

Public Review Draft

Crows Landing Industrial Business Park Specific Plan

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ACRONYMS AND ABBREVIATIONS

AIA	Airport Influence Area
ALP	Airport Layout Plan
ALUCP	Airport Land Use Compatibility Plan
ATCT	air traffic control tower
Bay Area	Sacramento and the San Francisco Bay Area
BP	booster pump
BRAC	Department of Defense's Base Closure and Realignment
CalRecycle	California Department of Waste Management
CEQA	California Environmental Quality Act
CLIBP	Crows Landing Industrial Business Park
CLOMR	Conditional Letter of Map Revision
CWA	U.S. Clean Water Act
DA	development agreement
DMC	Delta Mendota Canal
EBS	Environmental Baseline Survey
EIR	environmental impact report
FAA	Federal Aviation Administration
FAR	floor area ratio
FBO	fixed-base operator
FEMA	Federal Emergency Management Agency
GA	General Aviation
GVN	Global Valley Networks
I-5	Interstate 5
kV	kilovolt
LEED	Leadership in Energy and Environmental Design
LGs	Land Use Goals
LOMR	Letter of Map Revision
LPs	Land Use Policies
MG	million gallons
MGD	million gallons per day
MMPR	Mitigation Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
MW	megawatts
NAAS	Naval Auxiliary Air Station
NALF	Naval Auxiliary Landing Field

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NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NPDES	National Pollutant Discharge Elimination System
OLF	Outlying Land Field
PG&E	Pacific Gas and Electric Company
Plan Area	Crows Landing Industrial Business Park Specific Plan area
ROW	right of way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCDPW	Stanislaus County Department of Public Works
SCP	Sustainable Communities Plan
SR	State Route
TID	Turlock Irrigation District
USACE	United States Army Corps of Engineers
WQCF	Water Quality Control Facility

INTRODUCTION

1



1.1 PROJECT OVERVIEW

From the commissioning of the Crows Landing Air Facility (Air Facility) as an auxiliary airfield to Naval Air Station Alameda in 1942 until its decommissioning by the National Aeronautics and Space Administration (NASA) as the Crows Landing Flight Facility/NASA Ames Research Center in 1999, the military and civilian work force who lived and worked at the airfield proudly served our nation. The multiple missions and operations that occurred at Crows Landing brought new residents to Stanislaus County and contributed to the economic prosperity of the County, Central Valley, and the State of California and to the security of our nation.

The end of the Cold War reduced military operations at Crows Landing, and the Department of Defense's Base Closure and Realignment Commission (BRAC) identified the airfield for closure during the 1990s. In 1999, the United States Congress passed Public Law 106-82 to convey the former military property to Stanislaus County. Since that time, the County has embraced the opportunity to revitalize its economy through the reuse of the former airfield to benefit County residents and the region as a whole.

For many years, the unemployment rate in Stanislaus County has been higher than the statewide average. Many jobs within the County do not provide wages that are sufficient to sustain a household, and residents seeking sustainable-wage jobs must commute to distant job centers outside of the County, frequently traveling to Sacramento and the San Francisco Bay Area (Bay Area). A 2014 analysis of commuting patterns in the North San Joaquin Valley, which includes San Joaquin, Stanislaus, and Merced Counties, indicated that approximately 23% of Stanislaus County's employed residents commuted outside of the County and 9% commuted to Bay Area communities. The five employment sectors with the highest proportion of residents traveling outside of the County to work were construction; transportation; warehousing and utilities; public administration; wholesale trade; and manufacturing.¹

For more than a decade, the County has pursued the development of a locally based, regional employment center on the 1,528-acre former military property to improve its jobs-to-housing balance and provide opportunities for sustainable-wage jobs that will not require commutes outside of the County. To that end, the County has designated the former Air Facility as the Crows Landing Industrial Business Park (CLIBP) to support new economic development to bring jobs closer to County residents.

To support economic development in Stanislaus County, the CLIBP Specific Plan promotes the development of land uses that will support job creation in several of the industries that cause its residents to commute. The CLIBP will primarily support light industrial uses, including manufacturing and assembly; transportation and warehousing (logistics); and public administration/facilities, including public administration offices, law enforcement, and public safety services. General office and business park, or other similar uses, are also envisioned. All facilities will be compatible with the presence of a general aviation airport, which will be constructed to reuse one of the former military runways (former Runway 12-30) and provide ongoing aviation access in accordance with Public Law 106-82.

The CLIBP will be zoned as Specific Plan [S-P(2)] in accordance with the Stanislaus County Specific Plan Guidelines. The Specific Plan designation promotes flexibility in the types of permitted land uses, as well as the size and location of those land uses. Build-out of the CLIBP is expected to occur in three phases over an estimated 30-year timeframe.

¹ Business Forecasting Center, September 29, 2014. *An Analysis of Commuting Patterns in the North San Joaquin Valley*. Eberhardt School of Business at the University of the Pacific. Stockton California.

