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# Chapter 1 Proposed Project

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The City of Chino Hills, in cooperation with the FHWA and Caltrans, propose to improve circulation and pedestrian access along Peyton Drive between Grand Avenue and Chino Hills Parkway/SR-142 (State Route 142 [SR-142]) (Figure 1-1). The proposal also includes a 160-meter (m) (530-foot [ft]) extension of Eucalyptus Avenue from Peyton Drive west to the existing terminus.

This project is included in the 2001 Regional Transportation Plan (RTP) of the Southern California Association of Governments (SCAG) and the amended 2004 cost-constrained Regional Transportation Improvement Program (RTIP). Total project cost is estimated at \$13,000,000.

## 1.1 Purpose and Need

### 1.1.1 Purpose

The purpose of the Peyton Drive widening construction is as follows:

- Provide congestion relief in order to improve traffic flow and enhance circulation on the regional transportation system
- Alleviate storm water conveyance deficiencies at the Peyton Drive/English Canyon Channel intersection.
- To improve pedestrian and student access and safety along Peyton Drive from Grand Avenue to SR-142.

### 1.1.2 Need

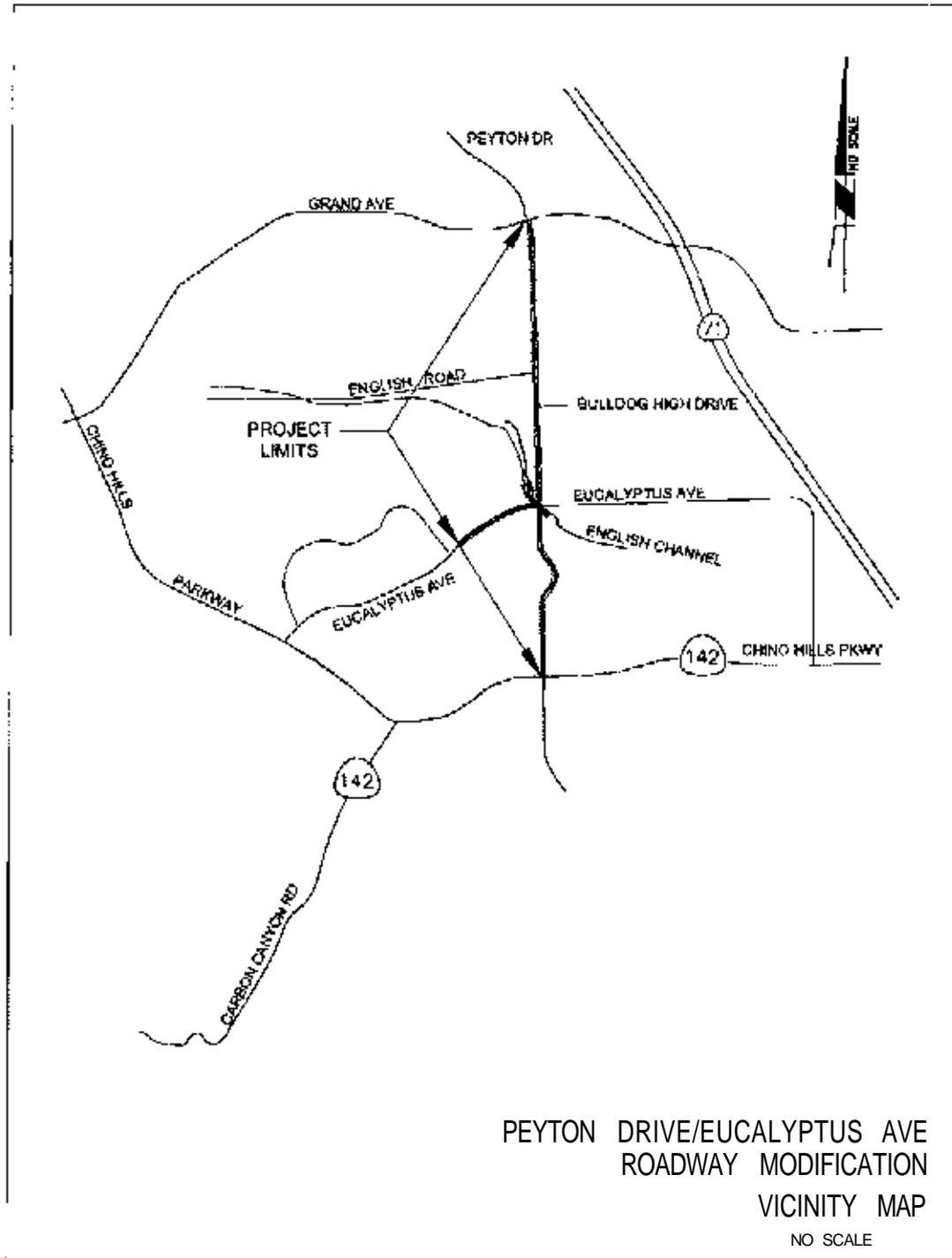
The need for the project is warranted, based on three critical elements: traffic circulation, flood hazards, and pedestrian access and safety.

