construction would not cause inefficient, wasteful, or unnecessary consumption of energy because 1) the construction schedule and process is designed to be efficient to avoid excess monetary costs<sup>6</sup>, and 2) energy use required to complete construction would be three (3) months or less and all energy demand associated with construction would be temporary in nature.

The main component of the ParkIT! Shuttle Program with the potential to generate operational energy demand is associated with the operation of the proposed shuttle and related fuel consumption. The parking lot would operate as a satellite parking facility for Point Lobos. The Marathon Flats Facility is expected to generate traffic proportional to that already generated by Point Lobos; thus, the Program would not increase new vehicular trips generating additional consumption of petroleum-based fuels. As discussed in **Section 4.15, Transportation and Traffic**, the Shuttle Program would result in a net reduction of traffic trips operating on the segment of SR 1 between the Marathon Flats Facility and Point Lobos. This would correspond with a net reduction in energy usage associated with the operation of vehicles on this segment of SR 1. In fact, energy consumption generated by the Shuttle Program would be offset by the reduction in vehicle travel associated with personal vehicles traveling between the Marathon Flats Facility and Point Lobos. In other words, fuel use associated with the Shuttle Program is not anticipated to substantially increase energy demand beyond levels associated with existing vehicle travel to Point Lobos. Because the proposed Shuttle Program would reduce overall vehicle trips traveling to/from Point Lobos, the Shuttle Program would likely result in a net reduction in energy consumption as compared to existing conditions. The program's operation would result in a net reduction of vehicular traffic operating on the segment of SR 1 between the Marathon Flats Facility and Point Lobos. This would result in a corresponding reduction in fuel consumption associated with private vehicle usage and would constitute a net beneficial impact in terms of energy consumption.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in a potentially significant effect due to the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy

---

specifically recommend developing a shuttle program to improve energy efficiency and avoid the wasteful or inefficient use of energy.

<sup>6</sup> For example, equipment and fuel are not typically used wastefully during construction due to the added expenses associated with renting, maintaining, and fueling the equipment.

resources, during construction or operation. The Reservation System is intended to manage levels of visitation and control overuse while protecting natural and cultural resources. The implementation of the Reservation System is not anticipated to increase demand for energy use. The Reservation System is intended to help manage and facilitate public access in a sustainable manner that considers existing resources within Point Lobos – this does not constitute the wasteful or inefficient use of energy. Therefore, this would have a less-than-significant impact.

### **Conclusion**

Based on the discussion above, the Proposed Project, which includes both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. In fact, the Proposed Project, as a whole, would represent a net beneficial impact due to the reduction in vehicle traffic between the Marathon Flats Facility and Point Lobos and corresponding reduction in energy (i.e., fuel) consumption. See **Section 4.15, Transportation and Traffic**, for more information. The combined effects of both components would have a less than significant impact.

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

### **ParkIT! Shuttle Program**

See a) above. The construction and operation of the ParkIT! Shuttle Program would have a less than significant impact related to energy usage and efficiency. Thus, the ParkIT! Shuttle Program would comply with existing state energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

### **State Parks - Day-Use Reservation System for Point Lobos**

See a) above. The implementation and operation of the Reservation System would have a less than significant impact related to energy usage and efficiency.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos would comply with existing state energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The combined effect of both components would have a less than significant impact.

## **4.7 GEOLOGY AND SOILS**

### **4.7.1 INTRODUCTION**

This section describes the geologic and seismic setting for the Project area and evaluates the Project's potential impacts related to these conditions.

## **4.7.2 ENVIRONMENTAL SETTING**

### **4.7.2.1 Regional Overview**

The Project site is located at the west end of Carmel Valley, which lies within the Coast Ranges Geomorphic Province, a discontinuous series of northwest-southeast trending mountain ranges, ridges, and intervening valleys characterized by complex folding and faulting. The topography of the area is greatly varied, ranging from the flat bottomlands at the mouth of the Carmel River to the steep hillsides of the Carmel Hills.

The Monterey Bay Area region contains both active and potentially active faults. The largest earthquake fault in the region is the San Andreas, a major active fault located about 30 miles northeast of the Project site. The Project lies approximately 1.3 miles southwest of the Monterey Bay-Tularcitos fault and about 0.85 miles east of the Cypress Point fault. The proposed site is also approximately 4.6 miles northeast of the off-shore San Gregorio – Hosgri fault zone.

### **4.7.2.2 Site Characteristics**

The Natural Resources Conservation Service characterizes soils within the Project area. Soils in the Project area are mostly disturbed. Elevation at the Project site is approximately 20 feet above mean sea level (Google Earth, 2021). Current and historic ground disturbances are primarily due to the previous grading for the Marathon Flats site. The Monterey County Soil Survey indicates the presence of the following mapping unit within the Marathon Flats site:

- Elder very fine sandy loam, 2 to 9 percent slopes (“EbC”) characterizes the Project site at Marathon Flats, south of the intersection of Rio Road and State Route 1. The EbC consists of gently and moderately sloping, slightly hummocking soil that occupies small areas in narrow valleys. Runoff is medium, and the erosion hazard is moderate. (NRCS, May 2020 and USDA 1978)

## **4.7.3 REGULATORY SETTING**

### **4.7.3.1 State**

#### **Seismic Hazards Mapping Act**

The purpose of the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is to reduce damage resulting from earthquakes. The Seismic Hazards Mapping Act addresses earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.



## California Coastal Act

The California Coastal Act (Public Resources Code, Section 30000 et seq.) requires that new development minimize risks to life and property in areas of high geologic, flood, and fire hazard, assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs (Public Resources Code, Section 30253).

### 4.7.4 THRESHOLDS OF SIGNIFICANCE

GEOLOGY AND SOILS		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Directly or indirectly cause 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? Refer to Division of Mines and Geology Special Publication 42. (Source: 1, 17)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	ii) Strong seismic ground shaking? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Seismic-related ground failure, including liquefaction? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Landslides? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? (Source 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (Source: 1, 17, 19, 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Source: 1, 17, 18)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **4.7.5 IMPACT ANALYSIS**

- a) *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*
- ai) *Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

##### **ParkIT! Shuttle Program**

The Project is not located within an Alquist-Priolo Earthquake Fault Zone. Therefore, the ParkIT! Shuttle Program would have no impact.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The Proposed Project is not located within an Alquist-Priolo Earthquake Fault Zone; therefore, the Reservation System would have no impact.

##### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos would have no impact as the Project is not located within an Alquist-Priolo Earthquake Fault Zone. The Proposed Project would have no impact.

- aii) *Strong seismic ground shaking?*

The Proposed Project site is located in a seismically active region and is within proximity to several active and potentially active faults. An earthquake on any of the regional faults could cause potential seismic-related impacts. However, these effects would not be significant given the nature of the Proposed Project and limited permanent facilities.

##### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program consists of limited facilities – i.e., parking improvements and associated restroom facilities. While the Marathon Flats site could be subject to strong seismic ground shaking, the extent of public facilities is limited. Furthermore, all structures (e.g., bathroom, areas of concrete, etc.) would be constructed in accordance with standard engineering and seismic safety design techniques. This represents a less than significant impact.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not have a substantial direct effect as a result of strong seismic ground shaking. The Reservation System is intended to manage visitation levels to ensure access is managed sustainably. The implementation of a Reservation System, although located in a seismically active region, would not result in any direct or indirect

effects due to strong seismic ground shaking. There would be no impact from the Reservation System.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos, would not have a substantial direct effect as a result of strong seismic ground shaking. The only physical component associated with the ParkIT! Shuttle Program would be the construction of the Marathon Flats Facility. All structures would be constructed in conformance with standard engineering and seismic safety design techniques. The Reservation System would not result in direct or indirect effects due to seismic shaking. The combined effects of both components would be less than significant.

*aiii) Seismic related ground failure, including liquefaction?*

### **ParkIT! Shuttle Program**

Liquefaction potential for the ParkIT! Shuttle Program area is low to moderate based on the Geologic Hazards Map for Monterey County (USGS and California Geological Survey, 2006). Potential liquefaction hazards on the parking lot site would be minimized through appropriate engineering and construction requirements. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no direct or indirect impacts as a result of seismic related ground failure, including liquefaction. The Reservation System is intended to manage visitation levels to ensure access is managed sustainably. The implementation of a Reservation System, although in a seismically active region, would not directly or indirectly result in potential impacts due to seismic related ground failure, including liquefaction. There would be no impact from the Reservation System.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos would have no substantial effects as a result of seismic related ground failure, including liquefaction. Direct and indirect impacts would be minimized through the appropriate engineering and construction requirements. The combined effects of both components would be less than significant.

*aiv) Landslides?*

### **ParkIT! Shuttle Program**

The Marathon Flats site is essentially flat, surrounded by existing development, and is not located in an area prone to landslide hazards. The Project would have no impact related to landslides.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no impact related to landslides.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the State Parks – Day-Use Reservation System for Point Lobos would have no substantial effects as a result of landslides. Marathon Flats is essentially flat and is not located in an area prone to landslides, and the Reservation System would not result in any direct or indirect impacts related to landslides. The Proposed Project would have no impact.

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

### **ParkIT! Shuttle Program**

Construction activities could result in temporary increases in erosion due to grading activities. Minor grading activities are only associated with the Marathon Flats Facility (approximately 1,400 cubic yards). All ground-disturbing activities would be subject to standard erosion control measures, including re-planting of disturbed areas, watering, and other physical erosion control methods. Standard erosion control measures and Best Management Practices (“BMPs”) would be implemented during construction to minimize potential erosion-related impacts. Construction-related erosion would be temporary in nature and would not result in a substantial increase in erosion. This represents a less than significant impact.

## **State Parks - Day-Use Reservation System for Point Lobos**

Implementation of the Reservation System would not result in substantial soil erosion or the loss of topsoil. Furthermore, the Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. Potential indirect effects associated with visitation could result in localized erosion due to unsustainable use, creation of informal trails, and vegetation disturbance. As noted above, State Parks regularly implements adaptive management strategies as part of existing Park operations to ensure that potential adverse environmental effects are minimized. If adverse impacts are identified during Park operations, State Parks would implement additional adaptive management measures (e.g., controlled access spread throughout the day, limiting access to sensitive areas, fencing, docent-led tours, etc.) to minimize impacts. The implementation of adaptive management strategies would ensure that this impact would be less than significant.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in any potentially significant erosion-related impacts. An Erosion Control Plan and BMPs would be utilized to minimize temporary increases in erosion during the Marathon Flat site construction. Similarly, adaptive management measures would be implemented by State Parks within the Park to minimize impacts as a result of

the Reservation System. The combined effects of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

The Marathon Flats area may be subject to potential geologic hazards including lateral spreading, subsidence, liquefaction, and/or expansive soils. The only physical structures that such conditions could damage are the proposed bathroom facility and concrete portions of the Marathon Flats Facility. Any potential soil and geotechnical hazards on the parking lot site would be minimized through standard engineering and construction requirements. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no impact as a result of geologic hazards, including lateral spreading, subsidence, liquefaction, and/or expansive soils.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would not result in any potentially significant soil and geotechnical hazard-related impacts. Any potential soil or geotechnical hazards associated with the Marathon Flats Facility would be minimized through standard engineering and construction requirements. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

The Marathon Flats Parking Facility would not involve the construction of septic systems. The temporary restroom facility does not entail the use of a septic system. Moreover, the future permanent facility, when constructed, would tie into the Carmel Area Wastewater District's ("CAWD") wastewater system. There would be no impact due to the use of septic tanks or alternative wastewater disposal systems.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not involve the construction of septic systems or require alternative wastewater disposal systems.

## Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not require construction of septic systems. Rather, the future permanent restroom facility at Marathon Flats would connect to the existing Carmel Area Wastewater District wastewater system. The Reservation System would not require construction of septic systems or require alternative wastewater disposal systems. The Proposed Project would have no impact.

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

## ParkIT! Shuttle Program

Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, uncommon, and diagnostically or stratigraphically important, as well as those that add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. Most of the fossils found in Monterey County are of marine life forms and form a record of the region's geologic history of advancing and retreating sea levels. Paleontologists conducted a review of nearly 700 known fossil localities in 2001, and 12 fossil sites were identified as having outstanding scientific value. The Marathon Flats site is not located on or near any of these sites. Therefore, the Marathon Flats would have no impact on paleontological resources.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not directly destroy a unique paleontological resource or site or unique geological feature. The proposed Reservation System could, however, potentially result in indirect effects to unique paleontological resources or unique geological features due to increased visitation. One (1) paleontological resource is known to exist within Point Lobos. As a result, this resource could be indirectly impacted due to increased visitation. While the Reservation System could potentially indirectly affect this resource, these impacts would be minimized through the implementation of adaptive management strategies to manage access. As noted previously, the Reservation System is intended to ensure that access is managed in a sustainable manner and includes adaptive management measures to ensure that access would not result in adverse environmental effects. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., increased Ranger patrols, symbolic fencing, and signed closure areas) to minimize impacts. The implementation of these measures would ensure that potential adverse environmental effects would be less than significant.

## Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in any potential significant paleontological resource related impacts. While both components have separate and independent utility and may be implemented separately or concurrently, the combined effect of both components would

remain less than significant. The Marathon Flats site is not located on or near paleontological resources. While one (1) resource is located within the Park, the Reservation System would not result in any direct effects. Potential indirect effects are not anticipated to be significant. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures to minimize impacts. The combined effects of both components would be less than significant.

## **4.8 GREENHOUSE GAS EMISSIONS**

### **4.8.1 INTRODUCTION**

This section describes greenhouse gas emissions conditions and evaluates potential effects of the Project on cumulative GHG emissions.

### **4.8.2 ENVIRONMENTAL SETTING**

Various gases in the earth's atmosphere, classified as atmospheric greenhouse gases ("GHGs"), play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect, or climate change, are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ozone (O<sub>3</sub>), water vapor, nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons (CFCs). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for enhancing the greenhouse effect. Climate change is a cumulative effect from local, regional, and global GHG emission contributions. According to the EPA on a Global scale, CARB on a state scale, and BAAQMD on a County scale, the transportation sector is the largest emitter of GHG emissions, followed by electricity generation and the industrial sector.<sup>7 8 9</sup>

### **4.8.3 REGULATORY SETTING**

#### **4.8.3.1 Federal**

The Federal Clean Air Act ("CAA"), first passed in 1970, is the overarching federal-level law that, as of 2007 via the U.S. Supreme court decision in Massachusetts v. EPA, enables the U.S. EPA to provide regulations of key GHG emissions sources (mobile emissions), establish a mandatory emissions reporting program for large stationary emitters, and implement vehicle fuel efficiency standards.

---

<sup>7</sup> EPA, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

<sup>8</sup> CARB, <https://ww2.arb.ca.gov/ghg-inventory-data>

<sup>9</sup> BAAQMD. Available at: [https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011\\_GHGSummary.ashx?la=en&la=en](https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en&la=en)

#### **4.8.3.2 State**

##### **Assembly Bill 32 – California Global Warming Solutions Act**

Assembly Bill (“AB”) 32, the Global Warming Solutions Act of 2006, codifies the State of California’s GHG emissions target by directing CARB to reduce the state’s global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, the California Energy Commission (“CEC”), the California Public Utilities Commission (“CPUC”), and the Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.<sup>10</sup>

CARB adopted a Scoping Plan for AB 32 in December 2008. It contains California’s main strategies to reduce GHGs from business as usual (“BAU”) emissions projected in 2020 back down to 1990 levels. BAU is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. It required CARB and other state agencies to develop and adopt regulations and other initiatives reducing GHGs by 2012.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 MMT of CO<sub>2</sub>e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector-or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO<sub>2</sub>e. Two (2) GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO<sub>2</sub>e. Thus, an estimated reduction of 80 MMT of CO<sub>2</sub>e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

CARB prepared an updated Scoping Plan which was released in 2017. The 2017 Scoping Plan identifies ways for California to reach the statewide 2030 climate target and next steps for reaching the 2050 target goal.

##### **Senate Bill 1368**

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the CPUC to establish a greenhouse gas emission performance standard. Therefore, on January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard in an effort to help mitigate climate change. The Emissions Performance Standard is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO<sub>2</sub> per megawatt-hour. "New long-term commitment" refers to new plant

---

<sup>10</sup> Note that AB 197 was adopted in September 2016 to provide more legislative oversight of CARB.



investments (new construction), new or renewal contracts with a term of five (5) years or more, or major investments by the utility in its existing baseload power plants. In addition, the CEC established a similar standard for local publicly owned utilities that cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas-fired plant. On July 29, 2007, the Office of Administrative Law disapproved the CEC's proposed Greenhouse Gases Emission Performance Standard rulemaking action, and subsequently, the CEC revised the proposed regulations. SB 1368 further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

### **Senate Bill 350 – Clean Energy and Pollution Reduction Act**

In September 2015, the California Legislature passed SB 350 (de Leon 2015), which increases the State's RPS for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

### **Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts**

SB 375, signed in August 2008, requires sustainable community strategies ("SCS") to be included in regional transportation plans ("RTPs") to reduce emissions of GHGs. The MTC and ABAG adopted an SCS in July 2013 that meets GHG reduction targets. The Plan Bay Area is the SCS document for the Bay Area, which is a long-range plan that addresses climate protection, housing, healthy and safe communities, open space and agricultural preservation, equitable access, economic vitality, and transportation system effectiveness within the San Francisco Bay region (MTC 2013). The document is updated every four (4) years. The MTC and ABAG are currently developing the Plan Bay Area 2040.

### **Executive Order S-03-05**

On June 1, 2005, Governor Schwarzenegger signed Executive Order S-03-05, the purpose of which was to implement requirements for the California Environmental Protection Agency ("EPA") to provide ongoing reporting on a biennial basis to the State Legislature and Governor's Office on how global warming is affecting the State. Required areas of impact reporting include public health, water supply, agriculture, coastline, and forestry. The EPA secretary is required to prepare and report on ongoing and upcoming mitigation designed to counteract these impacts.

### **Executive Order B-30-15**

On April 15, 2015, Governor Brown signed Executive Order B-30-15, the purpose of which is to establish a GHG reduction of 40 percent below 1990 levels by 2030. The Executive Order is intended to help the State work towards a further emissions reduction target of 80 percent below 1990 levels by the year 2050. The Executive Order directed state agencies to prepare for climate change impacts through prioritization of adaptation actions to reduce GHG emissions, prepare for uncertain climate impacts through flexible approaches, protect vulnerable populations, and prioritize natural infrastructure approaches.

## Executive Order B-55-18 and SB 100 – 100 Percent Clean Energy Act of 2018

On September 10, 2018, Governor Brown signed both SB 100 – 100 Percent Clean Energy Act of 2018 and Executive Order B-55-18 to Achieve Carbon Neutrality. SB 100 sets California on course to achieving carbon-free emissions from the electric power production sector by 2045. SB100 also increases the required emissions reduction generated by retail sales to 60% by 2030, an increase of 10% compared to previous goals. B-55-18 establishes a new goal of achieving statewide “carbon neutrality as early as possible and no later than 2045, and to achieve and maintain net negative emissions thereafter.”

### 4.8.4 THRESHOLDS OF SIGNIFICANCE

GREENHOUSE GAS EMISSIONS		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Source: 1, 21, 22, 23)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Source: 1, 21, 22, 23)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.8.5 IMPACT ANALYSIS<sup>11</sup>

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

#### ParkIT! Shuttle Program

The ParkIT! Shuttle Program is located in the NCCAB, where MBARD regulates air quality. The MBARD determined that if a project emits less than 10,000 metric tons per year (MT/yr) of CO<sub>2</sub>e, its impact would be less than significant. This calculation is made by combining the estimated greenhouse gas emissions generated by construction, amortized over a 30-year period, with the estimated annual GHG emissions resulting from operation of the project. The Shuttle Program and related improvements are not anticipated to exceed MBARD’s significance metric of 10,000 metric tons per year (MT/yr) of CO<sub>2</sub>e.

This component would generate temporary construction-related GHG emissions associated with the construction of the Marathon Flats Facility. These emissions would be generated during the grading phase of construction, which would be minimal due to the size and duration of construction activities. Any potential effects from GHG generation during construction would be short-term and temporary.

<sup>11</sup> See footnote 5 as it relates to greenhouse gas emissions.

Operation of the ParkIT! Shuttle Program would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As discussed in **Section 4.15, Transportation and Traffic**, the Shuttle Program would reduce vehicular traffic on SR 1 between Carmel and Point Lobos, reducing emissions and thus having a net beneficial impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not have a substantial direct or indirect adverse effect on generation of greenhouse gas emissions that may significantly impact the environment.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not result in any potential significant greenhouse gas emission-related impacts. Operation of the ParkIT! Shuttle Program is not anticipated to exceed MBARD's threshold of 10,000 MT/yr of CO<sub>2</sub>e. Construction-related GHG emissions generated from the ParkIT! Shuttle Program would be short-term and temporary. Furthermore, operation of the Shuttle Program would reduce vehicular trips between Carmel and Point Lobos. Similarly, the Reservation System would not result in direct or indirect impacts. The Reservation System is intended to minimize potential environmental effects due to overuse and increased visitation. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

As described above, the Project is not expected to generate GHG emissions that would exceed applicable thresholds. Therefore, the Shuttle Program and related improvements would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

See a) above. The Reservation System is not expected to generate direct or indirect GHG emissions that would exceed applicable thresholds. Moreover, the Reservation System is intended to manage Park access in a manner that minimizes environmental effects due to overuse and increased visitation.

### **Conclusion**

The Proposed Project, including both components discussed above, would not conflict with an applicable plan, policy, or regulation adopted to reduce greenhouse gas emissions. Operation of the ParkIT! Shuttle Program and implementation of the Reservation System would not exceed the thresholds set by MBARD, directly or indirectly. The combined effect of both components would be less than significant.

## 4.9 HAZARDS AND HAZARDOUS MATERIALS

### 4.9.1 INTRODUCTION

This section assesses the potential public health and safety impacts of the Project. **Sections 4.5 Geology and Soils** and **4.7 Hydrology and Water Quality** address hazards, such as flooding and seismic/geologic considerations.

Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. Hazardous materials and waste can result in public health hazards if improperly handled, released into the soil or groundwater, or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer.

### 4.9.2 ENVIRONMENTAL SETTING

Review of the California Department of Toxic Substances Control's EnviroStor database<sup>12</sup> confirmed that the Marathon Flats site is not listed as a "Superfund" site and did not identify any hazardous materials sites on or near the Marathon Flats site. According to the State Water Resources Control Board's GeoTracker database<sup>13</sup> (accessed 10/26/20), there are no identified USTs, hazardous waste, or cleanup sites within approximately 200 feet of the Marathon Flats site. There is one (1) permitted underground storage tank ("UST") at the Chevron Station located approximately 200 feet northeast of the site. In addition, a leaking underground storage tank cleanup site ("LUST") is located at the Chevron Station property; however, this case has been closed.

### 4.9.3 REGULATORY SETTING

The generation, storage, and handling of hazardous materials and wastes are regulated by various federal, state, and local laws and regulations aimed at the protection of public health and the environment. A summary of regulations follows.

#### 4.9.3.1 Federal

The EPA is responsible for enforcing regulations at the federal level pertaining to hazardous materials and wastes. The primary federal hazardous materials and wastes laws are contained in the Resources Conservation and Recovery Act ("RCRA") of 1976 and in the Comprehensive

---

<sup>12</sup> EnviroStor is DTSC's online data management system for tracking our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. Source: <https://dtsc.ca.gov/your-envirostor/> accessed 1/8/2021

<sup>13</sup> GeoTracker is the Water Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. Source: <https://geotracker.waterboards.ca.gov/> accessed 10/26/2020

Environmental Response, Compensation and Liability Act (“CERCLA”) of 1980. CERCLA, more commonly known as Superfund, established the National Priorities List for identifying and obtaining funding for remediation of severely contaminated sites. Federal regulations pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR). The regulations contain specific guidelines for determining whether a waste is hazardous, based on either the source of generation or the characteristics of the waste.

Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (“DOT”). DOT regulations establish criteria for safe handling procedures. Federal safety standards are also included in the California Administrative Code.

#### 4.9.3.2 State

The EPA has delegated much of its regulatory authority to individual states whenever adequate state regulatory programs exist. The Department of Toxic Substance Control Division of CAL EPA is the agency empowered to enforce federal hazardous materials and waste regulations in California, in conjunction with the EPA.

California hazardous materials and waste laws incorporate federal standards, but in many respects are stricter. For example, the California Hazardous Waste Control Law, the state equivalent of RCRA, contains a much broader definition of hazardous materials and waste. State hazardous materials and waste laws are contained in the California Code of Regulations, Titles 22 and 26. The California Hazardous Waste Control Law list hazardous chemicals; establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

#### 4.9.4 THRESHOLDS OF SIGNIFICANCE

HAZARDS AND HAZARDOUS MATERIALS		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Source: 1, 24, 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Source: 1, 24, 25)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school? (Source: 1, 24, 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

HAZARDS AND HAZARDOUS MATERIALS		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Source: 1, 24, 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (Source: 1, 24, 25, 26)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Source: 1, 24, 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Source: 1, 24, 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.9.5 IMPACT ANALYSIS

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

##### **ParkIT! Shuttle Program**

Construction and operation of the Project would not involve the routine transport, use, or disposal of hazardous materials. Construction activities would require the temporary use of typical substances such as fuel for construction equipment, gasoline, diesel, and lubricants for maintaining equipment. Potential hazardous materials usage during construction is addressed below (see Response 4.9.5(b)). Minor hazardous materials may also be used during Project operation (i.e., cleaning and maintenance materials). Minor hazardous materials used during construction and operation would not constitute a significant hazard to the public due to the routine transport, use, or disposal of hazardous materials. Additionally, any handling of potential hazardous materials would be required to comply with all existing laws pertaining to the transport, use, and disposal of hazardous materials. This represents a less than significant impact.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not involve routine transport, use, or disposal of hazardous materials. There would be no impact from this component.

## Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System would not involve the routine transport, use, or disposal of hazardous materials. Construction activities for the ParkIT! Shuttle Program would require temporary use of typical substances for construction equipment. Use, transport, and disposal of these materials would be required to comply with all existing laws. The combined effect of both components would be less than significant impact.

- 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?*

## ParkIT! Shuttle Program

Construction and operation of the Shuttle Program would require minor use of hazardous materials (e.g., fuel, cleaning materials, etc.). Construction activities would require the temporary use of typical substances such as fuel for construction equipment, gasoline, diesel, and lubricants for maintaining equipment. Hazardous materials would be handled and stored in compliance with all local, state, and federal regulations pertaining to hazardous materials. In addition, State Parks would implement standard BMPs and erosion control measures (e.g., minimize grading, re-vegetate disturbed areas, etc.) during construction to minimize potential impacts associated with this component. Moreover, onsite soils on the Marathon Flats site may have been impacted by contaminants such as petroleum products from vehicles previously parked on the property. Site development includes excavation and off-haul of approximately 12 inches of soil. Soil testing and management requirements will be addressed in the contractor's bid documents and specifications.

Operation of the Marathon Flats Facility could result in secondary environmental effects due to surface runoff that may contain urban pollutants from vehicles, including oil, grease, and heavy metals. The use of the site for parking purposes could result in the accidental or inadvertent release of hazardous materials due to leaking vehicles. While the site has historically been used for a variety of purposes, including event parking, the Shuttle Program would increase the use of the site by permanently improving it for parking purposes. The routine use of the site for parking (as opposed to periodic usage for special events) would increase the potential for secondary impacts to the environment, although it is important to recognize that this component includes improvements to minimize secondary impacts. These improvements would improve site conditions as compared to periodic/temporary parking on the site. The proposed parking area will consist of permeable aggregate (gravel) and will be designed to drain to adjacent landscaping where it will be retained and infiltrated to minimize impacts from the release of urban pollutants.

Based on the above discussion, construction and operation of the Shuttle Program and related facilities could result in the exposure of persons and/or the environment to an adverse environmental impact due to the accidental release of a hazardous material

during construction activities. Mitigation is identified below to assure that construction and operation of the Project would not result in the release of hazardous materials. To ensure that potential impacts due to accidental release of a hazardous material are minimized, State Parks would prepare a Spill Prevention and Control Plan (“Plan”) prior to the start of construction, as discussed below under **Mitigation Measure 4.9-1**. This Plan would identify applicable safety and clean-up procedures in the event of a spill, designate construction staging areas where hazardous materials may be stored, identify applicable emergency notification procedures, identify locations where spill kits will be maintained during construction, and identify dedicated storage areas where material may be stored. In addition, the final design of the parking lot will also include methods to ensure that the incidental release of contaminants from vehicles do not adversely affect the environment. Applicable methods may include the installation of filtering media, as well as on-going maintenance activities as part of existing park operations. This represents a less than significant impact with mitigation.

### *Mitigation*

**MM 4.9-1:** Prior to the commencement of construction-related activities, the California Department of Parks and Recreation or Contractor will prepare a Spill Prevention and Control Plan (“Plan”) that addresses potential impacts associated with hazardous material used during construction. The Plan shall, at a minimum, consist of the following:

- Identify applicable safety and clean-up procedures in the event of a spill.
- Designate construction staging areas where hazardous materials may be stored. All staging areas shall be located outside of sensitive biological areas. Staging areas shall be designed to contain runoff to prevent contaminants (e.g., oil, grease, fuel products, etc.) from draining towards receiving waters and sensitive areas.
- Identify appropriate emergency notification procedures and emergency contacts (e.g., Monterey County Health Department, Cal Fire, etc.).
- Designate a location where a spill kit shall be maintained on-site throughout construction.
- State Parks or Contract entity will be responsible for maintaining the Plan on-site for the duration of construction, and all personnel working on the site will be notified of its location.

**MM 4.9-2:** Final design of the parking area shall include methods to ensure that incidental release of contaminants from vehicles does not adversely affect the environment. Appropriate methods may include the installation of filtering media, bioswales, or other similar methods. State Parks shall routinely monitor these areas throughout the duration of operation.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in direct or indirect exposure of persons and/or the environment to an adverse environmental impact due to the accidental release of a



hazardous material during implementation. The proposed Reservation System is intended to manage access to minimize potential environmental effects due to overuse and increased visitation. Moreover, the Reservation System would ensure that access is managed in a sustainable manner and includes adaptive management measures to ensure that Park access would not result in adverse environmental effects.

### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System would not 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. While construction and operation of the ParkIT! Shuttle Program could result in the exposure of persons and/or the environment to an adverse environmental impact due to the accidental release of a hazardous material during construction activities, utilization of standard BMPs, and implementation of **Mitigation Measure 4.9-1** and **Mitigation Measure 4.9-2** would minimize these potential impacts to a less than significant level. The Reservation System would not result in direct or indirect impacts as the Reservation System is intended to manage access to the Park sustainably. The combined effects of both components would be less than significant with mitigation incorporated.

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

### **ParkIT! Shuttle Program**

No schools are located within ¼ mile of the proposed Marathon Flats Facility. Carmel Middle School is the nearest school and is over 2,000 feet from this site. The Project would not result in the generation of a hazardous emission within a one-quarter mile radius of a school.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in the generation of a hazardous emission within one-quarter mile radius of a school, directly or indirectly.

### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would not result in the generation of a hazardous emission within a one-quarter mile radius of a school, as neither project component is located within a ¼ miles radius of schools. The Proposed Project would have no impact.

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

#### **ParkIT! Shuttle Program**

Government Code Section 65962.5(a)(1) requires that DTSC compile and update, at least annually, a list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code. The Shuttle Program, including the Marathon Flats site, is not identified on the DTSC database.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System is not directly or indirectly associated with a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, is neither located nor associated with a site on a list of hazardous materials. The Proposed Project would have 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 or excessive noise for people residing or working in the project area?*

#### **ParkIT! Shuttle Program**

The Shuttle Program is located at a minimum of approximately five (5) miles southwest of the Monterey Regional Airport. The Marathon Flats Facility is not located within an airport land use plan or within two (2) miles of a public airport or public use airport and would not result in a safety hazard or exposure to excessive noise due to airport operations (Monterey Peninsula Airport 14 CFR Part 150 Noise Exposure Map Update Executive Summary, May 2008). As a result, there would be no impact from this component.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in a safety hazard or exposure to excessive noise for people residing or working in the project area as the nearest airport is at a minimum of five (5) miles northeast of the Park.

#### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would not result in a safety hazard or excessive noise for people residing or working in the project as the nearest airport is at a minimum of five (5) miles northeast of the Proposed Project and outside of an airport land use plan. The Proposed Project would have no impact.

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

#### **ParkIT! Shuttle Program**

Construction and operation of the ParkIT! Shuttle Program would not interfere with an adopted emergency response plan or emergency evacuation plan. The shuttle service would decrease congestion on SR 1 from Carmel-by-the-Sea south to Point Lobos, improving travel in this area during medical and other emergencies. See **Section 4.15, Transportation and Traffic**, for more information.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed Reservation System is intended to manage Park access in a manner that would minimize potential environmental effects due to overuse and increased visitation.

#### **Conclusion**

The Proposed Project, including both components, would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Moreover, the Proposed Project would decrease congestion on SR 1 from Carmel-by-the-Sea south to Point Lobos, improving travel during medical or other emergencies, and manage Park access in a manner that would minimize impacts due to overuse and increased visitation. The Proposed Project would have no impact.

- g) *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

#### **ParkIT! Shuttle Program**

The Project would not expose people or structures to a significant risk related to wildfires. Please refer to **4.17. Wildfire**.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not expose people or structures to a significant risk related to wildfires.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not expose people or structures to a significant risk related to wildfires. The Proposed Project would have no impact.

## **4.10 HYDROLOGY AND WATER QUALITY**

### **4.10.1 INTRODUCTION**

This section describes the hydrology, water quality, and drainage setting for the Project, and identifies potential Project impacts on these resources and identifies mitigation. This discussion is based, in part, on the Preliminary Storm Water Control Plan for ParkIT! Marathon Flats Site prepared by Whitson Engineers (October 26, 2020).

### **4.10.2 ENVIRONMENTAL SETTING**

#### **4.10.2.1 Surface Water Resources**

The Proposed Project area lies within the boundaries of the Carmel River Basin. The drainage basin consists of approximately 164,000 acres or 258 square miles. Almost all drainage within the basin is ultimately carried by the Carmel River, which flows naturally during the winter and spring months. The remainder of the Carmel River Basin's drainage flows into the Carmel Lagoon and Carmel Bay, which are part of the Monterey Bay National Marine Sanctuary. Average annual precipitation is 18 to 20 inches, and the majority of rainfall occurs in winter. The Pacific Ocean and Carmel River are the principal surface water features in the area.

#### **4.10.2.2 Groundwater Resources**

The Project is located within the Carmel Valley Alluvial Aquifer system, which functions as a water supply source for much of the local area. The aquifer is formed from alluvial material along the Carmel River Valley and extends from San Clemente Dam to the Carmel River Lagoon at the Pacific Ocean. Water levels are typically five (5) to 30 feet below ground surface. However, water level elevations within the basin can fluctuate by five (5) to 15 feet during normal water years and may decline by as much as 50 feet during drought years (Department of Water Resources 2003).

#### **4.10.2.3 Drainage**

Grades within the Marathon Flats site are relatively flat. Terrain within the Project area slopes slightly from north to south. The bicycle trail to the west is higher than the site and stormwater currently ponds in the middle of the Marathon Flats site until it is infiltrated.

#### **4.10.2.4 Flooding**

The Marathon Flats site is identified as a designated floodplain (Zone AE) by the Federal Emergency Management Agency ("FEMA"), with a base flood elevation of approximately 28 feet (FEMA Flood Insurance Rate Map, panel 06053C0316H). Zone AE is defined as "areas subject to inundation by the 1-percent annual chance flood event determined by detailed methods."

### **4.10.3 REGULATORY SETTING**

#### **4.10.3.1 Federal**

##### **Federal Clean Water Act**

The Federal Clean Water Act (33 USC 1251-1376) regulates discharges into U.S. waters through a National Pollutant Discharge Elimination System (“NPDES”) permit, administered through the State Water Resources Control Board (“SWRCB”) and the State Regional Water Quality Control Board (“RWQCB”). The State and Central Coast RWQCB oversee a statewide General Permit regarding management of stormwater runoff from construction sites over one (1) acre in size. The Central Coast RWQCB has the authority to use planning, permitting, and enforcement to protect beneficial uses of water resources in the region. The Central Coast RWQCB uses its adopted Water Quality Control Plan for the Central Coast Region (2019), referred to as the Basin Plan, to implement policies and provisions for water quality management in the region. The Basin Plan identifies beneficial uses of major surface waters and their tributaries, in addition to water quality objectives and implementation plans to protect these beneficial uses.

The 1987 Amendments to the Federal Clean Water Act require that stormwater discharges to waters of the U.S. be regulated under the NPDES. The SWRCB issued a draft statewide General Permit in July 2010. The Central Coast RWQCB oversees the statewide General Permit regarding the management of stormwater runoff from construction sites over one (1) acre in size. Provisions of the statewide General Permit indicate that discharges of material other than storm- water into waters of the U.S. are prohibited; that stormwater discharges shall not cause or threaten to cause pollution, contamination, or nuisance; and that stormwater discharges not contain hazardous substances. The statewide General Permit also requires the implementation of BMPs to achieve compliance with water quality standards. A BMP is defined as any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces discharge of pollutants into bodies of water. Any project that will disturb over one (1) acre (including the Project) is required to file a "Notice of Intent" with the RWQCB with submittal of a SWPPP prior to Project construction.

#### **4.10.3.2 State**

##### **Porter-Cologne Water Quality Act**

The basis for water quality regulation in California is the Porter-Cologne Water Quality Control Act (California Water Code, Section 13000 et seq.). This Act requires a “Report of Waste Discharge” for any discharge (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of the state’s surface or groundwater. The local Regional Water Quality Control Board, specifically, the Central Coast, issues waste discharge requirements to minimize the effect of the discharges. The Regional Water Quality Control Board uses the Basin Plan (1994) to implement policies and provisions for water quality management in the region.

#### 4.10.4 THRESHOLDS OF SIGNIFICANCE

HYDROLOGY AND WATER QUALITY		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Source:1, 27)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (Source: 1, 27)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (Source: 1, 27)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (Source: 1, 27)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (Source: 1, 27)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.10.5 IMPACT ANALYSIS

- a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

##### **ParkIT! Shuttle Program**

Development of the Marathon Flats Facility could result in temporary water quality impacts due to ground-disturbing activities (e.g., minor grading) and the use of hazardous materials during construction (e.g., diesel fuel, gasoline, lubricants, oils, hydraulic fluids, etc.). In addition, the operation of the Marathon Flats Facility could generate surface runoff that may contain urban pollutants from vehicles, including oil, grease, and heavy metals. The proposed parking area will consist of permeable aggregate (gravel) and will be designed to drain to adjacent landscaping where it will be retained and infiltrated to avoid

the water quality impacts. The Marathon Flats site is over one (1) acre but less than five (5) acres and is eligible for an Erosivity Waiver rather than coverage under the RWQCB's General Construction Permit. See also discussion under **Sections 4.5 Geology and Soils** and **4.6 Hazards and Hazardous Materials**.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Moreover, the Reservation System would ensure that Park access is managed in a manner that minimizes potential environmental effects due to overuse and increased visitation. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., installation of erosion control measures) to ensure impacts would be minimized. This represents a less than significant impact.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would not violate water quality standards. Temporary water quality impacts due to construction of the Marathon Flats Facility would be minimized through the design of the parking area. In the case of adverse impacts as a result of the Reservation System, State Parks would implement additional adaptive management measures to further minimize impacts. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

Temporary water use would occur during Project construction. Construction water use would primarily occur in connection with dust suppression activities. Construction water use would not interfere with groundwater recharge or cause a net deficit in aquifer volume or a lowering of the local groundwater table. The use of water during construction would not substantially deplete groundwater resources. Construction water would be trucked in from off-site; all construction water use would be temporary in nature.

Water would not be required for the operation of the Shuttle Program. Temporary restroom facilities are proposed, with future construction of permanent restroom facilities awaiting water credits from MPWMD (see **Section 4.17.4(b)**).

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not directly or indirectly decrease groundwater supplies or interfere substantially with groundwater recharge as no water is required for this Proposed Project component.

## Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Temporary water use would occur during the construction of the Marathon Flats Facility. Construction water, however, would not interfere with groundwater recharge or cause a net deficit in aquifer volume. All construction water use would be temporary in nature. Water would not be required for the immediate operation of the Shuttle Program as restrooms would be temporary. Future construction of permanent restrooms at the Marathon Flats Facility would represent an increase in water demand on-site. However, these facilities would not be constructed until such time as there are available MPWMD Water Credits available to accommodate the increase in on-site water use. As a result, the potential future increase in water demand would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the underlying groundwater basin. The combined effect of both components would be less than significant.

- 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:*
- c) *Result in substantial erosion or siltation on- or off-site;*

## ParkIT! Shuttle Program

The Project would not substantially alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on- or off-site. Development of the Marathon Flats Facility could cause temporary increases in erosion during construction; however, proposed improvements would require minor grading to smooth out the site and would not result in a substantial increase in erosion and/or siltation on- or off-site. Operation of the proposed Shuttle Program would not result in substantial erosion or siltation on- or off-site. This represents a less than significant impact. See also **Section 4.5 Geology and Soils**.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not directly alter existing drainage in a manner that would result in substantial erosion or siltation on- or off-site. As discussed in **Section 4.5, Geology and Soils**, the Reservation System could result in indirect impacts related to erosion due to increased visitation (e.g., illegal and/or improper trail use). State Parks would implement adaptive management strategies to ensure that potential indirect effects due to increased visitation are managed in a sustainable manner so as to ensure that potential adverse environmental effects are minimized and/or avoided. This represents a less than significant impact.



## Conclusion

Both components of the Proposed Project, as discussed above, would not substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation on- or off-site. Construction and operation of the Marathon Flats Facility could result in temporary increases in erosion but would not result in substantial increase in erosion or siltation on- or off-site. While the Reservation System would not have direct impacts to erosion, indirect impacts could result from increased visitation. State Parks would implement adaptive management strategies to ensure that potential indirect effects were minimized and/or avoided. The combined effects of both components would be less than significant.

- cii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite.*

## ParkIT! Shuttle Program

The Marathon Flats Facility would increase impervious surfaces by 6,000 square feet due to the installation of ADA accessible parking spaces and ADA accessible paths. The majority of the proposed surface area would be covered in gravel, promoting infiltration and reducing runoff. The small increase in impervious surfaces would not substantially increase the rate or amount of surface runoff. Surface runoff would be addressed through on-site drainage improvements. This represents a less than significant impact.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not directly or indirectly increase impervious surfaces; therefore, the Reservation System would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

## Conclusion

Construction of the Marathon Flats Facility would increase impervious surfaces, however, the increase in impervious surface would not substantially increase the rate or amount of surface runoff. Furthermore, surface runoff would be addressed through on-site drainage improvements. The Reservation System would not increase impervious surfaces, therefore, would not substantially increase runoff. The combined effects of the Proposed Project would be less than significant.

- ciii) 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*

## ParkIT! Shuttle Program

No major stormwater drainage improvements or planned improvements are located within the boundaries of the Marathon Flats site. The Shuttle Program and related improvements would retain stormwater runoff generated in connection with the Project. See also responses to a) and cii) above.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not create or contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not create or contribute to runoff water which would exceed the capacity of existing or planned drainage systems. The Shuttle Program and related improvements would retain stormwater runoff generated in connection with the Project. The Reservation System would not create or contribute additional sources of runoff. The combined effect of the Proposed Project would be less than significant.

civ) *Impede or redirect flood flows?*

#### **ParkIT! Shuttle Program**

The Marathon Flats site is located in FEMA flood zone AE, which is subject to inundation by the 1-percent annual chance flood event or 100-year flood. The only notable structure proposed on the site is a temporary restroom facility (a permanent restroom facility will be constructed in the future when MPWMD water credits are available). The gravel parking lot and restroom facility would not impede or redirect flood flows. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not impede or redirect flood flows since no physical site improvements are proposed as part of this component.

#### **Conclusion**

The Proposed Project would not impede or redirect flood flows. While the Marathon Flats site is located in FEMA flood zone AE, the only notable structure on the site is a temporary restroom facility. Future construction of a permanent restroom facility is dependent upon availability of MPWMD water credits. The Reservation System would not impede or redirect flood flows. The combined effect of the Proposed Project would be less than significant.

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

#### **ParkIT! Shuttle Program**

The Shuttle Program and related improvements are not located in an area subject to significant seiche or tsunami effects. The Marathon Flats site is located in FEMA flood zone AE. However, the proposed parking lot would not release pollutants if inundated. As

described previously, urban pollutants in runoff from the site would be minimized by Project design. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System does not include physical site improvements that would risk the release of pollutants due to project inundation; therefore, there would be no risk of pollutants being released due to project inundation.

### **Conclusion**

The Proposed Project, which includes both of the components discussed above, would not result in release of pollutants due to project inundation. While the Shuttle Program and related improvements are not located in an area subject to significant seiche or tsunami effects, the Marathon Flats site is located in a FEMA flood zone. However, the proposed parking lot would not release pollutants if inundated. Furthermore, urban pollutants in runoff would be minimized through project design. The Reservation System does not include physical site improvements that would risk the release of pollutants due to project inundation, therefore there would be no risk associated with this component. The combined effect of the Proposed Project would be less than significant.