1.2 PLANNING AREA LOCATION

The project site or CLIBP Specific Plan area (Plan Area) is located in an unincorporated portion of western Stanislaus County, approximately 1.5 miles east of Interstate Highway 5 (I-5). The 1,528-acre property is bounded by W. Marshall Road to the north, State Route (SR) 33 to the northeast, Bell Road to the east, Fink Road to the south, and Davis Road and agricultural land to the west (see Figure 1-1).

1.3 PLANNING AREA HISTORY AND DESCRIPTION

Crows Landing served the U.S. Department of Defense for more than 50 years. From 1942 to 1999, the site was developed and used by the federal government to support the missions of the United States Navy, Coast Guard, and the National Aeronautics and Space Administration (NASA).

The Naval Auxiliary Air Station (NAAS) Crows Landing was commissioned in 1942 as an auxiliary airfield to Naval Air Station (NAS) Alameda. The facility was constructed to train pilots for World War II and expanded to include barracks, hangars and other equipment. In June 1945, the station's complement stood at more than 1,400 officers and enlisted personnel. In 1946, the site became an Outlying Land Field (OLF) to NAS Alameda and later Moffett Field. For many years the Navy maintained a permanent detachment at the field that supplied crash equipment and refueling services for naval aircraft from other stations in the area. The site remained active through the 1980s and supported training activities performed by the Navy and Coast Guard.

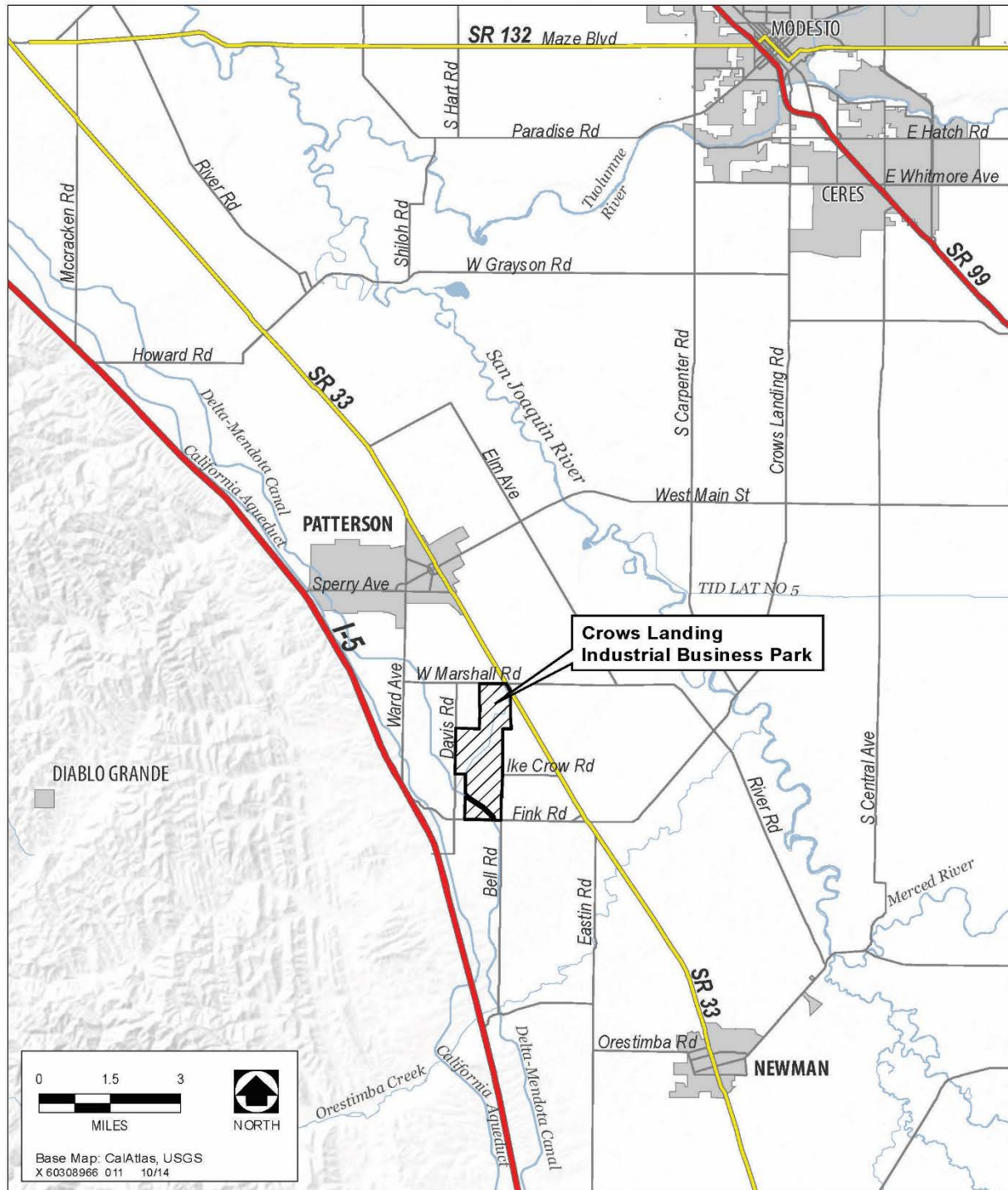
Based on a recommendation of the 1991 BRAC Commission, Congress decided that NAS Moffett Field would no longer be operated by the active-duty Navy. Custodial responsibility for NAS Moffett Field was transferred to the NASA Ames Research Center in July 1994, and NASA assumed custody of the Crows Landing Naval Auxiliary Landing Field (NALF) as it was known at that time. This transfer included all land, buildings, facilities, and infrastructure. Research operations at Crows Landing were terminated after NASA accepted the Crows Landing property.