#### 1.1.2.1 Traffic Demand

The primary need for the project is based on the projected traffic volumes along Peyton Drive that are expected to increase by the year 2030. The increased traffic volumes, in conjunction with the limited capacity of the existing roadways, are expected to result in the deterioration of operating conditions along Peyton Drive. Table 1-1 provides an explanation of the various level of service (LOS) and corresponding traffic delays for signalized intersections.

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**FIGURE 1-1**  
**Project Location Map**



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TABLE 1-1. LOS Definitions for Signalized Intersections

| LEVELS OF SERVICE<br>for Intersections with Traffic Signals |                             |  |
|---|-----------------------------|--|
| Level of Service  | Delay per Vehicle (seconds) |  |
| A   | ≤10                         | <b>Factors Affecting LOS of Signalized Intersections</b><br><b>Traffic Signal Conditions:</b> <ul style="list-style-type: none"> <li>◀ Signal Coordination</li> <li>▶ Cycle Length</li> <li>• Protected left turn timing</li> <li>• Pre-timed or traffic activated signal</li> <li>• Etc.</li> </ul> <b>Geometric Conditions:</b> <ul style="list-style-type: none"> <li>• Left- and right-turn lanes</li> <li>• Number of lanes</li> <li>• Etc.</li> </ul> <b>Traffic Conditions:</b> <ul style="list-style-type: none"> <li>• Percent of truck traffic</li> <li>• Number of pedestrians</li> <li>• Etc.</li> </ul> |
| B   | 11-20                       |  |
| C   | 21-35                       |  |
| D   | 36-55                       |  |
| E   | 56-80                       |  |
| F   | >80                         |  |

Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Table 1-2, below, summarizes the existing a.m. and p.m. peak-hour average stopped delay per vehicle and corresponding LOS of the study intersections based on existing peak hour intersection volumes. The acceptable performance criteria for the City of Chino Hills is LOS D or better. As seen in Table 1-2, *Existing Peak-Hour Level of Service*, the six study intersections are currently operating at an acceptable LOS (LOS D or better) during the a.m. and p.m. peak hour, consistent with the City of Chino Hills performance criteria.

**TABLE 1-2. Existing Peak-Hour Level of Service**

| Study Intersection                               | AM Peak Hour Delay - LOS | PM Peak Hour Delay - LOS |
|--|--------------------------|--------------------------|
| Peyton Drive at Grand Avenue                     | 29.1 - C                 | 32.8 - C                 |
| Peyton Drive at Bulldog Drive                    | 14.0 - B                 | 8.8 - A                  |
| Peyton Drive at Eucalyptus Avenue                | 19.3 - B                 | 18.3 - B                 |
| Peyton Drive at Chino Hills Parkway/SR-142       | 32.6 - C                 | 33.4 - C                 |
| Carbon Canyon Road at Chino Hills Parkway/SR-142 | 48.5 - D                 | 44.6 - D                 |
| Eucalyptus Avenue at Chino Hills Parkway/SR-142  | 28.5 - C                 | 18.5 - B                 |

Source: *Traffic Impact Analysis*, January 2006.

Table 1-3, below, summarizes forecast year 2030 a.m. and p.m. peak-hour intersection volumes and corresponding LOS for with and without project conditions. As shown, assuming implementation of the proposed project, the majority of the study intersections are forecast to operate at an acceptable LOS during the a.m. peak hour, while two study area intersections are forecast to continue operating at a deficient LOS (LOS E or F) during the p.m. peak hour, according to City of Chino Hills intersection performance criteria (LOS D or better).