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

### **ParkIT! Shuttle Program**

The Shuttle Program consists of the development of a parking lot on an approximately 1.4-acre vacant, disturbed site and the operation of a shuttle service to Point Lobos. As discussed above, this component would not significantly impact surface or ground water quality, nor would it affect groundwater recharge. Therefore, this component would not result in significant water quality or groundwater quality impacts that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact from this component.

### **State Parks - Day-Use Reservation System for Point Lobos**

See a) above. The Reservation System would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not conflict with or obstruct implementation of a water quality control plan or sustainable management plan. The Marathon Flats Facility site is a 1.4-acre vacant, disturbed site. The Shuttle Program would not significantly impact surface or ground water quality, nor would it affect groundwater recharge. The Proposed Project would have no impact.

## **4.11 LAND USE AND PLANNING**

### **4.11.1 INTRODUCTION**

The following section analyzes the Project's land use effects, specifically its consistency with applicable plans, including the Monterey General Plan, California Coastal Act, and other relevant planning documents.

In accordance with CEQA, an analysis of the potential for a project to conflict with applicable land use plans, policies, or regulations that were adopted for the purpose of avoiding or mitigating an environmental impact is required. In general, policy conflicts are not considered environmental impacts under CEQA unless the policies were specifically adopted for the purpose of avoiding or mitigating an environmental effect.

### **4.11.2 ENVIRONMENTAL SETTING**

The Project is located in unincorporated Monterey County, adjacent to the City of Carmel-by-the-Sea, California. The Marathon Flats Facility is proposed near the mouth of Carmel Valley, east of State Route 1 and south of Rio Road, west and adjacent to the Carmel Crossroads Shopping Center. The Blue Roof Office Buildings, also known as the Carmel Center Place Office Complex, are located just off Rio Road on Carmel Center Place adjacent to Carmel Crossroads. The Palo Corona Regional Park parking lot is located on Carmel Valley Road, approximately one (1) mile east of Carmel Rancho Boulevard. Point Lobos is located at 62 State Route 1 in Carmel. Regional and vicinity maps are presented in **Figures 1 and 2**.

The proposed shuttle will run via an easement through the Carmel Crossroads shopping center, and along Rio Road and State Route 1 between the Marathon Flats Facility and Point Lobos. The shuttle would also provide service to Palo Corona Regional Park and the San Jose Creek Trail along Carmel Valley Road when it is open to the public.

The Project's various components are located in unincorporated Monterey County, the Coastal Zone, and the California State Parks Carmel Area State Parks General Plan. The Marathon Flats site is located within the boundaries of the 2013 Carmel Valley Master Plan ("CVMP"), which covers the unincorporated area of Monterey County east of State Route 1.

### **4.11.3 REGULATORY SETTING**

#### **4.11.3.1 State**

##### **California Coastal Act**

Voter initiative established the CCC in 1972 (Proposition 20) and was later made permanent by the California State Legislature through the adoption of the California Coastal Act of 1976. The Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which the Coastal Act broadly defines include (among others); construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal

permit from either the Coastal Commission or the local government. The Project is located in the Coastal Zone and would require a Coastal Development Permit (“CDP”).

### **California State Parks Carmel Area State Parks General Plan**

On May 21, 2021, the California State Park and Recreation Commission voted to approve the Carmel Area State Parks General Plan. The General Plan establishes a long-range vision, goals, and guidelines for the state park units located in the Carmel area: 1) Carmel River State Beach, 2) Point Lobos State Natural Reserve, and 3) Ishxenta State Park (which combines Hatton Canyon and Point Lobos Ranch properties and includes Point Lobos State Natural Reserve property east of SR-1). Key issues identified and addressed within the General Plan include: visitor use management, sustainable use and resource protection, traffic and parking, protection of natural and cultural resources, and facilities and operations. The approved General Plan identifies the Marathon Flats area as a location for additional parking. Additionally, the General Plan identifies that State Parks is working with local partners to develop potential shuttle services, shuttle routes, stops, and shuttle transit and staging areas. Moreover, the General Plan and associated EIR recognize that State Parks is working with local partners to develop an alternative parking facility at Marathon Flats.

#### **4.11.3.2 Local**

##### **Monterey General Plan**

The Project site is located in unincorporated Monterey County. The 2010 Monterey County General Plan is applicable to the Proposed Project. As identified in the Monterey County General Plan, it is the intent of Monterey County to maintain and enhance the County’s rural character, natural resources, and economic base by providing for adequate residential and industrial growth in areas best suited for development while restricting urban sprawl and indiscriminate development.

##### **Carmel Valley Master Plan (CVMP)**

The 2013 CVMP was enacted as part of the 2010 Monterey County General Plan and provides guidance for future land use within the CVMP plan area boundary. Specifically, the plan area boundary is defined as “the primary watershed of the Carmel River from SR 1 to just east of Carmel Valley Village, except for the upper reaches of Garzas Creek and Robinson Canyon” (Monterey County 2010).

##### **Carmel Area Land Use Plan (LUP)**

The Project site is located in the Carmel Area Land Use Plan, Local Coastal Program (certified 1983). The LUP implements the policies of the Coastal Act for the Carmel Area of Monterey County. The LUP provides policies concerning environmental resources within the LUP including specific policies for development in the Coastal Zone, including protection of sensitive habitats and resources.

#### 4.11.4 THRESHOLDS OF SIGNIFICANCE

LAND USE AND PLANNING		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Physically divide an established community? (Source: 1, 28, 29, 30, 36)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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? (Source: 1, 28, 29, 30, 36)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.11.5 IMPACT ANALYSIS

(a) *Physically divide an established community?*

##### **ParkIT! Shuttle Program**

The division or disruption of an established community would occur if a project creates a physical barrier that separates, isolates, or divides portions of a built community. The physical division of a community is traditionally associated with the construction of large-scale transportation improvements such as a highway or the creation of a large university campus. The proposed Shuttle Program entails a shuttle service and improvements to the Marathon Flats Facility for parking purposes. These facilities would not divide an established community because no significant physical structures are proposed that would divide the local community.

##### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not create a physical barrier that separates, isolates, or divides a built community.

##### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would not physically divide an established community. The ParkIT! Shuttle Program would include the construction of an improved parking lot and shuttle service, while the Reservation System does not entail the construction of any physical site improvements. The Proposed Project would have 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?*

### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program is located in Monterey County. The Marathon Flats site is owned by State Parks. No recorded assessor's parcel number or Monterey County land use designation is assigned to this property. Point Lobos and its environs are designated Forest and Upland Habitat in the Carmel Area LUP.

The Marathon Flats Facility is located within the Coastal Zone and must comply with the California Coastal Act to receive a Coastal Development Permit from the County of Monterey. Relevant requirements of the Coastal Act and LUP, along with the Project's consistency with these requirements, are presented below.

#### *Coastal Act*

Section 30240 of the Coastal Act states: "Environmentally sensitive habitat areas; adjacent developments (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas."

*Consistency: As described in **Section 3.3. Biological Resources**, construction of the Marathon Flats Facility would not impact ESHAs as defined by the Coastal Act and LUP. Due to the lack of ESHA, no permanent adverse impacts to habitats, classified as sensitive by the Coastal Act, are expected to occur due to construction of the Marathon Flats Facility. Moreover, operation of the proposed Shuttle Program would not have any direct or indirect effects on any sensitive habitat. Therefore, the Shuttle Program is considered consistent with Section 30240 of the Coastal Act. Furthermore, the ParkIT! Project is intended to improve environmental conditions by protecting Point Lobos, enhancing the visitor experience, increasing public access, increasing coastal access, and improving public safety. The shuttle program will preserve the natural environment south of the Carmel River by decreasing parking along SR 1 and better managing the number of visitors to Point Lobos during any time period.*

Section 30211 of the Coastal Act requires that development not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

*Consistency: ParkIT! is intended as a sustainability project to facilitate the management of public access. See additional discussion below addressing the LUP.*

Section 30212.5 of the Coastal Act requires that, wherever appropriate and feasible, public facilities, including parking areas or facilities, be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

*Consistency: The quality of the visitor experience at Point Lobos has degraded due to traffic, vegetation, and other resource destruction, and overcrowding. The Shuttle Program is proposed to enhance the visitor experience, increase parklands access, reduce congestion, and improve public safety.*

#### *Carmel Area Land Use Plan LUP*

LUP Policy 3.1.3-6 discourages parking along the highway shoulders in the vicinity of major recreational areas due to pedestrian and traffic hazards and conflicts. In addition, LUP Policy 5.3.2-7 calls for the improvement and management of public access to and within Point Lobos and Carmel River State Beach according to the management policies set forth in the Point Lobos - Carmel River State Beach General Plan.

*Consistency: The proposed shuttle service and parking area is intended to avoid parking along the SR 1 shoulder near Point Lobos. Parking along the highway puts visitors at risk and degrades the quality of the visitor experience. The frequent and severe traffic congestion from Carmel-by-the-Sea south to Big Sur also creates unsafe conditions for visitors and the local community, especially in times of medical and other emergencies.*

*ParkIT! is intended as a sustainability project to facilitate the management of public access. Each component of the Project, taken together, is intended to protect Point Lobos, enhance the visitor experience, increase parklands access, reduce congestion, and improve public safety.*

*State Parks will obtain a Coastal Development Permit as required for Project activities and comply with all conditions of the permit in compliance with the Coastal Act and CCC.*

LUP Policy 5.3.3-8a identifies the following criteria for sites to be considered potentially suitable for parking:

1. The provision of parking, including the access road to the parking site, would not encroach upon the shoreline destination or access area.
2. Improvement for parking would entail minimum land disturbance and would have minimal impact upon environmentally sensitive habitats and other sensitive resources.
3. Parking improvements would not degrade the public viewshed or obstruct public views to the shoreline.
4. The proposed parking site is of adequate size to accommodate those use levels deemed compatible with the carrying capacity of the shoreline destination or access area.



5. The preferred parking areas should reflect the requirements of specific major user groups.
6. Adequate and safe pedestrian access should be possible from the proposed parking areas to the destination point.
7. Safe ingress to and egress from State Route 1 should be possible.
8. The proposed parking area should entail minimum conflicts with surrounding land uses.
9. Parking usable by shoreline visitors along county roads shall remain available to the public.

*Consistency: The Marathon Flats Facility would meet the above criteria and, therefore, would be consistent with this policy.*

### ***Carmel Area State Parks General Plan***

The Carmel Area State Parks General Plan defines several goals and guidelines regarding access. More specifically, the General Plan states that a goal is to implement multimodal transportation, vehicular access, and parking enhancements, in conjunction with visitor capacity management, to better manage the location and distribution of visitor use to improve visitor experience, park operations, safety, accessibility, and resource protection. Multimodal transportation access to the State Park units will be expanded during periods of heavy visitation to help alleviate traffic congestion along SR 1. The General Plan further identifies how this may be accomplished via guidelines such as Access Guideline 3.4 which states; when parking is removed from an area causing resource impacts, provide transportation enhancements that offer sustainable visitor accessibility opportunities and better distribute visitor use, with options that may include relocated parking, internal transit, or park shuttle service, and/or alternative conveyance means. The ParkIT! Shuttle Program would be consistent with the General Plan as it would provide sustainable visitor access via a shuttle service and provide parking enhancements that would align with the goals identified above.

In conclusion, the ParkIT! Shuttle Program is consistent with the policies of the Coastal Act, LUP, and Carmel Area State Parks General Plan. In terms of physical impacts on the environment, this Initial Study analyzes the environmental impacts of the ParkIT! Shuttle Program within each resource section of this document and provides measures to minimize the adverse effects of the shuttle program. Therefore, the ParkIT! Shuttle Program would have a less than significant impact related to conflicts with land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

### **State Parks – Day Use Reservation System for Point Lobos**

The Reservation System is intended to address the rapid, unsustainable visitation growth at Point Lobos, which has resulted in the substantial degradation of existing resources within the Reserve. Reservations would be required for all visitors other than State Parks staff, Point Lobos Foundation staff, and docents.

Point Lobos is located within the Coastal Zone; as such, the Reservation System must be consistent with the Coastal Act. Relevant requirements of the Coastal Act, Carmel Land Use Plan, and Carmel Area State Parks General Plan; and the Reservation Systems consistency with these requirements are presented below.

### *Coastal Act*

Section 30210 of the Coastal Act requires maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. State Parks has numerous reduced or no cost options to assure access for underserved communities.

*Consistency: The Reservation System would allow for continued public access in a manner consistent with the Coastal Act's policies related to improving/enhancing public access to the coast while also ensuring that potential direct and indirect effects to natural resources are minimized to the maximum extent possible. Furthermore, the Reservation System would address the rapid, unsustainable visitation growth at Point Lobos, which has resulted in the substantial degradation of existing resources within Point Lobos. The unsustainable use has also adversely affected visitor experience, created public safety issues related to parking along the shoulders of SR 1, and resulted in substantial congestion along SR 1 during peak periods of demand.*

Section 30240 of the Coastal Act states: "Environmentally sensitive habitat areas; adjacent developments (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas."

*Consistency: As discussed in Section 4.4.7 Biological Resources, the Reservation System would not directly impact ESHAs. Indirect impacts could result from increased Park use and visitation. Examples of indirect impacts include, but are not limited to, improper trail use and/or trampling of vegetation. While these effects are unlikely as the Reservation System is intended to manage Park access and use, State Parks would implement additional adaptive management strategies to minimize and/or avoid impacts. State Parks currently utilizes adaptive management strategies to address adverse effects of existing Park use.*

### *Carmel Area Land Use Plan LUP*

LUP Policy 5.3.2.7 Public access to and within Point Lobos Reserve should be improved and managed according to the management policies set forth in the Point-Lobos-Carmel River State Beach General Plan and in this plan.

*Consistency: The Reservation System is discussed throughout the recently approved Carmel Area State Parks General Plan. The Reservation System is a strategy for managing public access to and within Point Lobos Reserve in a sustainable manner and includes adaptive management measures to ensure that Park access would not result in adverse environmental effects.*

#### *Carmel Area State Parks General Plan*

The Carmel Area State Parks General Plan identifies implementation of a reservation system as the key approach for managing the level of peak demand and total visitation. A reservation system will also redistribute visitor use to locations at other Carmel Area State Parks areas that can support use without resource degradation. The General Plan identifies goals and guidelines for developing and implementing a reservation system. The proposed Day-Use Reservation System will address the rapid, unsustainable visitation growth at Point Lobos, which has resulted in the substantial degradation of existing resources within the Reserve. Resource degradation discussed further in **Section 1.3** is a direct result of overuse and increased visitation. The Reservation System is consistent with the goals and guidelines of the Carmel Area State Parks General Plan.

#### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would be consistent with land use plans, policies, and regulations adopted to avoid or mitigate an environmental effect. Both components are consistent with the California Coastal Act, the Carmel Area Land Use Plan, and the Carmel Area State Parks General Plan. Furthermore, mitigation measures are identified in this Initial Study to minimize and/or avoid impacts associated with the Proposed Project. The combined effects of both components would be less than significant with mitigation incorporated.

## **4.12 NOISE AND VIBRATION**

### **4.12.1 INTRODUCTION**

This section assesses the potential noise impacts of the Project on nearby sensitive receptors from construction activities (short-term) and operation (long-term).

### **4.12.2 ENVIRONMENTAL SETTING**

Noise is commonly defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (“dB”) with zero (0) decibels corresponding roughly to the threshold of hearing. **Table 4** contains definitions of key technical terms.

Most sounds consist of a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low

frequencies and extremely high frequencies than in the frequency mid-range. This is called "A" weighting, and the decibel level measured is called the A-weighted sound level ("dBA").

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources, which creates a relatively steady background noise in which no particular source is identifiable. The statistical noise descriptors, L01, L10, L50, and L90, are commonly used to describe the time-varying character of environmental noise. The A-weighted noise levels equaled or exceeded 1%, 10%, 50%, and 90% of a stated time period. A single number descriptor called the  $L_{eq}$  is also widely used and represents the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of sensitive receptors to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. Most people sleep at night and are very sensitive to noise intrusion. A descriptor, Ldn (day/night average sound level), was developed to account for human sensitivity to nighttime noise levels. The Ldn (or DNL) divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 decibels higher than the daytime noise level.

Some land uses are more sensitive to noise than others. Noise sensitive land uses are generally defined as residences, transient lodging, schools, hospitals, nursing homes, churches, meeting halls, and office buildings. The primary source of existing noise in the Project vicinity is vehicle traffic along SR 1.

**Table 4**  
**Definitions of Acoustical Terms Used in this Report**

<b>Term</b>	<b>Definitions</b>
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, $L_{eq}$	The average A-weighted noise level during the measurement period. The hourly $L_{eq}$ used for this report is denoted as dBA $L_{eq[h]}$ .

Term	Definitions
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level, Ldn or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Ln Values L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

### 4.12.3 REGULATORY SETTING

#### 4.12.3.1 Local

##### Monterey County General Plan

The Monterey County General Plan includes guidance for noise and provides land use compatibility guidelines for exterior community noise levels. Based on these guidelines, sensitive noise receptors near the Project site are private residences, schools, childcare centers, and open spaces. The normally acceptable noise range for low-density residential areas is 50 to 60 dB. The conditionally acceptable noise range for low-density residential areas is 55 to 70 dB. Development in areas where noise levels are considered “conditionally acceptable” may be undertaken only after additional noise analysis is provided and appropriate mitigation features are included in the Project design.

#### 4.12.4 THRESHOLDS OF SIGNIFICANCE

NOISE		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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? (Source: 1, 29)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Generation of excessive groundborne vibration or groundborne noise levels? (Source: 1, 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NOISE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in: residing or working in the project area to excessive noise levels? (Source: 1, 26, 29)				

#### 4.12.5 IMPACT ANALYSIS

- 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?*

##### **ParkIT! Shuttle Program**

Construction and operation of the Shuttle Program would result in potential noise-related impacts. Project construction would result in temporary noise-related impacts due to the operation of construction equipment. Operational noise may occur in connection with vehicular traffic and shuttle operations at the Marathon Flats Facility.

Noise impacts resulting from construction depend on the equipment used, timing and duration of activities, and the distance between construction noise sources and noise-sensitive receptors. The Monterey County Noise Ordinance (Monterey County Code Chapter 10.60, Noise Control) limits noise generated to 85 dBA at a distance of 50 feet from the noise source. **Table 5** contains a list of typical equipment that could be used during construction and the anticipated noise levels at 50, 100, 200, and 400 feet from the source. As demonstrated in **Table 5**, most of the typical construction equipment would generate less than 85 dBA at a distance of 50 feet. The level of noise during construction diminishes as the distance from the source increases, and no sensitive resources (e.g., residences, hospitals, etc.) would be exposed to construction-related noise.

Operational noise may occur in connection with the Marathon Flats Facility. Noise associated with the use of parking lots would include vehicular circulation, engines, car alarms, door slams, and human voices. Noise associated with the operation of the Marathon Flats Facility would be substantially similar to existing noise associated with adjacent parking facilities, SR 1 vehicular traffic, and other surrounding uses.

The nearest noise-sensitive receptors to the Marathon Flats Facility are located across SR 1 to the west, approximately 200 feet from the site. SR 1 is the primary noise source in the vicinity of the Project. Noise from construction and operations is unlikely to affect existing sensitive receptors due to existing noise levels associated with vehicular traffic along SR 1. While potential construction-related noise is not anticipated to be significant, the following mitigation measure identified below would ensure that potential noise related impacts during construction would be minimized to a less than significant level.

**Table 5  
Construction Equipment Noise Emission Levels**

<b>Equipment</b>	<b>Typical Noise Level (dBA) 50 ft from Source</b>	<b>Typical Noise Level (dBA) 100 ft from Source<sup>1</sup></b>	<b>Typical Noise Level (dBA) 200 ft from Source<sup>1</sup></b>	<b>Typical Noise Level (dBA) 400 ft from Source<sup>1</sup></b>
Air Compressor	81	75	69	63
Backhoe	80	74	68	62
Ballast Equalizer	82	76	70	64
Ballast Tamper	83	77	71	65
Compactor	82	76	70	64
Concrete Mixer	85	79	73	67
Concrete Pump	82	76	70	64
Concrete Vibrator	76	70	64	58
Dozer	85	79	73	67
Generator	81	75	69	63
Grader	85	79	73	67
Impact Wrench	85	79	73	67
Jack Hammer	88	82	76	70
Loader	85	79	73	67
Paver	89	83	77	71
Pneumatic Tool	85	79	73	67
Pump	76	70	64	58
Roller	74	68	62	56

Source: U.S. Department of Transportation, *Transit Noise and Vibration Impact Assessment*, 2006  
Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor.

*Mitigation*

**MM 4.12-1:** The California Department of Parks and Recreation or Contractor will implement the following measures throughout the duration of construction in order to reduce potential significant noise increases during construction activities to less-than-significant.

- Impact tools used for Project construction shall be hydraulically or electrically powered wherever possible. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to 10 dBA. External jackets on the tools themselves shall be used where feasible, which could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Noise control measures shall be applied to construction equipment. Equipment and trucks used for Project construction shall utilize normal noise control techniques (e.g., mufflers in good working order).
- Construction equipment may not be operated during sensitive times of the day. Seasonal time constraints may also need to be implemented.

- Plan construction activities so that additive noise is minimized (e.g., avoid concurrent use of loud construction equipment) that minimizes the duration in which a sensitive receptor is affected by noise.
- Take appropriate measures to control pedestrian access to active construction areas. Recreational users should be kept at a safe distance from the operation of construction equipment.
- Limit the proximity of construction noise to sensitive receptors. Stationary noise sources, such as diesel generators, shall be located as far from sensitive receptors as possible. Haul-trucks and other construction equipment shall be restricted to routes that practicably avoid sensitive receptors.
- Noise-generating activities at the construction site or in areas adjacent to the construction site shall be restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. Construction shall be prohibited on weekends and holidays, unless otherwise approved.
- 'Quiet' models of air compressors and other stationary noise sources, where technology exists, shall be utilized.
- All internal combustion engine-driven equipment shall be equipped with mufflers that are in good condition and appropriate for the equipment.
- All stationary noise-generating equipment, such as air compressors and portable power generators, shall be located to maximize distances to residences/noise sensitive uses.
- Allow for construction truck activity only between the hours of 9:00 AM and 4:00 PM in order to minimize noise outside of these hours.
- All unnecessary idling of internal combustion engines shall be prohibited.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not generate a substantial temporary or permanent increase in ambient noise levels in excess of applicable standards. Moreover, noise indirectly generated by the Reservation System due to increased visitation would be similar to existing noise levels. These effects are not anticipated to be significant. The Reservation System would manage peak periods of access to minimize potential adverse environmental effects. As a result, the Reservation System would not generate 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. The Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. Additionally, State Parks would ensure that access is managed in a sustainable manner and State Parks would implement a variety of adaptive management measures to ensure that access would not result in adverse environmental effects, including potential substantial increases in temporary or permanent ambient noise levels. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive



management measures (e.g., increased patrols, trail closures, etc.) to minimize impacts. This would represent a less than significant effect.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not generate noise in excess of existing standards. Construction of the Marathon Flats Facility would generate temporary noise that would be minimized through the mitigation measures above. Operational noise, direct and indirect, would be similar to existing noise. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

The improvements proposed for the Marathon Flats Facility would not generate groundborne vibration since construction would not require the use of heavy equipment or impact tools (e.g., jackhammers, hoe rams). Operation of the parking lot would not create a new source of vibration. The Project, therefore, would not result in excessive groundborne vibration or groundborne noise levels.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not generate excessive groundborne vibration or groundborne noise levels, directly or indirectly.

### **Conclusion**

The Proposed Project, including both components discussed above, would not generate excessive groundborne vibration or groundborne noise levels. The ParkIT! Shuttle Program, more specifically, the construction of the Marathon Flats Facility would not require use of heavy equipment or impact tools. Similarly, operation of the shuttle would not create a new source of vibration. The Reservation System would not generate excessive groundborne vibration or noise. The combined effect of both components 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?*

### **ParkIT! Shuttle Program**

The Project is located approximately five (5) miles southwest of the Monterey Regional Airport and is not located within the noise contour map for the airport (Monterey Peninsula Airport 14 CFR Part 150 Noise Exposure Map Update Executive Summary, May 2008). There would be no impact from this component.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not expose people residing or working in the project area to excessive noise levels as the nearest airport is approximately five (5) miles northeast. There would be no impact from this component.

### **Conclusion**

The Proposed Project, including both components discussed above, is not located within the noise contour map for the Monterey Peninsula Airport. There would be no impact from the Proposed Project.

## **4.13 PUBLIC SERVICES**

### **4.13.1 INTRODUCTION**

This section analyzes potential impacts to public services. This section describes existing public services applicable to the Project, including police protection, fire protection, and park services.

### **4.13.2 ENVIRONMENTAL SETTING**

#### **4.13.2.1 Police Protection**

Law enforcement and emergency medical response services within Point Lobos are the responsibility of State Parks. Park Rangers are responsible for providing police protection services. Department Rangers have the primary public safety and law enforcement responsibility for Point Lobos. The Monterey County Sheriff's Department has jurisdiction with support from other law enforcement agencies. The Marathon Flats site is located within the jurisdiction of the County Sheriff's Department.

#### **4.13.2.2 Fire Protection**

Fire protection services in the Project area are provided by the Cypress Fire Protection District ("CFPD"). The District operates under contract agreement with the California Department of Forestry. CFPD responds to the fire and medical emergency needs in the Carmel Valley from the Rio Road and Carmel Hill Fire Stations. Emergency services provided include fire suppression (structural, vegetation, and vehicular fires), paramedic emergency medical response, vehicular accident response, hazardous materials detection and removal, and rescue situations services.

#### **4.13.2.3 Parks**

Point Lobos, owned and operated by State Parks, encompasses nine (9) miles of coastline that includes a diversity of coastal habitats including coastal prairie, Monterey cypress and pine forest, pocket beaches, exposed or protected rocky areas, tidepools, and sheer cliffs. Land uses within Point Lobos include trails and day-use recreation areas, interpretive and educational uses, residences for State Parks staff, park operations and maintenance facilities, historic structures, and cultural and biological resource protection areas.

### 4.13.3 THRESHOLDS OF SIGNIFICANCE

PUBLIC SERVICES		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:					
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
a)	Fire protection? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Police protection? (Source:1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Schools? (Source:1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Parks? (Source:1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Other public facilities? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.13.4 IMPACT ANALYSIS

#### a) *Fire protection?*

#### **ParkIT! Shuttle Program**

The Project consists of a shuttle service and construction of the Marathon Flats Facility. As a result, the Project is not anticipated to substantially increase demands for fire protection services such that new or expanded facilities, the construction of which could cause an adverse environmental effect, would be warranted. In fact, the Proposed Project would likely result in a reduced demand for fire protection services (i.e., medical) through the elimination of parking along SR 1 adjacent to Point Lobos by reducing congestion on that segment of SR 1 and decreasing potential pedestrian/vehicle conflicts. Similarly, the Shuttle Program could also indirectly improve fire response times along the segment of SR 1 between Marathon Flats and Point Lobos by reducing vehicular traffic operating on that segment of SR 1. This represents a less than significant impact.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in a direct increase in demand for fire protection services. There could be an increased demand for emergency services due to increased visitation. However, this impact is not anticipated to be significant since the Reservation System is intended to manage access to minimize potential effects due to overuse and increased visitation. Adaptive management strategies would minimize adverse impacts identified during Park operations (e.g., increased Ranger patrol, controlled access spread throughout the day) implemented by State Parks. This represents a less than significant impact.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not result in an increase in fire service. Furthermore, both components of the Proposed Project would address and minimize public safety issues associated with existing park use and access. Adverse impacts resulting from the Proposed Project, more specifically with the Reservation System, will be addressed through adaptive management strategies implemented by State Parks. The combined effect of both components would be less than significant.

### *b) Police protection?*

#### **ParkIT! Shuttle Program**

The Proposed Project includes a shuttle service and construction of the Marathon Flats Facility and is not anticipated to substantially increase demands for police protection services. This represents a less than significant impact.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in a direct increase in demand for police protection services. The Reservation System could indirectly increase demand for police services due to increased visitation. However, this impact is not anticipated to be significant since the Reservation System is intended to manage access to minimize potential effects due to overuse and increased visitation. Adaptive management strategies would minimize adverse impacts identified during Park operations (e.g., increased Ranger patrol, controlled access spread throughout the day) implemented by State Parks. This represents a less than significant impact.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not result in an increase in police service. Furthermore, both components of the Proposed Project will address and minimize public safety issues associated with existing park use and access. Potential indirect impacts resulting from the Proposed Project, more specifically with the Reservation System, would be addressed through adaptive management strategies implemented by State Parks. The combined effect of both components would be less than significant.

### *c) Schools?*

#### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would have no impact on school services.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would have no impact on school services.

## **Conclusion**

The Proposed Project would have no impact.

### *d) Parks?*

#### **ParkIT! Shuttle Program**

The Shuttle Program is intended to facilitate the management of public access. The Shuttle Program is also intended to protect Point Lobos, enhance the visitor experience, increase parklands access, and improve public safety. See **Section 4.13 Recreation** below. This represents a less than significant impact.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System is intended to manage Park access in a manner to minimize potential environmental effects due to overuse and increased visitation. Moreover, the Reservation System would ensure that access is managed in a sustainable manner and includes adaptive management measures to ensure that access would not result in adverse environmental effects. The Reservation System could indirectly impact existing park resources by increasing visitation. However, potential indirect impacts are not anticipated to be significant since State Parks would implement adaptive management strategies (as previously described) to ensure that resource-related effects are minimized. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., docent-led tours, controlled access throughout the day) to minimize impacts. This would represent a less than significant effect.

## **Conclusion**

The Proposed Project, including both components discussed above, would not substantially impact parks. Moreover, the combined intentions of the Proposed Project is to manage public access in a sustainable manner to minimize adverse impacts due to overuse and increased visitation. The combined effect of both components would be less than significant.

### *e) Other public facilities?*

#### **ParkIT! Shuttle Program**

The Shuttle Program and related facilities consist of a shuttle service and construction of the Marathon Flats Facility and would not impact other public facilities such that new or expanded facilities would be required.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not impact other public facilities.

## **Conclusion**

The Proposed Project, including the ParkIT! Shuttle Program and Reservation System, would not impact other public facilities such that new or expanded facilities would be required. The Proposed Project would have no impact.

## **4.14 RECREATION**

### **4.14.1 INTRODUCTION**

This section describes relevant recreational services and potential impacts of the Project on recreational facilities.

### **4.14.2 ENVIRONMENTAL SETTING**

Point Lobos, owned and operated by State Parks, encompasses nine (9) miles of coastline that includes a diversity of coastal habitats including coastal prairie, Monterey cypress and pine forest, pocket beaches, exposed or protected rocky areas, tidepools, and sheer cliffs. Land uses within Point Lobos include trails and day use recreation areas, interpretive and educational uses, residences for State Parks staff, park operations and maintenance facilities, historic structures, and cultural and biological resource protection areas.

Over 600,000 visitors enter Point Lobos annually. Visitation levels have resulted in the loss of vegetation, erosion of bluff areas, numerous user-created trails, negative impacts on wildlife and a coastal area of special biological significance, the taking of native plants and tide pool species, and the degradation and loss of cultural and archaeological resources. Infrastructure, such as bathrooms and park staff, are often overwhelmed on peak use periods and days.

The safety of the visitors parking along the highway is at risk and the quality of the visitor experience has degraded. The very frequent and severe traffic congestion from Carmel south to Big Sur is also an unsafe situation for visitors and the local community, especially in times of medical and other emergencies. Largely because of issues related to traffic, many parklands are still not accessible to the public including Point Lobos Ranch, San Jose Creek, and Palo Corona Regional Park, which were acquired with public funds many years ago.

### **4.14.3 REGULATORY SETTING**

#### **4.14.3.1 State**

##### **Assembly Bill 1191 and 1359 – Quimby Act**

The Quimby Act, which is within the Subdivision Map Act, authorizes the legislative body of a city or county to require the dedication of land or impose fees for park or recreational purposes as a condition to the approval of a tentative or parcel subdivision map, if specified requirements are met. On September 8th, 2015, Governor Brown signed the AB 1359, the purpose of which was to amend the existing Quimby Act to authorize local governments to spend Quimby Act funds beyond parks that serve the development from where the funds were sourced. AB 1359 requires the legislative body to hold a public hearing before using fees as prescribed in the bill to reallocate

the funds in this manner. Subsequently, in 2015 Governor Brown signed the AB 1191, the purpose of which was to amend the existing Quimby Act to authorize the legislative bodies of cities and counties to require land dedication or to impose fees for future park or recreational purposes as a required condition of approval of a tentative or parcel subdivision map. AB 1191 also eliminated the requirement for a local municipality to repay any unspent funds accrued through the Quimby Act after a five-year period resulting from such fees.

#### 4.14.4 THRESHOLDS OF SIGNIFICANCE

RECREATION		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Include recreational facilities which might have an adverse physical effect on the environment? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.14.5 IMPACT ANALYSIS

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

##### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would not directly increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. In fact, the Shuttle Program is intended to reduce potential impacts on existing recreational facilities and improve recreational access at Point Lobos by providing off-site parking facilities and shuttle service to and from Point Lobos. The construction of the proposed Marathon Flats Facility and the operation of the shuttle would not cause the physical deterioration of an existing recreational facilities. The ParkIT! Shuttle Program would improve recreational services at Point Lobos, therefore having a net beneficial effect on recreational facilities. As described above, the intent is to protect Point Lobos, enhance the visitor experience, increase public access in a sustainable manner, and improve public safety. This represents a less than significant impact.

##### **State Parks - Day-Use Reservation System for Point Lobos**

As described previously, the purpose of the Reservation System is to manage site access and reduce potential environmental effects associated with peak periods of demand. The Reservation System would distribute site access across any given day/month/year to

ensure that access is sustainable and resource-related impacts due to visitation are minimized and/or avoided. While the Reservation System would facilitate visitation, the Reservation System would have a net beneficial impact on existing recreational facilities by reducing peak period demand and related environmental impacts. The Reservation System could indirectly affect potential recreational facilities due to secondary impacts associated with illicit site access (i.e., visitors seeking to avoid the reservation system), but these effects would be addressed through the adaptive management measures implemented by State Parks as part of Park operations. Overall, the Reservation System would improve recreational facilities by minimizing periods of peak demand and distributing site access throughout the day in a more managed and sustainable way. As described above, the intent is to protect Point Lobos, enhance the visitor experience, increase parklands access, and improve public safety. This represents a less than significant impact.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would minimize impacts to recreational facilities. Implementation of both components, while separate and independent of one another, would improve recreational services at Point Lobos. The combined effect of both components would be less than significant.

- b) *Include recreational facilities which might have an adverse physical effect on the environment?*

### **ParkIT! Shuttle Program**

See discussion a) above. The ParkIT! Shuttle Program would not include recreational facilities which might have an adverse physical effect on the environment. The components of the ParkIT! Shuttle Program would include the parking area at the Marathon Flats site and proposed restroom facility, and shuttle service. The Marathon Flats site is disturbed and has historically been used for seasonal events. The proposed restroom facility would be temporary, with construction of a permanent facility pending water credits from MPWMD (see **Section 4.16.4**). Furthermore, the shuttle service would reduce vehicle trips and traffic between Carmel and Point Lobos (see **Section 4.14.5**). As described above, the intent of the ParkIT! Shuttle Program is to protect Point Lobos, enhance the visitor experience, increase public access in a sustainable manner, and improve public safety. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not include recreational facilities. Therefore, there would be no adverse physical effect on the environment. This component would have no impact.

### **Conclusion**

The Proposed Project, including both components discussed above would not include recreational facilities that would have an adverse physical effect on the environment. The



ParkIT! Shuttle Program would be designed to minimize adverse effects, while the Reservation System would not include any recreational facilities. The combined effect of both components would be less than significant.

## **4.15 TRANSPORTATION/TRAFFIC**

### **4.15.1 INTRODUCTION**

The transportation section evaluates the potential traffic and circulation impacts associated with the Project. Keith Higgins, Traffic Engineer, prepared a Transportation Impact Analysis (December 2020) for the Project. The California Department of Transportation (“Caltrans”) was consulted during the preparation of the Transportation Impact Analysis and the CEQA documentation. Upon completion of consultation, Caltrans indicated support for the Proposed Project. The following section is based on information contained in the Transportation Impact Analysis, contained in **Appendix B** of this IS/MND.

### **4.15.2 ENVIRONMENTAL SETTING**

#### **4.15.2.1 Existing Roadway Network**

The key roadways near the Proposed Project are described below. SR 1 provides regional access to the Proposed Project site.

##### **State Route 1**

SR 1 is a major north-south roadway that connects the Monterey Peninsula with San Luis Obispo County to the south and Santa Cruz County and the San Francisco Bay Area to the north. SR 1 is a four-lane freeway north of Carpenter Street, a four- to five-lane (the five-lane section has a two-way center left-turn lane) roadway between Carpenter Street and Ocean Avenue, a three-lane roadway (two (2) lanes northbound and one (1) lane southbound) between Ocean Avenue and Carmel Valley Road, and a two-lane roadway south of Carmel Valley Road. SR 1 is part of the Monterey County Congestion Management Program (“CMP”) highway network and is designated as a State Scenic Highway.

Carmel Valley Road, Rio Road, and Carmel Rancho Boulevard provide local access to the Project site.

##### **Carmel Valley Road**

Carmel Valley Road is an east-west roadway that begins at SR 1 and continues east to the City of Greenfield. Carmel Valley Road has four (4) lanes from SR 1 to approximately 1,800 feet west of Rancho San Carlos Road. Carmel Valley Road has two (2) lanes east of Rancho San Carlos Road. Carmel Valley Road is classified as a major arterial.

##### **Rio Road**

Rio Road includes two (2) discontinuous segments of roadway east and west of the Project site. The eastern part is a short north-south two-lane segment that connects to Carmel Valley Road and currently provides access to the Palo Corona Regional Park’s Rancho Canada Unit and the

Community Church of the Monterey Peninsula. The western part is an east-west roadway near SR 1. It is a two-lane arterial between SR 1 and Junipero Street that serves primarily residential areas and is a southerly route into Carmel. It is a four-lane arterial between SR 1 and Val Verde Drive that serves a major retail area at the mouth of the Carmel Valley with primary access to the Crossroads Carmel shopping center.

### **Carmel Rancho Boulevard**

Carmel Rancho Boulevard is a four-lane north-south roadway that extends from Carmel Valley Road to Rio Road. It provides access to various commercial developments in the mouth of Carmel Valley and serves through traffic between Carmel Valley Road and SR 1 south of Rio Road.

In addition to nearby public streets, the main driveways serving the Crossroads and Carmel Center Place commercial developments will experience Project traffic. They include Carmel Center Place and Crossroads Boulevard. These private roadways are described below.

### **Carmel Center Place**

Carmel Center Place is a two-lane north-south roadway/parking lot main circulation aisle that extends south from Rio Road, providing access and egress for loading docks and parking areas as well as banks and professional offices on the easterly side of the Crossroads Carmel shopping center.

### **Crossroads Boulevard**

Crossroads Boulevard is a two-lane north-south roadway/parking lot main circulation aisle that extends south from Rio Road, providing primary access and egress for the center of the Crossroads Carmel shopping center.

## **4.15.2.2 Existing Bicycle, Pedestrian, And Transit Facilities**

### **Bike Facilities**

The County of Monterey has a Bikeway Plan that designates routes along roadways that can be used by bicycling commuters and recreational riders for safe access to major employers, shopping centers, and schools. Consistent with State and Federal designations, there are three (3) basic types of bicycle facilities. Each type is described below:

1. Bike Path (Class I) - A separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists.
2. Bike Lane (Class II) - A lane on a regular roadway, separated from the motorized vehicle right-of-way by paint striping, designated for the exclusive or semi-exclusive use of bicycles. Bike lanes allow one-way bike travel. Through travel along a bike lane by motor vehicles or pedestrians is prohibited but crossing by pedestrians and motorists is permitted.
3. Bike route (Class III) - Provides shared use of the roadway with motorists, designated by signs or permanent markings. Some existing roadways are designated as bike routes to provide wayfinding, notify drivers of frequent bicycle traffic, or on low speed and low vehicle volume

streets that have conditions that are more suitable for bicycles. Bike routes frequently have signage or shared lane markings.

4. Protected Bike Lanes (Class IV) - Also known as separated bike lanes, are an exclusive bikeway facility type that combines the user experience of a multi-use path with the on-street infrastructure of a conventional bike lane. They are physically separated from motor vehicle traffic by a vertical barrier (typically posts, parked cars, planter boxes, and/or a curb) and are distinct from the sidewalk.

A multi-use Class I bike and pedestrian path is provided along the east side of SR 1 on the west edge of the Marathon Flats Facility that is a part of the Project property. This path extends from the Safeway supermarket at the south end of the Crossroads Carmel shopping center, along the Barnyard Shopping Center under Carmel Valley Road through Hatton Canyon to Canyon Drive where access is provided to SR 1 north of Carmel High School.

Class II bike lanes are provided along Rio Road from Carmel Center Place to Junipero. The shoulders on SR 1 function as Class II bike lanes.

### **Pedestrian Facilities**

Sidewalks near the Project site are provided on portions of Rio Road, between Val Verde Drive and SR 1. A Class I multi-use path is provided on the east side of SR 1, beginning at the Crossroads Carmel shopping center and continuing north to Canyon Drive described in the “Bicycle Facilities” discussion above.

### **Transit Service**

The primary public transit service in the County of Monterey is provided by Monterey-Salinas Transit (“MST”). Near the Project site, MST Route 24 provides bus service along Rio Road, Carmel Rancho Boulevard and Carmel Valley Road between Carmel Valley Village and the Monterey Transit Plaza with 60-minute headways during weekday peak hours. Bus stops within the study area are located on eastbound Rio Road at the southeast corner of SR 1, which is immediately adjacent to the Marathon Flats Facility. A westbound Rio Road bus stop is located between Carmel Center Place and Crossroads Boulevard.

#### **4.15.2.3 Existing Intersection Operations**

Weekday AM, PM, and Saturday peak hour turning movement counts were conducted at the study intersections in May, September, and November 2017 as a part of the 2017 Rio Ranch Traffic Study. Peak hour traffic volumes at the commercial driveways along Rio Road between SR 1 and Carmel Rancho Boulevard were also counted. The raw traffic count data is included in the Transportation Analysis in **Appendix B**.

Traffic volumes in the study area are essentially unchanged since 2017. This is evidenced by traffic volumes on Rio Road reported in the “2019 Monterey County Public Works Annual Average Daily Traffic,” and Caltrans “2018 Traffic Volumes on California State Highways” for SR 1 volumes. These are the most recent years that data is available. **Table 6** indicates that daily traffic

volumes on Carmel Valley Road, Rio Road and SR 1 closest to the Marathon Flats site have stayed relatively constant over the most recent 4-year period for which data is available.

Traffic volumes in the Project vicinity have also remained essentially constant over the past 10 years. This is due to virtually no change in population in the areas served by these highways in this time period. The 2009 volumes are actually lower than some preceding years. Changes in economic activity due to the 2008 recession could have resulted in lower volumes in 2009 than would have otherwise occurred. Finally, SR 1 was closed near Big Sur due to major storms for most of 2017. The Soberanes Fire resulted in a closure during the summer of 2016. These affected traffic volumes on SR 1 in the Rio Road area. Therefore, 2015 volumes have been included, which indicate the same traffic volume trend as the 2016 and 2017 data. Tourist traffic along the Big Sur coast likely has increased. However, this has not been reflected in any appreciable overall increase in traffic volumes according to Caltrans and Monterey County traffic count data. The 2017 count data is valid for use in this analysis.

**Table 6**  
**Recent Historical Traffic Volumes in Project Vicinity**  
**(Average Annual Daily Traffic by Year)**

Road	Segment	2009	2015	2016	2017	2018	2019	Change from 2015 to 2019
Carmel Valley Road	SR 1 to Carmel Rancho Blvd.	22,400	22,500	22,300	22,700	23,400	23,400	+900
Rio Road	SR 1 to Carmel Rancho Blvd.	11,300	11,500	11,700	11,500	10,000	10,700	-800
<b>Total Traffic East of SR 1</b>	<b>N/A</b>	<b>33,700</b>	<b>34,000</b>	<b>34,000</b>	<b>34,200</b>	<b>33,400</b>	<b>34,100</b>	<b>+100 (0.3% total, 0.07%/yr.)</b>
Rio Road	West of SR 1	11,400	11,800	10,700	10,600	10,300	10,300	-1,500
State Route 1	South of Rio Rd.	N/A	14,800	15,300	13,400	15,300	Not Avail.	+500 (3.3% total, 0.8%/yr.)
State Route 1	Rio Rd to Carmel Valley Rd.	N/A	14,800	15,300	13,400	15,300	Not Avail.	+500 (3.3% total, 0.8%/yr.)
State Route 1	North of Carmel Valley Rd.	N/A	34,800	34,800	31,600	34,500	Not Avail.	-300

The raw traffic counts were balanced where appropriate. Weekday AM, PM, and Saturday peak hour traffic volumes at the study intersections, including the commercial driveways on Rio Road near the Marathon Flats site, are provided in the Transportation Analysis in **Appendix B**.