On October 27, 1999, Congress passed Public Law 106-82, which directed NASA to convey to Stanislaus County all right, title, and interest of the United States in and to the NASA Ames Research Center Crows Landing Facility, formerly known as the Naval Auxiliary Field Crows Landing. To facilitate property conveyance, NASA completed an Environmental Baseline Survey (EBS), which proposed the transfer of the property in two or more phases following the completion of environmental remediation efforts. The Navy has performed soil and groundwater remediation at the former military site in accordance with the terms of the property transfer. Phase I of the property transfer occurred in 2004, when NASA conveyed 1,352 acres of the 1,528-acre property to Stanislaus County. Of the remaining 176 acres, 165 acres are ready for transfer and will be conveyed to the County in 2017.² Groundwater remediation infrastructure and facilities are present on the remaining 11-acre area adjacent to the eastern property boundary. The U.S. Navy will continue to operate groundwater remediation activities on the 11-acre area of the CLIBP property until 2024. The Specific Plan addresses all 1,528 acres of the former military site and addresses the ongoing remediation through its proposed phasing plan (see Chapter 2, "Land Use").

Figure 1-2 illustrates the former military property and the facilities that remained at the time of conveyance. Nearly all structures associated with former military activities were demolished. Remaining facilities include two decommissioned runways, an air traffic control tower (ATCT), and remnant roads. As of 2016,

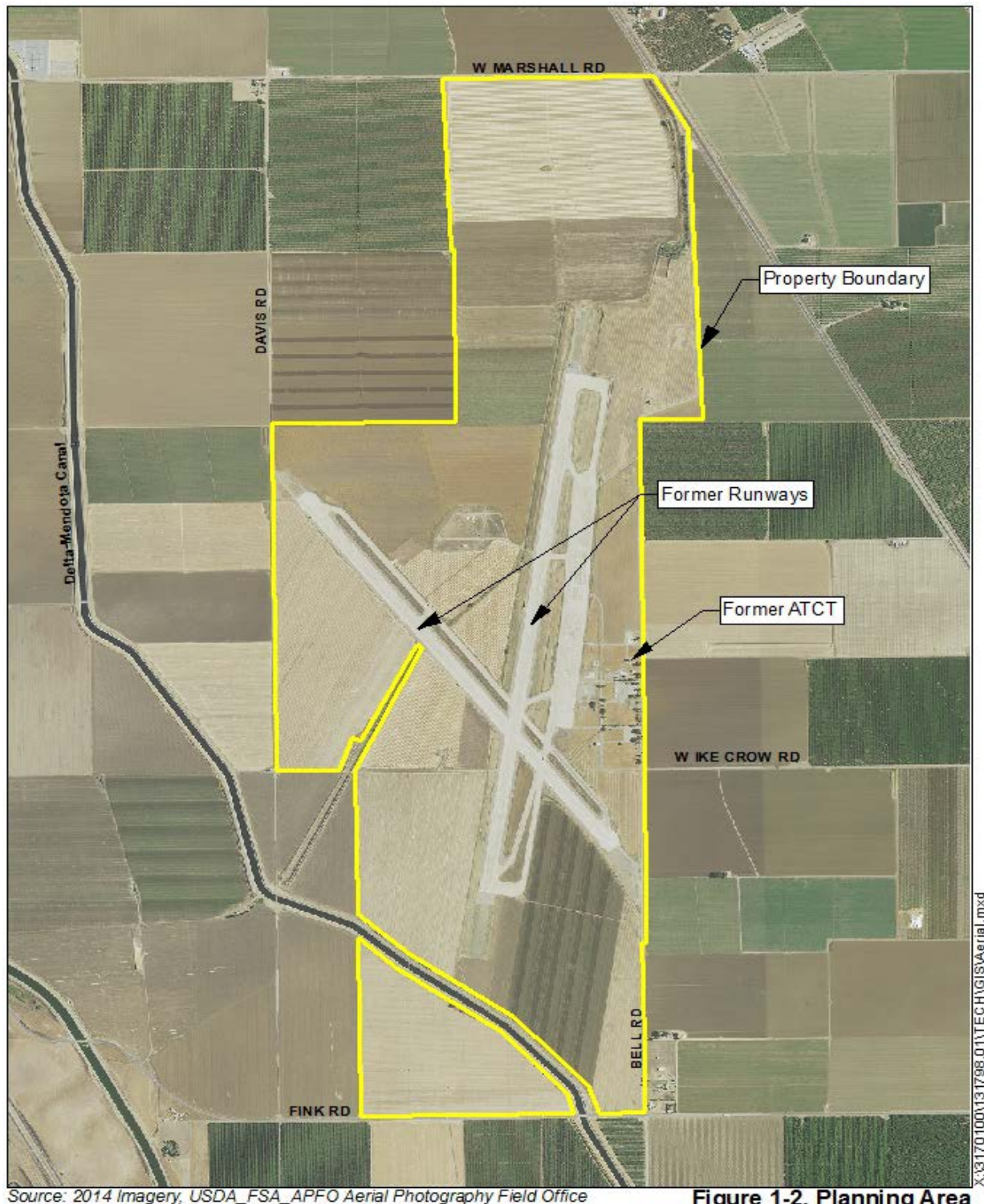
² D.Chuck. 2017. Personal communication (email) to K. Boggs, Stanislaus County, Chief Executive Office, from NASA Ames Research Center dated December 6, 2017.