**TABLE 1-3. Forecast Year 2030 Peak-Hour Level of Service**

| Study Intersection                            | Forecast Year 2030 Without Project |           | Forecast Year 2030 With Project |          | Change in Delay (Seconds) |       |
|---|------------------------------------|-----------|---------------------------------|----------|---------------------------|-------|
|   | Delay - LOS                        |           | Delay - LOS                     |          | AM                        | PM    |
|   | AM                                 | PM        | AM                              | PM       |                           |       |
| Peyton Drive/Grand Avenue                     | 66.3 - E                           | 56.4 - E  | 40.1 - D                        | 40.5 - D | -26.2                     | -15.9 |
| Peyton Drive/Bulldog Drive                    | 11.8 - B                           | 8.6 - A   | 10.7 - B                        | 6.9 - A  | -1.1                      | -1.7  |
| Peyton Drive/Eucalyptus Avenue                | 20.7 - C                           | 42.2 - D  | 24.7 - C                        | 27.9 - C | 4.0                       | -14.3 |
| Peyton Drive/Chino Hills Parkway/SR-142       | 37.3 - D                           | 82.8 - F  | 22.9 - C                        | 68.4 - E | -14.4                     | -14.4 |
| Carbon Canyon Road/Chino Hills Parkway/SR-142 | 46.6 - D                           | 110.1 - F | 39.4 - D                        | 93.4 - F | -7.2                      | -16.7 |
| Eucalyptus Avenue/Chino Hills Parkway/SR-142  | 39.6 - D                           | 55.2 - E  | 29.3 - C                        | 43.1 - D | -10.3                     | -12.1 |

Source: *Traffic Impact Analysis*, January 2006.

As shown, assuming implementation of the proposed project, the majority of the study intersections are forecast to operate at an acceptable LOS during the a.m. peak hour, while two study area intersections are forecast to continue operating at a

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deficient LOS (LOS E or F) during the p.m. peak hour, according to City of Chino Hills intersection performance criteria (LOS D or better). The deficient intersections are:

- Peyton Drive/Chino Hills Parkway/SR-142, LOS E during P.M.
- Carbon Canyon Road/Chino Hills Parkway/SR-142, LOS F during P.M.

Additionally, the proposed project would modify northbound Peyton Drive approach from two left-turn lanes, one through lane, and one right-turn lane to include two left-turn lanes, one through lane, and one shared through/right-turn lane. The project would modify the Peyton Drive/Chino Hills Parkway intersection to include a southbound Peyton Drive right-turn overlap, which will preclude u-turn movement from eastbound to westbound Chino Hills Parkway. The southbound Peyton Drive approach would be widened from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane. The project would also re-stripe the eastbound Chino Hills Parkway approach from one left-turn lane, two through lanes, and one de-facto (non-dedicated) right-turn lane to consist of one left-turn lane, two through lanes, and one dedicated right-turn lane. The Peyton Drive/Chino Hills Parkway intersection would be modified to include an eastbound right-turn overlap, which will preclude u-turn movement from northbound to southbound Peyton Drive. These improvements will be implemented as part of the proposed project and are forecast to improve the AM and PM peak hour delays to LOS C (AM) and D (PM) as noted in Table 1-4.

**TABLE 1-4. Forecast Improved Year 2030 (With Project Conditions)  
Peak-Hour LOS**

| Study Intersection                                     | AM Peak Hour Delay - LOS | PM Peak Hour Delay - LOS |
|--|--------------------------|--------------------------|
| Peyton Drive/Chino Hills Parkway/SR-142                | 20.1 - C                 | 38.0 - D                 |
| Source: <i>Traffic Impact Analysis</i> , January 2006. |                          |                          |

Although not a part of this project, the Carbon Canyon Road/Chino Hills Parkway intersection will experience improvements after implementation of the proposed project. The LOS would remain at a deficient LOS F during the PM peak hour at this intersection, however, with implementation of the proposed project, delay times would be reduced by 16.7 seconds. This reduction in delay times at the Carbon Canyon Road/Chino Hills Parkway is seen as a beneficial impact of the proposed project upon surrounding traffic flows.