Intersection levels of service and LOS calculation worksheets are contained in the Transportation Analysis in **Appendix B**. No improvements are required for existing conditions.

#### **4.15.2.4 Existing Road Segment Operations**

The Project will add traffic to Rio Road between SR 1 and Carmel Rancho Boulevard. The existing signalized intersections control the capacity of this road segment at SR 1, Crossroads Boulevard and Carmel Center Place. The Project is expected to add minimal trips to Carmel Valley Road

between Carmel Rancho Boulevard and Rio Road at Palo Corona Park. These are primarily associated with the proposed shuttle bus trips. This segment is a four-lane expressway that operates at Level of Service A.

The Project will reduce traffic on SR 1 south of Rio Road. This will be a beneficial effect. A road segment analysis is therefore not necessary and is thus not included.

#### **4.15.2.5 Existing Traffic and Pedestrian Operations Along Point Lobos SR 1 Frontage**

The Point Lobos Foundation and California State Parks commissioned the Point Lobos State Natural Reserve Visitor & Parking Study, prepared by Idax Data Solutions, August 2018 (“Point Lobos Visitor Study”). That study indicated that a total of about 395 cars parked during peak occupancy along the west side of SR 1 in the immediate vicinity of Point Lobos on Saturday, August 25, 2018. The average parking duration was about 1.76 hours. Based on the parking occupancy characteristics in the Point Lobos Visitor Study, there were probably about 2.5 total vehicles using each space over the course of the day. This would be about 1,000 vehicles performing parking maneuvers including U-turns on SR 1 on a busy Saturday. These in turn generate about 2,000 pedestrians entering and exiting Point Lobos, which is a total volume of about 4,000 pedestrians per day.

SR 1 has a speed limit of 55 miles per hour between Rio Road and the north boundary of Point Lobos. The speed limit along the Point Lobos frontage where the majority of parking occurs is 45 miles per hour. Prevailing speeds are about 50 miles per hour. SR 1 carries about 13,900 vehicles per day according to the 2017 Caltrans Traffic Volumes, the most recent publicly available. There is no methodology to analyze the traffic operational and safety implications of this condition. Large amounts of pedestrians including young children and limited travel path widths along the shoulder is clearly an undesirable condition. Because of safety concerns it is clearly undesirable to have the large amount of existing high-speed vehicle-pedestrian conflicts.

Parking is already prohibited along the east shoulder of SR 1. The eventual elimination of parking along the west shoulder will substantially reduce the remaining conflicts between high-speed traffic and vehicles parking or making U-turns, as well as pedestrians. By providing a relatively close satellite parking area, the ParkIT! Project will partially offset the loss of parking supply resulting from the parking prohibition on the east side of SR 1.

#### **4.15.2.6 Trip Generation**

The main component of the ParkIT! Project with the potential to result in traffic operational issues is the Marathon Flats Facility at the southeast corner of the SR 1/Rio Road intersection. No trip generation rates are available for this unique land use. The parking lot will operate as a satellite parking facility for Point Lobos. It is anticipated that the Marathon Flats Facility will have trip generation characteristics proportional to what is generated by Point Lobos. The “Point Lobos Visitor Study” quantified the number of visitors traveling to and from the park. It included traffic counts at the Point Lobos driveway on weekdays and Saturdays in addition to parking occupancy,

visitor surveys and collection of a variety of other visitor information to assist with operational planning for Point Lobos.

**Appendix B** provides the raw traffic count data for the Point Lobos driveway, collected on Wednesday, 8/29/2018 and Saturday, 8/25/2018. The raw count data for the Weekday AM, Weekday PM and Saturday Midday peak hours is summarized in **Table 7** below. Point Lobos generated 27 inbound and 3 outbound trips during the 8-9 AM weekday peak hour and 39 inbound and 65 outbound trips during the 4:15 to 5:15 PM weekday peak hour. It also generated 74 inbound and 81 outbound trips during the Saturday 12:45 to 1:45 PM midday peak hour.

**Table 7**  
**Project Trip Generation**

GENERATED TRIPS	Parking Capacity	Weekday Daily Trips	AM Peak Hour Trips	% of ADT	In	Out	PM Peak Hour Trips	% of ADT	In	Out	Sat. Daily Trips	Sat. MD Peak Hour Trips	% of ADT	In	Out
<b>A. 2018 Point Lobos State Reserve</b>	167 Spaces	1,182	30	3%	27	3	104	9%	39	65	1,314	155	12%	74	81
<b>B. Marathon Flats ParkIT!</b>															
<b>1. Point Lobos Visitors</b>	100 Spaces	708	18	3%	16	2	62	9%	23	39	787	93	12%	44	49
<b>2. Shuttle Buses</b>		84	12	14%	6	6	12	14%	6	6	84	12	14%	6	6
<b>3. Total</b>		792	30	4%	22	8	74	9%	29	45	871	105	12%	50	55

Note:

1. Marathon Flats ParkIT! Trip generation rates are based on driveway counts at Point Lobos on Saturday, August 25, 2018 and Wednesday, August 29, 2018

Point Lobos has a total of 167 parking spaces within the park. Prorating the Point Lobos driveway volumes to the 100-space Marathon Flats Facility results in an estimate of about 16 inbound and 2 outbound trips during the 8-9 AM weekday peak hour and 23 inbound and 39 outbound trips during the 4:15 to 5:15 PM weekday peak hour. It is also anticipated to generate about 44 inbound and 49 outbound trips during the Saturday midday peak hour.

The resulting Marathon Flats Facility trip generation estimate is presented in **Table 7**. The Marathon Flats Facility is estimated to generate about 708 weekday visitor trips and 787 Saturday visitor trips. This is based on prorating the Point Lobos daily driveway volumes for 167 parking spaces to the 100-space Marathon Flats Facility.

The shuttle system is currently anticipated to include 24-passenger buses operating on a 20-minute headway. This indicates there will be three (3) buses per hour transporting passengers to and from Point Lobos. Assuming all buses are fully loaded, a total of 72 passengers can be transported per hour. The 2018 Visitor Study, Figure 6, page 7, indicates that the average vehicle occupancy at Point Lobos is almost exactly 2 persons per vehicle. The 72 bus passengers per hour would then indicate that there would be about 36 vehicles per hour generated by inbound or outbound passengers. The trip generation estimates for the Marathon Flats Facility, based on prorating 2018 driveway volumes at Point Lobos, are therefore conservative (Higgins 2020). It would then include an allowance for 8 or 9 standing passengers per bus during peak departure times.

Shuttle bus trip generation will include three (3) buses entering per hour from eastbound Rio Road to drop passengers off who are returning from Point Lobos as well as three (3) buses from westbound Rio Road to pick passengers up who are heading to Point Lobos. This is a total of six (6) buses per hour into and out of the Marathon Flats Facility. The resulting total parking lot trip generation including visitor vehicles and shuttles will be about 792 weekday trips with 30 in the AM peak hour and 74 in the PM peak hour. About 871 trips are expected on Saturdays with about 105 during the midday peak hour.

#### **4.15.2.7 Project Trip Distribution and Assignment**

The Project-generated visitor trips were assigned to the road network assuming 85% of trips are to and from the north of Rio Road on SR 1, 10% are to and from Rio Road west of SR 1 and 5% are to and from the east on Rio Road. These percentages are based on existing turning movements at Project driveways and account for Point Lobos visitors arriving from or traveling to local destinations on the Monterey Peninsula. This includes Carmel and Carmel Valley. The Project visitor trip assignment is provided in the Transportation Analysis in **Appendix B**.

The shuttle bus operation will add three (3) buses between Palo Corona Regional Park's Rancho Canada Unit and Point Lobos. These movements along Rio Road and SR 1 are presented in the Transportation Analysis in **Appendix B**. Project visitor and shuttle bus trips are combined as shown in the Transportation Analysis in **Appendix B**.

### **4.15.3 REGULATORY SETTING**

#### **4.15.3.1 State**

##### **Big Sur State Route 1 Sustainable Transportation Demand Management Plan**

The Big Sur Sustainable Transportation Demand Management Plan ("TDM Plan") was prepared by Caltrans (February 2020). The TDM Plan builds upon previous planning efforts and provides a framework to address how transit, sustainability, and related enhancements can improve the Big Sur experience. These concepts include planning-level identification of shuttle opportunities, supporting strategies, and planning considerations for zero-emission vehicle charging stations. The TDM Plan also describes technology strategies that aid in visitor trip planning and provide real-time traveler information. TDM strategies are considered in the context of both desired user behavior and the potential for influencing different transportation choices.

The TDM Plan identifies the proposed ParkIT! Shuttle Program, developed in coordination with California State Parks, Monterey County, Caltrans, and other agencies, as a way to manage congestion and improve sustainable access to parklands in the Monterey Peninsula and Big Sur.

#### **4.15.3.2 Local**

##### **Transportation Agency for Monterey County**

The Transportation Agency for Monterey County ("TAMC") and its member jurisdictions have adopted a county-wide, regional development impact fee ("TAMC Fee") to cover the costs for studies and construction of many roadway improvements throughout Monterey County. The

TAMC Regional Development Impact Fee program is designed with regional transportation improvements that provide congestion relief from the effects of new development throughout Monterey County. This impact fee, which went into effect on August 27, 2008, is applied to new development within Monterey County. The governing document for the fee is the *Regional Impact Fee Nexus Study Update* (March 26, 2008) prepared by Kimley-Horn Associates, Inc. *The Regional Impact Fee Nexus Study Update* was updated in October 2018 by Wood Rodgers. Additional funding for these regional transportation improvement projects may be provided by Measure X, the Transportation Sales Tax measure. These local funding sources are anticipated to leverage State and federal funding sources to fully fund the improvements. Toll roads are also being considered as a funding source.

“ParkIT!” is not a development project and will not generate new trips on the regional highway system. Therefore, the Project would not be responsible for the payment of the TAMC Fee. The Project may also not be responsible for the payment of the fee due to its public or quasi-public status. However, because it will not generate new trips, this determination is not relevant.

### Monterey County Traffic Impact Fee

Monterey County recently adopted a traffic impact fee, which is being assessed on private development projects. ParkIT! will not generate new trips on the local road system and would not be responsible for the payment of the fee. A determination regarding whether the Project is responsible for the payment of the fee is irrelevant because it is a public project.

### 4.15.4 THRESHOLDS OF SIGNIFICANCE

TRANSPORTATION/TRAFFIC		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths? (Source: 1, 31, 32, 33, 34)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)? (Source: 1, 31, 32, 33, 34)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Substantially increase hazards due to a geometric design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)? (Source: 1, 31, 32, 33, 34)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in inadequate emergency access? (Source: 1, 31, 32, 33, 34)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



#### 4.15.5 IMPACT ANALYSIS<sup>14</sup>

##### Significance Criteria

According to previous CEQA guidelines, a Project may have a significant effect on the environment if it would cause an increase in traffic that is substantial in relation to the street system's existing traffic load and capacity. VMT is now the metric to evaluate project impacts on transportation and circulation. Monterey County has not established a methodology or thresholds of significance for VMT and is currently in the process of developing such thresholds (staff report for January 13, 2021, Board of Supervisors meeting).

ParkIT! will reduce regional VMT so it will have a beneficial impact. The lack of thresholds therefore has no effect on the VMT significance determination. The LOS analysis is provided to identify any operational traffic issues but not to determine if the Project has a significant environmental effect. Therefore, Monterey County and Caltrans thresholds of significance, which apply to CEQA impact determination, are no longer considered.

- a) *Conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?*

##### ParkIT! Shuttle Program

###### *Existing plus Project Conditions*

This section describes Existing plus Project conditions, which represent the traffic-related impacts associated with the Project.

The total net Project trip assignments were added to the existing traffic volumes to estimate Existing Plus Project weekday AM, PM, and Saturday peak hour traffic volumes, which are shown in the Transportation Analysis in **Appendix B**.

Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Existing Plus Project conditions. The Project will result in a slight improvement in average intersection delay (from 28.9 seconds to 28.5 seconds with the Project) at the SR 1 / Rio Road intersection during the weekday PM peak hour. This is the time period with the highest delay of any time during a typical week. Delay will increase by 0.5 seconds during the Saturday midday ("MD") peak hour and by an imperceptible 0.1 second during the weekday AM peak hour. The SR 1 / Rio Road intersection will operate at an acceptable LOS C. The Project will have an overall beneficial

---

<sup>14</sup> The following impact analysis specifically evaluates the potential direct and indirect effects associated with the implementation of the Proposed Project. It is important to recognize, however, that the General Plan and Final EIR for the Carmel Area recognized that the implementation of alternative transportation measures, including a shuttle service, would improve existing traffic conditions by reducing congestion on SR 1. Several policies contained in the General Plan specifically recommend developing a shuttle program and implementing a day-use reservation system to address existing traffic and circulation impacts associated with existing operations.

impact on traffic operations at the SR 1 / Rio Road intersection when considering the reduction in delay in the highest volume weekday PM peak hour.

Virtually no increase in delay will occur at the Rio Road intersections with Crossroads Boulevard and Carmel Center Place. Both intersections will continue to operate at LOS B during all three (3) time periods. No improvements are required for Existing Plus Project conditions.

### *Cumulative Traffic Conditions*

This section describes the analysis for Cumulative (Monterey County General Plan) conditions. Cumulative traffic volumes are referenced from the Rio Ranch Traffic Study, which are based on the 2035 traffic volume forecasts from the 2014 AMBAG Regional Traffic Demand Model (“RTDM”) plus proposed but not yet approved projects located within Carmel Valley. Traffic increases due to the list of pending projects were generally given precedence over the RTDM forecasts in the vicinity of the Project because they are local in nature, result in higher volume forecasts than the RTDM, can be assigned to the network more accurately than a regional model and provide a more conservative estimate of future traffic volumes. The forecasts are more likely representative of traffic conditions beyond 2035.

Weekday AM, PM, and Saturday peak hour traffic volumes near the Project site, including the commercial driveways on Rio Road, are shown in the Transportation Analysis in **Appendix B**.

Based on the Caltrans and Monterey County level of service standards, all the study intersections are forecasted to operate at acceptable levels of service under Cumulative without Project conditions with the exception of State Route 1 / Rio Road. This intersection will operate at LOS D during the weekday PM peak hour. Although this is acceptable according to the Monterey County General Plan standard of LOS D, it is below the Caltrans standard of LOS C. This intersection will operate at an acceptable LOS C during the weekday AM and Saturday MD. The provision of the westbound right turn overlap recommended in the Transportation Analysis would result in average delay of 36.7 seconds, an additional improvement of 4.1 seconds, which is very close to LOS C. The Project will actually reduce delay compared to the “Cumulative Without Project” condition. The Project, therefore, is not responsible for contributing to the westbound right turn overlap traffic signal phase. This improvement would be the combined responsibility of other cumulative projects that add traffic to this intersection.

### *Bicycle Access*

The Marathon Flats Facility will have direct access to the bike lane along the south side of Rio Road between SR 1 and the West Crossroads driveway. It will also have direct access to the multi-use path along its westerly boundary. Access to and from the Crossroads Carmel shopping center will be provided through the main Crossroads parking lot aisles.

This is not a typical parking lot for a land development project that would have a parking requirement based on anticipated Project parking demand in accordance with the Monterey County Zoning Ordinance. The bike parking would usually be a ratio of the vehicular parking requirement. Bike parking facilities would be included in the parking lot. The County bike parking standards may be the basis for determining how many bike racks are required.

### *Transit Access*

The ParkIT! shuttle stop will be located at the south end of the Marathon Flats Facility. Exhibit 3B illustrates the proposed shuttle route through the Crossroads Carmel Shopping Center parking lot. Buses travelling both eastbound and westbound will enter the Crossroads Carmel parking lot at the existing Crossroads Boulevard intersection. They proceed south on Crossroads Boulevard and turn right to proceed westbound on the main east-west circulation aisle immediately south of the Bank of America / Starbucks parking lot. They will enter the north driveway of the Marathon Flats Facility and turn left to proceed south to the south end of the parking lot. Passengers will load and unload at the proposed shuttle bus stop at the south end of the shuttle parking lot. The shuttles will then exit the parking lot at the south driveway followed by an immediate right turn to proceed south along the north-south circulation aisle along the west edge of the Crossroads parking lot. This will be followed by a left turn to proceed eastbound to Crossroads Boulevard. The shuttles will then turn left and continue north to Rio Road. They will exit the Crossroads Carmel Shopping Center by turning east toward Carmel Rancho Boulevard or west toward State Route 1. As a worst case, a total of three (3) buses are expected to enter per hour from both eastbound Rio Road to drop passengers off who are returning from Point Lobos. As well as three (3) buses from westbound Rio Road to pick passengers up who are heading to Point Lobos for a total of six (6) buses per hour into and out of the Marathon Flats Facility.

### *Construction Impacts*

The only construction that will occur with the implementation of the Project is the Marathon Flats Facility. The site would require some earthwork to create a smooth gravel parking lot. Construction would generate about 1,000 cubic yards of aggregate import to the site, assuming eight (8) inches of gravel over the approximately 40,000 square feet footprint. This would be about 100 loads of double trailer trucks, each carrying about 10 tons per trailer. Construction would also result in five (5) days of delivery. About 20 loads will be delivered per day. With deliveries limited to occur between 9 am and 3 pm to avoid travel during peak hours, about four (4) truckloads will be delivered per hour. Construction traffic would also be generated by the delivery of construction equipment, concrete for curbs, sidewalks, and driveway aprons, in addition to construction worker trips. This is a minor construction project with a short duration and will have an inconsequential effect on traffic operations on the nearby road network. This represents a less than significant impact.

## **Project Access and Internal Circulation**

### *Marathon Flats Facility Operations*

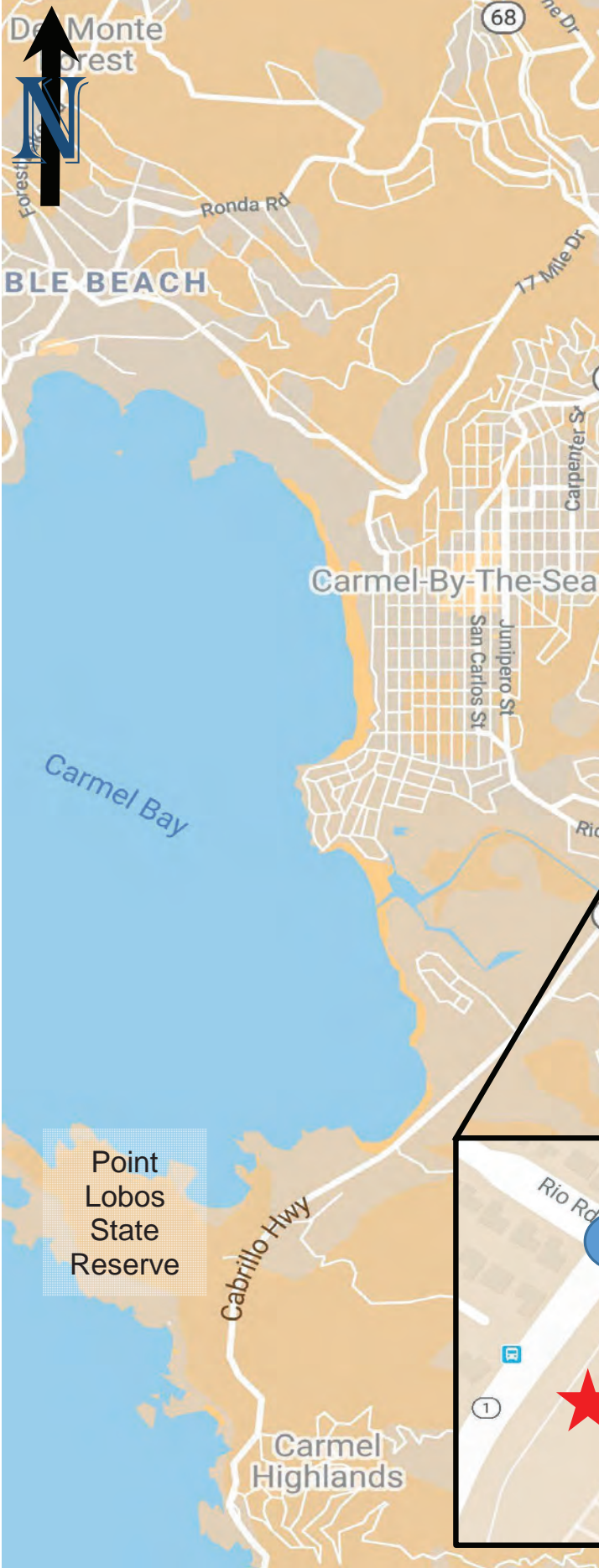
The Marathon Flats Facility site plan is presented in **Figure 4** and the traffic study area is presented in **Figure 7**. The Project is bounded to the north by Rio Road, to the west and south by the multi-use path along the east side of SR 1, and to the east by a north-south circulation aisle along the westerly boundary of the main Crossroads Carmel shopping center parking lot. This aisle is labeled in this report as the West Crossroads Driveway. It intersects Rio Road at a clear distance of about 140 feet from the east curb line of SR 1. An MST bus stop is located on eastbound Rio Road between this intersection and SR 1. This will be the access from Rio Road for nearly all Project visitor trips. Currently, about 136 AM, 174 PM, and 200 Saturday MD eastbound right turns occur into the West Crossroads Driveway from Rio Road. The Project will add 16 AM, 22 PM, and 41 Saturday MD peak hour trips to this movement. This represents a 15% to 20% increase above existing volumes. These represent a flow rate of one (1) vehicle every four (4) minutes in the AM peak hour, one (1) vehicle every three (3) minutes in the PM peak hour, and one (1) vehicle every 90 seconds in the Saturday MD peak hour. These are low flow rates. The driveway is designed with curb returns similar to a public street intersection. It is capable of handling the resulting moderate traffic volumes. It is a two-way driveway between Rio Road and the westbound cross-aisle immediately north of the Bank of America/Starbucks building. It then becomes one-way southbound along the west side of the building.

The parking lot is proposed to have two (2) driveways connecting to the west Crossroads driveway aisle. Both will serve entering and exiting vehicles. Most entering vehicles will use the north driveway, an extension of the main east-west circulation aisle along the south side of the Bank of America / Starbucks parking lot, about 360 feet south of Rio Road. About three-fourths of exiting traffic will probably use this driveway. During the highest peak period, the exiting rate will be about one (1) vehicle every two (2) minutes. This is a very low rate and easily accommodated by the driveway and the Crossroads main parking lot eastbound parking aisles.


The Marathon Flats Facility's south driveway will be located about 260 feet south of the north driveway. Up to one-fourth of exiting traffic may use this driveway. During the highest peak period, the exiting rate will be about one (1) vehicle every four (4) minutes. Again, this is a very low rate and easily accommodated by the driveway and the Crossroads main parking lot eastbound parking aisles.

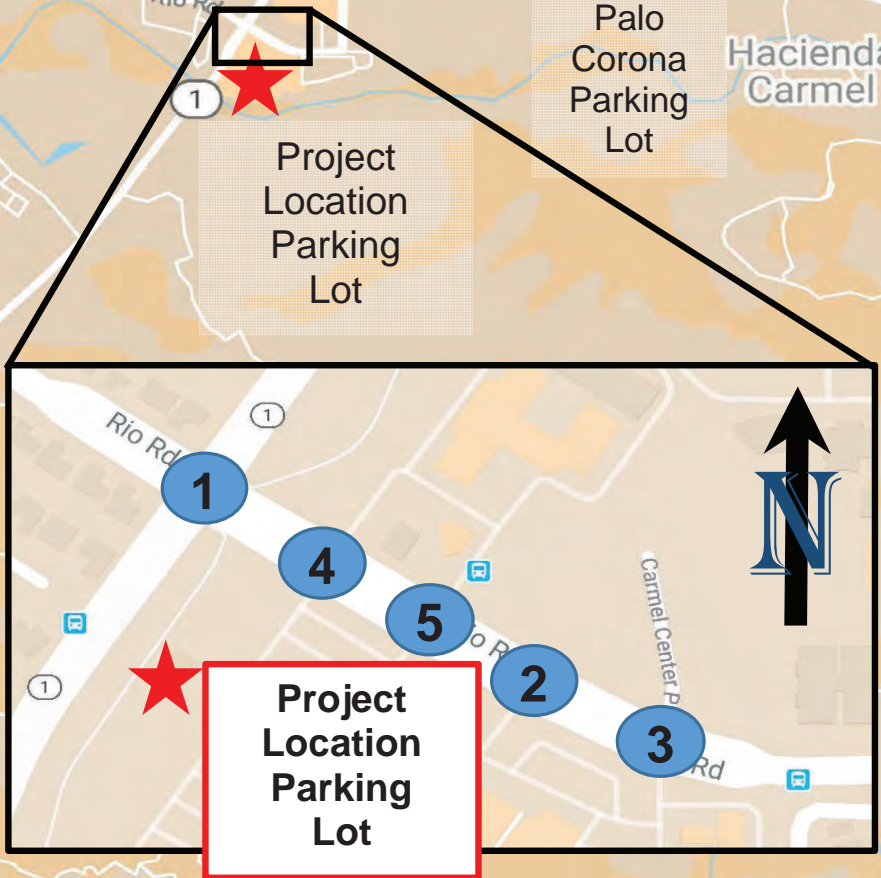
### *Northbound Crossroads Boulevard Operations*

Exiting traffic from the proposed Marathon Flats Facility will result in traffic conflicts at the intersections of the main Crossroads Carmel shopping center eastbound circulation aisles with Crossroads Boulevard. However, the volumes will be less than one (1) vehicle every two (2) minutes during the Saturday MD peak hour, which is the time of peak Project traffic generation. This does not represent a noticeable increase in traffic on any existing parking lot aisle.



**Legend:**

 Study Intersections



Source: Keith Higgins - Traffic Engineer, June 2020

Title: **Traffic Study Area**

Date: 7/10/2020  
 Scale: 1 inch = 1 mile  
 Project: 2020-01



Monterey | San Jose  
**Denise Duffy and Associates, Inc.**  
 Environmental Consultants Resource Planners  
 947 Cass Street, Suite 5  
 Monterey, CA 93940  
 (831) 373-4341

Figure  
**7**

The Marathon Flats Facility will add traffic to the northbound Crossroads Boulevard approach to Rio Road. This is the primary location for vehicles to exit the Crossroads Carmel shopping center. Currently, a total of about 205 AM, 445 PM, and 437 Saturday MD trips exit the Crossroads. The Marathon Flats Facility will add about 8 AM, 45 PM, and 55 Saturday MD exiting movements at this location. This will result in a total of about 213 AM, 490 PM, and 492 Saturday MD exiting movements. The Project will represent an increase of 1% in the AM, 9% in the PM, and 11% in the Saturday mid-day peak hours. Proportional increases in queuing will result. **Table 8** below summarizes the level of service on this approach. It indicates that virtually no change in delay will be experienced by the addition of Project exiting traffic to this movement. The calculated cycle length for the traffic signal at this intersection is about one (1) minute. The Project PM peak hour exiting volume is 41 left-turning vehicles, which would be less than one (1) vehicle per cycle. This would be the expected average increase in queue length, with many cycles not experiencing any increase due to Project traffic. The Project will not substantially affect Crossroads Boulevard traffic operations.

**Table 8**  
**Crossroads Boulevard Approach Level of Service**  
**Level of Service and Average Northbound Crossroad Boulevard**  
**Approach Delay (Seconds)**

Time Period	Existing	Existing + Project	Cumulative	Cumulative + Project
<b>AM</b>	C-20.4	C-20.4	C-20.4	C-20.3
<b>PM</b>	B-18.3	B-18.0	B-18.3	B-18.0
<b>Sat MD</b>	B-18.3	B-18.2	B-18.3	B-18.1

*Recommendations*

The following improvements are recommended in the transportation study that should be incorporated into the Shuttle Program:

1. Provide guide signs to direct patrons to the interim parking area at the Blue Roof parking lots on Carmel Center Place.
2. Provide a designated passenger loading and unloading area at the interim parking area on Carmel Center Place.
3. Provide guide signs and monument signs to clearly indicate driveway entrances for the Marathon Flats Facility.
4. Provide guide signs and monument signs to clearly indicate the shuttle parking area at the Palo Corona Regional Park parking lot.
5. Provide a designated passenger loading and unloading area at the parking area at Palo Corona Regional Park.
6. Coordinate with Caltrans regarding the shuttle stop on northbound SR 1 at San Jose Creek Canyon Road.

7. Consider including parking for 10 bicycles at the Marathon Flats Facility per the “Monterey County Zoning Ordinance Section 20.58.050.M – Regulations for Parking, General Provisions, Bike Racks”.

8. Limit deliveries of major construction materials to the hours of 9AM to 3PM.

Based on the above discussion, the ParkIT! Shuttle Program would not conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not conflict with a plan, ordinance, or policy to address the circulation system, including transit, roadways, bicycle lanes and pedestrian paths. Rather, the Reservation System would enable better visitor management within Point Lobos and manage visitor access which could alleviate impacts to transit, roadways, bicycle lanes, and pedestrian paths. The Reservation System could potentially result in indirect effects to circulation systems. However, these effects are not anticipated to be significant since the proposed Reservation System is intended to improve public access to minimize potential environmental effects, including traffic-related effects related to congestions associated with the public attempting to access Point Lobos during peak periods. Moreover, the implementation of the Shuttle Program, as described above, would have a net beneficial effect of reducing traffic on a segment of SR 1 between the Marathon Flats Facility and Point Lobos. The Reservation System would ensure that Park access is managed in a sustainable manner and includes adaptive management measures to ensure that Park access would not result in adverse environmental effects. If adverse impacts are identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., controlled access throughout the day) to minimize impacts. This would represent a less than significant effect.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not conflict with a circulation plan, ordinance, or policy. The combined effect of both components would be less than significant.

b) *For a land use project, would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1)?*

### **ParkIT! Shuttle Program**

CEQA Guidelines Section 15064.3, subdivision (b)(1) calls for the evaluation of transportation impacts of projects based on Vehicle Miles Traveled (“VMT”). CEQA uses the VMT metric to evaluate a project’s transportation impacts. The Project proposes to implement a shuttle bus operation that will reduce vehicles traveling on SR 1 between Rio Road and Point Lobos. This is a distance of approximately 2.2 miles in each direction, for a round trip of 4.4 miles. As shown in **Table 7, Project Trip Generation**, a total of approximately 708 visitor vehicles per weekday and 787 visitor vehicles per weekend day

will be captured by the Project. The resulting savings in VMT will be approximately 31,152 per weekday and 34,628 per weekend day. The 7-day average is about 32,145 VMT during peak season.

The shuttle bus route is approximately 3.8 miles long for a round trip of 7.6 miles. Shuttle buses are assumed to make three (3) round trips per hour from 10:00 am to 5:00 pm, totaling 7 hours. This is a total 21 round trips per day per shuttle bus, or 63 total round trips per day. The shuttle buses will generate a total of approximately 479 VMT per day.

The net savings is about 31,666 VMT per day. The savings would be less during times of year with lower amounts of visitors. There may be some incidental traffic generated by facility maintenance and operations personnel. This is considered imperceptible and represents a less than significant adverse impact on VMT. In fact, the Project would represent a beneficial impact on VMT.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1), which calls for evaluating transportation impacts of projects based on VMT. The Reservation System would require day-use reservations for visitors at Point Lobos and potentially the San Jose Creek Trail (once opened to public use), which would reduce vehicles traveling between Point Lobos and Carmel via SR 1.

### **Conclusion**

The Proposed Project, including both components discussed above, would be consistent with CEQA Guidelines Section 15064.3, subdivision (b)(1), which calls for evaluating transportation impacts of projects based on VMT. The ParkIT! Shuttle Program would have a net savings of about 31,666 VMT per day, with less savings during times of year with lower amounts of visitors. This is a reduction in existing VMT and would represent a beneficial impact. The combined effect of both components would be less than significant.

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

### **ParkIT! Shuttle Program**

The proposed shuttle service would follow existing routes and would not increase hazards due to a geometric design feature or incompatible uses. See also discussion a) above with regards to Project access and internal circulation.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not increase hazards due to a geometric design feature. Furthermore, the Reservation System is not a physical component of the Proposed Project.



## **Conclusion**

The Proposed Project, including both components discussed above, would not increase hazards due to a geometric design feature or incompatible use. The Proposed Project would have no impact.

- d) *Result in inadequate emergency access?*

### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would conform to all County and Fire Department requirements regarding emergency access and, therefore, would not result in inadequate emergency access. See discussion in **Section 4.13, Public Services** for more information regarding the Shuttle Program's potential impacts to emergency services.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in inadequate emergency access. Rather, the Reservation System would manage Park access, increasing the maneuverability of Park staff and visitors and emergency services in the event of an emergency.

## **Conclusion**

The Proposed Project, including both components discussed above, would not result in inadequate emergency access. The Proposed Project would have no impact.

## **4.16 TRIBAL CULTURAL RESOURCES**

### **4.16.1 INTRODUCTION**

This section describes tribal cultural resources and Proposed Project's compliance with California state law to consult with representative Native American tribes in the area.

### **4.16.2 ENVIRONMENTAL SETTING**

Radiocarbon and archaeological evidence indicate that human occupation of the California Coast began at least 10,000 years ago. Settlement of the coastal areas of Monterey County, however, did not begin until around 5,000 B.C. Prior to Euro-American contact, the area now known as Big Sur was inhabited by native speakers of the Costanoan, Esselen, and Salinan languages. The traditional way of life for the native inhabitants was largely destroyed in the 1770s with the arrival of Euro-Americans.

European contact began with the arrival of Spanish explorers in the 16th Century. However, it was not until 1770 that the Portola expedition arrived in Monterey Bay and established the first mission and Royal Presidio. With the arrival of the Portola expedition and the establishment of the first mission, a period of intense Native American conversion to Catholicism began. After Mexico gained its independence from Spain in 1820, a period of secularization ensued, and the remaining Native American groups were employed as ranch hands and domestic servants. By 1840, the Mission was in a state of ruin, and many Native Americans returned to pre-Spanish

food collecting and hunting practices. As the competition for land increased with the arrival of Anglo settlers, Native American communities began to disappear.

#### **4.16.2.1 Native American Consultation**

The Proposed Project is located in an area of known sensitivity for tribal cultural resources. State Parks contacted the Native American Heritage Commission to conduct a Sacred Lands Files search in March 2021. That search yielded a positive result indicating that tribal cultural resources are known to occur within the project vicinity. State Parks subsequently conducted Native American consultation and reached out to Native American contacts to conduct formal consultation. This process included a site visit to discuss potential Native American concerns specifically related to the San Jose Creek shuttle stop, which is in proximity to known tribal cultural resources. Specifically, Native American representatives expressed concern that the proposed shuttle stop could result in potential indirect effects to known tribal cultural resources due to increased use and visitation associated with the future opening of the San Jose Creek Trail. State Parks is continuing to work with tribal representatives to address potential concerns related to the future use of the San Jose Creek Trail.

#### **4.16.3 REGULATORY SETTING**

##### **4.16.3.1 State**

###### **California Register of Historical Resources**

The California Register of Historical Resources (“CRHR”) is “an authoritative listing and guide to be used by state and local agencies, private groups and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The CRHR includes buildings, sites, structures, objects, and districts significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. The CRHR is maintained by California State Parks’ Office of History Preservation (OHP).

###### **California Public Resources Code**

Several sections of the California PRC protect cultural resources located on public land. Under PRC Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site (including fossilized footprints), inscriptions made by human agency, rock art, or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project area, the landowner must work with the Native American Most Likely Descendant as identified by the NAHC to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. These procedures are also

addressed in Section 15064.5 of the State CEQA Guidelines. California Health and Safety Code Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur as a result of development on public lands.

### **California Health and Safety Code**

California Health and Safety Code Section 7050.5 regulates the treatment of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to his or her authority. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

### **State Assembly Bill 52**

AB 52, effective July of 2015, established a new category of resources for consideration by public agencies when approving discretionary projects under CEQA, called Tribal Cultural Resources (“TCRs”). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or when it is concluded that mutual agreement cannot be reached. Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
  - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
  - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- Resources determined by the lead agency to be TCRs.

AB 52 notification and consultation applies to projects for which a Notice of Intent or Notice of Availability is issued after the effective date of AB 52 in 2015. Notification and consultation are not required for projects covered by a prior EIR or Mitigated Negative Declaration (“MND”) that either predates AB 52 or that has already complied with AB 52.

### **Native American Heritage Commission**

The NAHC was created by statute in 1976, is a nine-member body appointed by the Governor to identify and catalog cultural resources (i.e., places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands) in

California. The Commission is responsible for preserving and ensuring accessibility of sacred sites and burials, the disposition of Native American human remains and burial items, maintaining an inventory of Native American sacred sites located on public lands, and reviewing current administrative and statutory protections related to these sacred sites.

#### 4.16.4 THRESHOLDS OF SIGNIFICANCE

---

##### TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 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:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	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 (Sources: 1, 9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe. (Sources: 1, 9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4.16.5 IMPACT ANALYSIS

- a) *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),*

Public Resources Code Sec. 21074 defines a tribal cultural resource as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: a) included or determined to be eligible for inclusion in the California Register of Historical Resources, [or] b) included in a local register of historical resources as defined in subdivision (k) of [Public Resources Code] Section 5020.1” (Public Resources Code Sec. 21027(a)).

##### **ParkIT! Shuttle Program**

The proposed Shuttle Program consists of the construction of parking improvements at the Marathon Flats site (an area previously used for parking and seasonal events) and the operation of a shuttle service. The Shuttle Program could potentially directly affect a tribal cultural resource in connection with construction-related activities at the Marathon Flats site. In addition, the Shuttle Program could also result in indirect effects associated with the operation of the shuttle. Specifically, the Shuttle Program could result in indirect effects due to future operation of the San Jose Creek shuttle stop.

### *Marathon Flats Facility*

No tribal cultural resources, as defined in Public Resources Code Section 21074, that is listed or eligible for listing in the California Register of Historic Resources,<sup>15</sup> or in a local register of historic resources, are known to exist at the Marathon Flats site. While no known tribal cultural resources exist at the Marathon Flats site, the NAHC Sacred Land Files search yielded a positive result indicating that tribal cultural resources could be present within the project vicinity. As a result, construction-related activities could potentially affect a tribal cultural resource.

As discussed in **Section 4.5, Cultural Resources**, there is a known archaeological site, CA-MNT-290, that was likely a habitation site in the vicinity of the Marathon Flats site. This site has been largely destroyed in connection with previous development in the surrounding area as documented by Caltrans in 1984. While this site is in the vicinity of the Marathon Flats Facility, construction-related activities are unlikely to affect this resource for several reasons. First, the Marathon Flats site has been highly disturbed in connection with previous use. The site is routinely disturbed for use for parking purposes, seasonal events, and other temporary uses. As a result, it is unlikely that construction associated with the Shuttle Program would disturb a previously unidentified resource given previous site disturbances. Secondly, Caltrans documented that CA-MNT-290 was largely destroyed due to prior development in the area. Therefore, it is unlikely that construction associated with the Marathon Flats Facility would affect this resource. Finally, the extent of construction-related activities associated with the Marathon Flats Facility is relatively minor in scope as discussed above. While it is unlikely that construction would impact an existing resource, construction could still nevertheless potentially affect a previously unidentified or buried resource. As a result, State Parks identified mitigation to ensure that construction-related impacts would be minimized to a less than significant level. Specifically, State Parks identified **Mitigation Measure 4.5-1** and **Mitigation Measure 4.5-2** to reduce impacts to a less than significant level. For these reasons, construction of the Marathon Flats Facility would result in a less than significant impact to potential tribal cultural resources.

### *San Jose Creek Shuttle Stop*

As discussed in **Section 4.5, Cultural Resources**, the ParkIT! Shuttle Program would establish a shuttle stop at the San Jose Creek Trailhead when it is open to the public. This shuttle stop is located near archaeological site CA-MNT-12/H, which contains significant and sensitive cultural resources. Additionally, this site is considered a sacred site to the local Rumsen and Esselen tribes. This site consists of a “large seasonal residential site with a Middle Period component is located near San Jose Creek within what is now

---

<sup>15</sup> A resource may be listed as a historical resource in the California Register if it meets any of the following criteria: 1) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage. 2) is associated with the lives of persons important in our past. 3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents that work of an important creative individual, or possesses high artistic values. 4) has yielded, or may be likely to yield, information important in prehistory or history. (Public Resources Code Sec. 5024.1(c)).

Ishxenta State Park. The site is known to locals as the Hudson Mound (which also includes the adjacent area known as the polo field) and contains a large and diverse artifact assemblage and evidence of a broad diet including mussels and other shellfish, fish, large mammals (deer, sea otters and pinnipeds), and birds.” (State Parks, 2021). This site represents an important Native American village site.

While the San Jose Creek shuttle stop would not directly impact this site, there is potential for indirect impacts due to increased visitation and use in connection with the eventual opening of San Jose Creek Trail to public use. However, it is important to recognize that the opening of this trail is not proposed as part of the proposed Shuttle Program. Nevertheless, the eventual opening of the San Jose Creek Trail and subsequent use of the shuttle stop could potentially indirectly increase visitation which could result in potential indirect effect to this important resource.

State Parks has been actively engaged with Native American representatives to solicit their input regarding the future opening of the San Jose Creek Trail. In addition, the recently approved Carmel Area State Parks General Plan includes several resource management measures that State Parks would implement as part of the future opening of San Jose Creek Trail. These measures would ensure that potential impacts to this resource and other resources are minimized to a less than significant level. These measures include developing Cultural Resource Management Plans, coordinating with local tribal representatives to monitor sensitive sites, incorporating interpretive elements, documenting existing resources, and establishing cultural preservation zones. State Parks is committed to continuing to work with Native American representatives to ensure that resource-related impacts are avoided.

In addition to the management measures identified above, State Parks also has identified additional mitigation in this Initial Study to ensure that the future use of the San Jose Creek shuttle stop includes measures to minimize impacts to this important tribal cultural resource. As identified in **Section 4.5, Cultural Resources**, State Parks would implement **Mitigation Measure 4.5-2** which would require the preparation of a Cultural Resource Management Plan prior to the operation of the San Jose Creek shuttle stop. This measure would ensure that impacts are minimized to a less than significant level. The implementation of this mitigation measure and ongoing adaptive management measures that State Parks routinely implements as part of existing operations would ensure that the future operation of the San Jose Creek shuttle stop would not result in a significant impact on a tribal cultural resource. This represents a less than significant impact with mitigation incorporated.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not directly affect a tribal cultural resource. The Reservation System could potentially result in indirect impacts associated with increased use and visitation. These effects would be minimized through the implementation of adaptive management practices. Furthermore, the proposed Reservation System is

intended to manage access to minimize potential environmental effects due to overuse and increased visitation. This would be a less than significant impact.

### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would not cause a substantial adverse change in the significance of a tribal cultural resource. Although the ParkIT! Shuttle Program would not result in direct impacts to tribal cultural resources, there is potential for indirect impacts. Potential indirect effects would be addressed through the implementation of **Mitigation Measure 4.5-1** and **Mitigation Measure 4.5-2** the implementation of the management measures identified in the Carmel Area State Parks General Plan and ongoing adaptive management measures implemented by State Parks as part of existing operations. Similarly, the Reservation System would not result in direct impacts, however, indirect impacts could potentially result from increased use and visitation. Potential indirect effects associated with the Reservation System would be addressed through the implementation of ongoing adaptive management measures. The combined effects of both components would be less than significant with mitigation incorporated.

- b) *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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe*

### **ParkIT! Shuttle Program**

As described above, the NAHC review of their Sacred Lands Files yielded positive results for the Project site. While the potential for discovery of tribal cultural resources within the Marathon Flats site is likely low due to prior site disturbance, there is concern regarding indirect impacts to tribal cultural resources at the San Jose Creek shuttle stop. The implementation of **Mitigation Measure 4.5-1** and **Mitigation Measure 4.5-2** would ensure that potential direct and indirect effects associated with the Shuttle Program would be reduced to a less than significant level. In addition, State Parks would also continue to implement the various management measures identified in the Carmel Area State Parks General Plan to further ensure that impacts would be less than significant in connection with the future opening of the San Jose Creek Trail. Finally, State Parks would also implement ongoing adaptive management measures to ensure that resource-related impacts are minimized. This represents a less than significant impact with mitigation incorporated. See above for more information.

### **State Parks - Day-Use Reservation System for Point Lobos**

As described above, indirect effects to tribal cultural resources could occur in connection with increased visitation. However, these effects are not anticipated to be significant since the proposed Reservation System is intended to manage access to minimize potential environmental effects due to overuse and increased visitation. If adverse impacts are

identified as part of Park operations, State Parks would implement additional adaptive management measures (e.g., controlled access throughout the day, docent-led tours, symbolic fencing, increased Ranger patrol) to ensure minimized impacts. This would represent a less than significant effect.