approximately 1,200 acres of the former Air Facility were being used for agricultural production in accordance with a short-term lease. The property will remain in cultivation until the land is needed for the construction of infrastructure and development in accordance with the Specific Plan.

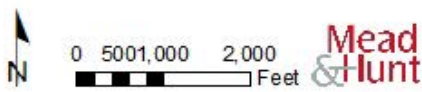


Source: Stanislaus County 2013

Figure 1-1: Plan Area Regional Location



**Figure 1-2. Planning Area
Crow's Landing**



Source: Mead & Hunt 2016 (2014 Imagery, USDA_FSA_APFO Aerial Photography Field Office)
Figure 1-2: Remaining Military Air Facilities

1.3.1 On-Site Jurisdictional Features

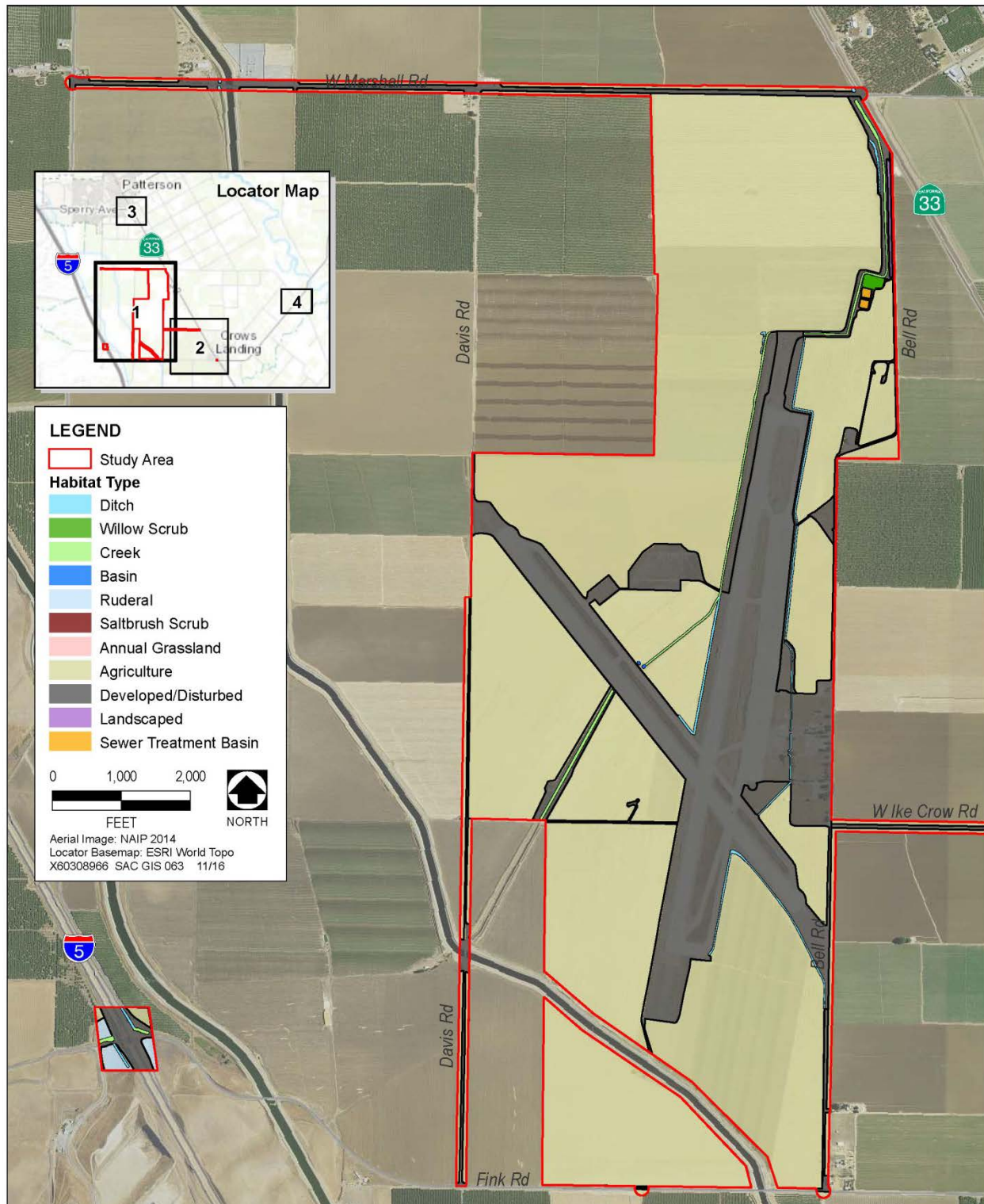
A delineation of waters of the United States study report, *Aquatic Resource Delineation Report – Crows Landing Industrial Business Park* (Appendix C), was prepared to identify jurisdictional features within the Plan Area and in off-site areas that could be affected by infrastructure development required to accommodate CLIBP development. The delineation report identifies and quantifies all potential waters of the United States within the Plan Area, including wetlands. Potential jurisdictional features, by habitat type, have been identified on the project site (see Figure 1-3). An estimated 4.66 acres of potentially jurisdictional features and waters of the United States are present on site, of which approximately 3.6 acres are associated with Little Salado Creek. Two basins were identified adjacent to Salado Creek near the intersection of the former military runways, and an approximately 1-acre wetland is located in the northeastern portion of the site. Habitat types on the project site include primarily agricultural land, formerly landscaped areas, and disturbed or developed areas, with small areas of willow scrub and saltbush scrub.