### 1.1.2.2 Flood Hazard Elimination

Portions of Peyton Drive south of Grand Avenue are subject to periodic flooding during periods of severe rains. Peyton Drive floods an average of three times per year. During these times, the westerly lane along Peyton Drive is closed and the traffic is detoured to the remaining lanes. Although the remaining lanes are also flooded with water, it is not at a depth requiring the entire road to be shut down. Furthermore, the culvert crossing at the intersection of Eucalyptus Avenue and Peyton Drive is currently undersized and results in flooding during the 100-year storm event. In addition, there is flooding associated with the undersized channel, upstream of Eucalyptus Avenue. The flooding at this location inundates Peyton Drive and downstream along Eucalyptus Avenue to the east.

### 1.1.2.3 Pedestrian Safety

A wooden pedestrian bridge is located immediately adjacent to the southbound travel lanes at the Peyton Drive/English Canyon Channel intersection and provides for the only crossing of the channel for students attending Ayala High School to the north. During periods when the stormwater flows exceed the capacity of English Canyon Channel, the bridge becomes inundated and impassible. For safety concerns, removal of Peyton Drive from the floodplain is considered a high priority.

There is also a need for increased pedestrian safety due to the lack of adequate sidewalk area along portions of Peyton Drive, particularly adjacent to Ayala High School. The addition of a new sidewalk along Peyton Drive will increase safety of pedestrians (including school children) because pedestrians will not have to walk in the street or within the unimproved shoulder of the road. The improved sidewalks will facilitate safe pedestrian movement within the area, specifically for students walking to Ayala High School.

## 1.2 Project Description

### 1.2.1 Project Background

The *City of Chino Hills General Plan Circulation Element* designates Peyton Drive as a six-lane Major Arterial between Grand Avenue and Eucalyptus Avenue and a four lane major highway between Eucalyptus Avenue and Chino Hills Parkway/SR-142. Eucalyptus Avenue west of Peyton Drive is designated as a two-lane collector. The goals of the *City of Chino Hills General Plan Circulation Element* are to provide an effective circulation system that reflects and complements the character of Chino Hills and to maintain consistency with current and future transportation planning efforts at the State, regional, and local levels.

Ruben S. Ayala High School is located on the east side of Peyton Drive, approximately halfway between Grand Avenue and SR-142. Segments of the sidewalk along the west side of Peyton Drive are currently missing. Pedestrian safety will significantly increase on the west side of Peyton Drive with the construction of the missing gaps in the sidewalk.

### **1.2.2 Existing Facility**

In the southbound direction from Grand Avenue, Peyton Drive consists of three through lanes prior to Payne Ranch Road, where it merges to two lanes, then immediately merges to one southbound lane past Payne Ranch Road. Peyton Drive continues as one southbound travel lane with partial curb, gutter, and sidewalk improvements and roadside drainage until north of SR-142, where Peyton Drive widens to two lanes. In the northbound direction from SR-142, Peyton Drive consists of one travel lane until Eucalyptus Avenue, where the roadway widens to two lanes north of Eucalyptus Avenue, and eventually widens to three lanes between Eucalyptus Avenue and Payne Ranch Road, where three northbound lanes are carried to Grand Avenue. Existing northbound improvements include partial curb, gutter, and sidewalk improvements, with some segments consisting of unimproved dirt shoulders.

The downstream configuration of the English Canyon Channel has been established by a previous San Bernardino County Flood Control District (SBCFCD) project along the channel and downstream to the confluence with the Carbon Creek Channel. This project essentially provided slope protection along the northern bank of the channel protecting the proposed and existing residences. The southern bank and the channel bottom were left earthen and also planted with riparian foliage and other trees.

### **1.2.3 Proposed Improvements**

The project components described herein reflect the overall work to be accomplished in providing the improvements to Peyton Drive and Eucalyptus Avenue in accordance with the City's Circulation Element and General Plan (Refer to Figure 1-2).

#### **1.2.3.1 Roadway Improvements**

The proposed improvements consist of widening Peyton Drive between Grand Avenue and SR-142. The widening consists of expanding Peyton Drive to six travel lanes, three lanes in each direction, from Eucalyptus Avenue to Grand Avenue, and four lanes, two lanes in each direction, from Eucalyptus Avenue to SR-142. The project also proposes the connection of Eucalyptus Avenue from its current terminus

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 Project Site

 not to scale

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PEYTON DRIVE WIDENING PROJECT  
Proposed Project

Figure 1-2

at Peyton Drive westward approximately 160-m (530-ft). The proposed Eucalyptus Avenue extension is designed as a two-lane roadway consistent with the existing roadway cross-section west of Peyton Drive. These improvements to Eucalyptus Avenue and related impacts were addressed in an EIR certified by the City, are consistent with the City's General Plan Circulation Element, and would reduce neighborhood impacts by reducing or eliminating through traffic.