### **Conclusion**

The Proposed Project, which includes both the ParkIT! Shuttle Program and the Reservation System, would not cause a substantial adverse change in the significance of a tribal cultural resource. Although unlikely, it is possible that tribal cultural resources could be disturbed during the construction and operation of the ParkIT! Shuttle Program and Reservation System. The implementation of mitigation measures identified in this Initial Study, as well as the implementation of the management measures identified in the Carmel Area State Parks General Plan and ongoing adaptive management measures implemented by State Parks as part of existing operations, would ensure that potential impacts would be reduced to a less than significant level. The combined effects of both components would be less than significant with mitigation incorporated.

## **4.17 UTILITIES AND SERVICE SYSTEMS**

### **4.17.1 INTRODUCTION**

This section describes existing utilities, applicable service providers, and potential project impacts on utilities and service systems.

### **4.17.2 ENVIRONMENTAL SETTING**

Utilities and services are furnished to the Project area by the following providers:

- Water Service: California American Water (“CalAm”)
- Wastewater Treatment: Carmel Area Wastewater District (“CAWD”)
- Solid Waste: Monterey Regional Waste Management District (“MRWMD”)

CalAm is the water service purveyor to the Project area; the Marathon Flats site does not have any water use or connections.

Wastewater treatment is provided to the Project area by CAWD. CAWD provides wastewater collection, treatment, and disposal services to the areas of Carmel-by-the-Sea, Carmel Valley, and Carmel Highlands. The District is also responsible for the maintenance and operation of the sewer system within its borders.

State Parks is currently responsible for the collection of solid waste at the Marathon Flats site. Waste is transported to the Monterey Regional Waste Management District facility north of the City of Marina.



### 4.17.3 THRESHOLDS OF SIGNIFICANCE

UTILITIES AND SERVICE SYSTEMS		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 would cause significant environmental effects? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? (Source: 1, 35)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (Source:1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Comply with federal, state, and local management and reduction statuses and regulations related to solid waste? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.17.4 IMPACT ANALYSIS

- 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 would cause significant environmental effects?*

#### **ParkIT! Shuttle Program**

The proposed shuttle service and parking lot would not 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 would cause significant environmental effects. This is a less than significant effect.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not require or result in the relocation or construction of new or expanded water, wastewater treatment of storm water drainage, or other utilities and service systems.

## Conclusion

The Proposed Project, including both components discussed above, would not require, or result in the relocation or construction of new or expanded water, wastewater treatment of storm water drainage or other utilities and service systems. The combined effect of both components would be 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?*

## ParkIT! Shuttle Program

The Proposed Project proposes a restroom at the Marathon Flats Facility. This would initially consist of a temporary, portable structure in the short term and would not result in new water demand. In the future, the construction of a permanent new restroom at the Marathon Flats Facility would increase water demand. The projected water demand associated with the construction of a permanent restroom consisting of two (2) to four (4) toilets is as follows, based on the MPWMD Non-Residential Water Release Form and Water Permit Application:

- 2 toilets: 0.116-acre feet/year (“AFY”)
- 3 toilets: 0.174 AFY
- 4 toilets: 0.232 AFY

Thus, the Project would increase water demand by approximately 0.116 to 0.232 AFY. Water Credits from the MPWMD and/or other alternative water sources would be necessary to accommodate up to 0.232 AFY of projected demand. Currently, State Parks does not have any available MPWMD water credits. As a result, the construction of a permanent restroom facility is not feasible at this time. Absent additional MPWMD Water Credits, MPWMD would not be able to issue water permits for the future restroom. Although the Project could increase water demand beyond existing available Water Credits, existing MPWMD rules prohibit the issuance of a water permit until such time that State Parks can demonstrate available MPWMD Water Credits or other supplies become available to serve the new restroom for the Project. Existing MPWMD requirements limiting the issuance of Water Permits will ensure no new connections or increased water demand is generated. Therefore, the Project would not significantly increase water demand. This represents a less than significant impact.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not require water for implementation.

## Conclusion

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not significantly increase water demand. The ParkIT! Shuttle Program would require water for construction, which would be trucked in from off-site. Portable

restrooms within the Marathon Flats Facility would be utilized until MPWMD Water Credits or other supplies become available, thus, would not require additional water. The combined effect of both components would be less than significant.

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

#### **ParkIT! Shuttle Program**

A future permanent restroom at the Marathon Flats Facility would slightly increase wastewater generation. This minor increase in wastewater generation would not result in inadequate CAWD capacity to serve the Proposed Project.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not result in wastewater generation.

#### **Conclusion**

The Proposed Project, including both components discussed above, would not result in wastewater generation that would exceed the capacity of the existing provider's commitments. The combined effect of both components would be less than significant.

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

#### **ParkIT! Shuttle Program**

The only solid waste generated by the ParkIT! Shuttle Program would be from trash containers proposed for patron use at the Marathon Flats Facility. State Parks would be responsible for the collection of trash on the site. This minor increase in solid waste would not impact solid waste standards, infrastructure, or goals.

#### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure. Moreover, the Reservation System is intended to manage access in a sustainable manner, minimizing environmental impacts due to overuse and increased visitation. If adverse effects were to be observed during Park operations as a result of increased visitation, State Parks would implement adaptive management strategies to minimize these effects.

#### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System would not generate solid waste in excess of State or local standards. The solid waste generated from the Proposed Project would be from trash deposited into containers

at the Marathon Flats Facility. Indirect increases in solid waste as a result of increased visitation from the Reservation System would be unlikely and minimized by adaptive management strategies implemented by State Parks. The combined effects of both components would be less than significant with mitigation incorporated.

## **4.18 WILDFIRE**

### **4.18.1 INTRODUCTION**

This section analyzes potential wildfire impacts of the Proposed Project based on its location within a Fire Hazard Severity Zone (“FHSZ”) in State Responsibility Area (“SRA”) or Very-High Fire Hazard Severity Zone (“VHFHSZ”) of Local Responsibility Area (“LRA”) for wildland fires, as designated by the California Department of Forestry and Fire Protection.

### **4.18.2 ENVIRONMENTAL SETTING**

The Proposed Project consists of the development of a shuttle service from Carmel Crossroads shopping center and along Rio Road and State Route 1, between the Marathon Flats Facility and Point Lobos. The shuttle route runs through multiple Fire Hazard Severity Zones, including areas designated as SRAs and LRAs. The first portion of the shuttle route, beginning at Carmel Crossroads, running west on Carmel Valley Road, then approximately 600 feet south on Carmel Rancho Boulevard, is within a VHFHSZ. The second portion of the route continues south on Carmel Rancho Boulevard, west on Rio Road, then approximately 1.5 miles south on State Route 1; this portion of the shuttle route is within a non-VHFHSZ. The final portion of the shuttle route continues south on State Route 1 then west to Point Lobos, which is within a designated VHFHSZ. The first and second portions of the shuttle route are within an LRA, while the final portion of the route is in an SRA.

### **4.18.3 REGULATORY SETTING**

#### **4.18.3.1 State**

##### **Public Resources Code Section 4201-4204**

Sections 4201 through 4204 of the California Public Resources Code direct Cal Fire to map FHSZs within SRAs, based on relevant factors such as fuel, terrain, and weather. Mitigation strategies and building code requirements to reduce wildland fire risks to buildings within SRAs are based on these zone designations.

##### **Government Code Section 51175-51189**

Sections 51175 through 51189 of the California Government Code directs Cal Fire to recommend FHSZs within LRAs. Local agencies are required to designate VHFHSZs in their jurisdiction within 120 days of receiving recommendations from Cal Fire and may include additional areas not identified by Cal Fire as VHFHSZs.

## California Fire Code

The 2016 California Fire Code Chapter 49 establishes the requirements for development within wildland-urban interface areas, including regulations for wildfire protection, building construction, hazardous vegetation and fuel management, and defensible space maintained around buildings and structures.

### 4.18.4 THRESHOLDS OF SIGNIFICANCE

WILDFIRE		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state 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? (Source: 1, 14, 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (Source: 1, 14, 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 impact to the environment? (Source: 1, 14, 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (Source 1, 14, 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.18.5 IMPACT ANALYSIS

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

#### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program would not substantially impair an adopted emergency response plan or emergency evacuation plan. As described above in **Section 3.8. Hazards and Hazardous Materials**, the ParkIT! Shuttle Program would not create any barriers to emergency or other vehicle movement in the area. In addition, the Shuttle Program would also improve emergency access by reducing congestion on the segment of SR 1 between Marathon Flats and Point Lobos. See **Section 4.13, Public Services**, for more information.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not impair an adopted emergency response plan or emergency evacuation plan.

### **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and Reservation System, would not impair an adopted emergency response plan or emergency evacuation plan. Rather, both components, while independent in utility and implementation, would reduce traffic between Carmel and Point Lobos along SR 1, improving travel during medical or other emergencies, manage Park access in a manner that would minimize impacts due to overuse and increased visitation. The combined effect of both components 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?*

### **ParkIT! Shuttle Program**

The ParkIT! Shuttle Program consists of the development of a shuttle service and associated parking facility, and therefore, would not expose occupants to a significant risk from wildland fire. The proposed parking facility would be located in a relatively flat area and existing vegetation would be removed as part of site development. Although the shuttle route is located in mostly undeveloped areas with ruderal vegetation, the ParkIT! Shuttle Program and parking facility is not anticipated to create a significant risk or exacerbate existing risks due to the nature of the project. Moreover, shuttle operation would not occur during wildfire events. In addition, the shuttle service would evacuate all riders in the event of the ignition and/or spread of a new wildfire. As a result, the ParkIT! Shuttle Program would have less than significant impact due to slope, prevailing winds, and other factors that exacerbate wildfire risks and expose nearby residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

## **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. While indirect exposure to Park visitors could result from increased visitation, this is unlikely. The Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. If risk of exposure to occupants became a concern during Park operations, State Parks would implement adaptive management strategies (e.g., controlled access throughout the day) to minimize risk. Furthermore, in the event of a wildfire, the Reservation System would not be available as Park operations would likely be suspended.

## **Conclusion**

The Proposed Project, including both components discussed above, would not expose occupants to a significant risk from wildfires. Neither the ParkIT! Shuttle Program nor the Reservation System would operate during a wildfire event. Vegetation located within the site for the ParkIT! Shuttle Program and associated parking facility would be removed. The combined effect of both components would be 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 impact to the environment?*

### **ParkIT! Shuttle Program**

Because the ParkIT! Shuttle Program consists of a shuttle service and parking facility, minimal installation of infrastructure would be required. Infrastructure improvements would be limited to the construction of a new access driveway and installation of a restroom facility. All infrastructure improvements associated with the ParkIT! Shuttle Program would be designed so as not to exacerbate fire risk. This represents a less than significant impact.

### **State Parks - Day-Use Reservation System for Point Lobos**

The Reservation System would not require installation or maintenance of associated infrastructure that may exacerbate fire risk. Rather, the Reservation System is intended to manage Park access to minimize potential environmental effects due to overuse and increased visitation. Moreover, The Reservation System would ensure that Park access is managed in a sustainable manner and includes adaptive management measures to ensure that Park access would not result in adverse environmental effects. There would be no impact from this component.

## **Conclusion**

The Proposed Project, including both the ParkIT! Shuttle Program and the Reservation System, would not require the installation of infrastructure that would exacerbate fire risk. The combined effect of both components would be 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?*

### **ParkIT! Shuttle Program**

See response b) above. Although portions of the ParkIT! Shuttle Program are located in a VHFHSZ, the ParkIT! Shuttle Program consists of a shuttle service and parking facility. The parking facility would be located in a relatively flat area, surrounded by developed areas. Shuttle service would be suspended in the event of downslope or downstream flooding or landslides along the shuttle route. As a result, the Shuttle Program would not result in an impact due to exposure of people or structures to significant wildfire risks as a result of runoff, post-fire slope instability, or drainage changes.

## State Parks - Day-Use Reservation System for Point Lobos

The Reservation System would not expose people or structures to significant risk, including downstream or downslope flooding or landslides resulting from runoff, post-fire slope instability, or drainage changes. The Reservation System would be suspended in the event of flooding or landslides post-wildfire.

### Conclusion

The Proposed Project, including both components discussed above, would not expose people or structures to significant risk, including downstream or downslope flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. While components of the ParkIT! Shuttle Program and associated parking lot are located in VHFHSZ areas, they are within developed and disturbed areas. However, in the event of flooding or landslides post-wildfire, both components would be suspended. The combined effect of both components would be less than significant.

## 4.19 MANDATORY FINDINGS OF SIGNIFICANCE

### 4.19.1 THRESHOLDS OF SIGNIFICANCE

Does the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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? (Source: 1-35)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 probable future projects)? (Source: 1-35)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (Source: 1-35)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.19.2 IMPACT ANALYSIS

- 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 discussed in this Initial Study, the Proposed Project would not 1) degrade the quality of environment, 2) substantially reduce the habitat of a fish or wildlife species, 3) cause a fish or wildlife population to drop below self-sustaining levels, 4) threaten to eliminate a plant or animal community, 5) reduce the number or restrict the range of a rare or endangered plant or animal, or 6) eliminate important examples of major periods of California history or prehistory. The Project would result in temporary construction-related impacts that would be mitigated to a less than significant level through the incorporation of mitigation measures identified in this Initial Study. The Project is not anticipated to result in any significant operational impacts.

- 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 probable future projects)?*

The Proposed Project would not result in a cumulatively considerable adverse environmental effect. In order to determine whether a cumulative effect requires an EIR, the lead agency shall consider whether the impact is significant and whether the effects of the project are cumulatively considerable (CEQA Guidelines §15064(h)(1)). This IS/MND contains mitigation to ensure that all impacts would be minimized to a less-than-significant level. In addition, State Park's previously evaluated the potential cumulative effects associated with the implementation of the General Plan at a programmatic level. As identified above, the Proposed Project would implement several goals and objectives contained in the General Plan.

The cumulative analysis contained in the Final EIR for the Carmel Area State Parks' General Plan considered past, present, and reasonably foreseeable future projects that could potentially result in a cumulative effect. These projects included other land use plans under development by recreational entities, individual development projects, and infrastructure-related projects. The Final EIR concluded that implementation of General Plan for the Carmel Area would not result in a cumulatively considerable impact. In fact, State Parks determined that all impacts would be less-than-significant with mitigation and there would be a less-than-significant cumulative effect. The Final EIR concluded that the goals and guidelines in the General Plan would preserve, protect, and restore resources and otherwise minimize potential adverse physical effects related to biological resources, cultural resources, scenic resources, hazards, water quality, and traffic, and public utilities. In addition, State Parks also determined that the implementation of various management actions contained in the General Plan would ensure that potential cumulative effects would be less than cumulatively considerable. As noted elsewhere in this IS/MND, the Proposed Project would achieve several of the goals identified in the General Plan.

CEQA allows a lead agency to determine that a project's contribution to a potential cumulative impact is not considerable and thus not significant when mitigation measures identified in the initial study will render those potential impacts less than considerable (CEQA Guidelines §15064(h)(2)). This IS/MND contains numerous mitigation measures to minimize the Project's potential impacts and avoid potential adverse environmental effects. Moreover, CEQA allows a lead agency to determine that the project's incremental contribution to a cumulative effect is not considerable if the project will comply with the requirements of a previously approved plan or mitigation program (CEQA Guidelines §15064(h)(3)). Here, the General Plan Final EIR evaluated potential cumulative impacts and determined that all impacts were less-than-significant through the incorporation of mitigation. The Proposed Project would achieve several of the goals and objectives outlined in the General Plan. In addition, the Proposed Project is consistent with the General Plan and would comply with all applicable requirements contained in the General Plan applicable to the Proposed Project.

The mere existence of significant cumulative impacts caused by other projects shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable (CEQA Guidelines §15064(h)(4)). As described above, compliance with the mitigation contained in this IS/MND would ensure that the Project would not result in a cumulatively considerable impact under CEQA. State Parks will continue to implement on-going adaptive management measures as part of Park operations and State Parks has the ability to implement additional resource protection measures, as deemed necessary, to address potential impacts. Applicable measures may include the closure of trails, the installation of fencing and signage to protect sensitive resources, maintaining access controls, and other management techniques to ensure that impacts are further minimized.

The Project would not result in a cumulatively considerable impact; all cumulative impacts would be minimized through the implementation of mitigation and adherence to existing regulatory requirements.

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

The Proposed Project would not have a substantial adverse effect on human beings, either directly or indirectly. The Proposed Project would result in temporary construction-related impacts that would be mitigated to a less than significant level through the incorporation of mitigation measures identified in this Initial Study. The Project is intended to improve environmental conditions by protecting Point Lobos, enhancing the visitor experience, increasing parkland access, increasing coastal access, and improving public safety.

## **Chapter 5: FISH AND WILDLIFE ENVIRONMENTAL DOCUMENT FEES**

The State Legislature, through the enactment of SB 1535, revoked the authority of lead agencies to determine that a project subject to CEQA review had a “de minimis” (minimal) effect on fish and wildlife resources under the jurisdiction of the Department of Fish and Wildlife. Projects that were determined to have a “de minimis” effect were exempt from payment of the filing fees.

SB 1535 has eliminated the provision for a determination of “de minimis” effect by the lead agency; consequently, all land development projects that are subject to environmental review are now subject to the filing fees, unless the Department of Fish and Wildlife determines that the Project will have no effect on fish and wildlife resources.

To be considered for determination of “no effect” on fish and wildlife resources, development applicants must submit a form requesting such determination to the Department of Fish and Wildlife. Forms may be obtained by contacting the Department by telephone at (916) 631-0603 or through the Department’s website at [www.dfg.ca.gov](http://www.dfg.ca.gov).

The Proposed Project would be required to pay this fee.

*This Page Intentionally Left Blank*

## **Chapter 6: REFERENCES**

### **6.1 LEAD AGENCY**

#### **6.1.1 CALIFORNIA DEPARTMENT OF PARKS AND RECREATION**

Brent Marshall, Superintendent for Monterey District  
Stephen Bachman, Senior Park and Recreation Specialist  
Matthew Allen, Senior Environmental Scientist Supervisor

### **6.2 PREPARATION**

#### **6.2.1 DENISE DUFFY & ASSOCIATES, INC.**

Tyler Potter, J.D., AICP, Senior Project Manager/Senior Planner  
Lianne Humble, Senior Planner  
Matthew Johnson, Senior Environmental Scientist  
Max Hofmarcher, Assistant Environmental Scientist  
Oliviya Wyse, Assistant Planner  
Robyn Simpson, Assistant Planner/Editor

#### **6.2.2 KEITH HIGGINS, TRAFFIC ENGINEER**

Keith Higgins, Traffic Engineer

### **6.3 PERSONS/AGENCIES CONTACTED**

1. Chad Alinio, Senior Civil Engineer, Monterey County
2. Kate Daniels Kurz, Previous ParkIT! Coordinator
3. Rich Hamilton, Chief Operating Officer, Big Sur Land Trust
4. Randy Ishii, Chief of Public Works, Monterey County
5. Kathleen Lee, Executive Director, Point Lobos Foundation
6. Nathaniel Miliam, Project Civil Engineer, Whitson Engineers
7. John Olejnik, Senior Transportation Planner, CalTrans District 5
8. Monta Potter, Current ParkIT! Coordinator
9. Enrique M. Saavedra, Senior Civil Engineer, Monterey County
10. Rachel Saunders, Director of Conservation, Big Sur Land Trust
11. Brandon Swanson, Previous Planning Manager, Monterey County
12. Rich Weber, Project Civil Engineer, Whitson Engineers

### **6.4 LITERATURE/CHECKLIST SOURCES**

1. Plan review and expertise of environmental consultant.

2. California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database Special Animals List. Available online at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>
3. CDFW. 2018a. California Natural Communities List. Available online at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609>
4. CDFW. 2018b. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.
5. CDFW. 2020. California Natural Diversity Database Rare Find Report. Accessed April 2020.
6. California Invasive Plant Council (Cal-IPC). 2019. The Cal-IPC Inventory. Available online at <https://www.cal-ipc.org/>
7. California Native Plant Society (CNPS). 2001. Botanical Survey Guidelines.
8. CNPS. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available online at <http://www.rareplants.cnps.org>
9. California State Parks, July 2018. Carmel Area State Park General Plan and Draft Environmental Impact Report.
10. Higgins, Keith, Traffic Engineer, December 2020. ParkIT! Transportation Impact Analysis.
11. USFWS. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.
12. USFWS. 2020. Information for Planning and Consultation (IPaC) Resources List for the ParkIT! Shuttle Program Project.
13. Whitson Engineers, 2020. Preliminary Storm Water Control Plan for ParkIT! Marathon Flats Site.
14. California Department of Forestry and Fire Protection. Fire Hazard Severity Zone Viewer. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed January 2021.
15. MBARD. 2012-2015 Air Quality Management Plan. Adopted March 15, 2017.
16. MBARD. 2016 CEQA Air Quality Guidelines.
17. United States Geological Service. Quaternary Fault and Fold Database of the United States. Accessed January 2021.
18. Google Earth. Accessed January 2021.

19. National Resources Conservation Service. Map Unit Description: Elder very fine sandy loam, 2 to 9 percent slopes---Monterey County. 2020.
20. United States Department of Agriculture Soil Conservation Service. Soil Survey of Monterey County. April 1978.
21. U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks. Available at: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>. Accessed January 2021.
22. California Air Resources Board. Current California GHG Emission Inventory Data. Available at: <https://ww2.arb.ca.gov/ghg-inventory-data>. Accessed January 2021.
23. Bay Area Air Quality Management District. Bay Area Emissions Inventory Summary Report. Updated January 2015. Available at: [https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011\\_GHGSummary.ashx?la=en&la=en](https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en&la=en)
24. Department of Toxic Substance Control. Site Mitigation & Restoration Program. Accessed January 2021. Available at: <https://dtsc.ca.gov/your-envirostor/>
25. State Water Resources Control Board. GeoTracker. Accessed January 2021. Available at: <https://geotracker.waterboards.ca.gov/>
26. Monterey Peninsula Airport. 14 CFR Part 150 Noise Exposure Map Update Executive Summary. May 2008
27. Central Coast RWQCB. Water Quality Control Plan for the Central Coast Region. 2011.
28. County of Monterey. Carmel Valley Management Plan. 2013.
29. County of Monterey. Monterey County General Plan. 2010.
30. County of Monterey. Carmel Area Land Use Plan, Local Coastal Program. 1983.
31. Idax Data Solutions. Point Lobos Visitor Study. August 2018.
32. Kimley-Horn Associates, Inc. Regional Impact Fee Nexus Study Update. March 26, 2008.
33. Wood Rodgers. The Regional Impact Fee Nexus Study Update. October 2018.
34. Caltrans. Big Sur Sustainable Transportation Demand Management Plan. February 2020.
35. Monterey Peninsula Water Management District. Non-Residential Water Release Form and Water Permit Application. Available at: <https://www.mpwmd.net/wp-content/uploads/Non-Residential-Water-Release-Permit-Application-Revised-20180118.pdf>

36. California Department of Parks and Recreation. Carmel Area State Parks General Plan.  
2021



**Appendix A**  
**Special-Status Species Database**

*This Page Intentionally Left Blank.*

## Appendix A Special-Status Species Database

(Monterey, Marina, Seaside, Mt Carmel, Soberanes Point)

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<b>MAMMALS</b>			
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	-- / CSC / --	Found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	<b>Unlikely:</b> Potentially suitable foraging habitat adjacent to survey area. Nearest known CNDDDB occurrence over 3 miles from Project site.
<i>Lasiurus cinereus</i> Hoary bat	-- / CNDDDB / --	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or edge for feeding. Generally roost in dense foliage of trees; does not use buildings for roosting. Winters in California and Mexico and often migrates towards summer quarters in the north and east during the spring. Young are born and reared in summer grounds, which is unlikely to occur in California.	<b>Unlikely:</b> Potentially suitable foraging habitat adjacent to survey area, however, no suitable nesting habitat identified within survey area. Nearest known CNDDDB occurrence 1.3 miles from Project site.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	-- / CNDDDB / --	Known only to occur from the Monterey Bay region. Occurs in fresh and brackish water wetlands and probably in the adjacent uplands around the mouth of the Salinas River.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Sorex ornatus salarius</i> Monterey shrew	-- / CSC / --	Mostly moist or riparian woodland habitats, and within chaparral, grassland, and emergent wetland habitats where there is a thick duff or downed logs.	<b>Low:</b> Potentially suitable habitat adjacent to Survey area. Nearest known CNDDDB occurrence from 1938 adjacent to Survey area.
<i>Taxidea taxus</i> American badger	-- / CSC / --	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<b>BIRDS</b>			
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	BCC / ST / --	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Athene cunicularia</i> Burrowing owl (burrow sites & some wintering sites)	-- / CSC / --	Year round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Buteo regalis</i> Ferruginous hawk (wintering)	-- / WL/ --	An uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges and a fairly common winter resident of grassland and agricultural areas in southwestern California. Frequent open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Does not breed in California.	<b>Low:</b> Potentially suitable habitat adjacent to survey area. Nearest known CNDDDB occurrence over 12 miles from survey area.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover (nesting)	FT / CSC / --	Sandy beaches on marine and estuarine shores, also salt pond levees and the shores of large alkali lakes. Requires sandy, gravelly or friable soil substrate for nesting.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Coturnicops noveboracensis</i> Yellow rail	-- / CSC / --	Wet meadows and coastal tidal marshes. Occurs year round in California, but in two primary seasonal roles: as a very local breeder in the northeastern interior and as a winter visitor (early Oct to mid-Apr) on the coast and in the Suisun Marsh region	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Cypseloides niger</i> Black swift (nesting)	-- / CSC / --	Regularly nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. Forages widely over many habitats.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Eremophila alpestris actia</i> California horned lark	-- / CNDDDB / --	Variety of open habitats, usually where large trees and/or shrubs are absent. Found from grasslands along the coast to deserts at sea-level and alpine dwarf-shrub habitats are higher elevations. Builds open cup-like nests on the ground.	<b>Unlikely:</b> Potentially suitable habitat adjacent to Survey area. Nearest known CNDDDB occurrence over 12 miles from survey area.
<i>Laterallus jamaicensis coturniculus</i> California black rail	-- / ST&CFP / --	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate during the year & dense vegetation for nesting habitat.	
<i>Oceanodroma homochroa</i> Ashy storm-petrel (nesting colony)	BCC / CSC / --	Tied to land only to nest, otherwise remains over open sea. Nests in natural cavities, sea caves, or rock crevices on offshore islands and prominent peninsulas of the mainland.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Pelecanus occidentalis californicus</i> California brown pelican (nesting colony & communal roosts)	-- / CFP / --	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Usually rests on water or inaccessible rocks, but also uses mudflats, sandy beaches, wharfs, and jetties.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Riparia riparia</i> Bank swallow (nesting)	-- / ST / --	Nest colonially in sand banks. Found near water; fields, marshes, streams, and lakes.	<b>Unlikely:</b> No suitable nesting habitat within or immediately adjacent to survey area.
<b>REPTILES AND AMPHIBIANS</b>			
<i>Ambystoma californiense</i> California tiger salamander	FT / ST&WL / --	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Anniella pulchra</i> Northern California legless lizard	-- / CSC / --	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area. Nearest known CNDDDB occurrences within 0.5 miles of the Project site, however, site lacks sufficient burrowing substrate.
<i>Emys marmorata</i> Western pond turtle	UR / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	<b>Unlikely:</b> Suitable habitat adjacent to survey area, nearest known CNDDDB occurrence within 1 mile of survey area. Site unlikely to provide foraging or migration habitat due to Hwy 1 and Crossroads parking lot surrounding survey area.
<i>Phrynosoma blainvillii</i> Coast horned lizard	-- / CSC / --	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Rana boylei</i> Foothill yellow-legged frog	-- / SC&CSC / --	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including hardwood, pine, and riparian forests, scrub, chaparral, and wet meadows. Rarely encountered far from permanent water.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Rana draytonii</i> California red-legged frog	FT / CSC / --	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Taricha torosa torosa</i> Coast Range newt	-- / CSC / --	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoir.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<b>FISH</b>			
<i>Eucyclogobius newberryi</i> Tidewater goby	FE / CSC / --	Brackish water habitats, found in shallow lagoons and lower stream reaches. Tidewater gobies appear to be naturally absent (now and historically) from three large stretches of coastline where lagoons or estuaries are absent and steep topography or swift currents may prevent tidewater gobies from dispersing between adjacent localities. The southernmost large, natural gap occurs between the Salinas River in Monterey County and Arroyo del Oso in San Luis Obispo County.	<b>Not Present</b> No suitable habitat within or adjacent to the project site.
<i>Oncorhynchus mykiss irideus</i> Steelhead (south/central California coast DPS)	FT / -- / --	Cold headwaters, creeks, and small to large rivers and lakes; anadromous in coastal streams.	<b>Not Present</b> No suitable habitat within or adjacent to the project site.
<b>INVERTEBRATES</b>			
<i>Bombus caliginosus</i> Obscure bumble bee	-- / CNDDDB / --	Native to the West Coast of the United States. Occurs primarily along the coast in grassy prairies and meadows within the Coast Range. This species can nest both under and above ground. When nesting above ground the species may utilize abandoned bird nests. Found in areas that are relatively humid including areas that are frequently foggy.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Bombus occidentalis</i> Western bumble bee	-- / SC / --	Occurs in open grassy areas, urban parks, urban gardens, chaparral, and meadows. This species generally nest underground. Western bumble bee populations are currently largely restricted to high elevation sites in the Sierra Nevada.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Coelus globosus</i> Globose dune beetle	-- / CNDDDB / --	Coastal dunes. These beetles are primarily subterranean, tunneling through sand underneath dune vegetation.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Danaus plexippus</i> Monarch butterfly	-- / CNDDDB / --	Overwinters in coastal California using colonial roosts generally found in Eucalyptus, pine and acacia trees. Overwintering habitat for this species within the Coastal Zone represents ESHA. Local ordinances often protect this species as well.	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE / -- / --	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are <i>Eriogonum latifolium</i> and <i>E. parvifolium</i> .	<b>Unlikely:</b> No suitable habitat within or immediately adjacent to survey area, host plants not present within or immediately adjacent to survey area.
<b>PLANTS</b>			
<i>Allium hickmanii</i> Hickman's onion	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands at elevations of 5-200 meters. Bulbiferous perennial herb in the Alliaceae family; blooms March-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Arctostaphylos edmundsii</i> Little Sur manzanita	-- / -- / 1B	Coastal bluff scrub and chaparral on sandy soils at elevations of 30-105 meters. Evergreen shrub in the Ericaceae family; blooms November-April.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	-- / -- / 1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Arctostaphylos montereyensis</i> Toro manzanita	-- / -- / 1B	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; blooms February-March.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	-- / -- / 1B	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Arctostaphylos pumila</i> Sandmat manzanita	-- / -- / 1B	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; blooms February-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk-vetch	FE / SE / 1B	Sandy soils in coastal bluff scrub, coastal dunes, coastal prairie (mesic); elevation 3-164 feet. Annual herb in the Fabaceae family; blooms March-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Bryoria spiralifera</i> Twisted horsehair lichen	-- / -- / 1B.1	California North Coast coniferous forest at elevations of 0-30 meters. Often found on conifers, including <i>Picea sitchensis</i> , <i>Pinus contorta</i> var. <i>contorta</i> , <i>Pseudotsuga menziesii</i> , <i>Abies grandis</i> , and <i>Tsuga heterophylla</i> . Fruticose lichen in the Parmeliaceae family.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Castilleja ambigua</i> var. <i>insalutata</i> Pink johnny-nip	-- / -- / 1B	Coastal prairie and coastal scrub at elevations of 0-100 meters. Annual herb in the Orobanchaceae family; blooms May-August.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	-- / -- / 1B	Valley and foothill grassland on heavy clay, saline, or alkaline soils at elevations of 0-230 meters. Annual herb in the Asteraceae family; blooms May-November.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Chorizanthe minutiflora</i> Fort Ord spineflower	-- / -- / 1B	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	FT / -- / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-July.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Clarkia jolonensis</i> Jolon clarkia	-- / -- / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Collinsia multicolor</i> San Francisco collinsia	-- / -- / 1B	Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite soils, at elevations of 30-250 meters. Annual herb in the Plantaginaceae family; blooms March-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> Seaside bird's-beak	-- / SE / 1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; blooms April-October.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon California larkspur	-- / -- / 1B	Openings in chaparral, coastal scrub, and mesic areas of cismontane woodland at elevations of 230-1095 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	-- / -- / 1B	Broadleaved upland forest, chaparral, coastal scrub, and coastal prairie at elevations of 0-427 meters. Perennial herb in the Ranunculaceae family; blooms March-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Eriogonum nortonii</i> Pinnacles buckwheat	-- / -- / 1B	Chaparral and valley and foothill grassland on sandy soils, often on recent burns, at elevations of 300-975 meters. Annual herb in the Polygonaceae family; blooms May-September.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Erysimum ammophilum</i> Sand-loving wallflower	-- / -- / 1B	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; blooms February-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Erysimum menziesii</i> Menzies' wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-35 meters. Perennial herb in the Brassicaceae family; blooms March-September.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Fritillaria liliacea</i> Fragrant fritillary	-- / -- / 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often serpentinite, at elevations of 3-410 meters. Bulbiferous perennial herb in the Liliaceae family; blooms February-April.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> Monterey gilia	FE / ST / 1B	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Hesperocyparis goveniana</i> Gowen cypress	FT / -- / 1B	Closed-cone coniferous forest and maritime chaparral at elevations of 30-300 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Point Lobos near Gibson Creek and the Huckleberry Hill Nature Preserve near Highway 68.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	-- / -- / 1B	Closed-cone coniferous forest at elevations of 10-30 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Cypress Point in Pebble Beach and Point Lobos State Park; widely planted and naturalized elsewhere.	<b>Not Present</b> Species not identified during 2020 botanical surveys.



Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	-- / -- / 1B.1	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; blooms April-September.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Horkelia marinensis</i> Point Reyes horkelia	-- / -- / 1B	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE / -- / 1B	Mesic areas of valley and foothill grassland, alkaline playas, cismontane woodland, and vernal pools at elevations of 0-470 meters. Annual herb in the Asteraceae family; blooms March-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Layia carnosa</i> Beach layia	FE / SE / 1B	Coastal dunes and coastal scrub on sandy soils at elevations of 0-60 meters. Annual herb in the Asteraceae family; blooms March-July.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Lupinus tidestromii</i> Tidestrom's lupine	FE / SE / 1B	Coastal dunes at elevations of 0-100 meters. Perennial rhizomatous herb in the Fabaceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Malacothamnus palmeri</i> var. <i>involutus</i> Carmel Valley bush-mallow	-- / -- / 1B	Chaparral, cismontane woodland, and coastal scrub at elevations of 30-1100 meters. Perennial deciduous shrub in the Malvaceae family; blooms May-October.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	-- / -- / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Monardella sinuata</i> ssp. <i>nigrescens</i> Northern curly-leaved monardella	-- / -- / 1B	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; blooms April-September.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Monolopia gracilens</i> Woodland woollythreads	-- / -- / 1B	Openings of broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland on serpentinite soils at elevations of 100-1200 meters. Annual herb in the Asteraceae family; blooms February-July.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Pinus radiata</i> Monterey pine	-- / -- / 1B	Closed-cone coniferous forest and cismontane woodland at elevations of 25-185 meters. Evergreen tree in the Pinaceae family. Only three native stands in CA at Ano Nuevo, Cambria, and the Monterey Peninsula; introduced in many areas.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Piperia yadonii</i> Yadon's rein orchid	FE / -- / 1B	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms February-August.	<b>Not Present</b> Species not identified during 2020 botanical surveys.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Plagiobothrys uncinatus</i> Hooked popcorn-flower	-- / -- / 1B	Chaparral, cismontane woodlands, and valley and foothill grasslands on sandy soils at elevations of 300-760 meters. Annual herb in the Boraginaceae family; blooms April-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE / SE / 1B	Coastal bluff scrub, closed-cone coniferous forests, vernal mesic meadows and seeps, and freshwater marshes and swamps at elevations of 10-149 meters. Perennial herb in the Rosaceae family; blooms April-August.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Ramalina thrausta</i> Angel's hair lichen	-- / -- / 2B	North coast coniferous forest on dead twigs and other lichens. Epiphytic fructose lichen in the Ramalinaceae family. In northern CA it is usually found on dead twigs, and has been found on <i>Alnus rubra</i> , <i>Calocedrus decurrens</i> , <i>Pseudotsuga menziesii</i> , <i>Quercus garryana</i> , and <i>Rubus spectabilis</i> . In Sonoma County it grows on and among dangling mats of <i>R. menziesii</i> and <i>Usnea</i> spp.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Rosa pinetorum</i> Pine rose	-- / -- / 1B	Closed-cone coniferous forest at elevations of 2-300 meters. Perennial shrub in the Rosaceae family; blooms May-July. Possible hybrid of <i>R. spithamea</i> , <i>R. gymnocarpa</i> , or others; further study needed.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	-- / -- / 4	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodlands, often in disturbed areas, at elevations of 2-730 meters. Perennial herb in the Malvaceae family; blooms March-August.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	-- / -- / 1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and openings in valley and foothill grassland, sometimes on serpentinite, at elevations of 10-500 meters. Annual herb in the Asteraceae family; blooms April-May.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Tortula californica</i> California screw moss	-- / -- / 1B	Valley and foothill grassland and chenopod scrub on sandy soils at elevations of 10-1460 meters. Moss in the Pottiaceae family.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	-- / -- / 1B	Gravelly margins of broadleaved upland forest, cismontane woodland, and coastal prairie at elevations of 105-610 meters. Annual herb in the Fabaceae family; blooms April-October.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Trifolium hydrophilum</i> Saline clover	-- / -- / 1B	Marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools at elevations of 0-300 meters. Annual herb in the Fabaceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.

Species	Status (Service/ CDFW/CNPS)	General Habitat	Potential Occurrence within Project Vicinity
<i>Trifolium polyodon</i> Pacific Grove clover	-- / SR / 1B	Mesic areas of closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland at elevations of 5-120 meters. Annual herb in the Fabaceae family; blooms April-July.	<b>Not Present</b> Species not identified during 2020 botanical surveys.
<i>Trifolium trichocalyx</i> Monterey clover	FE / SE / 1B	Sandy openings and burned areas of closed-cone coniferous forest at elevations of 30-240 meters. Annual herb in the Fabaceae family; blooms April-June.	<b>Not Present</b> Species not identified during 2020 botanical surveys.

## STATUS DEFINITIONS

### Federal

- FE = listed as Endangered under the federal Endangered Species Act  
FT = listed as Threatened under the federal Endangered Species Act  
FC = Candidate for listing under the federal Endangered Species Act  
UR = Species that have been petitioned for listing and for which a 90 day finding has not been published or for which a 90 day substantial has been published but a 12 Month finding have not yet been published in the Federal Register. Also includes species that are being reviewed through the candidate process, but the Candidate Notice of Review (CNOR) has not yet been signed.  
-- = no listing

### State

- SE = listed as Endangered under the California Endangered Species Act  
ST = listed as Threatened under the California Endangered Species Act  
SR = listed as Rare under the California Endangered Species Act  
SC = Candidate for listing under the California Endangered Species Act  
CSC = California Department of Fish and Wildlife Species of Concern  
CFP = California Fully Protected Animal  
WL = CDFW Watch List  
CNDDDB = This designation is being assigned to animal species with no other status designation defined in this table. These animal species are included in the Department's CNDDDB "Special Animals" list (2018), which includes all taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." The Department considers the taxa on this list to be those of the greatest conservation need.  
-- = no listing

### California Native Plant Society

- 1B = California Rare Plant Rank 1B species; rare, threatened, or endangered in California and elsewhere  
2B = California Rare Plant Rank 2B species; rare, threatened, or endangered in California, but more common elsewhere  
3 = California Rare Plant Rank 3species; CNPS review list  
4 = California Rare Plant Rank 4 Limited distribution (CNPS Watch List)  
-- = no listing

## POTENTIAL TO OCCUR

- Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys  
High = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of suitable habitat conditions  
Moderate = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of marginal habitat conditions within the site  
Low = species known to occur in the vicinity from the CNDDDB or other documentation; lack of suitable habitat or poor quality  
Unlikely = species not known to occur in the vicinity from the CNDDDB or other documentation, no suitable habitat is present within the site  
Not Present = species was not observed during surveys

*This Page Intentionally Left Blank.*

**Appendix B**  
**Transportation Impact Analysis**

*This Page Intentionally Left Blank*

---

**Keith Higgins**

Traffic Engineer

---

**ParkIT!**  
**TRANSPORTATION IMPACT ANALYSIS**

**DRAFT**

**MONTEREY COUNTY, CALIFORNIA**

Prepared for  
Big Sur Land Trust on behalf of Park It!  
Monterey, CA 93942

Prepared by  
Keith Higgins, Traffic Engineer  
Gilroy, CA 95020

December 21, 2020

**TABLE OF CONTENTS**

1 INTRODUCTION..... 1

2 SCOPE OF WORK..... 2

3 TRAFFIC OPERATIONS ANALYSIS DESCRIPTION..... 3

    3.1 Traffic Operations Evaluation Methodologies ..... 3

    3.2 Level of Service Standards - Study Network ..... 4

    3.3 Significance Criteria ..... 4

    3.4 Impact Fees ..... 4

        3.4.1 Transportation Agency for Monterey County ..... 4

        3.4.2 Monterey County Traffic Impact Fee ..... 5

4 EXISTING CONDITIONS ..... 5

    4.1 Existing Road Network ..... 5

    4.2 Existing Bicycle, Pedestrian, and Transit Facilities..... 6

        4.2.1 Bike Facilities..... 6

        4.2.2 Pedestrian Facilities..... 7

        4.2.3 Transit Service..... 7

    4.3 Existing Intersection Operations..... 7

    4.4 Existing Road Segment Operations ..... 8

    4.5 Existing Traffic and Pedestrian Operations Along Point Lobos SR 1 Frontage..... 8

5 PROJECT TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT ..... 9

    5.1 Project Trip Generation..... 9

    5.2 Project Trip Distribution and Assignment ..... 10

6 EXISTING PLUS PROJECT CONDITIONS..... 10

    6.1 Existing Plus Project Intersection Operations..... 11

7 CUMULATIVE TRAFFIC CONDITIONS ..... 11

    7.1 Cumulative Conditions Intersection Operations..... 11

8 PROJECT ACCESS AND INTERNAL CIRCULATION ..... 12

    8.1 Parking Lot Operations ..... 12

    8.2 Northbound Crossroads Boulevard Operations..... 12

    8.3 Bicycle and Pedestrian Access ..... 13

    8.4 Bicycle Access..... 13

    8.5 Transit Access ..... 14

9 INTERIM SHUTTLE PARKING LOT TRAFFIC OPERATIONS..... 14

10 HIGHWAY 1 / SAN JOSE CREEK CANYON ROAD SHUTTLE STOP OPERATIONS  
..... 15

11 PALO CORONA SHUTTLE STOP TRAFFIC OPERATIONS ..... 15



*ParkIT! Transportation Impact Analysis*

12	CONSTRUCTION IMPACTS .....	16
13	PROJECT VEHICLE MILES TRAVELED .....	16
14	RECOMMENDATIONS .....	16
15	SUMMARY AND CONCLUSIONS.....	17
16	REFERENCES.....	18
16.1	List of References .....	18
16.2	List of Contacts .....	18

**LIST OF EXHIBITS**

1. Project Location Map and Study Area
2. Parking Lot Site Plan
- 3A. Project Shuttle Routes in Carmel Valley
- 3B. Project Shuttle Route within The Crossroads Carmel Shopping Center
- 3C. Project Shuttle Route along Highway 1 and in Point Lobos
4. Existing AM & PM Peak Hour Volumes
5. Intersection Levels of Service
6. Recommended Intersection Improvements
7. Project Trip Generation
8. Project Visitor Traffic Assignment - AM and PM Peak Hour Volumes
9. Project Shuttle Traffic Assignment – AM and PM Peak Hour Volumes
10. Total Project Traffic Assignment – AM and PM Peak Hour Volumes
11. Existing Plus Project AM & PM Peak Hour Volumes
12. Cumulative Without Project Conditions – AM and PM Peak Hour Volumes
13. Cumulative Plus Project Conditions – AM and PM Peak Hour Volumes

**LIST OF APPENDICES**

- A. Level of Service Descriptions
- B. Intersection Traffic Counts
- C. Level of Service Calculations – Existing Conditions
- D. Parking Occupancy Counts – Point Lobos State Natural Reserve
- E. Intersection Level of Service Calculations – Existing Plus Project Conditions
- F. Intersection Level of Service Calculations – Cumulative Without Project Conditions
- G. Intersection Level of Service Calculations – Cumulative Plus Project Conditions

## 1 INTRODUCTION

The “Marathon Flats Alternative Parking Facility and Point Lobos State Natural Reserve (Point Lobos) Shuttle Demonstration Project” entitled “ParkIT!” (Project) is being proposed in the mouth of Carmel Valley, Monterey County, California. The Project sponsor is the Park It! Steering Committee which is made up of the following organizations and agencies: California State Parks, Monterey District; Point Lobos Foundation; Big Sur Land Trust; Big Sur Marathon Foundation; and Monterey Peninsula Regional Park District as well as several individual community members. The Project is proposed to include a new parking facility on lands owned by the California State Parks Department on the southeast corner of the Highway 1 / Rio Road intersection that will provide approximately 96 standard parking stalls plus 4 handicap stalls for a total of 100 spaces to accommodate a shuttle drop off and pick-up system. The proposed service will run between the parking lot at the Monterey Peninsula Regional Park District’s (MPRPD) Palo Corona Regional Park (PCRP) Rancho Canada Unit at the intersection of Carmel Valley Road and Rio Road, 4860 Carmel Valley Road (Palo Corona Park), Marathon Flats Alternative Parking Facility (by the Crossroads Carmel shopping center) and Point Lobos State Natural Reserve (Point Lobos). The shuttle service will also include a stop on the northbound shoulder of Highway 1 (State Route 1 or SR 1) at the San Jose Creek Trailhead (San Jose Creek Canyon Road) directly across Highway 1 from Monastery Beach. The proposed service will run daily between 10 AM and 5PM in 20-minute intervals. It is currently assumed that shuttle buses will be 24-passenger mini-buses. It will be operated by a concessionaire.