For project development within 50 feet of water, or projects that result in the discharge of fill or dredge material into any water of the United States (shown in Figure 1-3), the County will be required to obtain a United States Army Corps of Engineers (USACE) Section 404 Individual Permit and Central Regional Water Quality Control Board (RWQCB) Section 401 water quality certification prior to any groundbreaking. Under Section 401 of the U.S. Clean Water Act (CWA), an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs. Wetland habitat will be restored or replaced at an off-site location at an acreage, location, and by methods agreeable to USACE and the Central Valley RWQCB, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.³

The Delta Mendota Canal (DMC) is a portion of the Central Valley Project that spans the western San Joaquin Valley to provide essential irrigation water. The DMC is a historic resource pursuant to the National Register of Historic Places (NRHP) that is owned by the United States Bureau of Reclamation (USBR) and operated and maintained by the San Luis & Delta-Mendota Water Authority (Water Authority). In the event that encroachment of the right-of-way is required in order to make repairs to an existing facility, the Water Authority must issue an Access Permit prior to the start of construction.

The DMC traverses the southern portion of the project site. It crosses Fink Road at the project site's southern boundary and forms the boundary between the Fink Road and Bell Road Corridor development areas (see Figure 2-2 in Chapter 2). A new bridge over the canal will be necessary to accommodate internal circulation. Roadway construction and improvements will require coordination with the Water Authority, and subsequent project-related development will be required to respect DMC structures and right-of way boundaries.

³ The Federal Aviation Administration recommends that mitigation measures that have the potential to attract wildlife, such as wetlands and open water feature, be constructed 10,000 feet or more from aircraft movement areas (see FAA Advisory Circular 150/5200-33B, "Wildlife Hazard Attractants on and Near Airports").