In order to improve deficient intersections, the proposed project would modify northbound Peyton Drive approach from two left-turn lanes, one through lane, and one right-turn lane to include two left-turn lanes, one through lane, and one shared through/right-turn lane. The project would modify the Peyton Drive/Chino Hills Parkway intersection to include a southbound Peyton Drive right-turn overlap, which will preclude U-turn movement from eastbound to westbound Chino Hills Parkway. The southbound Peyton Drive approach would be widened from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane. The project would also re-stripe the eastbound Chino Hills Parkway approach from one left-turn lane, two through lanes, and one de-facto (non-dedicated) right-turn lane to consist of one left-turn lane, two through lanes, and one dedicated right-turn lane. The Peyton Drive/Chino Hills Parkway intersection would be modified to include an eastbound right-turn overlap, which will preclude u-turn movement from northbound to southbound Peyton Drive.

Although not a part of this project, the Carbon Canyon Road/Chino Hills Parkway intersection will experience improvements after implementation of the proposed project. The LOS would remain at a deficient LOS F during the PM peak hour at this intersection, however, with implementation of the proposed project, delay times would be reduced by 16.7 seconds. This reduction in delay times at the Carbon Canyon Road/Chino Hills Parkway is seen as a beneficial impact of the proposed project upon surrounding traffic flows.

#### **1.2.3.2 Channel/Flood Hazard Abatement**

The Peyton Drive roadway profile is constrained due to the development along the eastern side of Peyton Drive. Therefore, drainage improvements to remediate flood hazards to the roadway and pedestrian bridge are limited to conveyance improvements to the English Canyon Channel. To achieve the desired stormwater conveyance and remove this area of Peyton Drive from the floodplain, a triple barrel 2.7-m-by-4.2-m (9-ft-by-14-ft) box culvert under Eucalyptus Avenue and Peyton

Drive southwest of their intersection replacing the existing 91-centimeter (cm) (36-inch [in]) and 152-cm (60-in) RCP is proposed.

While the channel is being protected and a new culvert is being constructed for the project, the flooding of the existing channel is still not remedied. To protect Peyton Drive from the flooding potential, it will be necessary to construct a 1.2-m (4-ft) high berm adjacent to the existing channel for 335-m (1,100-ft). This berm is to be designed to retain the floodwaters and prevent the breaching of the channel onto Peyton Drive. Berm construction will also avoid impacts on the English Canyon Channel. A 6.1-m (20-ft) wide maintenance road will be placed on top of the berm.

Storm drain improvements along Peyton Drive will also be included in the construction project. The storm drain catchments will drain the tributary areas along Peyton Drive to the existing English Canyon Channel crossing Peyton Drive near Eucalyptus Avenue and the existing Carbon Creek Channel crossing Peyton Drive approximately 457-m (1,500-ft) north of SR-142.

### **1.3 Alternatives**

The two alternatives considered in this Environmental Assessment/Initial Study (EA/IS) are the Build Alternative and the No Build Alternative. The Build Alternative involves implementation of the proposed project, the No Build Alternative undertakes no roadway improvements. Within the Build Alternative, two channel design configurations are considered for the crossing of the English Canyon Channel. The Build Alternative and No Build Alternative are discussed below.

#### **1.3.1 Widening Alternative (Locally Preferred)**

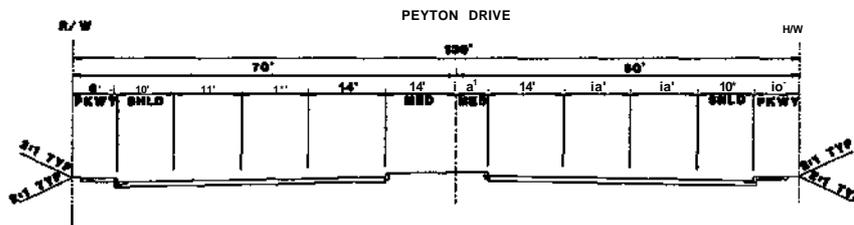
The proposed project would widen Peyton Drive from its current varying lane configuration to an ultimate six-lane facility. The project also includes the planned completion of Eucalyptus Avenue between Peyton Drive and its current terminus approximately 160-m (530-ft) west of Peyton Drive. The following describes the various proposed cross sections:

##### **1.3.1.1 Peyton Drive: Grand Avenue to McCoy Equestrian Center**

The segment between Grand Avenue and the McCoy Equestrian Center will accommodate a 29.6-m (130-ft) right-of-way (ROW) consistent with the City's divided Major Arterial classification (Refer to Figure 1-3). The cross section would accommodate:

- two 3.6-m (12-ft) and one 4.2-m (14-ft) travel lanes in the southbound direction;
- two 3.6-m (12-ft) and one 4.2-m (14-ft) travel lanes in the northbound direction;
- a 3.0-m (10-ft) shoulder/bike lane in each direction;
- a 2.4-m (8-ft) parkway (including sidewalk); and
- a 4.8-m (16-ft) raised center median.

**FIGURE 1-3. Peyton Drive  
(Grand Avenue to McCoy Equestrian Center)**

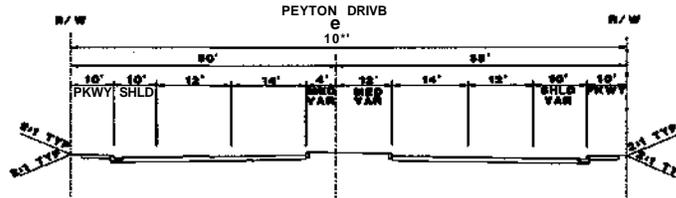


#### 1.3.1.2 Peyton Drive: Eucalyptus Avenue to SR-142

The planned roadway designation (Major Highway) for Peyton Drive south of Eucalyptus Avenue to SR-142 would provide for an ultimate four-lane divided roadway cross-section within a proposed 32.9-m (108-ft) ROW (Refer to Figure 1-4). The cross-section would accommodate:

- one 4.2-m (14-ft) and one 3.6-m (12-ft) travel lane in each direction;
- a 3.0-m (10-ft) parkway (including sidewalk);
- a 3.0-m (10-ft) shoulder; and
- a 4.8-m (16-ft) raised center median.

**FIGURE 1-4. Peyton Drive  
(Eucalyptus Avenue to SR-142)**



**1.3.1.3 Eucalyptus Avenue Extension**

The Eucalyptus Avenue extension will allow for a two-lane roadway cross section within a proposed 26.2-m (86-ft) ROW with one lane in each direction of travel, matching the existing cross section west of Peyton Drive. The cross section would accommodate:

- one 4.2-m (14-ft) travel lane in each direction;
- a 2.44-m (8-ft) shoulder in each direction; and
- a 3.3-m (11-ft) parkway (including sidewalk) on the south side.

Each of the above-referenced improvements is consistent with the *City of Chino Hills General Plan* Circulation Element.

**1.3.2 Channel Design Configurations**

Under the proposed Build Alternative, two channel design configurations were considered. Common elements shared between each design configuration are the construction of a levee upstream of the improved English Canyon Channel culvert and maintenance vehicle access roads. The levee will have a top width of 6.0-m (20-ft) and a height of approximately 1.2-m (4-ft) with 2 to 1 side slopes. The purpose of the levee is to remove Peyton Drive from the floodplain; therefore, the location of the levee is limited to the east side of English Canyon Channel. A 4.5-m (15-ft) wide maintenance vehicle access road is proposed to the channel invert upstream of the culvert. A 3.6-m (12-ft) access road is proposed along the channel which would transition into a 6.1-m (20-ft) access road on the top of the levee.

**1.3.2.1 Channel Design Configuration No. 1 (Locally Preferred)**

Channel Design Configuration No. 1 includes constructing a triple barrel 2.7-m-by-4.2-m (9-ft-by-14-ft) box culvert under Eucalyptus Avenue and Peyton Drive southwest of their intersection, replacing the existing 91-cm (36-in) and 152-cm

(60-in) RCP. A new channel will be cut from the proposed culvert entrance to the existing channel approximately 107-m (350-ft) upstream of Eucalyptus Avenue. Approximately 121-m (400-ft) downstream of Peyton Drive, the channel will be widened and tie into the previously improved portion of English Canyon Channel. The slopes and invert of the proposed channel grading upstream of Peyton Drive will be lined with articulated concrete block (Armorflex) or equivalent turf-reinforcing mat. The slope on the south side of the proposed channel downstream of Peyton Drive will be lined with articulated concrete block (Armorflex) or equivalent turf-reinforcing mat. A portion of the existing slope on the north side of the channel downstream of Peyton Drive will be lined with loose riprap to prevent erosion.