At least twenty-five parking spaces at the Rancho Canada Unit of Palo Corona Regional Park (hereinafter referred to as Palo Corona Regional Park) will also be utilized for this project. These parking spaces are existing and will serve Palo Corona Regional Park users that hike one way along the 5-mile trail through Palo Corona Regional Park to the San Jose Creek Trail and coast at Highway 1, enabling them to return by shuttle bus. The provision of the shuttle service is not expected to result in a measurable increase in parking demand at the Palo Corona Regional Park parking lot.

**Exhibit 1** provides a location map of the proposed parking lot at the southeast corner of the Highway 1/Rio Road intersection immediately west of the Crossroads Carmel shopping center. The current parking lot site plan is included as **Exhibit 2**. **Exhibit 3A** illustrates the shuttle route along Rio Road, Carmel Rancho Boulevard and Carmel Valley Road. **Exhibit 3B** illustrates the shuttle route within the Crossroads Shopping Center. **Exhibit 3C** illustrates the shuttle route along Highway 1 from Rio Road to, as well as within, Point Lobos.

A parking prohibition (with “No Parking” signs) along the east side of Highway 1 near and across from the entrance to Point Lobos has been in effect for the past two years that has substantially reduced pedestrian crossings of Highway 1 at Point Lobos. It has also reduced parking and U-turn maneuvers. As the Project’s purpose is to further reduce traffic volumes and conflicts on Highway 1

*ParkIT! Transportation Impact Analysis*

south of Rio Road and at the entrance to Point Lobos, this reduced parking activity across from Point Lobos is a clear Project beneficial effect.

An interim condition will utilize the parking lot on the east side of Carmel Center Place (immediately south of the Shell Gas Station immediately north of the “Blue Top” buildings) until construction of Marathon Flats takes place. This short-term condition is discussed qualitatively.

## **2 SCOPE OF WORK**

As mentioned above, the Project will result in beneficial traffic impacts along Highway 1 south of Rio Road. However, the Project will increase traffic on Rio Road by diverting some Point Lobos traffic to Rio Road that would otherwise travel to and from the south along Highway 1 south of Rio Road. This will result in increases in southbound Highway 1 left turns at Rio Road, right turns in and out of the Crossroads Carmel shopping center driveways, left turns exiting the Crossroads Carmel shopping center and westbound Rio Road right turns onto northbound Highway 1. Traffic will also be added along Rio Road and at the Highway 1 / Rio Road intersection by Project shuttle buses along the shuttle route. The resulting traffic operations along Rio Road immediately east of SR 1 are analyzed for level of service and queuing.

This study includes the following tasks.

### **1. Project Preliminary Planning and Design Support**

- A. Attended a meeting with Project representatives for a briefing on the project (attended on Wednesday, October 16, 2019).
- B. Attended a shuttle bus test run to observe the operation of the proposed shuttle bus (attended on Thursday, November 7, 2019).

### **2. Traffic Operations Analysis**

#### **A. Intersection Traffic Operations**

Existing, Existing plus Project, Cumulative (General Plan Buildout (GPBO)) and Cumulative (GPBO) plus Project conditions are analyzed at the following intersections.

1. Highway 1/Rio Road
2. Rio Road/Crossroads Boulevard
3. Rio Road/ Carmel Center Place

Traffic volumes are also included for the Rio Road intersections with the West Crossroads and Middle Crossroads driveways, which are located between Highway 1 and Crossroads Boulevard.

Existing and Cumulative traffic volumes are referenced from the “Rio Ranch Marketplace Traffic Impact Analysis,” Keith Higgins Traffic Engineer, December 29, 2017 (2017 Rio Ranch Traffic Study). Improvements are recommended where appropriate.

#### **B. Road Segment Analysis**

Carmel Valley Road, Rio Road and Highway 1 road segments are discussed qualitatively.

### **3. Qualitative Discussion of Beneficial Project Impacts**

The project will reduce traffic on Highway 1 south of Rio Road and will reduce traffic volumes at the existing Highway 1/Point Lobos entrance intersection. It will also substantially reduce pedestrian and vehicular conflicts that regularly occur along the Point Lobos Highway 1 frontage. There is no methodology to analyze the effect of illegal U-turns, parallel parking maneuvers and pedestrian activity along the shoulder of a rural high-speed highway. This beneficial effect was described in the introduction to this report.

### **4. Discussion of Interim Shuttle Parking Lot Traffic Operations**

Traffic operation associated with the interim parking lot on Carmel Center Place is discussed qualitatively.

### **5. Discussion of Shuttle Stop Operations**

The project will increase traffic due to buses arriving at and departing from shuttle stops at the San Jose Creek trailhead on the east side of Hwy 1 across from Monastery Beach and PCRPs Rancho Canada Unit as well as within the proposed ParkIt! designated parking lot at Marathon Flats on the west side of the Crossroads Carmel shopping center parking lot. Qualitative discussions are provided regarding shuttle stop design.

### **6. Discussion of Construction Impacts**

An estimate of construction traffic and recommendations to minimize construction traffic impacts are included.

### **7. Vehicle Miles Traveled**

Subsequent to the passage of SB 743, identification of CEQA impacts is based on a project's vehicle miles traveled (VMT). "Section 9 – Vehicle Miles Traveled" of this report discusses the project's VMT and an assessment of CEQA-related impacts. The project will eliminate the portion of the travel distance along Highway 1 to reach Point Lobos from Rio Road. This will result in a reduction in vehicle miles traveled.

## **3 TRAFFIC OPERATIONS ANALYSIS DESCRIPTION**

### **3.1 Traffic Operations Evaluation Methodologies**

Intersection traffic operations were evaluated based upon the level of service (LOS) concept. LOS is a qualitative description of an intersection's operations, ranging from LOS A to LOS F. Level of Service "A" represents free flow uncongested traffic conditions. Level of Service "F" represents highly congested traffic conditions with unacceptable delay to vehicles at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

## *ParkIt! Transportation Impact Analysis*

LOS descriptions for each type of existing traffic control at the study intersections (i.e., signal, all-way stop and one-/two-way stop) are included as **Appendix A**.

Intersection traffic operations were evaluated using the Synchro© traffic analysis software (Version 10) using both the 2010 and 2000 Highway Capacity Manual (HCM) methodologies. The average delay is then correlated to a level of service. When using the HCM 2010 and 2000 methods for the analysis of signalized and all-way stop-controlled intersections, the overall intersection delay is used to determine LOS.

### **3.2 Level of Service Standards - Study Network**

This study assesses operations at intersections under two different jurisdictions – Monterey County and Caltrans. Monterey County has an overall level of service (LOS) standard of LOS D. The overall Caltrans level of service is the transition between LOS C and LOS D, abbreviated herein as LOS C-D.

### **3.3 Significance Criteria**

According to previous California Environmental Quality Act (CEQA) guidelines, a Project may have a significant effect on the environment if it would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. As mentioned earlier in the Scope of Work outline (Section B.4) of this report, VMT is now the metric to evaluate project impacts on transportation and circulation. Monterey County has not established a methodology or thresholds of significance for VMT. ParkIt! will reduce regional VMT so will have a beneficial impact. The lack of thresholds therefore has no effect on the VMT significance determination. This is discussed in more detail in Section 14 of this report. The LOS analysis is provided to identify any traffic operational issues but not to determine if the project has a significant environmental effect. Monterey County and Caltrans thresholds of significance, which apply to CEQA impact determination, are therefore no longer considered.

### **3.4 Impact Fees**

#### **3.4.1 Transportation Agency for Monterey County**

The Transportation Agency for Monterey County (TAMC) and its member jurisdictions have adopted a county-wide, regional development impact fee (TAMC Fee) to cover the costs for studies and construction of many roadway improvements throughout Monterey County. This impact fee, which went into effect on August 27, 2008, is applied to new development within Monterey County. The governing document for the fee is the *Regional Impact Fee Nexus Study Update* (March 26, 2008) prepared by Kimley-Horn Associates, Inc. *The Regional Impact Fee Nexus Study Update* was updated in October 2018 by Wood Rodgers.

TAMC, Monterey County and Caltrans have agreed that the payment of the TAMC Fee satisfies the Project's fair share contribution to cumulative impact mitigation throughout the regional highway system. This includes highways that will operate deficiently but no capital improvement Project is programmed to correct the deficiency. Additional funding will be provided by Measure X, the Transportation Sales Tax measure. These local funding sources are anticipated to leverage State and federal funding sources to fully fund the improvements. Toll roads are also being considered as a funding source.

"ParkIt!" is not a development project and will not generate new trips on the regional highway system. It therefore would not be responsible for the payment of the TAMC Fee. The Project may also not be

## *ParkIt! Transportation Impact Analysis*

responsible for the payment of the fee due to its public or quasi-public status. However, because it will not generate new trips, this determination is not relevant.

### **3.4.2 Monterey County Traffic Impact Fee**

Monterey County recently adopted a traffic impact fee, which is being assessed on private development project. "ParkIt!" will not generate new trips on the local road system, so would not be responsible for the payment of the TAMC Fee. A determination regarding whether the Project is responsible for the payment of the fee due to its public or quasi-public status is therefore irrelevant.

## **4 EXISTING CONDITIONS**

This section describes the existing street network relevant to the proposed project and the existing operational traffic conditions.

### **4.1 Existing Road Network**

The key roadways near the proposed project are described below:

**State Route 1 (SR 1)** provides regional access to the project site. SR 1 is a major north-south roadway that connects the Monterey Peninsula with San Luis Obispo County to the south, and with Santa Cruz County and the San Francisco Bay Area to the north. SR 1 is a four-lane freeway north of Carpenter Street, a four- to five-lane (the five-lane section has a two-way center left-turn lane) roadway between Carpenter Street and Ocean Avenue, a three-lane roadway (two lanes northbound and one lane southbound) between Ocean Avenue and Carmel Valley Road, and a two-lane roadway south of Carmel Valley Road. SR 1 is part of the Monterey County Congestion Management Program (CMP) highway network and is designated as a State Scenic Highway.

Carmel Valley Road, Rio Road, and Carmel Rancho Boulevard provide local access to the project site.

**Carmel Valley Road** is an east-west roadway that begins at SR 1 and continues east to the City of Greenfield. Carmel Valley Road has four lanes from SR 1 to approximately 1,800 feet west of Rancho San Carlos Road. Carmel Valley Road has two lanes east of Rancho San Carlos Road. Carmel Valley Road is classified as a major arterial.

**Rio Road** includes two discontinuous segments of roadway east and west of the project site. The eastern part is a short north-south two-lane segment that connects to Carmel Valley Road and currently provides access to the PCRPs Rancho Canada Unit and the Community Church of the Monterey Peninsula. The western part is an east-west roadway near SR 1. It is a two-lane arterial between SR 1 and Junipero Street that serves primarily residential areas and is a southerly route into Carmel. It is a four-lane arterial between SR 1 and Val Verde Drive that serves a major retail area at the mouth of the Carmel Valley with primary access to the Crossroads Carmel shopping center.

**Carmel Rancho Boulevard** is a four-lane north-south roadway that extends from Carmel Valley Road to Rio Road. It provides access to various commercial developments in the mouth of Carmel Valley and serves through traffic between Carmel Valley Road and SR 1 south of Rio Road.



## *ParkIT! Transportation Impact Analysis*

In addition to nearby public streets, the main driveways serving the Crossroads and Carmel Center Place commercial developments will experience Project traffic. They include Carmel Center Place and Crossroads Boulevard. These private roadways are described below.

**Carmel Center Place** is a two-lane north-south roadway/parking lot main circulation aisle that extends south from Rio Road, providing access and egress for loading docks and parking areas as well as banks and professional offices on the easterly side of the Crossroads Carmel shopping center.

**Crossroads Boulevard** is a two-lane north-south roadway/parking lot main circulation aisle that extends south from Rio Road, providing primary access and egress for the center of the Crossroads Carmel shopping center.

## **4.2 Existing Bicycle, Pedestrian, and Transit Facilities**

### **4.2.1 Bike Facilities**

The County of Monterey has a Bikeway Plan that designates routes along roadways that can be used by bicycling commuters and recreational riders for safe access to major employers, shopping centers and schools. Consistent with State and Federal designations, there are three basic types of bicycle facilities. Each type is described below:

1. **Bike Path (Class I)** - A separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists.
2. **Bike Lane (Class II)** - A lane on a regular roadway, separated from the motorized vehicle right-of-way by paint striping, designated for the exclusive or semi-exclusive use of bicycles. Bike lanes allow one-way bike travel. Through travel along a bike lane by motor vehicles or pedestrians is prohibited but crossing by pedestrians and motorists is permitted.
3. **Bike route (Class III)** - Provides shared use of the roadway with motorists, designated by signs or permanent markings. Some existing roadways are designated as bike routes to provide wayfinding, notify drivers of frequent bicycle traffic, or on low speed and low vehicle volume streets that have conditions that are more suitable for bicycles. Bike routes frequently have signage or shared lane markings.
4. **Protected Bike Lanes (Class IV)** - Also known as separated bike lanes, are an exclusive bikeway facility type that combines the user experience of a multi-use path with the on-street infrastructure of a conventional bike lane. They are physically separated from motor vehicle traffic by a vertical barrier (typically posts, parked cars, planter boxes, and/or a curb) and are distinct from the sidewalk.

A multi-use Class I bike and pedestrian path is provided along the ~~west~~ east side of SR 1 on the west edge of the Marathon Flats parking lot that is a part of the ParkIT! project property. This path extends from the Safeway supermarket at the south end of the Crossroads Carmel shopping center, along the Barnyard Shopping Center under Carmel Valley Road through Hatton Canyon to Canyon Drive where access is provided to SR 1 north of Carmel High School.

Class II bike lanes are provided along Rio Road from Carmel Center Place to Junipero.

The shoulders on SR 1 function as Class II bike lanes.

#### **4.2.2 Pedestrian Facilities**

Sidewalks near the project site are provided on portions of Rio Road between Val Verde Drive and SR 1, and a Class I multi-use path is provided on the east side of SR 1 beginning at the Crossroads Carmel shopping center and continuing north to Canyon Drive described in the “Bicycle Facilities” discussion above.

#### **4.2.3 Transit Service**

The primary public transit service in the County of Monterey is provided by Monterey-Salinas Transit (MST). Near the project site, MST Route 24 provides bus service along Rio Road, Carmel Rancho Boulevard and Carmel Valley Road between Carmel Valley Village and the Monterey Transit Plaza with 60-minute headways during weekday peak hours. Bus stops within the study area are located on eastbound Rio Road at the southeast corner of SR 1, which is immediately adjacent to the Marathon Flats parking lot. A westbound Rio Road bus stop is located between Carmel Center Place and Crossroads Boulevard.

#### **4.3 Existing Intersection Operations**

Weekday AM, PM, and Saturday peak hour turning movement counts were conducted at the study intersections in May, September, and November 2017 as a part of the 2017 Rio Ranch Traffic Study. Peak hour traffic volumes at the commercial driveways along Rio Road between SR 1 and Carmel Rancho Boulevard were also counted. The raw traffic count data is included as **Appendix B**.

Traffic volumes in the study area are essentially unchanged since 2017. This is evidenced by traffic volumes on Rio Road reported in the “2019 Monterey County Public Works Annual Average Daily Traffic,” and Caltrans “2018 Traffic Volumes on California State Highways” for Highway 1 volumes. These are the most recent years that data is available. **Table 1** on the following page indicates that daily traffic volumes on Carmel Valley Road, Rio Road and Highway 1 closest to the Marathon Flats parking lot have stayed relatively constant over the most recent 4-year period for which data is available.

Traffic volumes in the Project vicinity have also remained essentially constant over the past 10 years. This is due to virtually no change in population in the areas served by these highways in this time period. The 2009 volumes are actually lower than some preceding years. Changes in economic activity due to the 2008 recession could have resulted in lower volumes in 2009 than would have otherwise occurred. Finally, Highway 1 was closed near Big Sur due to major storms for most of 2017. The Soberanes Fire resulted in a closure during the summer of 2016. These affected traffic volumes on Highway 1 in the Rio Road area. Therefore, 2015 volumes have been included, which indicate the same traffic volume trend as the 2016 and 2017 data. Tourist traffic along the Big Sur coast likely has increased. However, this has not been reflected in any appreciable overall increase in traffic volumes according to Caltrans and Monterey County traffic count data. The 2017 count data is valid for use in this analysis.

## ParkIT! Transportation Impact Analysis

Road	Segment	Average Annual Daily Traffic by Year						
		2009	2015	2016	2017	2018	2019	Change from 2015 to 2019
Carmel Valley Road	SR 1 to Carmel Rancho Blvd.	22,400	22,500	22,300	22,700	23,400	23,400	+900
Rio Road	SR 1 to Carmel Rancho Blvd.	11,300	11,500	11,700	11,500	10,000	10,700	-800
<b>Total Traffic East of SR 1</b>		<b>33,700</b>	<b>34,000</b>	<b>34,000</b>	<b>34,200</b>	<b>33,400</b>	<b>34,100</b>	<b>+100 (0.3% total, 0.07%/yr.)</b>
Rio Road	West of SR 1	11,400	11,800	10,700	10,600	10,300	10,300	-1,500
Highway 1	South of Rio Rd.		14,800	15,300	13,400	15,300	Not Avail.	+500 (3.3% total, 0.8%/yr.)
	Rio Rd to Carmel Valley Rd.		14,800	15,300	13,400	15,300	Not Avail.	+500 (3.3% total, 0.8%/yr.)
	North of Carmel Valley Rd.		34,800	34,800	31,600	34,500	Not Avail.	-300

**Table 1 – Recent Historical Traffic Volumes in Project Vicinity**

The raw traffic counts were balanced where appropriate. Weekday AM, PM, and Saturday peak hour traffic volumes at the study intersections, including the commercial driveways on Rio Road near the Marathon Flats parking lot site, are shown on **Exhibit 4**.

Intersection levels of service are summarized in **Exhibit 5**. LOS calculation worksheets are included as **Appendix C**. Based on the level of service standards, all the study intersections currently operate at an acceptable level of service. As tabulated on **Exhibit 6**, no improvements are required for existing conditions.

#### 4.4 Existing Road Segment Operations

The Project will add traffic to Rio Road between Highway 1 and Carmel Rancho Boulevard. The capacity of this road segment is controlled by its existing signalized intersections at Highway 1, Crossroads Boulevard and Carmel Center Place. These are analyzed in detail in Section 4.3 above.

The project is expected to add minimal trips to Carmel Valley Road between Carmel Rancho Boulevard and Rio Road at Palo Corona Park. These are primarily associated with the proposed shuttle bus trips. This segment is a four-lane expressway that operates at Level of Service A.

The Project will reduce traffic on impacts on Highway 1 south of Rio Road. This will be a beneficial impact as discussed in Section 1.

A road segment analysis is therefore not necessary and is thus not included.

#### 4.5 Existing Traffic and Pedestrian Operations Along Point Lobos SR 1 Frontage

The Point Lobos Foundation and California State Parks commissioned the "Point Lobos State National Reserve Visitor & Parking Study," Idax Data Solutions, August 2018 (Point Lobos Visitor Study). That

## ParkIT! Transportation Impact Analysis

study indicated that a total of about 395 cars parked during peak occupancy along the west side of SR 1 in the immediate vicinity of Point Lobos on Saturday, August 25, 2018. The average parking duration was about 1.76 hours. Based on the parking occupancy characteristics in the Point Lobos Visitor Study, there were probably about 2.5 total vehicles using each space over the course of the day. This would be about 1,000 vehicles performing parking maneuvers including U-turns on SR 1 on a busy Saturday. These in turn generate about 2,000 pedestrians entering and exiting Point Lobos, which is a total volume of about 4,000 pedestrians per day.

SR 1 has a speed limit of 55 miles per hour between Rio Road and the north boundary of Point Lobos. The speed limit along the Point Lobos frontage where the majority of parking occurs is 45 miles per hour. Prevailing speeds are about 50 miles per hour. SR 1 carries about 13,900 vehicles per day according to the 2017 Caltrans Traffic Volumes, the most recent publicly available. There is no methodology to analyze the traffic operational and safety implications of this condition. Large amounts of pedestrians including young children and limited travel path widths along the shoulder is clearly an undesirable condition. Because of safety concerns it is clearly undesirable to have the large amount of existing high-speed vehicle-pedestrian conflicts.

Parking is already prohibited along the east shoulder of Highway 1. The elimination of parking along the west shoulder will substantially reduce the remaining conflicts between high-speed traffic and vehicles parking or making U-turns as well as pedestrians. By providing a relatively close satellite parking area, the ParkIT! project will partially offset the loss of parking supply resulting from the parking prohibition.

## 5 PROJECT TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

Project trip generation, distribution and assignment to the local road network are described in this section.

### 5.1 Project Trip Generation

The main component of the ParkIT! project with the potential to result in traffic operational issues is the Marathon Flats 100-space parking lot at the southeast corner of the SR 1 / Rio Road intersection. No trip generation rates are available for this unique land use. The parking lot will operate as a satellite parking facility for the existing Point Lobos State Reserve. It is anticipated that Marathon Flats will have trip generation characteristics proportional to what is generated by Point Lobos. The "Point Lobos Visitor Study" quantified the number of visitors traveling to and from the park. It included traffic counts at the Point Lobos driveway on weekdays and Saturdays in addition to parking occupancy, visitor surveys and collection of a variety of other visitor information to assist with operational planning for Point Lobos.

**Appendix D** provides the raw traffic count data for the Point Lobos driveway, collected on Wednesday, 8/29/2018 and Saturday, 8/25/2018. The raw count data for the Weekday AM, Weekday PM and Saturday Midday peak hours is summarized in **Table 2** below. Point Lobos generated 27 inbound and 3 outbound trips during the 8-9 AM weekday peak hour and 39 inbound and 65 outbound trips during the 4:15 to 5:15 PM weekday peak hour. It also generated 74 inbound and 81 outbound trips during the Saturday 12:45 to 1:45 PM midday peak hour.

## ParkIT! Transportation Impact Analysis

Point Lobos has a total of 167 parking spaces within the park. Prorating the Point Lobos driveway volumes to the 100-space Marathon Flats parking lot results in an estimate of about 16 inbound and 2 outbound trips during the 8-9 AM weekday peak hour and 23 inbound and 39 outbound trips during the 4:15 to 5:15 PM weekday peak hour. It is also anticipated to generate about 44 inbound and 49 outbound trips during the Saturday midday peak hour.

The resulting Marathon Flats trip generation estimate is tabulated on **Exhibit 7**. This also indicates that the Marathon Flats parking lot is estimated to generate about 708 weekday visitor trips and 787 Saturday visitor trips. This is based on prorating the Point Lobos daily driveway volumes for 167 parking spaces to the 100-space Marathon Flats parking lot.

The shuttle system is currently anticipated to include 24-passenger buses operating on a 20-minute headway. This indicates there will be three buses per hour transporting passengers to and from Point Lobos. Assuming all buses are fully loaded, a total of 72 passengers can be transported per hour. The 2018 Visitor Study, Figure 6, page 7, indicates that the average vehicle occupancy at Point Lobos is almost exactly 2 persons per vehicle. The 72 bus passengers per hour would then indicate that there would be about 36 vehicles per hour generated by inbound or outbound passengers. The trip generation estimates for the Marathon Flats parking lot based on prorating 2018 driveway volumes at the Point Lobos driveway are therefore conservative. It would then include an allowance for 8 or 9 standing passengers per bus during peak departure times.

Shuttle bus trip generation will include three buses entering per hour from eastbound Rio Road to drop passengers off who are returning from Point Lobos as well as three buses from westbound Rio Road to pick passengers up who are heading to Point Lobos. This is a total of six buses per hour into and out of the Marathon Flats parking lot. The resulting total parking lot trip generation including visitor vehicles and shuttles will be about 792 weekday trips with 30 in the AM peak hour and 74 in the PM peak hour. About 871 trips are expected on Saturdays with about 105 during the midday peak hour.

### 5.2 Project Trip Distribution and Assignment

The project-generated visitor trips were assigned to the road network assuming 85% of trips are to and from the north of Rio Road on SR 1, 10% are to and from Rio Road west of SR 1 and 5% are to and from the east on Rio Road. These percentages are based on existing turning movements at project driveways and account for Point Lobos visitors arriving from or traveling to local destinations on the Monterey Peninsula. This includes Carmel and Carmel Valley. The project visitor trip assignment is shown on **Exhibit 8**.

The shuttle bus operation will add three buses between PCRPs Rancho Canada Unit and Point Lobos. **Exhibit 9** illustrates these movements along Rio Road and SR 1.

Project visitor and shuttle bus trips are combined on **Exhibit 10**.

## 6 EXISTING PLUS PROJECT CONDITIONS

This section describes Existing plus Project conditions. Traffic related impacts associated with project development are discussed in this section.

## 6.1 Existing Plus Project Intersection Operations

The total net project trip assignments were added to the existing traffic volumes to estimate Existing Plus Project weekday AM, PM, and Saturday peak hour traffic volumes, which are shown on **Exhibit 11**.

Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Existing Plus Project conditions. The Project will result in a slight improvement in average intersection delay (from 28.9 seconds to 28.5 seconds with the Project) at the SR 1 / Rio Road intersection during the weekday PM peak hour. This is the time period with the highest delay of any time during a typical week. Delay will increase by 0.5 seconds during the Saturday midday (MD) peak hour and by an imperceptible 0.1 second during the weekday AM peak hour. The SR 1 / Rio Road intersection will operate at an acceptable LOS C. The Project will have an overall beneficial impact on traffic operations at the SR 1 / Rio Road intersection when considering the reduction in delay in the highest volume weekday PM peak hour.

Virtually no increase in delay will occur at the Rio Road intersections with Crossroads Boulevard and Carmel Center Place. Both intersections will continue to operate at LOS B during all three time periods.

Intersection levels of service are summarized on **Exhibit 5**. LOS calculation worksheets are included as **Appendix E**.

As indicated on **Exhibit 6**, no improvements will be required for Existing Plus Project conditions.

## 7 CUMULATIVE TRAFFIC CONDITIONS

This section describes the analysis for Cumulative (Monterey County General Plan) conditions.

### 7.1 Cumulative Conditions Intersection Operations

Cumulative traffic volumes are referenced from the Rio Ranch Traffic Study, which are based on the 2035 traffic volume forecasts from the 2014 AMBAG Regional Traffic Demand Model (RTDM) plus proposed but not yet approved projects located within Carmel Valley. Traffic increases due to the list of pending projects were generally given precedence over the RTDM forecasts in the vicinity of the project because they are local in nature, result in higher volume forecasts than the RTDM, can be assigned to the network more accurately than a regional model and provide a more conservative estimate of future traffic volumes. The forecasts are more likely representative of traffic conditions beyond 2035.

Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 12**.

Cumulative intersection levels of service are summarized in **Exhibit 5**. LOS calculation worksheets are included as **Appendix F**. Based on the Caltrans and Monterey County level of service standards, all the study intersections are forecasted to operate at acceptable levels of service under Cumulative without Project conditions with the exception of Highway 1 / Rio Road. This intersection will operate at LOS D during the weekday PM peak hour. Although this is acceptable according to the Monterey County General Plan standard of LOS D, it is below the Caltrans standard of LOS C. This intersection will operate at an acceptable LOS C during the weekday AM and Saturday MD.

*ParkIT! Transportation Impact Analysis*

The provision of the westbound right turn overlap recommended in Section 7.1 of this report would result in average delay of 36.7 seconds, an additional improvement of 4.1 seconds, which is very close to LOS C. The Project will actually reduce delay compared to the “Cumulative Without Project” condition. The Project is therefore not responsible for contributing to the westbound right turn overlap traffic signal phase. This improvement would be the combined responsibility of other cumulative projects that add traffic to this intersection.

## **8 PROJECT ACCESS AND INTERNAL CIRCULATION**

### **8.1 Parking Lot Operations**

The Marathon Flats parking lot site plan is included as **Exhibit 2**. The project is bounded to the north by Rio Road, to the west and south by the multi-use path along the east side of SR 1, and to the east by a north-south circulation aisle along the westerly boundary of the main Crossroads Carmel shopping center parking lot. This aisle is labeled in this report as the West Crossroads Driveway. It intersects Rio Road a clear distance of about 140 feet from the east curb line of SR 1. An MST bus stop is located on eastbound Rio Road between this intersection and SR 1. This will be the access from Rio Road for nearly all Project visitor trips. Currently, about 136 AM, 174 PM and 200 Saturday MD eastbound right turns occur into the West Crossroads Driveway from Rio Road. The Project will add 16 AM, 22 PM and 41 Saturday MD peak hour trips to this movement. This about a 15% to 20% increase above existing volumes. These represent a flow rate one vehicle every four minutes in the AM peak hour, one vehicle every three minutes in the PM peak hour and one vehicle every 90 seconds in the Saturday MD peak hour. These are low flow rates. The driveway is designed with curb returns similar to a public street intersection. It is capable of handling the resulting moderate traffic volumes. It is a two-way driveway between Rio Road and the westbound cross aisle immediately north of the Bank of America/Starbucks building. It then becomes one-way southbound along the west side of the building.

The proposed parking lot is currently proposed to have two driveways connecting to the West Crossroads Driveway aisle. Both will serve entering and exiting vehicles. Most entering vehicles will use the north driveway which will be an extension of the main east-west circulation aisle along the south side of the Bank of America / Starbucks parking lot, about 360 feet south of Rio Road. About three-fourths of exiting traffic will probably use this driveway. During the highest peak period, the exiting rate will be about one vehicle every two minutes. This is a very low rate and easily accommodated by the driveway and the Crossroads main parking lot eastbound parking aisles.

The Marathon Flats parking lot south driveway will be located about 260 feet south of the north driveway. Up to one-fourth of exiting traffic may use this driveway. During the highest peak period, the exiting rate will be about one vehicle every four minutes. Again, this is a very low rate and easily accommodated by the driveway and the Crossroads main parking lot eastbound parking aisles.

### **8.2 Northbound Crossroads Boulevard Operations**

Exiting traffic from the proposed Marathon Flats parking lot will result in traffic conflicts at the intersections of main Crossroads Carmel shopping center eastbound circulation aisles with

ParkIT! Transportation Impact Analysis

Crossroads Boulevard. However, the volumes will be less than one vehicle every two minutes during the Saturday MD peak hour, which is the time of peak Project traffic generation. This will not represent a noticeable increase in traffic on any existing parking lot aisle.

The Marathon Flats parking lot will add traffic to the northbound Crossroads Boulevard approach to Rio Road. This is the primary location for vehicles to exit the Crossroads Carmel shopping center. Currently a total of about 205 AM, 445 PM and 437 Saturday MD trips exit the Crossroads. The Marathon Flats parking lot will add about 8 AM, 45 PM and 55 Saturday MD exiting movements at this location. This will result in a total of about 213 AM, 490 PM and 492 Saturday MD exiting movements. The Project will represent an increase of 1% in the AM, 9% in the PM and 11% in the Saturday MD peak hours. Proportional increases in queuing will result. **Table 2** below summarizes the level of service on this approach. It indicates that virtually no change in delay will be experienced by the addition of Project exiting traffic to this movement. The calculated cycle length for the traffic signal at this intersection is about one minute. The Project PM peak hour exiting volume is 41 left turning vehicles, which would be less than one vehicle per cycle. This would be the expected average increase in queue length, with many cycles not experiencing any increase due to Project traffic. The Project will not substantially affect Crossroads Boulevard traffic operations.

	<b>Level of Service and Average Northbound Crossroad Boulevard Approach Delay (Seconds)</b>			
<b>Time Period</b>	<b>Existing</b>	<b>Existing + Project</b>	<b>Cumulative</b>	<b>Cumulative + Project</b>
<b>AM</b>	C-20.4	C-20.4	C-20.4	C-20.3
<b>PM</b>	B-18.3	B-18.0	B-18.3	B-18.0
<b>Sat MD</b>	B-18.3	B-18.2	B-18.3	B-18.1

**Table 2 – Crossroads Boulevard Approach Level of Service**

### 8.3 Bicycle and Pedestrian Access

The Marathon Flats parking lot will have direct access to the sidewalk along the south side of Rio Road between SR 1 and the West Crossroads driveway. It will also have direct access to the multi-use path along its westerly boundary. Access to and from the Crossroads Carmel shopping center will be provided by the main Crossroads parking lot aisles, identically to the method that all persons parked in the existing parking lot must travel.

### 8.4 Bicycle Access

The Marathon Flats parking lot will have direct access to the bike lane along the south side of Rio Road between SR 1 and the West Crossroads driveway. It will also have direct access to the



## *ParkIt! Transportation Impact Analysis*

multi-use path along its westerly boundary. Access to and from the Crossroads Carmel shopping center will be provided through the main Crossroads parking lot aisles.

This is not a typical parking lot for a land development project that would have a parking requirement based on anticipated project parking demand in accordance with the Monterey County Zoning Ordinance. The bike parking would usually be a ratio of the vehicular parking requirement. Bike parking facilities should be considered to be included in the parking lot. The County bike parking standards could be the basis for determining how many bike racks are required.

### **8.5 Transit Access**

The ParkIt! shuttle stop will be located at the south end of the Marathon Flats parking lot. **Exhibit 3B** illustrates the proposed shuttle route through the Crossroads Carmel Shopping Center parking lot. Buses travelling both eastbound and westbound will enter the Crossroads Carmel parking lot at the existing Crossroads Boulevard intersection. They proceed south on Crossroads Boulevard and turn right to proceed westbound on the main east-west circulation aisle immediately south of the Bank of America / Starbucks parking lot. They will enter the north driveway of the Marathon Flats parking lot and turn left to proceed south to the south end of the parking lot. Passengers will load and unload at the proposed shuttle bus stop at the south end of the shuttle parking lot. The shuttles will then exit the parking lot at the south driveway followed by an immediate right turn to proceed south along the north-south circulation aisle along the west edge of the Crossroads parking lot. This will be followed by a left turn to proceed eastbound to Crossroads Boulevard. The shuttles will then turn left and continue north to Rio Road. They will exit the Crossroads Carmel Shopping Center by turning east toward Carmel Rancho Boulevard or west toward Highway 1. As a worst case, a total of three buses are expected to enter per hour from both eastbound Rio Road to drop passengers off who are returning from Point Lobos as well as three buses from westbound Rio Road to pick passengers up who are heading to Point Lobos for a total of six buses per hour into and out of the Marathon Flats parking lot.

## **9 INTERIM SHUTTLE PARKING LOT TRAFFIC OPERATIONS**

While the Marathon Flats Alternative Parking Facility is under construction, the equivalent number of stalls are currently planned to be utilized on Saturdays, Sundays, and holidays near The Blue Roof Office Buildings immediately east of the Crossroads Carmel shopping Center. This parking lot is virtually empty during these times. There will not be a fee to park at the temporary parking facility.

This location will have the same beneficial effects discussed for the permanent Marathon Flats parking lot discussed in the preceding sections of this report. Assuming as many as 100 spaces are utilized at this temporary location, the trip generation rates will be the same as estimated for Saturdays in Section 5.1. It is also anticipated to generate about 50 inbound and 55 outbound trips during the Saturday midday peak hour. This is less than one car per minute entering and exiting the site. The northbound Carmel Center Place approach to Rio Road carries about 147 Saturday MD peak hour trips. This about one-third of the 437 northbound trips on the Crossroads Boulevard approach to Rio Road.

There is minimal traffic on Carmel Center Place. The Rio Road / Carmel Center Place intersection currently operates at LOS B near A during the Saturday MD peak hour. The addition of less than one

*ParkIT! Transportation Impact Analysis*

car per minute will have a minimal effect along Carmel Center Place or at the Rio Road / Carmel Center Place intersection.

This temporary location will not operate during weekdays, so it will have no impact during weekday AM and PM peak hours.

Directional signing, temporary bus stop with refuge area for passengers waiting to board and disembarking from buses will be provided.

## **10 HIGHWAY 1 / SAN JOSE CREEK CANYON ROAD SHUTTLE STOP OPERATIONS**

The shuttle service will also include a stop on the northbound shoulder of Highway 1 at San Jose Creek Canyon Road (the San Jose Creek Trailhead) directly across Highway 1 from Monastery Beach. The proposed service will run daily between 10AM and 5PM which are only during daylight hours. There will be two to three buses per hour stopping at these locations.

Currently a 3 to 4-foot paved shoulder exists along northbound SR 1 in the immediate vicinity of the San Jose Creek Canyon Road intersection. A 12-foot wide dirt shoulder is also provided for a distance of about 200 feet south of the intersection with an additional a 200-foot long approach taper. A paved area that extends about 12 feet from the edge of travel way (white shoulder stripe) extends for a distance of about 50 feet in the vicinity of the intersection. San Jose Creek Canyon Road leads into State Parks' Point Lobos Ranch property and connects to a new San Jose Creek Trail that goes to Palo Corona Regional Park. San Jose Creek Canyon Road is gated and its vehicular use is limited to State and Regional Parks personnel. The area near the road and inside the existing gate can serve as the waiting area for persons waiting to board the shuttle bus. Adequate sight distance is provided for buses to observe northbound SR 1 traffic when decelerating to or accelerating from the bus stop location.

Project representatives have apparently communicated with Caltrans. Based on these discussions, it is understood that Caltrans does not object to this shuttle stop.

## **11 PALO CORONA SHUTTLE STOP TRAFFIC OPERATIONS**

At least twenty-five parking spaces at the Rancho Canada Unit of Palo Corona Regional Park will also be utilized for the Project. These parking spaces already exist and will serve Palo Corona Regional Park users hiking one way through the backcountry of Palo Corona to the San Jose Creek Trail and San Jose Creek Canyon Road and returning by shuttle bus.

Access to and from the Rancho Canada Unit of Palo Corona Regional Park is provided by the Carmel Valley Road / Rio Road intersection. The most recent traffic study for this intersection is the "Rancho Cañada Draft Transportation Impact Study," Central Coast Transportation Consulting, January 2016. This study indicates that the intersection currently operates at LOS C on the side street in the AM peak hour (10 left turns) and LOS F in the PM peak hour (27 left turns). A signal would be warranted if there were 75 left turns. A traffic signal is not currently warranted. The Project will add 3 left turning shuttle

## ParkIT! Transportation Impact Analysis

buses and possibly several additional vehicles. This will continue to be well below warrants for signalization. The intersection at Rio Road and Carmel Valley Road will not be significantly affected by the Project.

## 12 CONSTRUCTION IMPACTS

The only construction that will occur with the implementation of the ParkIT! Project is the Marathon Flats parking lot. The site will have balanced earthwork and will include a gravel parking lot. Assuming 8 inches of gravel over the approximately 40,000 square feet footprint, there will be a total of about 1,000 cubic yards of aggregate imported to the site. This will be about 100 loads of double trailer trucks, each carrying about 10 tons per trailer. Assuming five days of delivery, about 20 loads will be delivered per day. With deliveries limited to between 9AM and 3PM to avoid travel during peak hours, about 4 truckloads will be delivered per hour. Construction traffic will also occur from delivery of construction equipment, concrete for curbs, sidewalks, and driveway aprons as well as construction workers. This is a minor construction project with a short duration. It will have an inconsequential effect on traffic operations on the nearby road network. Major construction material deliveries should be limited to the hours of 9AM to 3PM.

## 13 PROJECT VEHICLE MILES TRAVELED

The Project will implement a shuttle bus operation that will eliminate vehicles traveling Highway 1 from Rio Road to Point Lobos. This is a distance of about 2.2 miles in each direction, for a round trip of 4.4 miles. As tabulated on **Exhibit 7**, total of about 708 visitor vehicles per weekday and 787 visitor vehicles per weekend day will be captured by this Project. The resulting savings in Vehicle Miles Traveled will be about 31,152 per weekday and 34,628 per weekend day. The 7-day average is about 32,145 VMT during peak season.

The shuttle bus route is about 3.8 miles long for a round trip of 7.6 miles. Shuttle buses are assumed to make three round trips per hour from 10AM to 5PM, which is a total of 7 hours. This is a total 21 round trips per day per shuttle bus, or 63 total round trips per day. The shuttle buses will generate a total of about 479 VMT per day.

The net savings is about 31,666 VMT per day. The savings would be less during times of year with lower amounts of visitors. There may be some incidental traffic generated by facility maintenance and operations personnel. This is considered imperceptible.

The ParkIT! project will represent a beneficial impact on VMT.

## 14 RECOMMENDATIONS

The following are improvements recommended to be incorporated into the Project or included in Project planning that would be implemented by the Project sponsor:

1. Provide guide signs to direct patrons to the interim parking area on Carmel Center Place.
2. Provide a designated passenger loading and unloading area at the interim parking area on Carmel Center Place.

*ParkIT! Transportation Impact Analysis*

3. Provide guide signs and monument signs to clearly indicate driveway entrances for the Marathon Flats parking lot.
4. Provide guide signs and monument signs to clearly indicate the shuttle parking area at the Palo Corona Regional Park parking lot.
5. Provide a designated passenger loading and unloading area at the parking area at Palo Corona Regional Park.
6. Coordinate with Caltrans regarding the shuttle stop on northbound SR 1 at San Jose Creek Canyon Road.
7. Consider including parking for 10 bicycles at the Marathon Flats parking lot per the "Monterey County Zoning Ordinance Section 20.58.050.M – Regulations for Parking, General Provisions, Bike Racks".
8. Limit deliveries of major construction materials to the hours of 9AM to 3PM.

## **15 SUMMARY AND CONCLUSIONS**

The following is a summary of Project effects on the nearby circulation system.

1. The Project will result in benefits to traffic operations along Highway 1 south of Rio Road, along the Point Lobos SR 1 frontage and at the SR 1 / Rio Road intersection.
2. The Project will add traffic to the following locations. All of these increases will be below levels that will result in any traffic operational deficiencies.
  - a. Rio Road in the vicinity of the Crossroad Shopping Center.
  - b. The internal circulation system of the Crossroad Shopping Center.
  - c. The Rio Road approach to Carmel Valley Road.
  - d. Pedestrian and bicycle facilities in the immediate vicinity of the proposed Marathon Flats parking lot.
3. A Cumulative Level of Service (LOS) D will be experienced in the PM peak hour at the SR 1 / Rio Road intersection. This meets the County LOS D standard but not the Caltrans LOS C/D standard. Consideration should be given to adding a westbound Rio Road right turn overlap (green right turn arrow), which would reduce delay but probably not enough to achieve LOS C. The Project will reduce delay at this intersection under the Cumulative Plus Project condition, which is a beneficial effect. The Project is therefore not responsible for this improvement. This will be the responsibility of Caltrans or other Cumulative projects that add traffic to this intersection.
4. The Project should implement the recommendations described in Section 14 of this report.