Source: AECOM 2016

Figure 1-3: Potential Waters of the United States, Habitat Types

1.4 PLAN OBJECTIVES

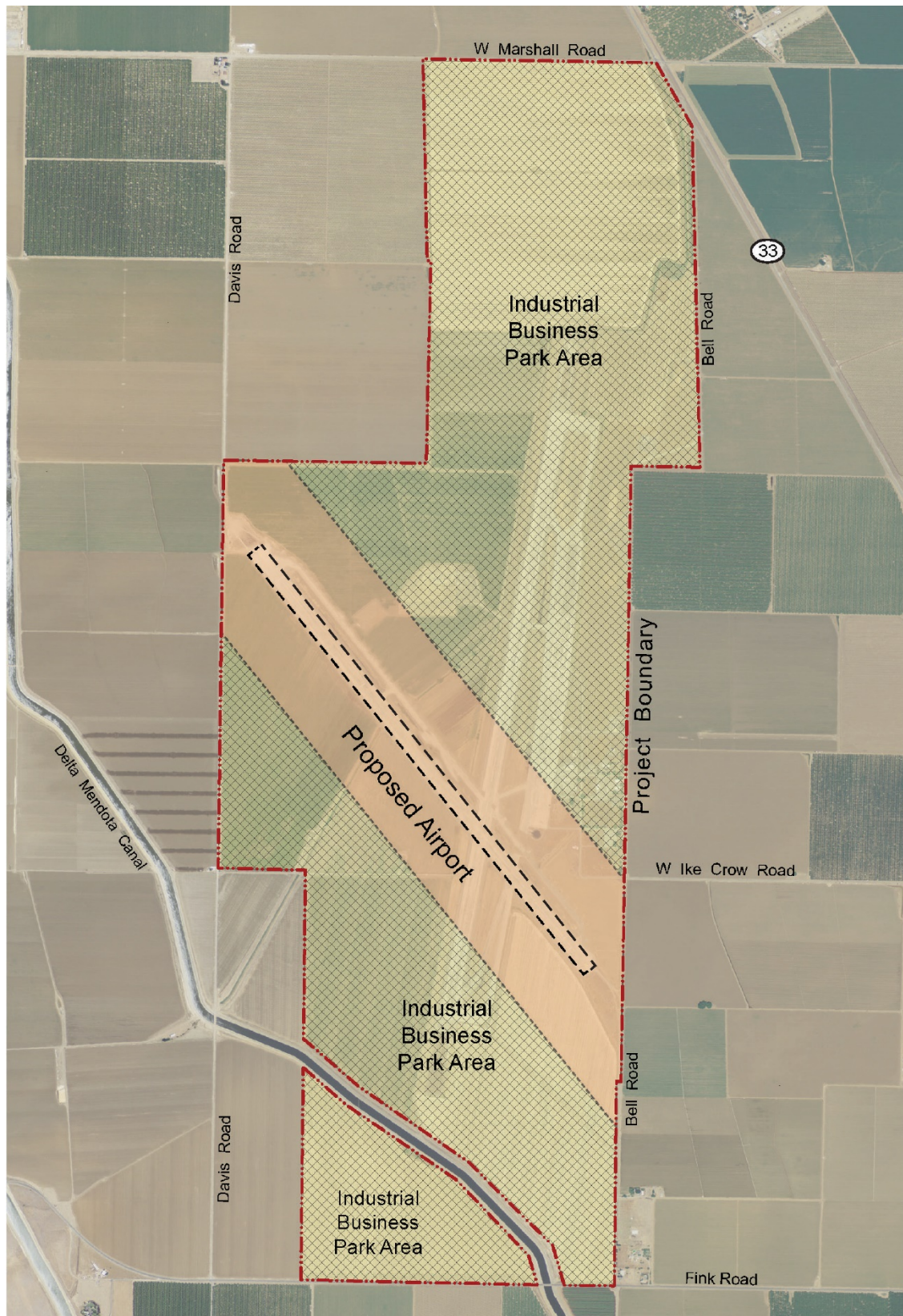
The reuse of the former Crows Landing Air Facility through the development of the CLIBP is central to Stanislaus County's ongoing strategy to create sustainable-wage jobs for its residents and others living in nearby areas of the Northern San Joaquin Valley. The Specific Plan establishes the framework to implement that strategy. The objectives of the Specific Plan include:

- Objective 1: Reuse the former Crows Landing Air Facility to develop a high quality, attractive industrial business park that makes a positive statement for the area and for Stanislaus County.
- Objective 2: Create a regional employment center on the former Crows Landing Air Facility property, conveyed to Stanislaus County through Public Law 106-82, that will promote development and reduce greenhouse gas emissions by bringing jobs closer to County residents.
 - 2.1 Provide locally based, sustainable-wage employment opportunities in Stanislaus County that will support households and improve the County's jobs-to-housing balance.
 - 2.2 Provide a locally based job center that will reduce commute distances for County and Northern San Joaquin Valley residents and promote air quality improvements through a reduced number of commuter-related vehicle miles traveled and reduced vehicle emissions.
 - 2.3 Provide a locally based job center that will address current market needs and remain flexible to address market changes as they occur.
 - 2.4 Provide local workforce development through opportunities such as on-the-job training, adult classrooms, and non-classroom opportunities.
 - 2.5 Provide a regional employment center that accommodates a broad range of light industrial and business users, including local businesses.
- Objective 3: Create a center for light industrial, manufacturing, logistics, and aviation-related uses that will optimize the site's development potential based on its proximity to Interstate Highway 5 (I-5) and other potential regional, national, and international transportation facilities.
 - 3.1 Accommodate an appropriate mix of light industrial, manufacturing, logistics, business park, public administration, aviation, and aviation-related uses and tenants.
 - 3.2 Provide land use and zoning policies that are flexible in terms of access, size, and configuration of available parcels, vertical development, and compatible with surrounding uses and infrastructure.
 - 3.3 Provide clear and concise development policies and design standards to expedite site development that will be consistent with the Specific Plan.
- Objective 4: Provide for the development of on-site public administration and emergency service facilities to serve the site and Stanislaus County residents.
 - 4.1 Promote the development of government offices, public administration offices, outpatient/medical offices, and other public services to serve County residents.
 - 4.2 Promote the development of emergency services that can benefit from the use and proximity of the general aviation airport including medivac, fire suppression, emergency response, and law enforcement.