Implementation of this design configuration eliminates the existing riparian habitat upstream of Eucalyptus Avenue. By placing Armorflex or a turf-reinforcing mat on the channel slopes and invert where new grading is being done, erosion in the proposed channel can be avoided. Armorflex and turf-reinforcing mats also allow effective vegetation growth in the channel while still protecting the channel against erosion.

#### 1.3.2.2 Channel Design Configuration No. 2

Channel Design Configuration No. 2 is a similar concept to the initial alternative, but uses riprap lining instead of Armorflex reinforcement. This configuration was considered viable because riprap is commonly used for projects with similar characteristics. This design configuration includes constructing a triple barrel 2.7-m-by-4.2-m (9-ft-by-14-ft) box culvert under Eucalyptus Avenue and Peyton Drive southwest of their intersection, replacing the existing 91-cm (36-in) and 152-cm (60-in) RCPs. A new channel will be cut from the proposed culvert entrance to the existing channel approximately 107-m (350-ft) upstream of Eucalyptus Avenue. Approximately 121-m (400-ft) downstream of Peyton Drive, the channel will also be widened and tie into the previously improved portion of English Canyon Channel. The sides of the proposed channels upstream and downstream of the proposed box culvert will be lined with riprap. The riprap on the sides of the channel upstream of the culvert will be grouted. The invert of the proposed channel upstream of Peyton Drive will also be lined with grouted riprap. The invert of the channel downstream of Peyton Drive will remain earthen. Placing riprap lining helps avoid erosion, but this design configuration does not allow effective vegetation growth in the channel.

### **1.3.3 No Build Alternative**

The No Build Alternative undertakes no roadway improvements along Peyton Drive or Eucalyptus Avenue, but rather maintains the existing roadway geometry. No improvements to the English Channel would occur under this alternative. This alternative serves as the baseline against which to evaluate the effects of the Build Alternative. The No Build Alternative would produce no immediate environmental impacts other than routine roadway maintenance within the project area; consequently, no mitigation would be required. However, compared to the proposed Build Alternative, the No Build Alternative does not provide enhanced circulation or public safety benefits within the area and does not meet the defined project purpose and need.

## **1.4 Comparison of Alternatives**

Through subsequent and continuing meetings with the Peyton Drive Project Development Team (PDT), one alignment alternative and two channel design configurations have been identified as viable project alternatives to be studied. After comparing and weighing the benefits and impacts of the channel design configurations and the No Build Alternative, the PDT has proposed Channel Design Configuration No. 1 and the Build Alternative as the locally preferred alternative, subject to public review. Final identification of a preferred alternative and channel design configuration will occur subsequent to the public review and comment period.

After the public circulation period, all comments will be considered, a preferred alternative and channel design configuration will be selected, and the final determination of the project's effect on the environment will be made. In accordance with the California Environmental Quality Act (CEQA), if no immitigable significant adverse impacts are identified, the City will prepare a Negative Declaration (ND) or Mitigated Negative Declaration (MND). Similarly, if FHWA determines the action does not significantly impact the environment, FHWA will issue a Finding of No Significant Impact (FONSI) in accordance with the National Environmental Policy Act (NEPA).

## **1.5 Alternatives Considered and Withdrawn**

An analysis of the proposed Build Alternative provided a comprehensive study of a design solution that was considered for addressing the need for improvements at the project site. The following alternatives were evaluated in the analysis and eliminated

from further consideration based either on impacts to resources, feasibility, ability to meet the purpose and need, and/or cost.

### **1.5.1 Peyton Drive Realignment Alternative**

One alternative that was considered included the roadway realignment of Peyton Drive and/or Eucalyptus Avenue. However, realignment of Peyton Drive is not a feasible construction alternative as it would adversely impact a greater number of properties, require significant ROW and an added 5 residential displacements, fail to improve the hydraulic performance of the English Canyon Channel, and not achieve the purpose of the proposed project. Specifically, it is anticipated that this alternative would affect approximately 7 additional properties, including 2 partial takes and 5 full takes, and require an added 150,000 cubic yards of earthworks cut and fill covering 10 acres. Moreover, this would also require the relocation of an existing power transmission tower, within an existing Southern California Edison easement along this segment, which lies approximately 30 feet higher than the existing roadway. As a result, this alternative was withdrawn from consideration.