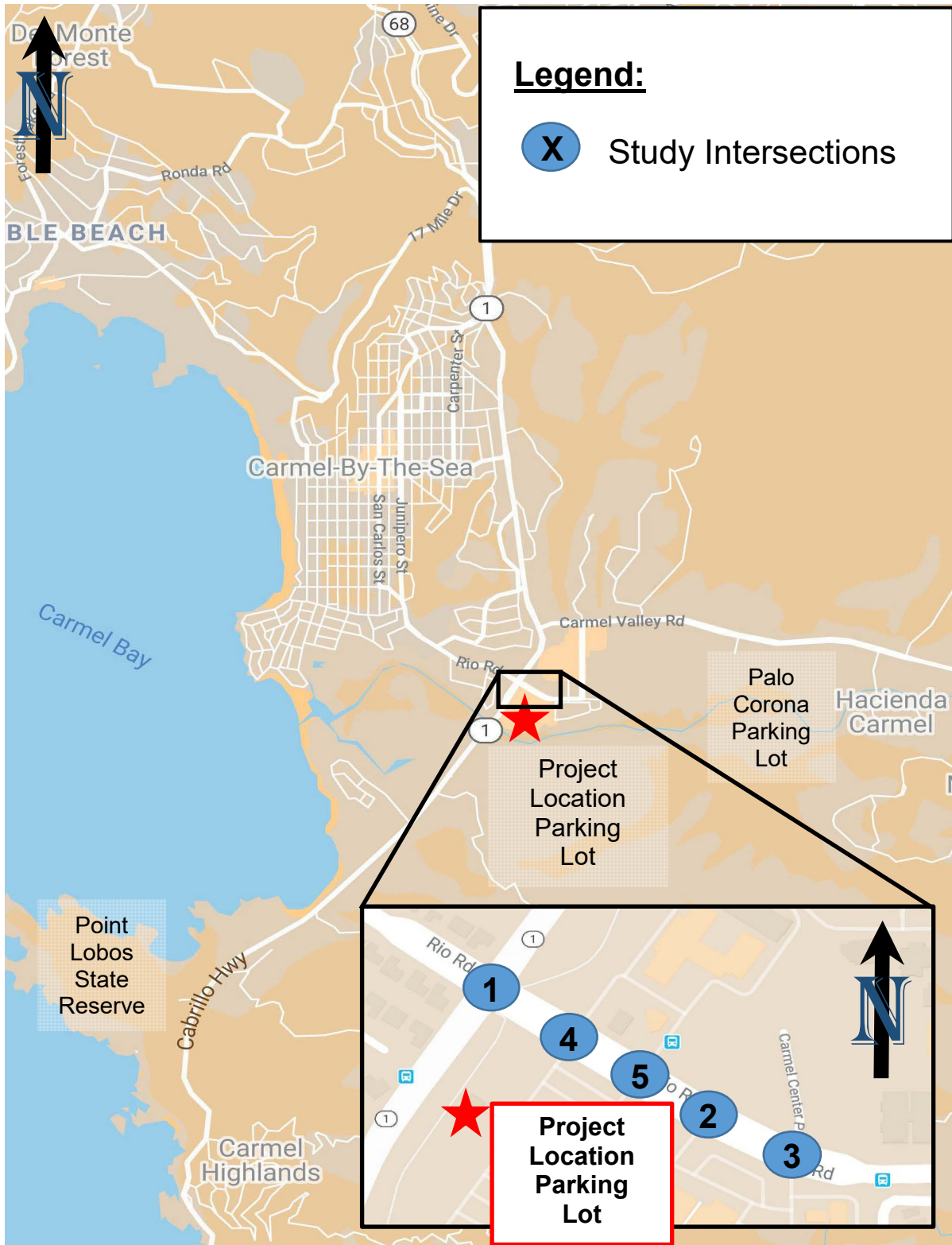
## 16 REFERENCES

### 16.1 List of References

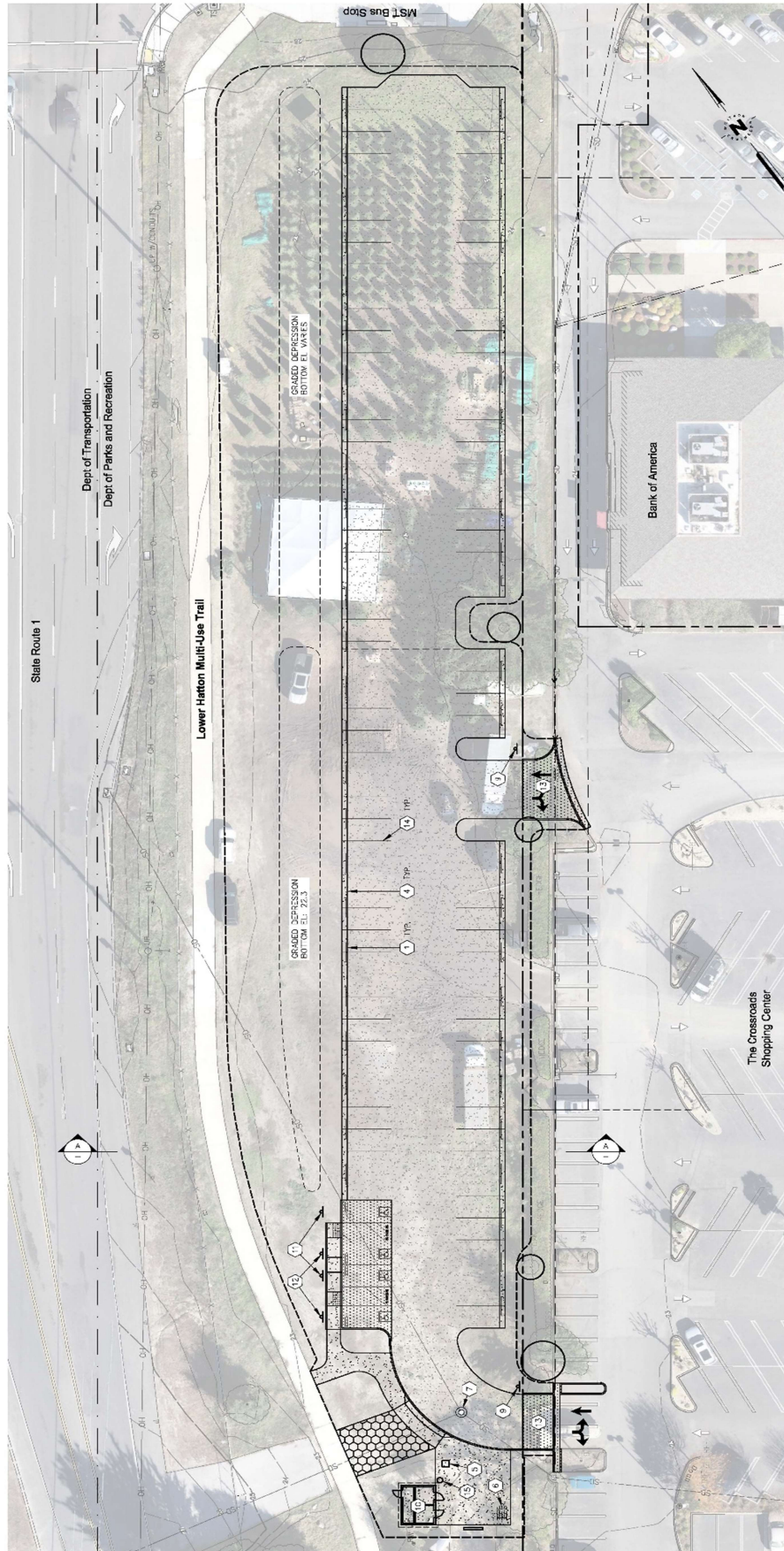
1. *2000 Highway Capacity Manual*, Transportation Research Board, 2000.
2. *2010 Highway Capacity Manual*, Transportation Research Board, 2010.
3. *Highway Design Manual*, California Department of Transportation, Updated December 2018.
4. *TAMC Regional Impact Fee Nexus Study Update*, Wood Rodgers October 2018
5. *2017 Caltrans Traffic Volumes*, California Department of Transportation
6. *2018 Monterey County Public Works Annual Average Daily Traffic*, Monterey County Resource Management Agency, Public Works Department
7. *Rio Ranch Marketplace Traffic Impact Analysis*, Keith Higgins Traffic Engineer, December 29, 2017
8. *Rancho Cañada Draft Transportation Impact Study*, Central Coast Transportation Consulting, January 2016
9. *Point Lobos State National Reserve Visitor & Parking Study*, Idax Data Solutions, August 2018
10. *Monterey County Zoning Ordinance*, Monterey County Resource Management Agency, Planning Department

### 16.2 List of Contacts

1. Rachel Saunders, Director of Conservation, Big Sur Land Trust
2. Kate Daniels Kurz, Previous ParkIT! Coordinator
3. Rich Hamilton, Chief Operating Officer, Big Sur Land Trust
4. Rich Weber, Whitson Engineers, Project Civil Engineer
5. Monta Potter, Current ParkIT! Coordinator
6. Kathleen Lee, Executive Director, Point Lobos Foundation
7. Tyler Potter, Denise Duffy & Associates, Inc., Project Environmental and Permit Consultant



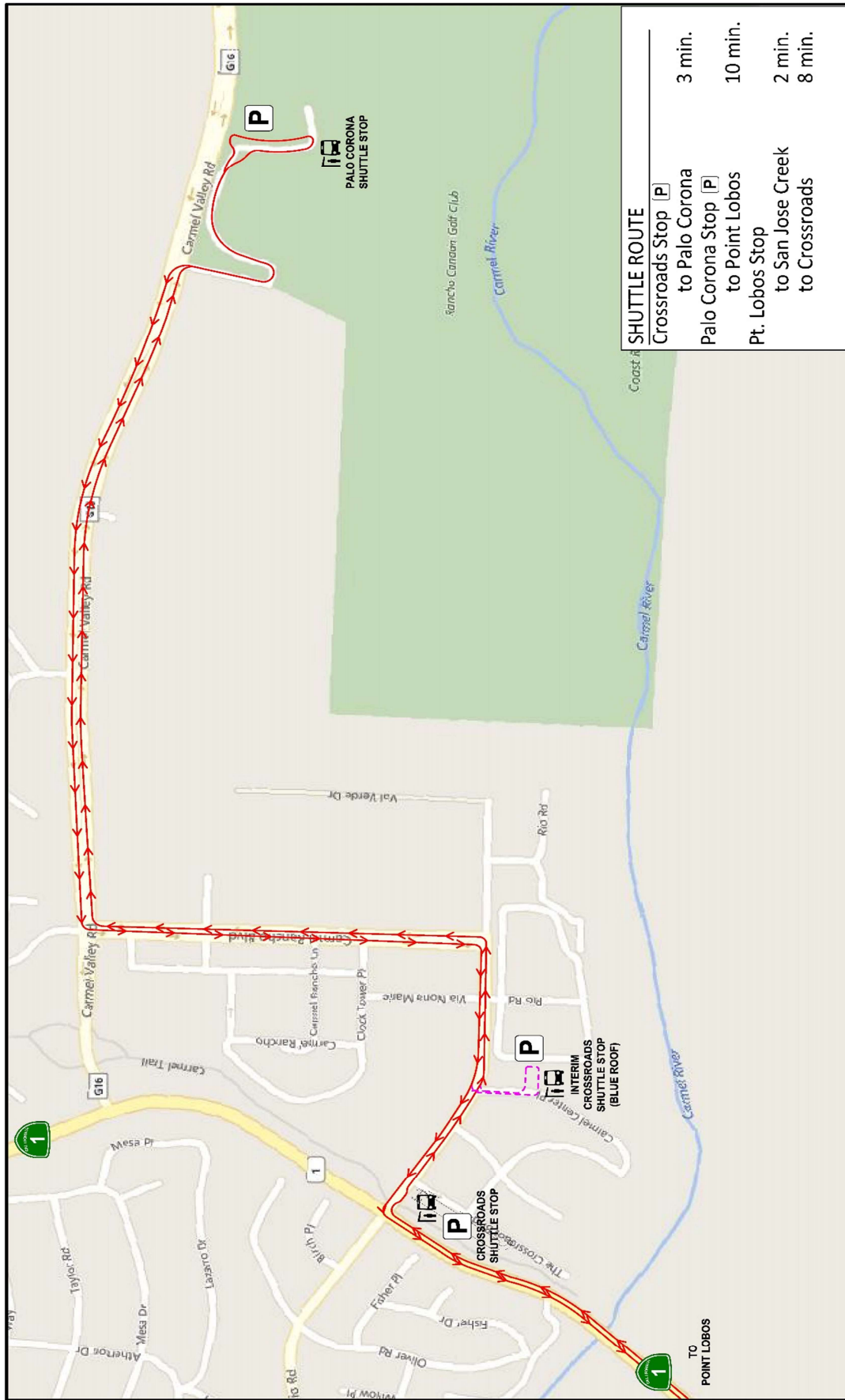
Basemap Source: Google Maps, 2020.



Source: Whitson Engineers, November 2020.

**Keith Higgins**  
Traffic Engineer

**Exhibit 2**  
**Parking Lot**  
**Site Plan**

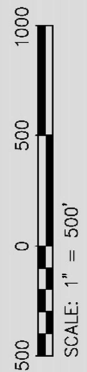


**SHUTTLE ROUTE**

- Crossroads Stop (P) to Palo Corona 3 min.
- Palo Corona Stop (P) to Point Lobos 10 min.
- Pt. Lobos Stop to San Jose Creek 2 min.
- to Crossroads 8 min.



FEB. 2020  
Sheet 1 of 2

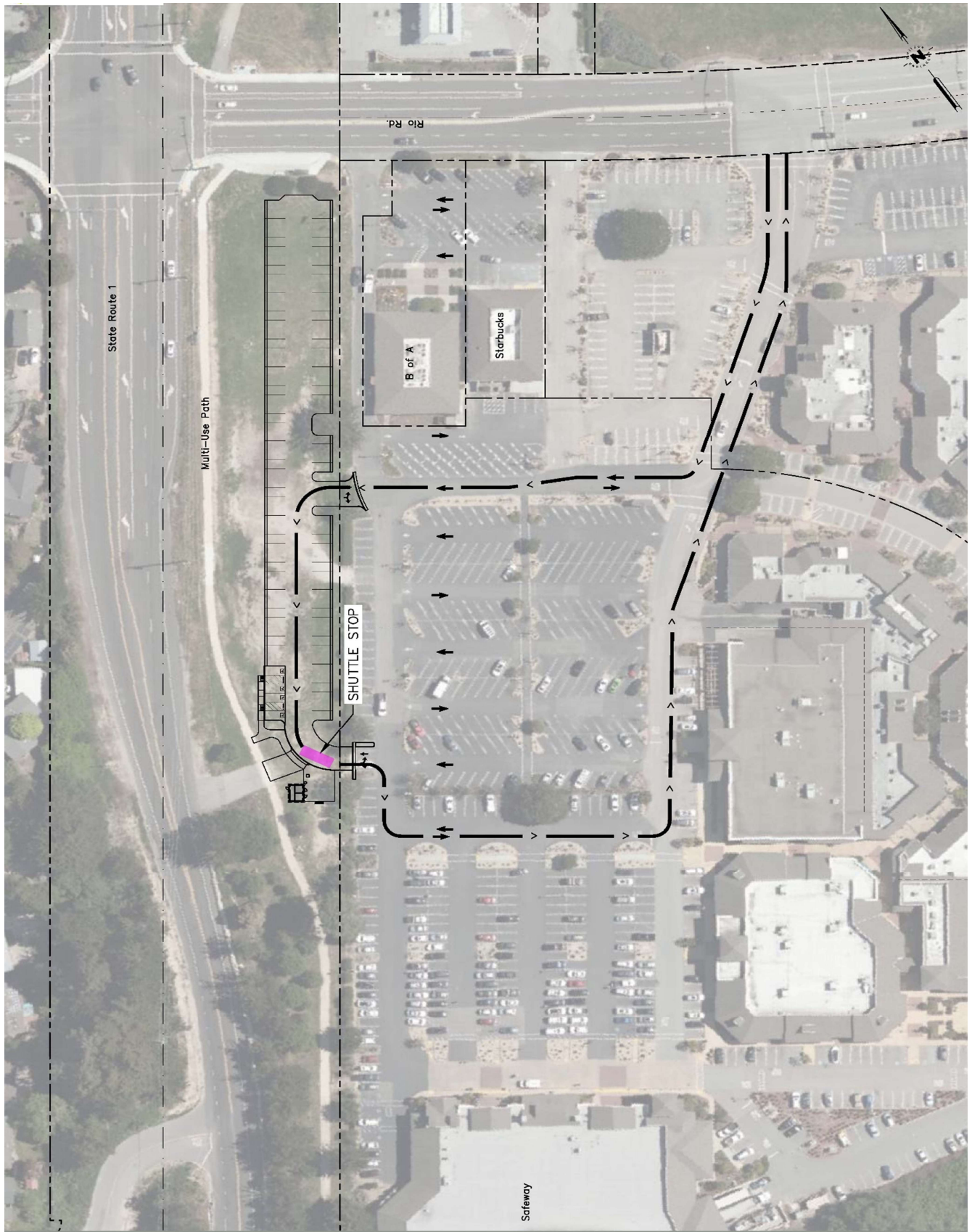


**PARK IT!**  
**POINT LOBOS SHUTTLE STOP LOCATIONS**  
CARMEL, MONTEREY COUNTY, CALIFORNIA

Source: Park It!, February 2020  
**Keith Higgins**  
Traffic Engineer

**Exhibit 3A**  
**Project Shuttle Routes**  
**in Carmel Valley**

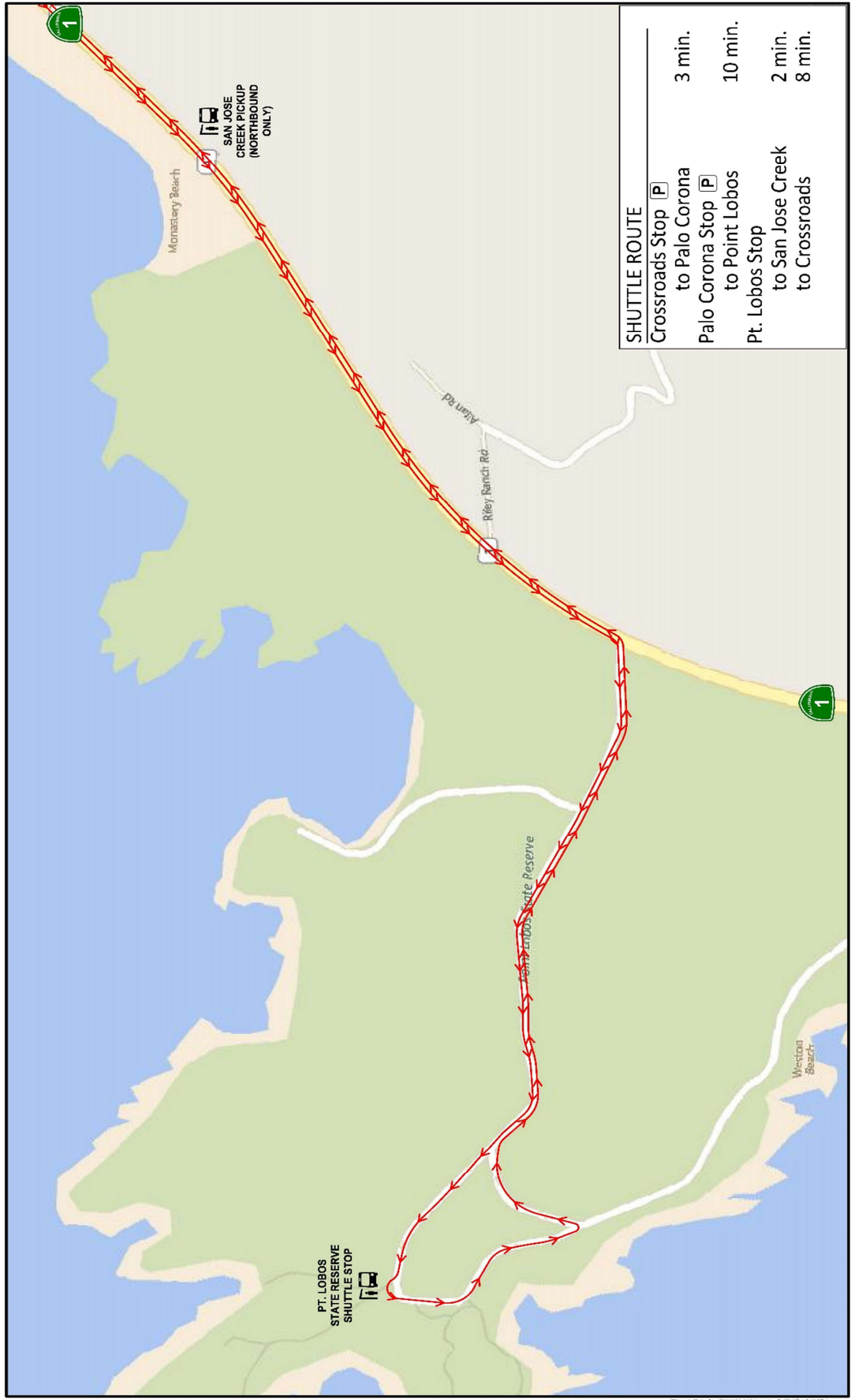




Source: Whitson Engineers, November 2020.

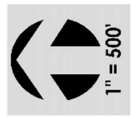
**Keith Higgins**  
Traffic Engineer

**Exhibit 3B**  
**Project Shuttle Route within**  
**The Crossroads Carmel**  
**Shopping Center**



**SHUTTLE ROUTE**

Crossroads Stop	3 min.
to Palo Corona	
Palo Corona Stop	10 min.
to Point Lobos	
Pt. Lobos Stop	2 min.
to San Jose Creek	8 min.
to Crossroads	



**PARK IT!**  
 for safer, greener, easier park access

FEB. 2020  
 Sheet 2 of 2



**PARK IT!**  
 for safer, greener, easier park access

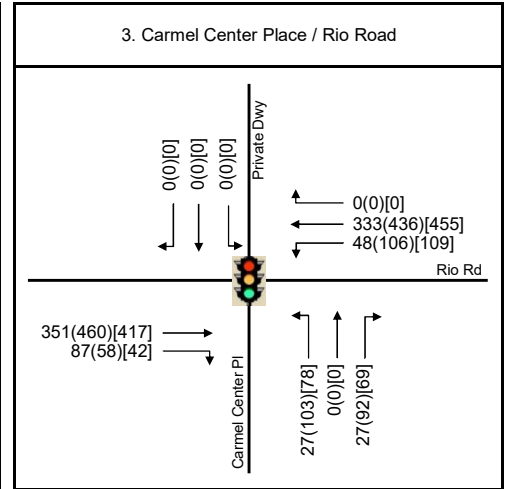
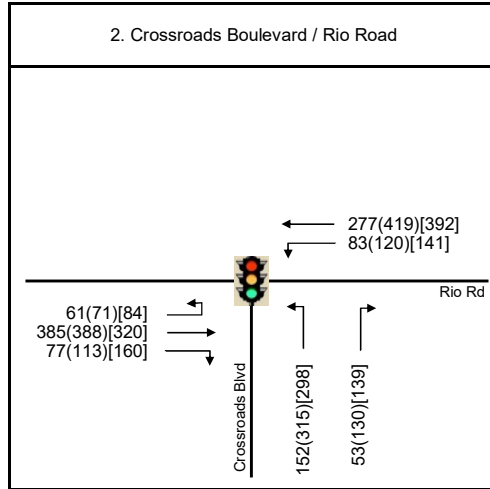
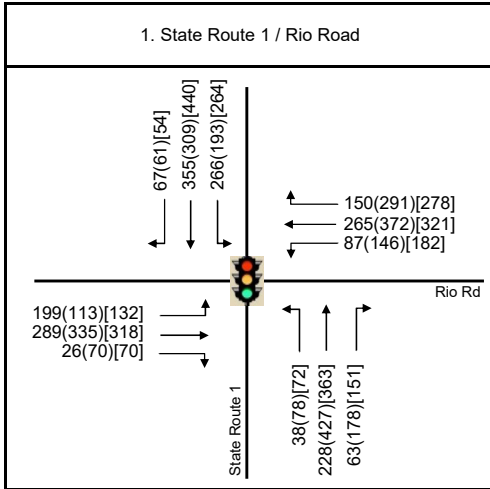
**PARK IT!**  
**POINT LOBOS SHUTTLE STOP LOCATIONS**  
 CARMEL, MONTEREY COUNTY, CALIFORNIA

Source: Park It!, February 2020.

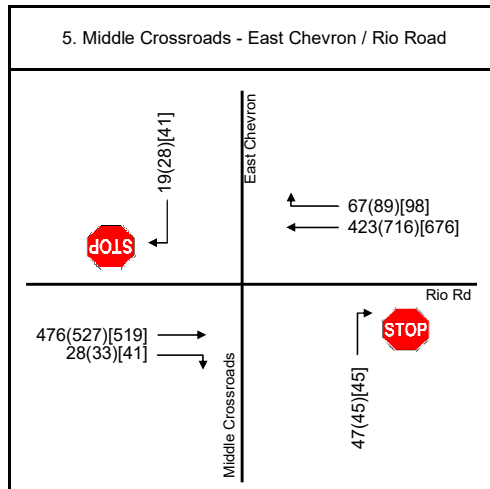
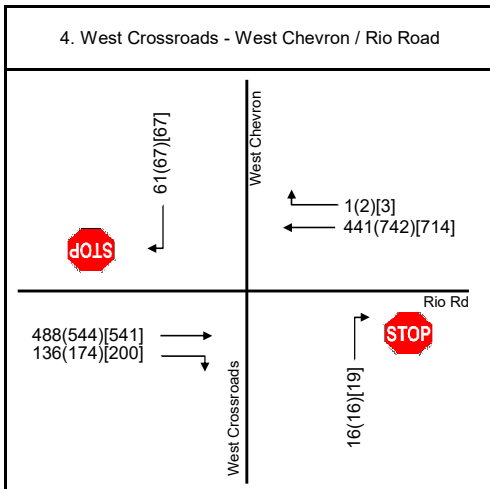
**Keith Higgins**  
 Traffic Engineer

**Exhibit 3C**  
**Project Shuttle Route between**  
**Highway 1 and Point Lobos**

**A. Signalized Intersections**



**B. Stop-Controlled Intersections**



N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	Jurisdiction	LOS Standard	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Cumulative Without Project Conditions		Cumulative Plus Project Conditions	
							Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 State Route 1	Rio Road	NB 1-L, 2-T, 1-R SB 2-L, 1-T, 1-T/R	Signal	Caltrans	C-D		22.1	C	22.2	C	23.2	C	23.2	C
							28.9	C	28.5	C	43.7	D	40.8	D
											39.4	D	36.7	D
							22.6	C	23.1	C	25.0	C	25.8	C
2 Crossroads Boulevard	Rio Road	NB 2-L, 1-R EB 1-U, 1-T, 1-T/R WB 1-L, 2-T	Signal	Monterey County	D		11.8	B	12.1	B	11.9	B	12.0	B
							13.2	B	13.7	B	13.7	B	14.1	B
							14.1	B	14.6	C	14.3	B	14.7	B
3 Carmel Center Place	Rio Road	NB 1-L/T, 1-R SB 1-L/T/R EB 1-T, 1-T/R WB 1-L, 1-T, 1-T/R	Signal	Monterey County	D		8.9	A	8.9	A	5.0	A	5.0	A
							7.7	A	7.7	A	7.4	A	7.4	A
							7.2	A	7.1	A	6.9	A	6.8	A

**Notes:**

- BO = Buildout.
- L, T, R, U = Left, Through, Right, U-Turn.
- NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
- Overall Caltrans level of service standard is the transition between LOS C and LOS D, abbreviated as "LOS C-D".  
Overall Monterey County level of service standard is LOS D.
- For signalized intersection analysis, delay is average overall delay in seconds per vehicle (sec/veh).
- Analysis performed using 2010 and 2000 Highway Capacity Manual methodologies.
- Level of service calculations can be found in **Appendices B, D-F**.
- LOS highlighted in **red** indicates intersection operating below level of service standard.

N-S Street	E-W Street	Existing Intersection Control	Existing Conditions	Existing Plus Project Conditions	Cumulative Without Project Conditions	Cumulative Plus Project Conditions
1 State Route 1	Rio Road	Signal	None Required	None Required	Consider Westbound Rio Road Right Turn Overlap	Consider Westbound Rio Road Right Turn Overlap
2 Crossroads Boulevard	Rio Road	Signal	None Required	None Required	None Required	None Required
3 Carmel Center Place	Rio Road	Signal	None Required	None Required	None Required	None Required

**Notes:**

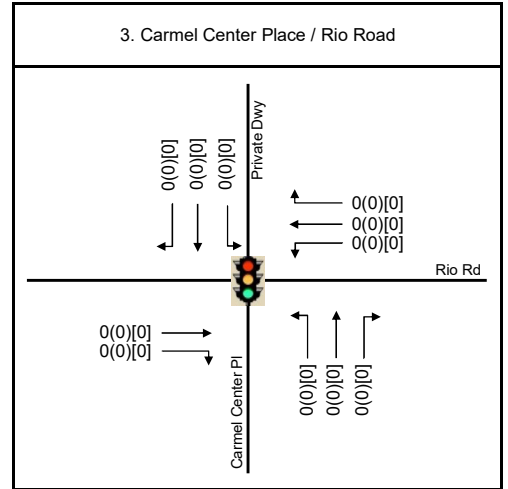
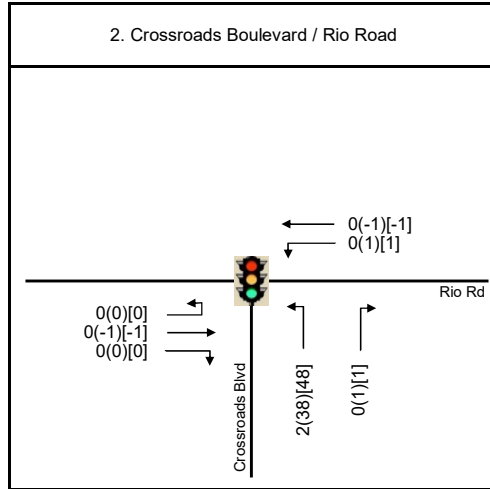
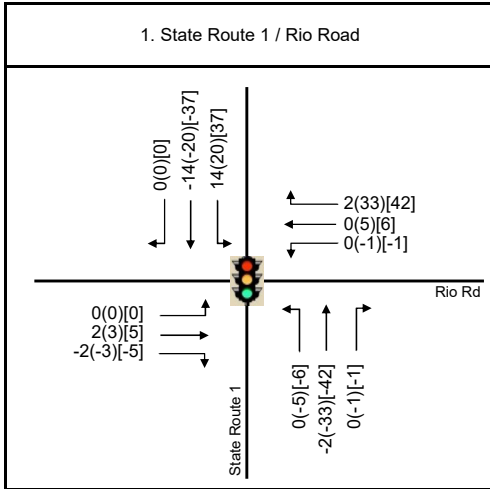
1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.

<b>GENERATED TRIPS</b>	<b>Parking Capacity</b>		<b>Weekday Daily Trips</b>	<b>AM Peak Hour Trips</b>	<b>% of ADT</b>	<b>In</b>	<b>Out</b>	<b>PM Peak Hour Trips</b>	<b>% of ADT</b>	<b>In</b>	<b>Out</b>	<b>Sat. Daily Trips</b>	<b>Sat. MD Peak Hour Trips</b>	<b>% of ADT</b>	<b>In</b>	<b>Out</b>
<b>A. 2018 Point Lobos State Reserve</b>	167	Spaces	1,182	30	3%	27	3	104	9%	39	65	1,314	155	12%	74	81
<b>B. Marathon Flats Parkit!</b>																
<b>1. Point Lobos Visitors</b>	100	Spaces	708	18	3%	16	2	62	9%	23	39	787	93	12%	44	49
<b>2. Shuttle Buses</b>			84	12	14%	6	6	12	14%	6	6	84	12	14%	6	6
<b>3. Total</b>			792	30	4%	22	8	74	9%	29	45	871	105	12%	50	55

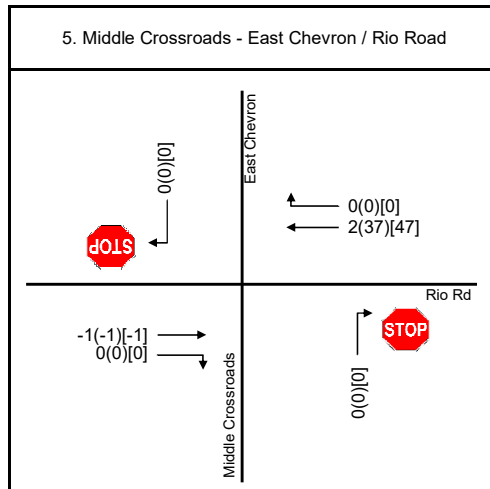
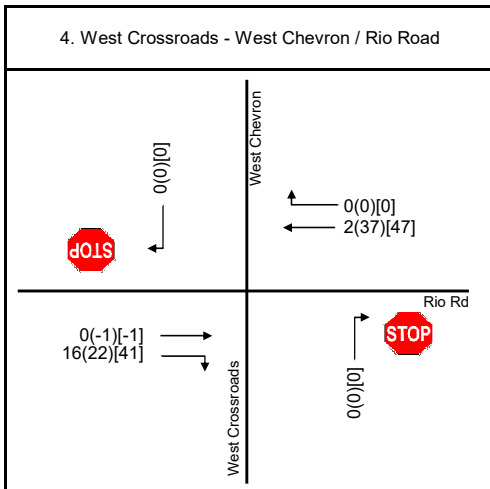
Note:

1. Marathon Flats Parkit! Trip generation rates are based on driveway counts at Point Lobos State Reserve on Saturday, August 25, 2018 and Wednesday, August 29, 2018

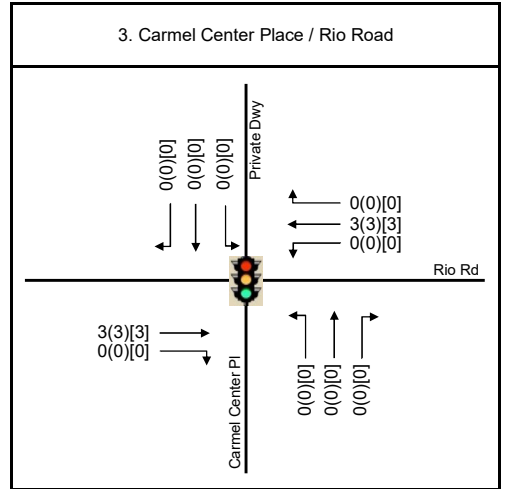
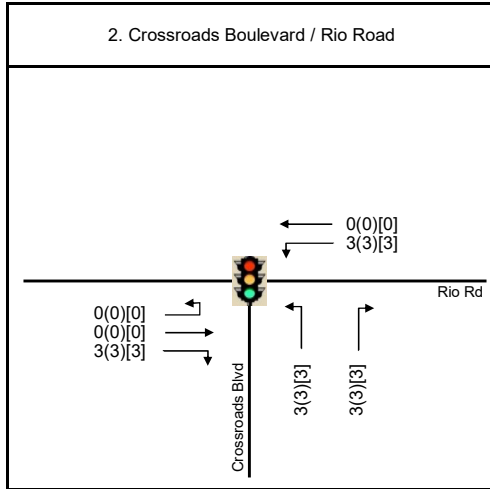
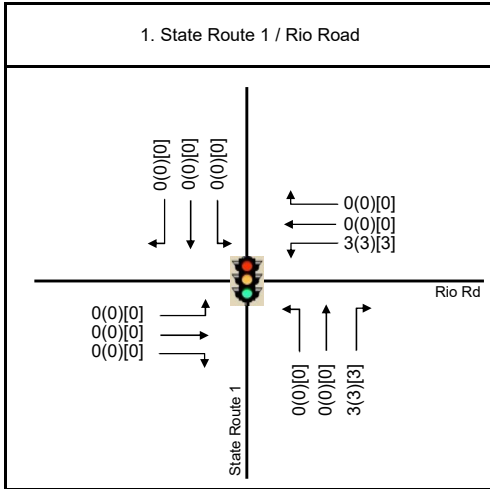
**A. Signalized Intersections**



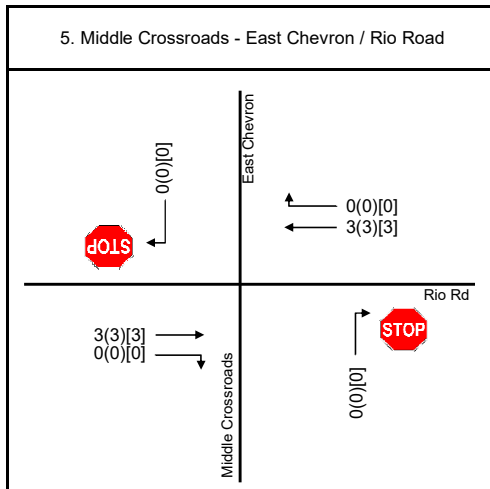
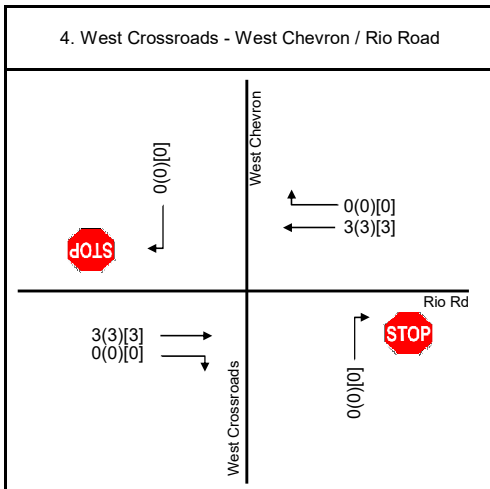
**B. Stop-Controlled Intersections**



**A. Signalized Intersections**

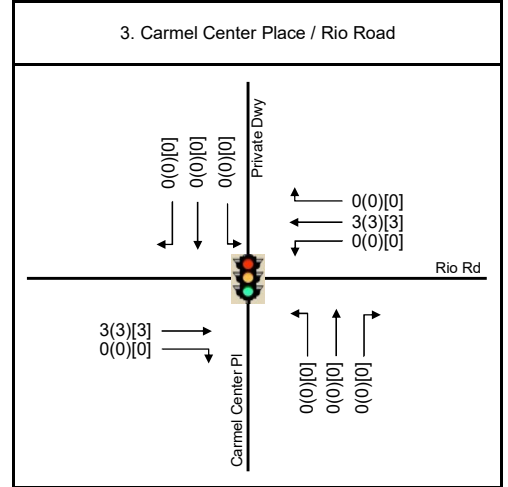
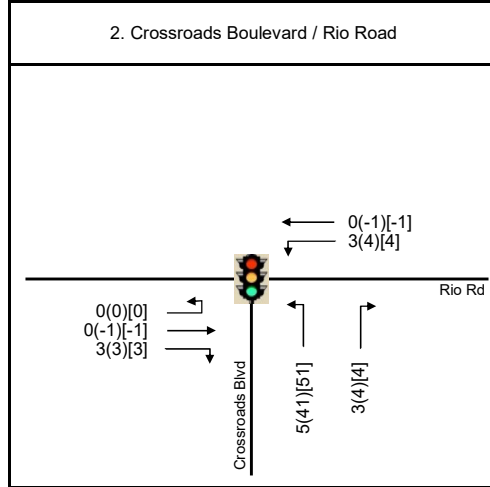
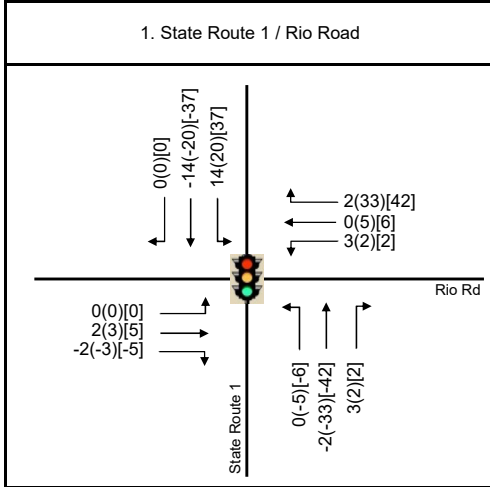


**B. Stop-Controlled Intersections**

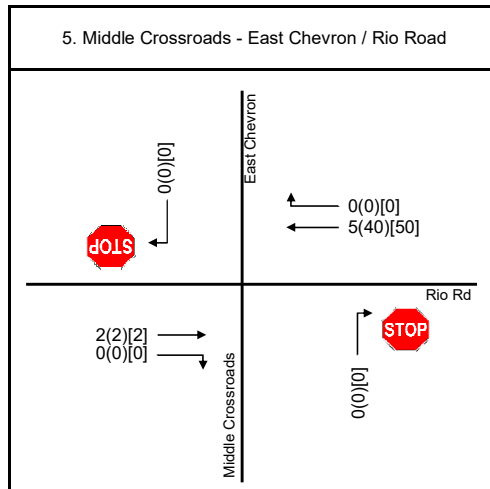
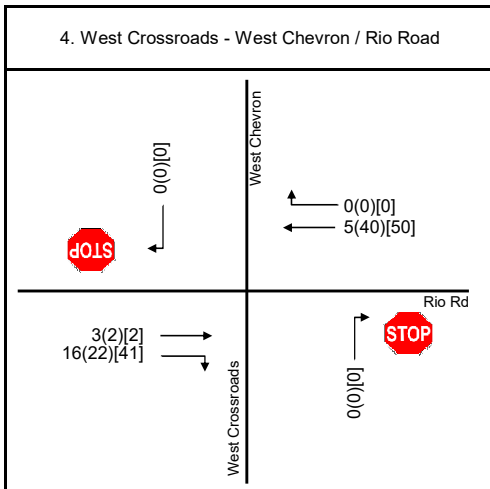




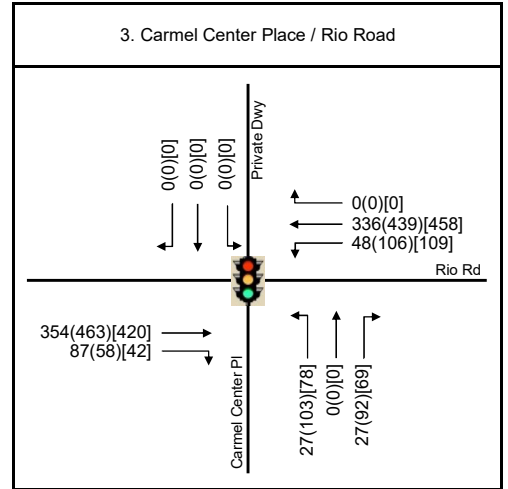
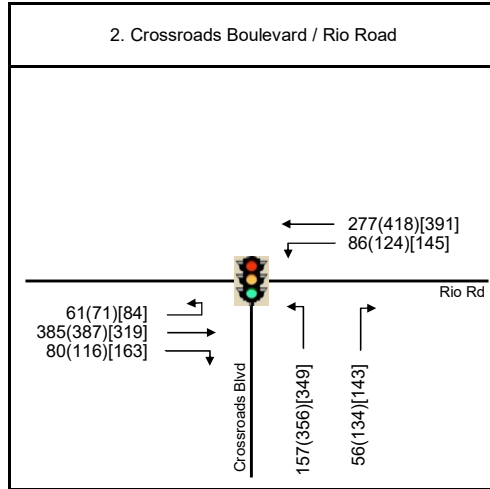
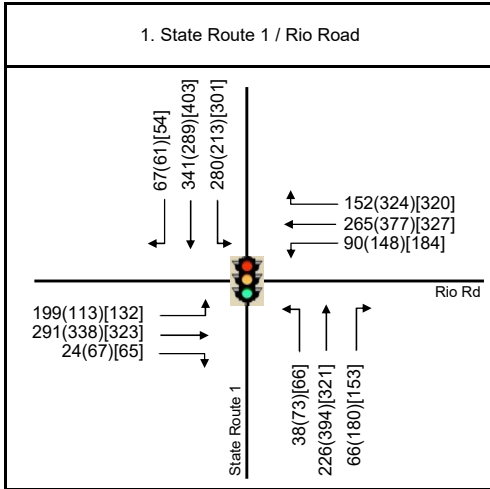
**A. Signalized Intersections**



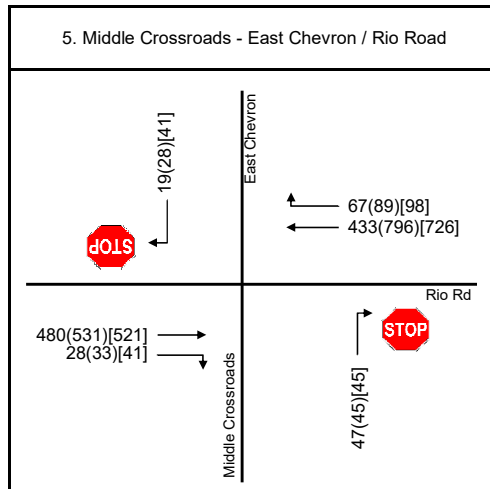
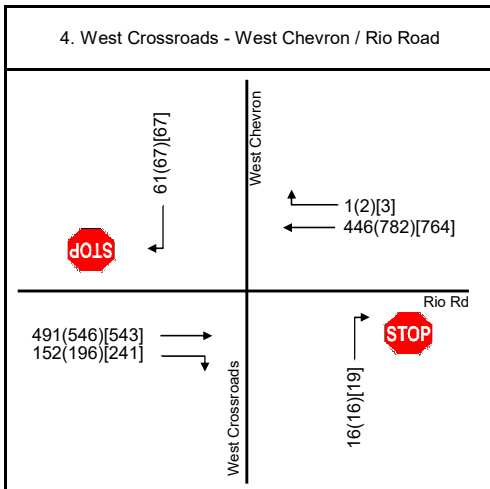
**B. Stop-Controlled Intersections**