- Objective 5: Provide for the phasing of on-site primary or “backbone” infrastructure, sufficient to enable “shovel-ready” on-site development opportunities within a logical progression on the site. Such infrastructure includes transportation/circulation, potable and non-potable water, wastewater, stormwater management, and dry utilities improvements.
- 5.1 Provide for the logical phasing of site development with the availability of infrastructure.
 - 5.2 Provide tenants with good value for the development of new facilities in terms of lease agreements, available infrastructure, etc.
 - 5.3 Support ongoing on-site agricultural activities until such time as on-site construction of infrastructure or development occurs.
- Objective 6: Encourage development that incorporates sustainable site and infrastructure design and implements federal, state, and local energy and water conservation requirements.
- 6.1 Encourage the use of sustainable site and infrastructure designs, including the incorporation of water conservation practices that respond to the ongoing water supply challenges in the Central Valley through use of state, federal, and County mandated water efficient landscape and other conservation practices.
 - 6.2 Provide on-site stormwater drainage and detention facilities that provide for groundwater recharge in a manner that is compatible with nearby aviation use.
- Objective 7: Repurpose former military runway 12-30 to construct a general aviation airport to serve as an amenity for site users and the business and general aviation needs of Stanislaus County and the region.
- Objective 8: Identify potential funding options to secure necessary site improvements.
- Objective 9: Provide for an attractive business park that offers amenities for site workers such as on-site food service, automated banking opportunities, and outdoor pedestrian circulation/paths.
- 9.1 Promote the development of multimodal transit opportunities for site workers that include bus, bicycle, and pedestrian access.
- Objective 10: Honor the unique contributions of the former Crows Landing Air Facility and Stanislaus County to our nation’s history, while looking ahead to improve the lives of the County’s current and future residents.

1.5 PROJECT VISION AND CONCEPT

The CLIBP is envisioned as a mixed-use industrial business park that will support a variety of business uses and formats. Mixed-use areas are envisioned throughout the Plan Area to support a variety of light manufacturing and assembly; distribution, warehousing, and logistics; public administration; business park; office; public facilities; and other similar uses. The project also includes the creation of a new public use general aviation airport that would reuse former Runway 12-30, the shorter of the two decommissioned runways that is orientated in a northwest-southeast direction. The airport will serve as an amenity to the CLIBP and the local general aviation community (see Figure 1-4).



Source: AECOM 2016

Figure 1-4: Proposed Airport and Industrial Business Park Areas

The CLIBP will be a unique industrial business park designed to support flexibly-sized site and building formats and to accommodate a variety of users in a campus environment. Diverse uses from office and incubation spaces for small start-up firms, facilities for mid- to large-size offices and corporate headquarters, to large floor plan warehouse and light manufacturing facilities, including those with one million square feet or more, are desirable in the Central Valley and may be housed within the CLIBP. CLIBP development is intended to bring new jobs to the County and reduce the traffic congestion and resultant vehicle emissions that are produced by residents who must commute outside of the County for similar jobs.

Approximately 14.3 million square feet of development and 14,447 jobs are anticipated at CLIBP build-out.⁴ The following sections summarize the proposed land uses and features of the CLIBP, which are described in more detail in subsequent chapters of the Specific Plan. Chapter 2 presents the phasing of development for each land use category and the CLIBP land use goals and policies that support this development, and provides an illustrative site plan concept. Appendix B provides a more detailed list of the permitted land uses and design and development standards.

1.5.1 Warehouse, Distribution, Logistics, and Light Industrial Uses

A large portion of the Plan Area is envisioned to support the demand for large distribution sites because of the CLIBP's location near I-5, especially logistics and warehouse uses that desire easy and convenient transportation access, as well as light industrial uses. Examples include large sorting and distribution facilities, wholesale and warehouse facilities, agriculture/dry food processing and packaging, machine shops, assembly of pre-manufactured parts, and transportation facilities.

1.5.2 Business Park Uses

The business park uses envisioned within the Plan Area include call centers, research and development, and business support services. Business park uses may be developed in association with proposed logistics and light industrial uses, as standalone facilities, or in building clusters centered on common open space and employee amenities.