### **1.5.2 Bridge Crossing of Eucalyptus Channel Design Configuration**

This channel design configuration considered a bridge crossing along Peyton Drive near the Eucalyptus Avenue intersection. The existing channel grading would extend upstream to join the existing English Canyon Channel and allow conveyance under the Peyton Drive bridge and join the existing improved channel south of Peyton Drive. The skew angle of the existing crossing makes the option of considering a bridge crossing technically challenging from an engineering perspective, and highly expensive with structure costs alone anticipated near \$6 million. Additionally, the bridge would impact a far greater area of the existing channel itself and likely disturb an additional 5 acres of affected area within the channel region and could require an added 15,000 of cubic yards of earthworks cut and fill. Potential environmental impacts would also be expected as a result of the physical bridge, abutment, column and channel construction including increased disturbance to the existing channel, habitat, utilities and adjacent properties. As a result, the anticipated environmental impacts and excessive construction costs, make this challenging option unfeasible for this project so this configuration was withdrawn from consideration.

### **1.5.3 Transportation System Management (TSM) Alternative**

The goal of the TSM Alternative is to maximize efficiency of the existing system by providing options such as ridesharing, fringe parking, and traffic-signal optimization. TSM options to improve traffic flow are more appropriately considered during the

analysis of a facility's existing and forecast operational characteristics. Such considerations can include replacing existing stop signs with traffic signals at intersections to improve existing peak-hour traffic flow and to reduce queuing of vehicles. In fact, traffic signal optimization is considered to be part of the proposed build alternative. The TSM alternative was considered during the early planning studies; however, based on substantial growth in regional and local travel, this alternative would not be able to accommodate the year 2030 traffic volumes that are expected to occur along Peyton. Consequently, this alternative does not satisfy the proposed project's purpose and need for improving circulation and capacity, alleviating storm water conveyance deficiencies, and improving pedestrian and student access and safety. As a result, this alternative was withdrawn from consideration.

#### **1.5.4 Multi-Modal Alternative**

Multi-modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and transit. The proposed project functions in part toward the goal of the multi-modal alternative by providing enhanced pedestrian access in the area. In addition, this alternative is not consistent with implementation of the regional circulation plans and does not satisfy the proposed project's purpose and need for improving circulation and capacity, providing flood protection, and improving pedestrian and student access and safety. As a result, this alternative was withdrawn from consideration.

#### **1.5.5 Transportation Demand Management (TDM) Alternative**

TDM focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. TDM would not provide improvements consistent with regional circulation plans, would fail to provide safety improvements, and is therefore withdrawn from consideration.

### **1.6 Construction Limits and Schedule**

Limits of construction extend approximately 2.4 km (1 1/2 mi) from Grand Avenue south to SR-142 and approximately 160-m (530-ft) west of Peyton Drive along the proposed Eucalyptus Avenue extension. Improvements along English Canyon Channel are planned to occur from approximately 107-m (350-ft) west of Peyton Drive to approximately 121-m (400-ft) east of Peyton Drive.

Construction is anticipated to begin in the first quarter of 2008 and to last approximately 18 months. A minimum of one travel lane in each direction shall remain open on Peyton Drive at all times during construction to ensure ongoing access to properties and businesses within the project area. No detour routes will be required during the construction duration.

## 1.7 Permits and Approvals Needed

The following permits, reviews and approvals would be required for project construction, as listed below.

| Agency  | Perm it/Approval   | Status  |
|---|--|---|
| United States Fish and Wildlife Service         | Section 7 Consultation   | Formal consultation has been completed with the USFWS. Biological Opinion issued March 7, 2006.                         |
| U.S. Army Corps of Engineers                    | Section 404 Permit   | Jurisdictional Determination and identification of appropriate permitting approach has been verified by Corps (NWP 14). |
| California Department of Fish and Game          | -1602 Streambed Alteration Agreement<br>-2080 Permit-Threatened and Endangered Species | To be submitted upon certification of Final EA/IS.  |
| Region 8 California Water Quality Control Board | Section 401 Water Quality Certification  | To be submitted upon certification of Final EA/IS.  |