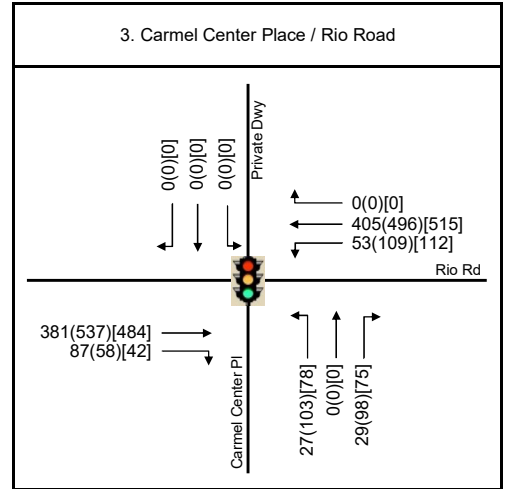
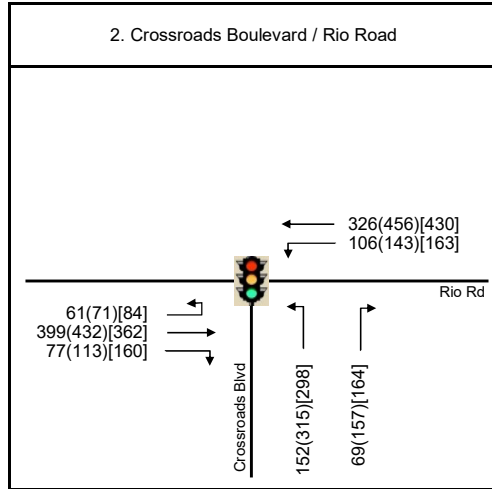
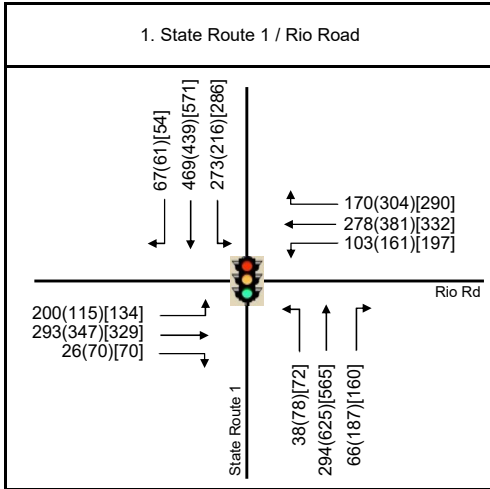
**A. Signalized Intersections**



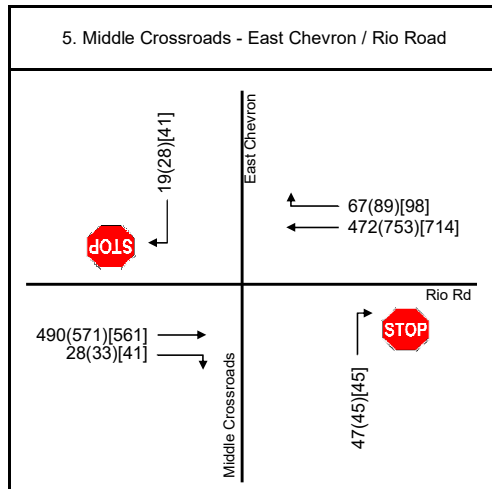
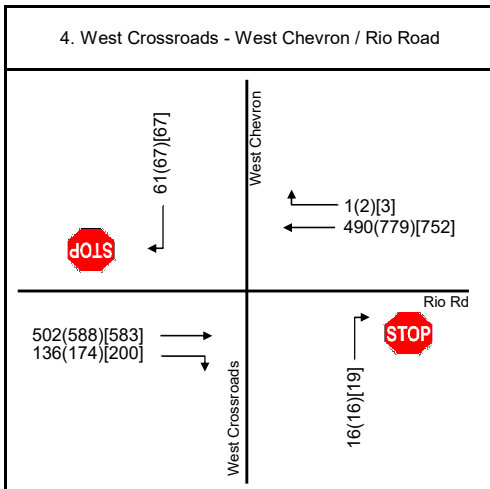
**B. Stop-Controlled Intersections**



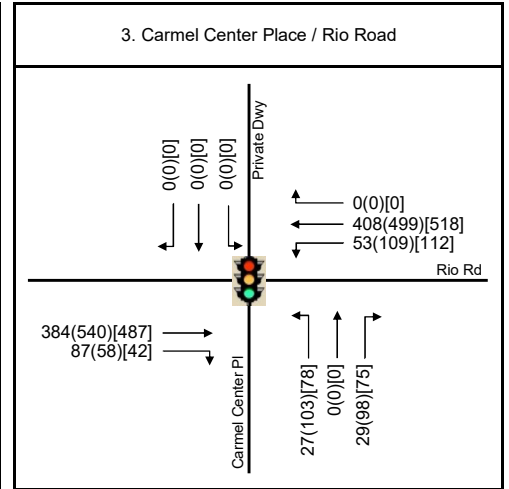
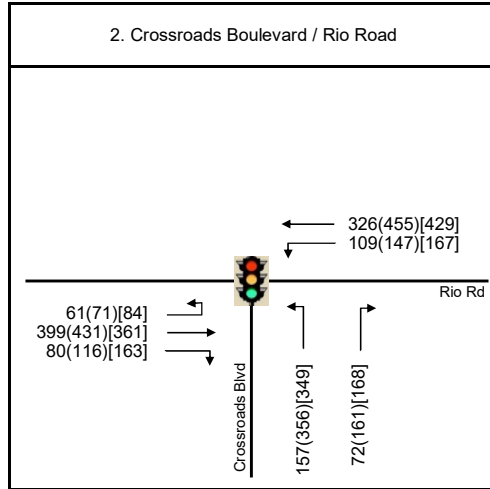
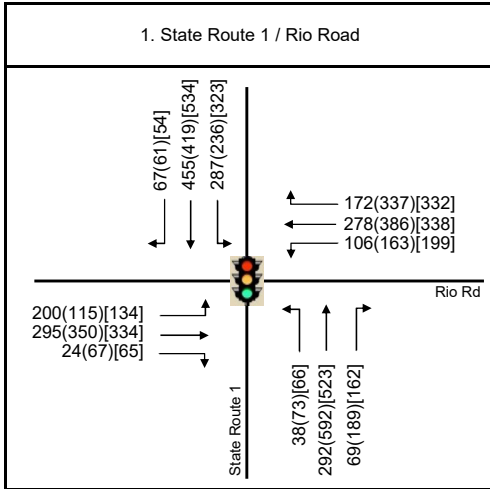
**A. Signalized Intersections**



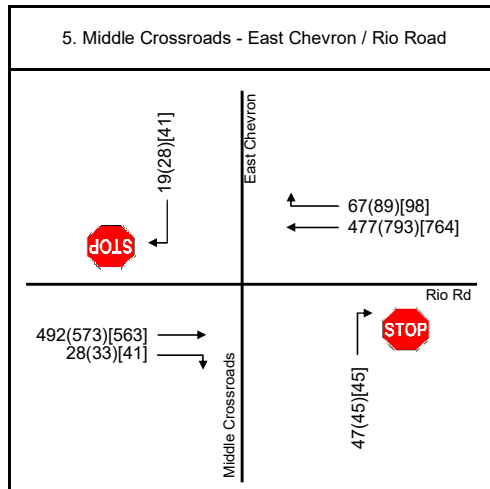
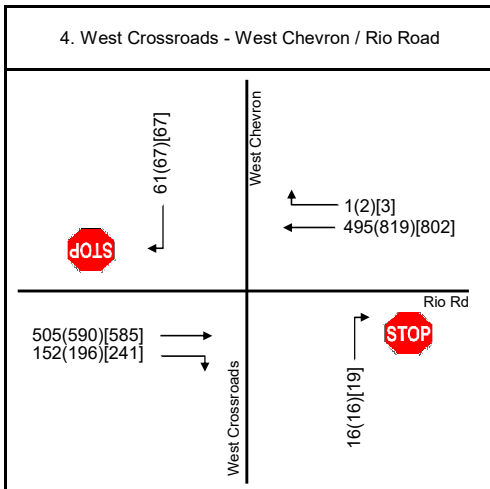
**B. Stop-Controlled Intersections**



**A. Signalized Intersections**



**B. Stop-Controlled Intersections**



# Appendix A

Level of Service

Descriptions

## APPENDIX A1

### LEVEL OF SERVICE (LOS) DESCRIPTION SIGNALIZED INTERSECTIONS

The capacity of an urban street is related primarily to the signal timing and the geometric characteristics of the facility as well as to the composition of traffic on the facility. Geometrics are a fixed characteristic of a facility. Thus, while traffic composition may vary somewhat over time, the capacity of a facility is generally a stable value that can be significantly improved only by initiating geometric improvements. A traffic signal essentially allocates time among conflicting traffic movements that seek to use the same space. The way in which time is allocated significantly affects the operation and the capacity of the intersection and its approaches.

The methodology for signalized intersection is designed to consider individual intersection approaches and individual lane groups within approaches. A lane group consists of one or more lanes on an intersection approach. The outputs from application of the method described in the HCM 2010 and 2000 are reported on the basis of each lane. For a given lane group at a signalized intersection, three indications are displayed: green, yellow and red. The red indication may include a short period during which all indications are red, referred to as an all-red interval and the yellow indication forms the change and clearance interval between two green phases.

The methodology for analyzing the capacity and level of service must consider a wide variety of prevailing conditions, including the amount and distribution of traffic movements, traffic composition, geometric characteristics, and details of intersection signalization. The methodology addresses the capacity, LOS, and other performance measures for lane groups and the intersection approaches and the LOS for the intersection as a whole.

Capacity is evaluated in terms of the ratio of demand flow rate to capacity ( $v/c$  ratio), whereas LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). The methodology does not take into account the potential impact of downstream congestion on intersection operation, nor does the methodology detect and adjust for the impacts of turn-pocket overflows on through traffic and intersection operation.

### LEVEL OF SERVICE (LOS) CRITERIA FOR SIGNALIZED INTERSECTIONS

(Reference 2010 and 2000 Highway Capacity Manual)

Level of Service	Control Delay (seconds / vehicle)
A	<10
B	>10 - 20
C	>20 - 35
D	>35 - 55
E	>55 - 80
F	>80

# Appendix B

Level of Service
























Calculations

Existing

Conditions

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Existing AM














												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	289	26	87	265	150	38	228	63	266	335	67
Future Volume (veh/h)	199	289	26	87	265	150	38	228	63	266	335	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1866	1900	1792	1827	1863	1845	1881	1900	1863	1812	1900
Adj Flow Rate, veh/h	214	311	28	94	285	161	41	245	68	286	360	72
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	2	2	6	4	2	3	1	0	2	5	5
Cap, veh/h	253	937	84	178	440	378	109	620	278	527	757	150
Arrive On Green	0.15	0.28	0.28	0.10	0.24	0.24	0.06	0.17	0.17	0.15	0.26	0.25
Sat Flow, veh/h	1707	3290	294	1707	1827	1570	1757	3574	1604	3442	2865	567
Grp Volume(v), veh/h	214	167	172	94	285	161	41	245	68	286	215	217
Grp Sat Flow(s),veh/h/ln	1707	1772	1812	1707	1827	1570	1757	1787	1604	1721	1722	1710
Q Serve(g_s), s	6.9	4.2	4.2	2.9	7.9	4.9	1.3	3.4	2.1	4.3	5.9	6.0
Cycle Q Clear(g_c), s	6.9	4.2	4.2	2.9	7.9	4.9	1.3	3.4	2.1	4.3	5.9	6.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	253	505	516	178	440	378	109	620	278	527	455	452
V/C Ratio(X)	0.85	0.33	0.33	0.53	0.65	0.43	0.38	0.40	0.24	0.54	0.47	0.48
Avail Cap(c_a), veh/h	304	886	906	304	914	785	241	1711	768	551	864	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	15.9	15.9	23.9	19.2	18.1	25.3	20.6	20.0	22.0	17.4	17.5
Incr Delay (d2), s/veh	16.8	0.5	0.5	2.4	1.9	0.9	2.1	0.5	0.5	1.0	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.1	2.2	1.5	4.2	2.2	0.7	1.7	1.0	2.1	2.9	3.0
LnGrp Delay(d),s/veh	40.1	16.3	16.4	26.3	21.1	19.0	27.5	21.1	20.6	23.0	18.3	18.5
LnGrp LOS	D	B	B	C	C	B	C	C	C	C	B	B
Approach Vol, veh/h		553			540			354			718	
Approach Delay, s/veh		25.5			21.4			21.7			20.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	20.0	7.5	18.9	12.3	17.5	12.6	13.7				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	10.3	* 28	8.0	27.3	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+1), s	4.9	6.2	3.3	8.0	8.9	9.9	6.3	5.4				
Green Ext Time (p_c), s	0.1	2.4	0.0	2.6	0.1	2.6	0.3	1.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			22.1									
HCM 2010 LOS			C									
<b>Notes</b>												



# HCM Signalized Intersection Capacity Analysis



















Existing AM

## 2: Crossroads Blvd & Rio Rd

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	61	385	77	83	277	152	53
Future Volume (vph)	61	385	77	83	277	152	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3410		1687	3438	3367	1495
Flt Permitted	0.98	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1817	3410		1687	3438	3367	1495
Peak-hour factor, PHF	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	423	85	91	304	167	58
RTOR Reduction (vph)	0	21	0	0	0	0	51
Lane Group Flow (vph)	66	487	0	91	304	167	7
Confl. Bikes (#/hr)			1				
Heavy Vehicles (%)	2%	3%	3%	7%	5%	4%	8%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.6	28.1		4.5	28.0	5.9	5.9
Effective Green, g (s)	4.1	28.1		4.0	28.0	5.9	5.9
Actuated g/C Ratio	0.08	0.56		0.08	0.56	0.12	0.12
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	148	1916		134	1925	397	176
v/s Ratio Prot		c0.14		c0.05	0.09	c0.05	
v/s Ratio Perm	0.04						0.00
v/c Ratio	0.45	0.25		0.68	0.16	0.42	0.04
Uniform Delay, d1	21.9	5.6		22.4	5.3	20.5	19.5
Progression Factor	1.00	1.00		1.37	0.78	1.00	1.00
Incremental Delay, d2	0.8	0.3		10.2	0.2	0.3	0.0
Delay (s)	22.6	5.9		40.8	4.3	20.7	19.6
Level of Service	C	A		D	A	C	B
Approach Delay (s)		7.8			12.7	20.4	
Approach LOS		A			B	C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			11.8		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.32				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			32.0%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	351	87	48	333	0	27	0	27	0	0	0
Future Volume (veh/h)	0	351	87	48	333	0	27	0	27	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1848	1900	1900	1827	1900	1900	1652	1652	1900	1900	1900
Adj Flow Rate, veh/h	0	413	102	56	392	0	32	0	32	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	3	0	4	4	0	0	15	0	0	0
Cap, veh/h	0	1901	465	60	2752	0	202	0	65	0	90	0
Arrive On Green	0.00	0.22	0.22	0.03	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Sat Flow, veh/h	0	2889	684	1810	3563	0	1236	0	1383	0	1900	0
Grp Volume(v), veh/h	0	258	257	56	392	0	32	0	32	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1756	1726	1810	1736	0	1236	0	1383	0	1900	0
Q Serve(g_s), s	0.0	6.0	6.1	1.5	1.3	0.0	1.3	0.0	1.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.0	6.1	1.5	1.3	0.0	1.3	0.0	1.1	0.0	0.0	0.0
Prop In Lane	0.00		0.40	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1193	1173	60	2752	0	202	0	65	0	90	0
V/C Ratio(X)	0.00	0.22	0.22	0.93	0.14	0.00	0.16	0.00	0.49	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1193	1173	181	2752	0	540	0	443	0	608	0
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.5	8.6	24.1	1.2	0.0	23.3	0.0	23.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	19.7	0.1	0.0	0.1	0.0	2.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.1	1.1	0.6	0.0	0.4	0.0	0.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	8.9	9.0	43.8	1.3	0.0	23.4	0.0	25.4	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		515			448			64			0	
Approach Delay, s/veh		9.0			6.6			24.4			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.7	38.0		6.4		43.6		6.4				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.5	17.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	3.5	8.1		0.0		3.3		3.3				
Green Ext Time (p_c), s	0.0	1.5		0.0		4.8		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd














Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	335	70	146	372	291	78	427	178	193	309	61
Future Volume (veh/h)	113	335	70	146	372	291	78	427	178	193	309	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1878	1900
Adj Flow Rate, veh/h	116	345	72	151	384	300	80	440	184	199	319	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	161	815	168	182	536	447	148	548	472	393	503	99
Arrive On Green	0.09	0.28	0.27	0.10	0.29	0.29	0.08	0.30	0.30	0.11	0.33	0.32
Sat Flow, veh/h	1757	2939	605	1792	1863	1555	1810	1827	1573	3510	1523	301
Grp Volume(v), veh/h	116	208	209	151	384	300	80	440	184	199	0	382
Grp Sat Flow(s),veh/h/ln	1757	1787	1757	1792	1863	1555	1810	1827	1573	1755	0	1823
Q Serve(g_s), s	4.9	7.3	7.5	6.3	14.2	13.0	3.3	17.0	7.1	4.1	0.0	13.6
Cycle Q Clear(g_c), s	4.9	7.3	7.5	6.3	14.2	13.0	3.3	17.0	7.1	4.1	0.0	13.6
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	161	496	487	182	536	447	148	548	472	393	0	602
V/C Ratio(X)	0.72	0.42	0.43	0.83	0.72	0.67	0.54	0.80	0.39	0.51	0.00	0.63
Avail Cap(c_a), veh/h	184	633	622	258	733	611	182	642	553	413	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	22.6	22.7	33.7	24.5	24.1	33.8	24.7	21.2	32.0	0.0	21.8
Incr Delay (d2), s/veh	11.1	0.7	0.7	14.1	2.5	2.1	3.1	6.7	0.6	1.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.7	3.7	3.9	7.6	5.8	1.7	9.6	3.1	2.0	0.0	7.1
LnGrp Delay(d),s/veh	44.9	23.3	23.4	47.8	26.9	26.2	36.9	31.4	21.9	33.0	0.0	23.6
LnGrp LOS	D	C	C	D	C	C	D	C	C	C		C
Approach Vol, veh/h		533			835			704				581
Approach Delay, s/veh		28.1			30.5			29.5				26.8
Approach LOS		C			C			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	25.2	10.2	29.3	11.0	26.0	12.6	26.9				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 27	8.0	27.3	8.3	* 30	9.3	26.0				
Max Q Clear Time (g_c+I1), s	8.3	9.5	5.3	15.6	6.9	16.2	6.1	19.0				
Green Ext Time (p_c), s	0.1	2.8	0.0	1.9	0.0	3.7	0.2	2.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			28.9									
HCM 2010 LOS			C									
<b>Notes</b>												

# HCM Signalized Intersection Capacity Analysis



















## 2: Crossroads Blvd & Rio Rd

Existing PM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	71	388	113	120	419	315	130
Future Volume (vph)	71	388	113	120	419	315	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3423		1770	3574	3467	1552
Flt Permitted	0.91	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1727	3423		1770	3574	3467	1552
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	76	417	122	129	451	339	140
RTOR Reduction (vph)	0	44	0	0	0	0	114
Lane Group Flow (vph)	76	495	0	129	451	339	26
Confl. Peds. (#/hr)			3	5		3	5
Heavy Vehicles (%)	0%	2%	0%	2%	1%	1%	2%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.9	22.8		6.5	24.4	9.2	9.2
Effective Green, g (s)	4.4	22.8		6.0	24.4	9.2	9.2
Actuated g/C Ratio	0.09	0.46		0.12	0.49	0.18	0.18
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	151	1560		212	1744	637	285
v/s Ratio Prot		c0.14		c0.07	0.13	c0.10	
v/s Ratio Perm	0.04						0.02
v/c Ratio	0.50	0.32		0.61	0.26	0.53	0.09
Uniform Delay, d1	21.8	8.7		20.9	7.5	18.5	16.9
Progression Factor	1.00	1.00		1.29	0.77	1.00	1.00
Incremental Delay, d2	1.0	0.5		3.3	0.4	0.4	0.1
Delay (s)	22.7	9.2		30.3	6.2	18.9	17.0
Level of Service	C	A		C	A	B	B
Approach Delay (s)		10.9			11.5	18.3	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			13.2		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.41				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			40.0%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	460	58	106	436	0	103	0	92	0	0	0
Future Volume (veh/h)	0	460	58	106	436	0	103	0	92	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1845	1881	1900	1900	1863	1863	1900	1900	1900
Adj Flow Rate, veh/h	0	517	65	119	490	0	116	0	103	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	3	1	1	0	0	2	0	0	0
Cap, veh/h	0	1778	223	135	2569	0	314	0	189	0	231	0
Arrive On Green	0.00	1.00	1.00	0.08	0.72	0.00	0.12	0.00	0.12	0.00	0.00	0.00
Sat Flow, veh/h	0	3257	396	1757	3668	0	1405	0	1560	0	1900	0
Grp Volume(v), veh/h	0	288	294	119	490	0	116	0	103	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1790	1757	1787	0	1405	0	1560	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.2	0.0	4.0	0.0	3.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.2	0.0	4.0	0.0	3.1	0.0	0.0	0.0
Prop In Lane	0.00		0.22	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	995	1006	135	2569	0	314	0	189	0	231	0
V/C Ratio(X)	0.00	0.29	0.29	0.88	0.19	0.00	0.37	0.00	0.54	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	995	1006	211	2569	0	594	0	499	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.9	2.3	0.0	21.0	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.7	15.5	0.2	0.0	0.3	0.0	0.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.2	1.1	0.0	1.5	0.0	1.4	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.7	0.7	38.4	2.5	0.0	21.3	0.0	21.6	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		582			609			219				0
Approach Delay, s/veh		0.7			9.5			21.4				0.0
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.8	32.1		10.1		39.9		10.1				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.2		6.0				
Green Ext Time (p_c), s	0.0	2.2		0.0		6.0		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.7								
HCM 2010 LOS				A								














HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Existing Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	318	70	182	321	278	72	363	151	264	440	54
Future Volume (veh/h)	132	318	70	182	321	278	72	363	151	264	440	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1881	1900	1863	1900	1900	1875	1900
Adj Flow Rate, veh/h	133	321	71	184	324	281	73	367	153	267	444	55
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	0	1	1	0	2	0	0	1	1
Cap, veh/h	203	750	163	226	503	421	160	745	338	501	844	104
Arrive On Green	0.11	0.26	0.25	0.12	0.27	0.27	0.09	0.21	0.21	0.14	0.26	0.25
Sat Flow, veh/h	1792	2925	636	1810	1881	1571	1810	3539	1603	3510	3189	393
Grp Volume(v), veh/h	133	196	196	184	324	281	73	367	153	267	247	252
Grp Sat Flow(s),veh/h/ln	1792	1805	1756	1810	1881	1571	1810	1770	1603	1755	1781	1801
Q Serve(g_s), s	4.3	5.5	5.6	6.0	9.2	9.6	2.3	5.5	5.0	4.3	7.1	7.2
Cycle Q Clear(g_c), s	4.3	5.5	5.6	6.0	9.2	9.6	2.3	5.5	5.0	4.3	7.1	7.2
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	203	463	450	226	503	421	160	745	338	501	471	477
V/C Ratio(X)	0.65	0.42	0.44	0.81	0.64	0.67	0.45	0.49	0.45	0.53	0.52	0.53
Avail Cap(c_a), veh/h	297	752	732	391	878	733	240	1581	716	525	825	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	18.7	18.8	25.7	19.5	19.7	26.1	20.9	20.8	24.0	18.9	19.0
Incr Delay (d2), s/veh	3.5	0.7	0.8	7.0	1.7	2.2	2.0	0.6	1.1	0.9	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.8	2.8	3.4	5.0	4.4	1.2	2.7	2.3	2.1	3.6	3.7
LnGrp Delay(d),s/veh	29.1	19.4	19.6	32.7	21.2	21.9	28.1	21.6	21.9	24.9	20.0	20.1
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		525			789			593			766	
Approach Delay, s/veh		21.9			24.1			22.4			21.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	19.4	9.3	19.9	10.8	20.1	12.6	16.7				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	13.3	* 25	8.3	27.0	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+I1), s	8.0	7.6	4.3	9.2	6.3	11.6	6.3	7.5				
Green Ext Time (p_c), s	0.2	2.6	0.0	3.0	0.1	3.4	0.3	3.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									
<b>Notes</b>												



















HCM Signalized Intersection Capacity Analysis  
 2: Crossroads Blvd & Rio Rd

Existing Saturday

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	84	320	160	141	392	298	139
Future Volume (vph)	84	320	160	141	392	298	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3405		1787	3610	3467	1535
Flt Permitted	0.67	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1267	3405		1787	3610	3467	1535
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	337	168	148	413	314	146
RTOR Reduction (vph)	0	92	0	0	0	0	120
Lane Group Flow (vph)	88	413	0	148	413	314	26
Confl. Peds. (#/hr)			5	9		5	9
Confl. Bikes (#/hr)			11				11
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	1%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	6.5	22.6		7.0	23.1	8.9	8.9
Effective Green, g (s)	6.0	22.6		6.5	23.1	8.9	8.9
Actuated g/C Ratio	0.12	0.45		0.13	0.46	0.18	0.18
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	152	1539		232	1667	617	273
v/s Ratio Prot		c0.12		c0.08	0.11	c0.09	
v/s Ratio Perm	0.07						0.02
v/c Ratio	0.58	0.27		0.64	0.25	0.51	0.10
Uniform Delay, d1	20.8	8.5		20.6	8.2	18.6	17.2
Progression Factor	1.00	1.00		1.38	0.79	1.00	1.00
Incremental Delay, d2	3.3	0.4		4.1	0.4	0.2	0.1
Delay (s)	24.1	9.0		32.6	6.8	18.8	17.2
Level of Service	C	A		C	A	B	B
Approach Delay (s)		11.2			13.7	18.3	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			14.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.39				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			40.5%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	417	42	109	455	0	78	0	69	0	0	0
Future Volume (veh/h)	0	417	42	109	455	0	78	0	69	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1881	1900	1900	1900	1881	1900	1900	1900
Adj Flow Rate, veh/h	0	458	46	120	500	0	86	0	76	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	1	1	0	0	1	0	0	0
Cap, veh/h	0	1955	195	137	2671	0	278	0	141	0	176	0
Arrive On Green	0.00	1.00	1.00	0.08	0.75	0.00	0.09	0.00	0.09	0.00	0.00	0.00
Sat Flow, veh/h	0	3400	330	1810	3668	0	1440	0	1522	0	1900	0
Grp Volume(v), veh/h	0	249	255	120	500	0	86	0	76	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1831	1810	1787	0	1440	0	1522	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.3	2.1	0.0	2.9	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	2.1	0.0	2.9	0.0	2.4	0.0	0.0	0.0
Prop In Lane	0.00		0.18	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1068	1083	137	2671	0	278	0	141	0	176	0
V/C Ratio(X)	0.00	0.23	0.24	0.87	0.19	0.00	0.31	0.00	0.54	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1068	1083	217	2671	0	605	0	487	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.9	1.9	0.0	21.9	0.0	21.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	13.2	0.2	0.0	0.2	0.0	1.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	2.1	1.0	0.0	1.2	0.0	1.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.5	0.5	36.0	2.0	0.0	22.1	0.0	22.8	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		504			620			162			0	
Approach Delay, s/veh		0.5			8.6			22.5			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.8	33.6		8.6		41.4		8.6				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.3	2.0		0.0		4.1		4.9				
Green Ext Time (p_c), s	0.0	1.8		0.0		6.1		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.2								
HCM 2010 LOS				A								



# Appendix C

Parking Occupancy  
Counts

Point Lobos  
State Natural Reserve



IDAX Data Solutions  
 18193 - PLSNR - Traffic & Parking Counts  
 8/29/2018

Time	Autos		Autos		Total	% of ADT	Net Change in Occupancy	Ped		Ped		Total	% of ADT	Net Change in Occupancy	Bikes	
	Enter	Exit	Enter	Exit				Enter	Exit	Enter	Exit				Enter	Exit
8:00	6	0						4	0						0	0
8:15	4	2						8	0						0	0
8:30	4	0						0	0						0	0
8:45	13	1	27	3	30	3%	24	1	1	13	1	14	3%	12	0	0
9:00	9	2						8	1						0	0
9:15	20	3						2	2						0	0
9:30	19	4						4	3						0	0
9:45	20	6	68	15	83	7%	53	5	0	19	6	25	6%	13	0	0
10:00	15	10						5	1						0	0
10:15	25	15						2	2						0	0
10:30	24	7						2	7						0	0
10:45	19	14	83	46	129	11%	37	9	2	18	12	30	7%	6	0	0
11:00	14	12						5	6						0	0
11:15	25	13						8	2						0	0
11:30	23	17						1	13						0	0
11:45	21	29	83	71	154	13%	12	8	5	22	26	48	11%	(4)	0	0
12:00	17	18						20	0						0	0
12:15	23	13						7	5						0	0
12:30	13	12						1	9						0	0
12:45	9	19	62	62	124	11%	-	6	9	34	23	57	13%	11	0	0
13:00	16	26						6	6						1	0
13:15	12	17						8	2						2	0
13:30	18	25						11	0						0	2
13:45	9	11	55	79	134	11%	(24)	6	4	31	12	43	10%	19	0	0
14:00	15	16						6	14						0	0
14:15	17	24						10	15						0	1
14:30	9	15						14	5						0	0
14:45	18	21	59	76	135	11%	(17)	18	0	48	34	82	18%	14	0	0
15:00	14	13						10	5						0	0
15:15	21	24						0	8						0	0
15:30	17	17						2	7						0	0
15:45	13	13	65	67	132	11%	(2)	6	17	18	37	55	12%	(19)	0	0
16:00	11	13						0	6						0	0
16:15	13	14						7	0						0	0
16:30	9	9						0	14						0	0
16:45	9	22	42	58	100	8%	(16)	2	15	9	35	44	10%	(26)	0	0
17:00	10	17						8	6						0	0
17:15	11	17	39	65				2	0						0	0
17:30	7	15						1	5						0	0
17:45	8	12	36	61	97	8%	(25)	2	3	13	14	27	6%	(1)	1	0
18:00	6	12						2	2						0	0
18:15	4	14						2	10						0	0
18:30	4	12						0	2						0	0
18:45	0	10	14	48	62	5%	(34)	0	7	4	21	25	6%	(17)	0	0
<b>Total</b>	<b>594</b>	<b>586</b>	<b>594</b>	<b>586</b>	<b>1180</b>	<b>100%</b>	<b>8</b>	<b>229</b>	<b>221</b>	<b>229</b>	<b>221</b>	<b>450</b>	<b>100%</b>	<b>8</b>	<b>4</b>	<b>3</b>

Marathon Park tl  
16 2

Marathon Park tl  
23 39

























# Appendix D

Level of Service  
Calculations

Existing Plus Project  
Conditions

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd














Existing Plus Project AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	199	291	24	90	265	152	38	226	66	280	341	67	
Future Volume (veh/h)	199	291	24	90	265	152	38	226	66	280	341	67	
Number	5	2	12	1	6	16	3	8	18	7	4	14	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1792	1866	1900	1792	1827	1863	1845	1881	1900	1863	1812	1900	
Adj Flow Rate, veh/h	214	313	26	97	285	163	41	243	71	301	367	72	
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Percent Heavy Veh, %	6	2	2	6	4	2	3	1	0	2	5	5	
Cap, veh/h	253	939	78	180	440	378	109	619	278	528	760	148	
Arrive On Green	0.15	0.28	0.28	0.11	0.24	0.24	0.06	0.17	0.17	0.15	0.26	0.25	
Sat Flow, veh/h	1707	3314	274	1707	1827	1570	1757	3574	1604	3442	2875	558	
Grp Volume(v), veh/h	214	166	173	97	285	163	41	243	71	301	218	221	
Grp Sat Flow(s),veh/h/ln	1707	1772	1816	1707	1827	1570	1757	1787	1604	1721	1722	1711	
Q Serve(g_s), s	6.9	4.2	4.2	3.0	7.9	4.9	1.3	3.4	2.2	4.6	6.0	6.1	
Cycle Q Clear(g_c), s	6.9	4.2	4.2	3.0	7.9	4.9	1.3	3.4	2.2	4.6	6.0	6.1	
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.33	
Lane Grp Cap(c), veh/h	253	502	514	180	440	378	109	619	278	528	455	453	
V/C Ratio(X)	0.85	0.33	0.34	0.54	0.65	0.43	0.38	0.39	0.26	0.57	0.48	0.49	
Avail Cap(c_a), veh/h	304	886	907	304	913	785	241	1710	767	551	863	858	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	23.3	15.9	16.0	23.8	19.2	18.1	25.3	20.6	20.1	22.1	17.4	17.6	
Incr Delay (d2), s/veh	16.8	0.5	0.5	2.5	1.9	0.9	2.1	0.5	0.6	1.3	0.9	1.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	4.4	2.1	2.2	1.6	4.2	2.2	0.7	1.7	1.0	2.3	3.0	3.0	
LnGrp Delay(d),s/veh	40.1	16.4	16.4	26.3	21.2	19.0	27.5	21.1	20.7	23.4	18.4	18.6	
LnGrp LOS	D	B	B	C	C	B	C	C	C	C	B	B	
Approach Vol, veh/h		553			545			355			740		
Approach Delay, s/veh		25.6			21.4			21.8			20.5		
Approach LOS		C			C			C			C		
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	9.9	19.9	7.5	18.9	12.3	17.5	12.6	13.7					
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9					
Max Green Setting (Gmax), s	10.3	* 28	8.0	27.3	10.3	* 28	9.3	26.0					
Max Q Clear Time (g_c+1), s	5.0	6.2	3.3	8.1	8.9	9.9	6.6	5.4					
Green Ext Time (p_c), s	0.1	2.4	0.0	2.7	0.1	2.7	0.3	1.8					
<b>Intersection Summary</b>													
HCM 2010 Ctrl Delay				22.2									
HCM 2010 LOS				C									
<b>Notes</b>													

# HCM Signalized Intersection Capacity Analysis



















## 2: Crossroads Blvd & Rio Rd

Existing Plus Project AM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	61	385	80	86	277	157	56
Future Volume (vph)	61	385	80	86	277	157	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3407		1687	3438	3367	1495
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1774	3407		1687	3438	3367	1495
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	423	88	95	304	173	62
RTOR Reduction (vph)	0	23	0	0	0	0	55
Lane Group Flow (vph)	67	488	0	95	304	173	7
Confl. Bikes (#/hr)			1				
Heavy Vehicles (%)	2%	3%	3%	7%	5%	4%	8%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.7	27.9		4.6	27.8	6.0	6.0
Effective Green, g (s)	4.2	27.9		4.1	27.8	6.0	6.0
Actuated g/C Ratio	0.08	0.56		0.08	0.56	0.12	0.12
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	149	1901		138	1911	404	179
v/s Ratio Prot		c0.14		c0.06	0.09	c0.05	
v/s Ratio Perm	0.04						0.00
v/c Ratio	0.45	0.26		0.69	0.16	0.43	0.04
Uniform Delay, d1	21.8	5.7		22.3	5.4	20.4	19.5
Progression Factor	1.00	1.00		1.38	0.78	1.00	1.00
Incremental Delay, d2	0.8	0.3		10.8	0.2	0.3	0.0
Delay (s)	22.6	6.0		41.6	4.4	20.7	19.5
Level of Service	C	A		D	A	C	B
Approach Delay (s)		7.9			13.3	20.4	
Approach LOS		A			B	C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			12.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.33				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			32.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing Plus Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	354	87	48	336	0	27	0	27	0	0	0
Future Volume (veh/h)	0	354	87	48	336	0	27	0	27	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1848	1900	1900	1827	1900	1900	1652	1652	1900	1900	1900
Adj Flow Rate, veh/h	0	416	102	56	395	0	32	0	32	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	3	0	4	4	0	0	15	0	0	0
Cap, veh/h	0	1904	463	60	2752	0	202	0	65	0	90	0
Arrive On Green	0.00	0.22	0.22	0.03	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Sat Flow, veh/h	0	2894	681	1810	3563	0	1236	0	1383	0	1900	0
Grp Volume(v), veh/h	0	259	259	56	395	0	32	0	32	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1756	1726	1810	1736	0	1236	0	1383	0	1900	0
Q Serve(g_s), s	0.0	6.0	6.1	1.5	1.3	0.0	1.3	0.0	1.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.0	6.1	1.5	1.3	0.0	1.3	0.0	1.1	0.0	0.0	0.0
Prop In Lane	0.00		0.39	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1193	1173	60	2752	0	202	0	65	0	90	0
V/C Ratio(X)	0.00	0.22	0.22	0.93	0.14	0.00	0.16	0.00	0.49	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1193	1173	181	2752	0	540	0	443	0	608	0
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.5	8.6	24.1	1.2	0.0	23.3	0.0	23.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	19.7	0.1	0.0	0.1	0.0	2.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.1	1.1	0.6	0.0	0.4	0.0	0.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.0	9.0	43.8	1.3	0.0	23.4	0.0	25.4	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		518			451			64			0	
Approach Delay, s/veh		9.0			6.6			24.4			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.7	38.0		6.4		43.6		6.4				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.5	17.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	3.5	8.1		0.0		3.3		3.3				
Green Ext Time (p_c), s	0.0	1.5		0.0		4.8		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.9								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Existing Plus Project PM














												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	338	67	148	377	324	73	394	180	213	289	61
Future Volume (veh/h)	113	338	67	148	377	324	73	394	180	213	289	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1878	1900
Adj Flow Rate, veh/h	116	348	69	153	389	334	75	406	186	220	298	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	162	846	166	185	551	460	144	525	452	399	482	102
Arrive On Green	0.09	0.28	0.28	0.10	0.30	0.30	0.08	0.29	0.29	0.11	0.32	0.31
Sat Flow, veh/h	1757	2968	581	1792	1863	1556	1810	1827	1572	3510	1502	318
Grp Volume(v), veh/h	116	208	209	153	389	334	75	406	186	220	0	361
Grp Sat Flow(s),veh/h/ln	1757	1787	1762	1792	1863	1556	1810	1827	1572	1755	0	1820
Q Serve(g_s), s	4.9	7.1	7.3	6.3	14.1	14.6	3.0	15.4	7.2	4.5	0.0	12.7
Cycle Q Clear(g_c), s	4.9	7.1	7.3	6.3	14.1	14.6	3.0	15.4	7.2	4.5	0.0	12.7
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	162	509	502	185	551	460	144	525	452	399	0	584
V/C Ratio(X)	0.71	0.41	0.42	0.83	0.71	0.73	0.52	0.77	0.41	0.55	0.00	0.62
Avail Cap(c_a), veh/h	185	639	630	260	740	618	184	648	558	417	0	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	21.9	22.0	33.3	23.8	23.9	33.5	24.8	21.8	31.8	0.0	21.9
Incr Delay (d2), s/veh	10.6	0.6	0.7	14.1	2.3	3.2	2.9	5.0	0.7	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.6	3.6	3.9	7.6	6.7	1.6	8.5	3.2	2.2	0.0	6.7
LnGrp Delay(d),s/veh	44.0	22.6	22.7	47.4	26.1	27.2	36.3	29.7	22.6	33.2	0.0	23.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	C		C
Approach Vol, veh/h		533			876			667				581
Approach Delay, s/veh		27.3			30.2			28.5				27.1
Approach LOS		C			C			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	25.6	10.1	28.3	11.0	26.4	12.6	25.8				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 27	8.0	27.3	8.3	* 30	9.3	26.0				
Max Q Clear Time (g_c+11), s	8.3	9.3	5.0	14.7	6.9	16.6	6.5	17.4				
Green Ext Time (p_c), s	0.1	2.9	0.0	1.9	0.0	3.9	0.2	2.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									
<b>Notes</b>												



# HCM Signalized Intersection Capacity Analysis



















## 2: Crossroads Blvd & Rio Rd

Existing Plus Project PM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	71	387	116	124	418	356	134
Future Volume (vph)	71	387	116	124	418	356	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3420		1770	3574	3467	1553
Flt Permitted	0.91	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1727	3420		1770	3574	3467	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	76	416	125	133	449	383	144
RTOR Reduction (vph)	0	46	0	0	0	0	115
Lane Group Flow (vph)	76	495	0	133	449	383	29
Confl. Peds. (#/hr)			3	5		3	5
Heavy Vehicles (%)	0%	2%	0%	2%	1%	1%	2%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.9	22.2		6.4	23.7	9.9	9.9
Effective Green, g (s)	4.4	22.2		5.9	23.7	9.9	9.9
Actuated g/C Ratio	0.09	0.44		0.12	0.47	0.20	0.20
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	151	1518		208	1694	686	307
v/s Ratio Prot		c0.14		c0.08	0.13	c0.11	
v/s Ratio Perm	0.04						0.02
v/c Ratio	0.50	0.33		0.64	0.27	0.56	0.09
Uniform Delay, d1	21.8	9.0		21.0	7.9	18.1	16.4
Progression Factor	1.00	1.00		1.32	0.78	1.00	1.00
Incremental Delay, d2	1.0	0.6		4.6	0.4	0.6	0.0
Delay (s)	22.7	9.6		32.3	6.6	18.6	16.4
Level of Service	C	A		C	A	B	B
Approach Delay (s)		11.2			12.5	18.0	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			13.7		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.43				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			41.5%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing Plus Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	463	58	106	439	0	103	0	92	0	0	0
Future Volume (veh/h)	0	463	58	106	439	0	103	0	92	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1845	1881	1900	1900	1863	1863	1900	1900	1900
Adj Flow Rate, veh/h	0	520	65	119	493	0	116	0	103	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	3	1	1	0	0	2	0	0	0
Cap, veh/h	0	1779	222	135	2569	0	314	0	189	0	231	0
Arrive On Green	0.00	1.00	1.00	0.08	0.72	0.00	0.12	0.00	0.12	0.00	0.00	0.00
Sat Flow, veh/h	0	3259	394	1757	3668	0	1405	0	1560	0	1900	0
Grp Volume(v), veh/h	0	290	295	119	493	0	116	0	103	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1791	1757	1787	0	1405	0	1560	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.3	0.0	4.0	0.0	3.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.3	0.0	4.0	0.0	3.1	0.0	0.0	0.0
Prop In Lane	0.00		0.22	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	995	1006	135	2569	0	314	0	189	0	231	0
V/C Ratio(X)	0.00	0.29	0.29	0.88	0.19	0.00	0.37	0.00	0.54	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	995	1006	211	2569	0	594	0	499	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.9	2.3	0.0	21.0	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.7	15.5	0.2	0.0	0.3	0.0	0.9	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.2	1.2	0.0	1.5	0.0	1.4	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.7	0.7	38.4	2.5	0.0	21.3	0.0	21.6	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		585			612			219			0	
Approach Delay, s/veh		0.7			9.4			21.4			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.8	32.1		10.1		39.9		10.1				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.3		6.0				
Green Ext Time (p_c), s	0.0	2.2		0.0		6.0		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.7								
HCM 2010 LOS				A								














HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Existing Plus Project Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	323	65	184	327	320	66	321	153	301	403	54
Future Volume (veh/h)	132	323	65	184	327	320	66	321	153	301	403	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1881	1900	1863	1900	1900	1875	1900
Adj Flow Rate, veh/h	133	326	66	186	330	323	67	324	155	304	407	55
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	0	1	1	0	2	0	0	1	1
Cap, veh/h	200	819	163	227	544	455	152	703	319	493	805	108
Arrive On Green	0.11	0.28	0.27	0.13	0.29	0.29	0.08	0.20	0.20	0.14	0.26	0.24
Sat Flow, veh/h	1792	2978	594	1810	1881	1572	1810	3539	1603	3510	3152	423
Grp Volume(v), veh/h	133	196	196	186	330	323	67	324	155	304	229	233
Grp Sat Flow(s),veh/h/ln	1792	1805	1766	1810	1881	1572	1810	1770	1603	1755	1781	1795
Q Serve(g_s), s	4.4	5.4	5.6	6.2	9.3	11.3	2.2	5.0	5.3	5.0	6.8	6.9
Cycle Q Clear(g_c), s	4.4	5.4	5.6	6.2	9.3	11.3	2.2	5.0	5.3	5.0	6.8	6.9
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	200	497	486	227	544	455	152	703	319	493	455	459
V/C Ratio(X)	0.66	0.39	0.40	0.82	0.61	0.71	0.44	0.46	0.49	0.62	0.50	0.51
Avail Cap(c_a), veh/h	291	736	720	382	859	718	235	1546	700	513	807	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	18.1	18.2	26.2	18.9	19.6	26.8	21.8	21.9	24.9	19.6	19.7
Incr Delay (d2), s/veh	3.8	0.6	0.7	7.1	1.3	2.5	2.0	0.6	1.4	2.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.8	2.8	3.5	5.0	5.2	1.2	2.5	2.5	2.5	3.4	3.5
LnGrp Delay(d),s/veh	30.0	18.8	18.9	33.3	20.2	22.1	28.9	22.3	23.3	27.0	20.6	20.8
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		525			839			546			766	
Approach Delay, s/veh		21.6			23.8			23.4			23.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	20.9	9.2	19.7	10.9	21.8	12.7	16.2				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	13.3	* 25	8.3	27.0	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+11), s	8.2	7.6	4.2	8.9	6.4	13.3	7.0	7.3				
Green Ext Time (p_c), s	0.2	2.6	0.0	2.8	0.1	3.5	0.2	2.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									
<b>Notes</b>												



















HCM Signalized Intersection Capacity Analysis  
 2: Crossroads Blvd & Rio Rd

Existing Plus Project Saturday

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	84	319	163	145	391	349	143
Future Volume (vph)	84	319	163	145	391	349	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3401		1787	3610	3467	1538
Flt Permitted	0.67	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1267	3401		1787	3610	3467	1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	336	172	153	412	367	151
RTOR Reduction (vph)	0	97	0	0	0	0	122
Lane Group Flow (vph)	88	411	0	153	412	367	29
Confl. Peds. (#/hr)			5	9		5	9
Confl. Bikes (#/hr)			11				11
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	1%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	6.5	21.7		7.2	22.4	9.6	9.6
Effective Green, g (s)	6.0	21.7		6.7	22.4	9.6	9.6
Actuated g/C Ratio	0.12	0.43		0.13	0.45	0.19	0.19
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	152	1476		239	1617	665	295
v/s Ratio Prot		c0.12		c0.09	0.11	c0.11	
v/s Ratio Perm	0.07						0.02
v/c Ratio	0.58	0.28		0.64	0.25	0.55	0.10
Uniform Delay, d1	20.8	9.1		20.5	8.6	18.3	16.6
Progression Factor	1.00	1.00		1.38	0.81	1.00	1.00
Incremental Delay, d2	3.3	0.5		4.3	0.4	0.6	0.1
Delay (s)	24.1	9.6		32.7	7.3	18.8	16.7
Level of Service	C	A		C	A	B	B
Approach Delay (s)		11.7			14.2	18.2	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			14.6		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.41				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			42.2%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Existing Plus Project Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	420	42	109	458	0	78	0	69	0	0	0
Future Volume (veh/h)	0	420	42	109	458	0	78	0	69	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1881	1900	1900	1900	1881	1900	1900	1900
Adj Flow Rate, veh/h	0	462	46	120	503	0	86	0	76	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	1	1	0	0	1	0	0	0
Cap, veh/h	0	1957	194	137	2671	0	278	0	141	0	176	0
Arrive On Green	0.00	1.00	1.00	0.08	0.75	0.00	0.09	0.00	0.09	0.00	0.00	0.00
Sat Flow, veh/h	0	3403	328	1810	3668	0	1440	0	1522	0	1900	0
Grp Volume(v), veh/h	0	251	257	120	503	0	86	0	76	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1831	1810	1787	0	1440	0	1522	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.3	2.1	0.0	2.9	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	2.1	0.0	2.9	0.0	2.4	0.0	0.0	0.0
Prop In Lane	0.00		0.18	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1068	1083	137	2671	0	278	0	141	0	176	0
V/C Ratio(X)	0.00	0.24	0.24	0.87	0.19	0.00	0.31	0.00	0.54	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1068	1083	217	2671	0	605	0	487	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.9	1.9	0.0	21.9	0.0	21.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	13.2	0.2	0.0	0.2	0.0	1.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	2.1	1.0	0.0	1.2	0.0	1.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.5	0.5	36.0	2.0	0.0	22.1	0.0	22.8	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		508			623			162			0	
Approach Delay, s/veh		0.5			8.6			22.5			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.8	33.6		8.6		41.4		8.6				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.3	2.0		0.0		4.1		4.9				
Green Ext Time (p_c), s	0.0	1.8		0.0		6.2		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.1								
HCM 2010 LOS				A								

# Appendix E

Level of Service
























Calculations

Cumulative Without Project

Conditions

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd














Cumulative Without Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	293	26	103	278	170	38	294	66	273	469	67
Future Volume (veh/h)	200	293	26	103	278	170	38	294	66	273	469	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1866	1900	1792	1827	1863	1845	1881	1900	1863	1812	1900
Adj Flow Rate, veh/h	215	315	28	111	299	183	41	316	71	294	504	72
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	2	2	6	4	2	3	1	0	2	5	5
Cap, veh/h	253	941	83	187	451	387	108	654	293	509	815	116
Arrive On Green	0.15	0.29	0.28	0.11	0.25	0.25	0.06	0.18	0.18	0.15	0.27	0.25
Sat Flow, veh/h	1707	3294	291	1707	1827	1570	1757	3574	1604	3442	3025	430
Grp Volume(v), veh/h	215	169	174	111	299	183	41	316	71	294	286	290
Grp Sat Flow(s),veh/h/ln	1707	1772	1813	1707	1827	1570	1757	1787	1604	1721	1721	1734
Q Serve(g_s), s	7.2	4.4	4.4	3.6	8.6	5.8	1.3	4.6	2.2	4.6	8.5	8.6
Cycle Q Clear(g_c), s	7.2	4.4	4.4	3.6	8.6	5.8	1.3	4.6	2.2	4.6	8.5	8.6
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	253	506	518	187	451	387	108	654	293	509	464	467
V/C Ratio(X)	0.85	0.33	0.34	0.59	0.66	0.47	0.38	0.48	0.24	0.58	0.62	0.62
Avail Cap(c_a), veh/h	293	854	873	293	880	757	232	1649	740	531	832	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	16.4	16.5	24.7	19.8	18.7	26.3	21.4	20.4	23.2	18.7	18.8
Incr Delay (d2), s/veh	18.4	0.5	0.5	3.0	2.0	1.1	2.2	0.7	0.5	1.4	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.2	2.3	1.9	4.6	2.6	0.7	2.3	1.0	2.3	4.3	4.3
LnGrp Delay(d),s/veh	42.6	16.9	16.9	27.8	21.8	19.8	28.5	22.0	20.9	24.6	20.3	20.4
LnGrp LOS	D	B	B	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		558			593			428			870	
Approach Delay, s/veh		26.8			22.3			22.5			21.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	20.7	7.6	19.7	12.6	18.4	12.6	14.7				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	10.3	* 28	8.0	27.3	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+1), s	5.6	6.4	3.3	10.6	9.2	10.6	6.6	6.6				
Green Ext Time (p_c), s	0.1	2.4	0.0	3.5	0.1	2.8	0.3	2.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
<b>Notes</b>												

# HCM Signalized Intersection Capacity Analysis

Cumulative Without Project AM

## 2: Crossroads Blvd & Rio Rd

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	61	399	77	106	326	152	69
Future Volume (vph)	61	399	77	106	326	152	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3413		1687	3438	3367	1495
Flt Permitted	0.98	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1817	3413		1687	3438	3367	1495
Peak-hour factor, PHF	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	438	85	116	358	167	76
RTOR Reduction (vph)	0	22	0	0	0	0	67
Lane Group Flow (vph)	66	501	0	116	358	167	9
Confl. Bikes (#/hr)			1				
Heavy Vehicles (%)	2%	3%	3%	7%	5%	4%	8%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.6	26.4		6.2	28.0	5.9	5.9
Effective Green, g (s)	4.1	26.4		5.7	28.0	5.9	5.9
Actuated g/C Ratio	0.08	0.53		0.11	0.56	0.12	0.12
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	148	1802		192	1925	397	176
v/s Ratio Prot		c0.15		c0.07	0.10	c0.05	
v/s Ratio Perm	0.04						0.01
v/c Ratio	0.45	0.28		0.60	0.19	0.42	0.05
Uniform Delay, d1	21.9	6.5		21.1	5.4	20.5	19.6
Progression Factor	1.00	1.00		1.41	0.76	1.00	1.00
Incremental Delay, d2	0.8	0.4		3.6	0.2	0.3	0.0
Delay (s)	22.6	6.9		33.3	4.3	20.7	19.6
Level of Service	C	A		C	A	C	B
Approach Delay (s)		8.7			11.4	20.4	
Approach LOS		A			B	C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			11.9		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.35				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			33.7%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							


























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Without Project AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	381	87	53	405	0	27	0	29	0	0	0
Future Volume (veh/h)	0	381	87	53	405	0	27	0	29	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1848	1900	1900	1827	1900	1900	1652	1652	1900	1900	1900
Adj Flow Rate, veh/h	0	448	102	62	476	0	32	0	34	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	3	0	4	4	0	0	15	0	0	0
Cap, veh/h	0	1923	435	65	2749	0	203	0	66	0	91	0
Arrive On Green	0.00	0.90	0.90	0.04	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Sat Flow, veh/h	0	2938	643	1810	3563	0	1237	0	1383	0	1900	0
Grp Volume(v), veh/h	0	275	275	62	476	0	32	0	34	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1756	1733	1810	1736	0	1237	0	1383	0	1900	0
Q Serve(g_s), s	0.0	1.0	1.0	1.7	1.7	0.0	1.3	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	1.0	1.7	1.7	0.0	1.3	0.0	1.2	0.0	0.0	0.0
Prop In Lane	0.00		0.37	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1186	1171	65	2749	0	203	0	66	0	91	0
V/C Ratio(X)	0.00	0.23	0.23	0.95	0.17	0.00	0.16	0.00	0.51	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1186	1171	181	2749	0	540	0	443	0	608	0
HCM Platoon Ratio	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.97	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.9	0.9	24.0	1.3	0.0	23.3	0.0	23.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.5	20.9	0.1	0.0	0.1	0.0	2.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.6	1.2	0.8	0.0	0.4	0.0	0.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	1.3	1.3	45.0	1.4	0.0	23.4	0.0	25.5	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		550			538			66			0	
Approach Delay, s/veh		1.3			6.4			24.5			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.8	37.8		6.4		43.6		6.4				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.5	17.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	3.7	3.0		0.0		3.7		3.3				
Green Ext Time (p_c), s	0.0	2.1		0.0		5.9		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				5.0								
HCM 2010 LOS				A								














HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Cumulative Without Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	347	70	161	381	304	78	625	187	216	439	61
Future Volume (veh/h)	115	347	70	161	381	304	78	625	187	216	439	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1879	1900
Adj Flow Rate, veh/h	119	358	72	166	393	313	80	644	193	223	453	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	154	770	153	197	527	439	142	600	518	371	575	80
Arrive On Green	0.09	0.26	0.26	0.11	0.28	0.28	0.08	0.33	0.33	0.11	0.36	0.35
Sat Flow, veh/h	1757	2959	588	1792	1863	1554	1810	1827	1576	3510	1614	224
Grp Volume(v), veh/h	119	214	216	166	393	313	80	644	193	223	0	516
Grp Sat Flow(s),veh/h/ln	1757	1787	1760	1792	1863	1554	1810	1827	1576	1755	0	1838
Q Serve(g_s), s	5.4	8.3	8.5	7.4	15.7	14.8	3.5	26.9	7.7	5.0	0.0	20.6
Cycle Q Clear(g_c), s	5.4	8.3	8.5	7.4	15.7	14.8	3.5	26.9	7.7	5.0	0.0	20.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	154	465	458	197	527	439	142	600	518	371	0	654
V/C Ratio(X)	0.77	0.46	0.47	0.84	0.75	0.71	0.57	1.07	0.37	0.60	0.00	0.79
Avail Cap(c_a), veh/h	172	592	583	241	685	571	170	600	518	386	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	25.4	25.5	35.7	26.7	26.4	36.4	27.5	21.0	35.0	0.0	23.6
Incr Delay (d2), s/veh	17.7	0.9	0.9	19.7	3.6	3.3	3.5	57.7	0.5	2.4	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.2	4.2	4.8	8.6	6.7	1.9	23.0	3.4	2.5	0.0	11.7
LnGrp Delay(d),s/veh	54.2	26.3	26.5	55.4	30.3	29.7	39.9	85.2	21.6	37.4	0.0	30.2
LnGrp LOS	D	C	C	E	C	C	D	F	C	D		C
Approach Vol, veh/h		549			872			917			739	
Approach Delay, s/veh		32.4			34.8			67.8			32.4	
Approach LOS		C			C			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	25.3	10.4	33.1	11.2	27.1	12.6	30.9				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 27	8.0	27.3	8.3	* 30	9.3	26.0				
Max Q Clear Time (g_c+I1), s	9.4	10.5	5.5	22.6	7.4	17.7	7.0	28.9				
Green Ext Time (p_c), s	0.1	2.9	0.0	1.5	0.0	3.6	0.2	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			43.7									
HCM 2010 LOS			D									
<b>Notes</b>												



















HCM Signalized Intersection Capacity Analysis  
2: Crossroads Blvd & Rio Rd

Cumulative Without Project PM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	71	432	113	143	456	315	157
Future Volume (vph)	71	432	113	143	456	315	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3432		1770	3574	3467	1552
Flt Permitted	0.91	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1727	3432		1770	3574	3467	1552
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	76	465	122	154	490	339	169
RTOR Reduction (vph)	0	38	0	0	0	0	138
Lane Group Flow (vph)	76	549	0	154	490	339	31
Confl. Peds. (#/hr)			3	5		3	5
Heavy Vehicles (%)	0%	2%	0%	2%	1%	1%	2%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.9	22.2		7.1	24.4	9.2	9.2
Effective Green, g (s)	4.4	22.2		6.6	24.4	9.2	9.2
Actuated g/C Ratio	0.09	0.44		0.13	0.49	0.18	0.18
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	151	1523		233	1744	637	285
v/s Ratio Prot		c0.16		c0.09	0.14	c0.10	
v/s Ratio Perm	0.04						0.02
v/c Ratio	0.50	0.36		0.66	0.28	0.53	0.11
Uniform Delay, d1	21.8	9.2		20.6	7.6	18.5	17.0
Progression Factor	1.00	1.00		1.31	0.75	1.00	1.00
Incremental Delay, d2	1.0	0.7		5.3	0.4	0.4	0.1
Delay (s)	22.7	9.9		32.4	6.1	18.9	17.0
Level of Service	C	A		C	A	B	B
Approach Delay (s)		11.3			12.4	18.3	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			13.7		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.44				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			42.5%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Without Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	537	58	109	496	0	103	0	98	0	0	0
Future Volume (veh/h)	0	537	58	109	496	0	103	0	98	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1845	1881	1900	1900	1863	1863	1900	1900	1900
Adj Flow Rate, veh/h	0	603	65	122	557	0	116	0	110	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	3	1	1	0	0	2	0	0	0
Cap, veh/h	0	1801	194	139	2566	0	315	0	190	0	232	0
Arrive On Green	0.00	1.00	1.00	0.08	0.72	0.00	0.12	0.00	0.12	0.00	0.00	0.00
Sat Flow, veh/h	0	3315	347	1757	3668	0	1405	0	1560	0	1900	0
Grp Volume(v), veh/h	0	331	337	122	557	0	116	0	110	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1799	1757	1787	0	1405	0	1560	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.6	0.0	4.0	0.0	3.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.6	0.0	4.0	0.0	3.3	0.0	0.0	0.0
Prop In Lane	0.00		0.19	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	989	1006	139	2566	0	315	0	190	0	232	0
V/C Ratio(X)	0.00	0.33	0.34	0.88	0.22	0.00	0.37	0.00	0.58	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	989	1006	211	2566	0	594	0	499	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.94	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.8	2.4	0.0	21.0	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.8	16.5	0.2	0.0	0.3	0.0	1.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.3	1.3	0.0	1.5	0.0	1.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.9	0.8	39.3	2.6	0.0	21.3	0.0	21.8	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		668			679			226			0	
Approach Delay, s/veh		0.8			9.1			21.5			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.9	32.0		10.1		39.9		10.1				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.6		6.0				
Green Ext Time (p_c), s	0.0	2.5		0.0		6.8		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								














HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Cumulative Without Project Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	329	70	197	332	290	72	565	160	286	571	54
Future Volume (veh/h)	134	329	70	197	332	290	72	565	160	286	571	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1881	1900	1863	1900	1900	1876	1900
Adj Flow Rate, veh/h	135	332	71	199	335	293	73	571	162	289	577	55
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	0	1	1	0	2	0	0	1	1
Cap, veh/h	189	701	147	239	498	416	153	924	419	454	1007	96
Arrive On Green	0.11	0.24	0.24	0.13	0.26	0.26	0.08	0.26	0.26	0.13	0.31	0.29
Sat Flow, veh/h	1792	2943	620	1810	1881	1571	1810	3539	1606	3510	3288	313
Grp Volume(v), veh/h	135	202	201	199	335	293	73	571	162	289	312	320
Grp Sat Flow(s),veh/h/ln	1792	1805	1758	1810	1881	1571	1810	1770	1606	1755	1783	1818
Q Serve(g_s), s	4.9	6.4	6.6	7.2	10.7	11.3	2.6	9.5	5.5	5.2	9.9	9.9
Cycle Q Clear(g_c), s	4.9	6.4	6.6	7.2	10.7	11.3	2.6	9.5	5.5	5.2	9.9	9.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	189	430	419	239	498	416	153	924	419	454	546	557
V/C Ratio(X)	0.72	0.47	0.48	0.83	0.67	0.70	0.48	0.62	0.39	0.64	0.57	0.57
Avail Cap(c_a), veh/h	268	677	659	352	790	660	216	1423	645	472	743	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	21.9	22.0	28.3	22.0	22.2	29.2	21.8	20.3	27.6	19.5	19.6
Incr Delay (d2), s/veh	5.1	1.0	1.0	10.4	1.9	2.6	2.3	0.8	0.7	2.7	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.3	3.3	4.3	5.8	5.2	1.4	4.7	2.5	2.7	5.0	5.2
LnGrp Delay(d),s/veh	34.1	22.8	23.0	38.7	23.9	24.8	31.6	22.6	21.0	30.3	20.7	20.7
LnGrp LOS	C	C	C	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		538			827			806			921	
Approach Delay, s/veh		25.7			27.8			23.1			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	19.9	9.6	24.5	11.0	21.7	12.7	21.5				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	13.3	* 25	8.3	27.0	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+I1), s	9.2	8.6	4.6	11.9	6.9	13.3	7.2	11.5				
Green Ext Time (p_c), s	0.2	2.7	0.0	3.6	0.1	3.4	0.2	4.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									
<b>Notes</b>												



















HCM Signalized Intersection Capacity Analysis  
2: Crossroads Blvd & Rio Rd

Cumulative Without Project Saturday

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	84	362	160	163	430	298	164
Future Volume (vph)	84	362	160	163	430	298	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3421		1787	3610	3467	1535
Flt Permitted	0.67	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1267	3421		1787	3610	3467	1535
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	381	168	172	453	314	173
RTOR Reduction (vph)	0	86	0	0	0	0	142
Lane Group Flow (vph)	88	463	0	172	453	314	31
Confl. Peds. (#/hr)			5	9		5	9
Confl. Bikes (#/hr)			11				11
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	1%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	6.5	20.8		8.8	23.1	8.9	8.9
Effective Green, g (s)	6.0	20.8		8.3	23.1	8.9	8.9
Actuated g/C Ratio	0.12	0.42		0.17	0.46	0.18	0.18
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	152	1423		296	1667	617	273
v/s Ratio Prot		c0.14		c0.10	0.13	c0.09	
v/s Ratio Perm	0.07						0.02
v/c Ratio	0.58	0.33		0.58	0.27	0.51	0.11
Uniform Delay, d1	20.8	9.9		19.2	8.3	18.6	17.2
Progression Factor	1.00	1.00		1.43	0.78	1.00	1.00
Incremental Delay, d2	3.3	0.6		1.8	0.4	0.2	0.1
Delay (s)	24.1	10.5		29.4	6.9	18.8	17.3
Level of Service	C	B		C	A	B	B
Approach Delay (s)		12.4			13.1	18.3	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			14.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.41				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			42.8%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Without Project Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	484	42	112	515	0	78	0	75	0	0	0
Future Volume (veh/h)	0	484	42	112	515	0	78	0	75	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1881	1900	1900	1900	1881	1900	1900	1900
Adj Flow Rate, veh/h	0	532	46	123	566	0	86	0	82	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	1	1	0	0	1	0	0	0
Cap, veh/h	0	1974	170	141	2667	0	279	0	143	0	178	0
Arrive On Green	0.00	1.00	1.00	0.08	0.75	0.00	0.09	0.00	0.09	0.00	0.00	0.00
Sat Flow, veh/h	0	3450	289	1810	3668	0	1440	0	1523	0	1900	0
Grp Volume(v), veh/h	0	286	292	123	566	0	86	0	82	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1839	1810	1787	0	1440	0	1523	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.4	0.0	2.9	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.4	0.0	2.9	0.0	2.6	0.0	0.0	0.0
Prop In Lane	0.00		0.16	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1062	1082	141	2667	0	279	0	143	0	178	0
V/C Ratio(X)	0.00	0.27	0.27	0.87	0.21	0.00	0.31	0.00	0.57	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1062	1082	217	2667	0	605	0	487	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.93	0.93	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.8	1.9	0.0	21.8	0.0	21.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	14.2	0.2	0.0	0.2	0.0	1.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.2	1.2	0.0	1.2	0.0	1.1	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.6	0.6	37.0	2.1	0.0	22.1	0.0	23.1	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		578			689			168			0	
Approach Delay, s/veh		0.6			8.3			22.6			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.9	33.4		8.7		41.3		8.7				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.4		4.9				
Green Ext Time (p_c), s	0.0	2.1		0.0		7.0		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				6.9								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Cumulative Without Project PM  
With Improvement

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	347	70	161	381	304	78	625	187	216	439	61
Future Volume (veh/h)	115	347	70	161	381	304	78	625	187	216	439	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1879	1900
Adj Flow Rate, veh/h	119	358	72	166	393	313	80	644	193	223	453	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	150	740	147	196	511	599	138	638	551	359	605	84
Arrive On Green	0.09	0.25	0.25	0.11	0.27	0.27	0.08	0.35	0.35	0.10	0.38	0.36
Sat Flow, veh/h	1757	2958	588	1792	1863	1552	1810	1827	1577	3510	1614	224
Grp Volume(v), veh/h	119	215	215	166	393	313	80	644	193	223	0	516
Grp Sat Flow(s),veh/h/ln	1757	1787	1759	1792	1863	1552	1810	1827	1577	1755	0	1838
Q Serve(g_s), s	5.6	8.7	8.9	7.7	16.4	13.2	3.6	29.6	7.7	5.2	0.0	20.7
Cycle Q Clear(g_c), s	5.6	8.7	8.9	7.7	16.4	13.2	3.6	29.6	7.7	5.2	0.0	20.7
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	150	447	440	196	511	599	138	638	551	359	0	689
V/C Ratio(X)	0.80	0.48	0.49	0.85	0.77	0.52	0.58	1.01	0.35	0.62	0.00	0.75
Avail Cap(c_a), veh/h	166	515	507	233	602	675	167	638	551	373	0	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.1	27.2	37.0	28.3	20.2	37.8	27.6	20.4	36.5	0.0	23.1
Incr Delay (d2), s/veh	21.2	1.0	1.0	21.3	5.4	0.9	3.8	37.8	0.5	3.0	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	4.4	4.4	5.0	9.2	5.7	1.9	21.4	3.4	2.7	0.0	11.4
LnGrp Delay(d),s/veh	59.2	28.0	28.2	58.3	33.7	21.1	41.6	65.4	20.9	39.5	0.0	27.7
LnGrp LOS	E	C	C	E	C	C	D	F	C	D		C
Approach Vol, veh/h		549			872			917			739	
Approach Delay, s/veh		34.9			33.8			54.0			31.3	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	25.2	10.5	35.8	11.2	27.2	12.7	33.6				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 24	8.1	29.9	8.3	* 27	9.3	28.7				
Max Q Clear Time (g_c+I1), s	9.7	10.9	5.6	22.7	7.6	18.4	7.2	31.6				
Green Ext Time (p_c), s	0.1	2.6	0.0	2.0	0.0	3.0	0.1	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			39.4									
HCM 2010 LOS			D									
<b>Notes</b>												



# Appendix F

Level of Service
























Calculations

Cumulative Plus Project

Conditions














HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Cumulative Plus Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	295	24	106	278	172	38	292	69	287	455	67
Future Volume (veh/h)	200	295	24	106	278	172	38	292	69	287	455	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1866	1900	1792	1827	1863	1845	1881	1900	1863	1812	1900
Adj Flow Rate, veh/h	215	317	26	114	299	185	41	314	74	309	489	72
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	2	2	6	4	2	3	1	0	2	5	5
Cap, veh/h	253	944	77	188	451	388	108	652	293	510	810	119
Arrive On Green	0.15	0.28	0.28	0.11	0.25	0.25	0.06	0.18	0.18	0.15	0.27	0.25
Sat Flow, veh/h	1707	3318	271	1707	1827	1571	1757	3574	1604	3442	3012	441
Grp Volume(v), veh/h	215	168	175	114	299	185	41	314	74	309	279	282
Grp Sat Flow(s),veh/h/ln	1707	1772	1816	1707	1827	1571	1757	1787	1604	1721	1721	1732
Q Serve(g_s), s	7.2	4.4	4.4	3.7	8.6	5.9	1.3	4.6	2.3	4.9	8.2	8.3
Cycle Q Clear(g_c), s	7.2	4.4	4.4	3.7	8.6	5.9	1.3	4.6	2.3	4.9	8.2	8.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	253	504	517	188	451	388	108	652	293	510	463	466
V/C Ratio(X)	0.85	0.33	0.34	0.60	0.66	0.48	0.38	0.48	0.25	0.61	0.60	0.61
Avail Cap(c_a), veh/h	293	854	875	293	880	757	232	1649	740	531	832	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	16.5	16.5	24.7	19.8	18.8	26.3	21.4	20.4	23.2	18.6	18.7
Incr Delay (d2), s/veh	18.4	0.5	0.5	3.1	2.0	1.1	2.2	0.7	0.5	1.8	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.2	2.3	1.9	4.6	2.6	0.7	2.3	1.1	2.4	4.1	4.1
LnGrp Delay(d),s/veh	42.6	17.0	17.0	27.8	21.8	19.9	28.5	22.0	21.0	25.1	20.1	20.3
LnGrp LOS	D	B	B	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		558			598			429			870	
Approach Delay, s/veh		26.8			22.3			22.5			21.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	20.6	7.6	19.7	12.6	18.4	12.6	14.6				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	10.3	* 28	8.0	27.3	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+I1), s	5.7	6.4	3.3	10.3	9.2	10.6	6.9	6.6				
Green Ext Time (p_c), s	0.1	2.4	0.0	3.4	0.1	2.8	0.3	2.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
<b>Notes</b>												



















HCM Signalized Intersection Capacity Analysis  
 2: Crossroads Blvd & Rio Rd

Cumulative Plus Project AM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	61	399	80	109	326	157	72
Future Volume (vph)	61	399	80	109	326	157	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3410		1687	3438	3367	1495
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1774	3410		1687	3438	3367	1495
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	438	88	120	358	173	79
RTOR Reduction (vph)	0	23	0	0	0	0	70
Lane Group Flow (vph)	67	503	0	120	358	173	9
Confl. Bikes (#/hr)			1				
Heavy Vehicles (%)	2%	3%	3%	7%	5%	4%	8%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.7	26.1		6.4	27.8	6.0	6.0
Effective Green, g (s)	4.2	26.1		5.9	27.8	6.0	6.0
Actuated g/C Ratio	0.08	0.52		0.12	0.56	0.12	0.12
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	149	1780		199	1911	404	179
v/s Ratio Prot		c0.15		c0.07	0.10	c0.05	
v/s Ratio Perm	0.04						0.01
v/c Ratio	0.45	0.28		0.60	0.19	0.43	0.05
Uniform Delay, d1	21.8	6.7		20.9	5.5	20.4	19.5
Progression Factor	1.00	1.00		1.39	0.77	1.00	1.00
Incremental Delay, d2	0.8	0.4		3.5	0.2	0.3	0.0
Delay (s)	22.6	7.1		32.7	4.4	20.7	19.5
Level of Service	C	A		C	A	C	B
Approach Delay (s)		8.8			11.5	20.3	
Approach LOS		A			B	C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			12.0		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.35				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			34.1%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Plus Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	384	87	53	408	0	27	0	29	0	0	0
Future Volume (veh/h)	0	384	87	53	408	0	27	0	29	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1848	1900	1900	1827	1900	1900	1652	1652	1900	1900	1900
Adj Flow Rate, veh/h	0	452	102	62	480	0	32	0	34	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	3	0	4	4	0	0	15	0	0	0
Cap, veh/h	0	1926	432	65	2749	0	203	0	66	0	91	0
Arrive On Green	0.00	0.90	0.90	0.04	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Sat Flow, veh/h	0	2943	639	1810	3563	0	1237	0	1383	0	1900	0
Grp Volume(v), veh/h	0	277	277	62	480	0	32	0	34	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1756	1734	1810	1736	0	1237	0	1383	0	1900	0
Q Serve(g_s), s	0.0	1.0	1.0	1.7	1.7	0.0	1.3	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	1.0	1.7	1.7	0.0	1.3	0.0	1.2	0.0	0.0	0.0
Prop In Lane	0.00		0.37	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1186	1172	65	2749	0	203	0	66	0	91	0
V/C Ratio(X)	0.00	0.23	0.24	0.95	0.17	0.00	0.16	0.00	0.51	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1186	1172	181	2749	0	540	0	443	0	608	0
HCM Platoon Ratio	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.97	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.9	0.9	24.0	1.3	0.0	23.3	0.0	23.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.5	20.9	0.1	0.0	0.1	0.0	2.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.6	1.2	0.9	0.0	0.4	0.0	0.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	1.3	1.3	45.0	1.4	0.0	23.4	0.0	25.5	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		554			542			66				0
Approach Delay, s/veh		1.3			6.4			24.5				0.0
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.8	37.8		6.4		43.6		6.4				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.5	17.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	3.7	3.0		0.0		3.7		3.3				
Green Ext Time (p_c), s	0.0	2.1		0.0		5.9		0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				5.0								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd














Cumulative Plus Project PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	350	67	163	386	337	73	592	189	236	419	61
Future Volume (veh/h)	115	350	67	163	386	337	73	592	189	236	419	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1879	1900
Adj Flow Rate, veh/h	119	361	69	168	398	347	75	610	195	243	432	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	153	794	150	199	540	451	137	594	512	368	568	83
Arrive On Green	0.09	0.27	0.26	0.11	0.29	0.29	0.08	0.33	0.33	0.10	0.35	0.34
Sat Flow, veh/h	1757	2987	564	1792	1863	1555	1810	1827	1575	3510	1603	234
Grp Volume(v), veh/h	119	214	216	168	398	347	75	610	195	243	0	495
Grp Sat Flow(s),veh/h/ln	1757	1787	1765	1792	1863	1555	1810	1827	1575	1755	0	1836
Q Serve(g_s), s	5.5	8.3	8.5	7.6	16.0	16.9	3.3	26.9	7.9	5.5	0.0	19.7
Cycle Q Clear(g_c), s	5.5	8.3	8.5	7.6	16.0	16.9	3.3	26.9	7.9	5.5	0.0	19.7
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	153	475	469	199	540	451	137	594	512	368	0	650
V/C Ratio(X)	0.78	0.45	0.46	0.85	0.74	0.77	0.55	1.03	0.38	0.66	0.00	0.76
Avail Cap(c_a), veh/h	170	585	578	238	678	566	168	594	512	382	0	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	25.3	25.4	36.1	26.5	26.9	36.9	27.9	21.5	35.6	0.0	23.7
Incr Delay (d2), s/veh	18.7	0.8	0.9	20.5	3.5	5.4	3.4	43.9	0.6	4.0	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	4.2	4.2	4.9	8.7	7.9	1.8	20.6	3.5	2.9	0.0	10.9
LnGrp Delay(d),s/veh	55.7	26.2	26.3	56.6	30.1	32.3	40.2	71.8	22.1	39.6	0.0	29.1
LnGrp LOS	E	C	C	E	C	C	D	F	C	D		C
Approach Vol, veh/h		549			913			880			738	
Approach Delay, s/veh		32.6			35.8			58.1			32.6	
Approach LOS		C			D			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	26.0	10.3	33.3	11.2	28.0	12.7	30.9				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 27	8.0	27.3	8.3	* 30	9.3	26.0				
Max Q Clear Time (g_c+11), s	9.6	10.5	5.3	21.7	7.5	18.9	7.5	28.9				
Green Ext Time (p_c), s	0.1	2.9	0.0	1.6	0.0	3.6	0.1	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									
<b>Notes</b>												

# HCM Signalized Intersection Capacity Analysis

## 2: Crossroads Blvd & Rio Rd

Cumulative Plus Project PM

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	71	431	116	147	455	356	161
Future Volume (vph)	71	431	116	147	455	356	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3430		1770	3574	3467	1553
Flt Permitted	0.91	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1727	3430		1770	3574	3467	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	76	463	125	158	489	383	173
RTOR Reduction (vph)	0	41	0	0	0	0	139
Lane Group Flow (vph)	76	547	0	158	489	383	34
Confl. Peds. (#/hr)			3	5		3	5
Heavy Vehicles (%)	0%	2%	0%	2%	1%	1%	2%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	4.9	21.6		7.0	23.7	9.9	9.9
Effective Green, g (s)	4.4	21.6		6.5	23.7	9.9	9.9
Actuated g/C Ratio	0.09	0.43		0.13	0.47	0.20	0.20
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	151	1481		230	1694	686	307
v/s Ratio Prot		c0.16		c0.09	0.14	c0.11	
v/s Ratio Perm	0.04						0.02
v/c Ratio	0.50	0.37		0.69	0.29	0.56	0.11
Uniform Delay, d1	21.8	9.6		20.8	8.0	18.1	16.4
Progression Factor	1.00	1.00		1.34	0.76	1.00	1.00
Incremental Delay, d2	1.0	0.7		6.5	0.4	0.6	0.1
Delay (s)	22.7	10.3		34.3	6.5	18.6	16.5
Level of Service	C	B		C	A	B	B
Approach Delay (s)		11.7			13.3	18.0	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			14.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.46				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			44.0%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Plus Project PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	540	58	109	499	0	103	0	98	0	0	0
Future Volume (veh/h)	0	540	58	109	499	0	103	0	98	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1845	1881	1900	1900	1863	1863	1900	1900	1900
Adj Flow Rate, veh/h	0	607	65	122	561	0	116	0	110	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	3	1	1	0	0	2	0	0	0
Cap, veh/h	0	1803	193	139	2566	0	315	0	190	0	232	0
Arrive On Green	0.00	1.00	1.00	0.08	0.72	0.00	0.12	0.00	0.12	0.00	0.00	0.00
Sat Flow, veh/h	0	3318	345	1757	3668	0	1405	0	1560	0	1900	0
Grp Volume(v), veh/h	0	333	339	122	561	0	116	0	110	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1800	1757	1787	0	1405	0	1560	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.6	0.0	4.0	0.0	3.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.6	0.0	4.0	0.0	3.3	0.0	0.0	0.0
Prop In Lane	0.00		0.19	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	989	1006	139	2566	0	315	0	190	0	232	0
V/C Ratio(X)	0.00	0.34	0.34	0.88	0.22	0.00	0.37	0.00	0.58	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	989	1006	211	2566	0	594	0	499	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.93	0.93	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.8	2.4	0.0	21.0	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.8	16.5	0.2	0.0	0.3	0.0	1.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.3	1.3	0.0	1.5	0.0	1.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.9	0.8	39.3	2.6	0.0	21.3	0.0	21.8	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		672			683			226				0
Approach Delay, s/veh		0.9			9.1			21.5				0.0
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.9	32.0		10.1		39.9		10.1				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.6		6.0				
Green Ext Time (p_c), s	0.0	2.6		0.0		6.9		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd














Cumulative Plus Project Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	334	65	199	338	332	66	523	162	323	534	54
Future Volume (veh/h)	134	334	65	199	338	332	66	523	162	323	534	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1881	1900	1863	1900	1900	1876	1900
Adj Flow Rate, veh/h	135	337	66	201	341	335	67	528	164	326	539	55
Adj No. of Lanes	1	2	0	1	1	1	1	2	1	2	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	0	1	1	0	2	0	0	1	1
Cap, veh/h	186	770	149	241	538	450	145	875	397	448	962	98
Arrive On Green	0.10	0.26	0.25	0.13	0.29	0.29	0.08	0.25	0.25	0.13	0.29	0.28
Sat Flow, veh/h	1792	2995	578	1810	1881	1572	1810	3539	1605	3510	3264	332
Grp Volume(v), veh/h	135	201	202	201	341	335	67	528	164	326	294	300
Grp Sat Flow(s),veh/h/ln	1792	1805	1769	1810	1881	1572	1810	1770	1605	1755	1782	1814
Q Serve(g_s), s	5.0	6.3	6.5	7.4	10.8	13.2	2.4	9.0	5.8	6.1	9.5	9.5
Cycle Q Clear(g_c), s	5.0	6.3	6.5	7.4	10.8	13.2	2.4	9.0	5.8	6.1	9.5	9.5
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	186	464	455	241	538	450	145	875	397	448	525	535
V/C Ratio(X)	0.72	0.43	0.44	0.83	0.63	0.74	0.46	0.60	0.41	0.73	0.56	0.56
Avail Cap(c_a), veh/h	263	666	652	346	777	649	213	1399	634	464	731	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	21.1	21.2	28.8	21.2	22.0	29.9	22.7	21.5	28.6	20.3	20.4
Incr Delay (d2), s/veh	5.7	0.8	0.8	11.3	1.5	3.2	2.3	0.8	0.8	5.5	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.2	3.2	4.4	5.8	6.0	1.3	4.5	2.7	3.3	4.8	4.9
LnGrp Delay(d),s/veh	35.3	21.9	22.1	40.0	22.7	25.3	32.2	23.5	22.3	34.0	21.4	21.5
LnGrp LOS	D	C	C	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		538			877			759			920	
Approach Delay, s/veh		25.3			27.6			24.0			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	21.5	9.4	24.1	11.1	23.5	12.7	20.8				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	13.3	* 25	8.3	27.0	10.3	* 28	9.3	26.0				
Max Q Clear Time (g_c+I1), s	9.4	8.5	4.4	11.5	7.0	15.2	8.1	11.0				
Green Ext Time (p_c), s	0.2	2.7	0.0	3.4	0.1	3.4	0.2	3.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			25.8									
HCM 2010 LOS			C									
<b>Notes</b>												



HCM Signalized Intersection Capacity Analysis  
 2: Crossroads Blvd & Rio Rd

Cumulative Plus Project Saturday

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	84	361	163	167	429	349	168
Future Volume (vph)	84	361	163	167	429	349	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3417		1787	3610	3467	1538
Flt Permitted	0.68	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1288	3417		1787	3610	3467	1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	380	172	176	452	367	177
RTOR Reduction (vph)	0	91	0	0	0	0	143
Lane Group Flow (vph)	88	461	0	176	452	367	34
Confl. Peds. (#/hr)			5	9		5	9
Confl. Bikes (#/hr)			11				11
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	1%
Turn Type	custom	NA		Prot	NA	Prot	Perm
Protected Phases		2		1	6	3	
Permitted Phases	5						3
Actuated Green, G (s)	6.4	20.2		8.7	22.5	9.6	9.6
Effective Green, g (s)	5.9	20.2		8.2	22.5	9.6	9.6
Actuated g/C Ratio	0.12	0.40		0.16	0.45	0.19	0.19
Clearance Time (s)	3.5	4.0		3.5	4.0	4.0	4.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	2.0
Lane Grp Cap (vph)	151	1380		293	1624	665	295
v/s Ratio Prot		c0.13		c0.10	0.13	c0.11	
v/s Ratio Perm	0.07						0.02
v/c Ratio	0.58	0.33		0.60	0.28	0.55	0.12
Uniform Delay, d1	20.9	10.3		19.4	8.6	18.3	16.7
Progression Factor	1.00	1.00		1.44	0.79	1.00	1.00
Incremental Delay, d2	3.7	0.7		2.3	0.4	0.6	0.1
Delay (s)	24.5	10.9		30.2	7.3	18.8	16.8
Level of Service	C	B		C	A	B	B
Approach Delay (s)		12.8			13.7	18.1	
Approach LOS		B			B	B	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			14.7		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.43				
Actuated Cycle Length (s)			50.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			44.6%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							
























HCM 2010 Signalized Intersection Summary  
 3: Carmel Center Place/Carmel Center PI & Rio Rd

Cumulative Plus Project Saturday

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	487	42	112	518	0	78	0	75	0	0	0
Future Volume (veh/h)	0	487	42	112	518	0	78	0	75	0	0	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1881	1900	1900	1900	1881	1900	1900	1900
Adj Flow Rate, veh/h	0	535	46	123	569	0	86	0	82	0	0	0
Adj No. of Lanes	0	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	1	1	0	0	1	0	0	0
Cap, veh/h	0	1975	169	141	2667	0	279	0	143	0	178	0
Arrive On Green	0.00	1.00	1.00	0.08	0.75	0.00	0.09	0.00	0.09	0.00	0.00	0.00
Sat Flow, veh/h	0	3452	288	1810	3668	0	1440	0	1523	0	1900	0
Grp Volume(v), veh/h	0	287	294	123	569	0	86	0	82	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1839	1810	1787	0	1440	0	1523	0	1900	0
Q Serve(g_s), s	0.0	0.0	0.0	3.4	2.4	0.0	2.9	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	2.4	0.0	2.9	0.0	2.6	0.0	0.0	0.0
Prop In Lane	0.00		0.16	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	1062	1082	141	2667	0	279	0	143	0	178	0
V/C Ratio(X)	0.00	0.27	0.27	0.87	0.21	0.00	0.31	0.00	0.57	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1062	1082	217	2667	0	605	0	487	0	608	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.93	0.93	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.8	1.9	0.0	21.8	0.0	21.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	14.2	0.2	0.0	0.2	0.0	1.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	2.2	1.2	0.0	1.2	0.0	1.1	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.6	0.6	37.0	2.1	0.0	22.1	0.0	23.1	0.0	0.0	0.0
LnGrp LOS		A	A	D	A		C		C			
Approach Vol, veh/h		581			692			168			0	
Approach Delay, s/veh		0.6			8.3			22.6			0.0	
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.9	33.4		8.7		41.3		8.7				
Change Period (Y+Rc), s	3.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.5	16.0		16.0		26.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	2.0		0.0		4.4		4.9				
Green Ext Time (p_c), s	0.0	2.1		0.0		7.0		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				6.8								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
1: SR 1 & Rio Rd

Cumulative Plus Project PM  
With Improvement

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	350	67	163	386	337	73	592	189	236	419	61
Future Volume (veh/h)	115	350	67	163	386	337	73	592	189	236	419	61
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1881	1900	1881	1863	1881	1900	1827	1881	1900	1879	1900
Adj Flow Rate, veh/h	119	361	69	168	398	347	75	610	195	243	432	63
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	2	1	0	4	1	0	1	1
Cap, veh/h	149	750	142	198	516	603	135	635	548	359	601	88
Arrive On Green	0.09	0.25	0.25	0.11	0.28	0.28	0.07	0.35	0.35	0.10	0.38	0.36
Sat Flow, veh/h	1757	2987	564	1792	1863	1553	1810	1827	1577	3510	1603	234
Grp Volume(v), veh/h	119	214	216	168	398	347	75	610	195	243	0	495
Grp Sat Flow(s),veh/h/ln	1757	1787	1764	1792	1863	1553	1810	1827	1577	1755	0	1836
Q Serve(g_s), s	5.6	8.7	8.9	7.8	16.7	15.0	3.4	27.8	7.8	5.7	0.0	19.6
Cycle Q Clear(g_c), s	5.6	8.7	8.9	7.8	16.7	15.0	3.4	27.8	7.8	5.7	0.0	19.6
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	149	449	443	198	516	603	135	635	548	359	0	689
V/C Ratio(X)	0.80	0.48	0.49	0.85	0.77	0.58	0.56	0.96	0.36	0.68	0.00	0.72
Avail Cap(c_a), veh/h	166	516	509	232	603	676	166	635	548	372	0	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.1	27.0	27.1	37.0	28.2	20.7	37.9	27.1	20.6	36.8	0.0	22.8
Incr Delay (d2), s/veh	21.4	1.0	1.0	21.8	5.6	1.1	3.5	26.3	0.5	4.7	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	4.4	4.4	5.1	9.3	6.6	1.8	18.5	3.5	3.0	0.0	10.6
LnGrp Delay(d),s/veh	59.5	28.0	28.1	58.8	33.8	21.8	41.5	53.4	21.1	41.4	0.0	26.5
LnGrp LOS	E	C	C	E	C	C	D	D	C	D		C
Approach Vol, veh/h		549			913			880			738	
Approach Delay, s/veh		34.9			33.8			45.2			31.4	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	25.3	10.3	35.8	11.2	27.5	12.7	33.5				
Change Period (Y+Rc), s	3.7	* 4.2	3.7	4.9	3.7	* 4.2	3.7	4.9				
Max Green Setting (Gmax), s	11.3	* 24	8.1	29.8	8.3	* 27	9.3	28.6				
Max Q Clear Time (g_c+11), s	9.8	10.9	5.4	21.6	7.6	18.7	7.7	29.8				
Green Ext Time (p_c), s	0.1	2.6	0.0	2.1	0.0	3.1	0.1	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			36.7									
HCM 2010 LOS			D									
<b>Notes</b>												

*This Page Intentionally Left Blank*