1.5.3 Public Facilities Uses

The main entrance or gateway to the CLIBP is envisioned at the intersection of Bell and W. Ike Crow Roads on the east side of the Plan Area. A small area northwest of this intersection is designated for development of public facilities and other uses that can benefit Stanislaus County residents. This area is also near the airport's northeastern boundary and entrance to provide opportunities for agencies that may require quick access to the airport or for aviation-related services, such as fire suppression, law enforcement, or medical evacuation. Other uses envisioned for the Public Facilities Area include local and district government offices, professional offices, and outpatient/medical offices.

1.5.4 General Aviation (GA) Airport and Aviation-Related Uses

The 370-acre Crows Landing Airport will be developed to reuse infrastructure associated with former military runway 12-30 to the greatest extent possible. A helipad/heliport may also be constructed south of the runway. The mix of land uses proposed in the Specific Plan would be compatible with aviation and the

⁴ Refer to the detailed Land Use and Employment Summary table, provided in Appendix A of the CLIBP Specific Plan, for additional information on estimated land use categories, extent of development associated with each phase, and employment projection at CLIBP build-out.

policies set forth in the Stanislaus County Airport Land Use Compatibility Plan (ALUCP). The CLIBP Specific Plan, an Airport Layout Plan (ALP) for the GA airport, and an amendment to the County's ALUCP to incorporate airport-specific policies for proposed land uses located in the vicinity of the Crows Landing Airport were developed concurrently to promote the development of compatible land uses throughout the CLIBP site. Potential airport users include business travelers, recreational aviators, flight schools, delivery services, and emergency services. The airport and aviation-related land uses are discussed further in Chapter 2 of the Specific Plan.

1.5.5 Multimodal (Bicycle/Pedestrian) Transportation Corridor/Green Space

A multimodal (bicycle/pedestrian) transportation path is proposed along Bell Road, between Fink and W. Ike Crow Roads, and extending north to W. Marshall Road/SR 33. The multimodal path will provide bicycle and pedestrian access between the north and south end of the industrial business park. The portion of Bell Road north of W. Ike Crow Road will be abandoned as a public roadway to accommodate the construction of a bicycle/pedestrian transportation corridor and linear stormwater management pond, but the road will provide existing levels of access to private properties east of Bell Road. The approximately 13-acre transportation corridor north of W. Ike Crow Road is envisioned to be a landscaped bicycle/pedestrian path with a 1- to 2-acre green space area for CLIBP employees and visitors. The multimodal transportation corridor and stormwater pond will provide a physical and visual barrier and buffer between the industrial business park and adjacent agricultural land.

1.5.6 Agriculture Uses

Since 2000, approximately 1,200 acres of the property have been leased for private agricultural use. Agricultural activities will be allowed to continue on-site until such time that the land is needed for imminent construction of infrastructure or development in accordance with the Specific Plan.

1.5.7 Infrastructure / Utilities

The County will undertake on-site primary or backbone infrastructure improvements to render the CLIBP shovel-ready for development and to make the site more attractive to potential developers and tenants. Infrastructure planning studies have been prepared to assess the feasibility of available infrastructure and new demand for infrastructure and utility services associated with the proposed CLIBP land uses. As discussed in detail in Chapter 4, "Infrastructure," required infrastructure, including both site-specific and regional infrastructure demands, will include:

- on-site backbone road and off-site roadway improvements – roads that provide primary internal circulation and connections to the surrounding off-site street network;
- reliable water supply (potable and non-potable) – the County will explore three alternatives and select a preferred alternative prior to initiation of Phase 1:
 - Option 1: extending the Crows Landing Community Services District (CSD) service area to include the CLIBP to enable the development of a shared water system under the CSD's existing drinking water supply permit;
 - Option 2: Obtaining a new water supply permit to enable the County to develop a standalone water supply for the CLIBP, or

- Option 3: extending the City of Patterson’s water service area to include the CLIBP under its existing drinking water supply permit;
- connections for wastewater treatment – the County will explore the feasibility of a new sewer collection system that connects to the City of Patterson Water Quality Control Facility (WQCF) to treat project wastewater, with limited interim use of septic systems during initial site development. If the County determines this option is not feasible, an on-site conveyance and treatment option would be developed;
- stormwater drainage – the widening of Little Salado Creek and culverts, construction of a stormwater pond, and other measures as needed are identified to manage stormwater runoff; and;
- dry utilities – utility service would be provided by Pacific Gas & Electric Company (PG&E) (natural gas), Turlock Irrigation District (electricity), and AT&T, Global Valley Networks (GVN), and Comcast (communications). Dry utility infrastructure would be located in joint trenches along the western or southern sides of on-site roadways.

1.6 SPECIFIC PLAN ORGANIZATION

The CLIBP Specific Plan addresses the following:

- **Introduction**, which provides an overview of the Specific Plan purpose, objectives, use, content, relationship to other local and regional plans, and other general information.
- **Land Uses**, which describes the categories of permitted land uses and the character of development within the Plan Area, project phasing, and the goals and policies that inform the Specific Plan content.
- **Built Environment and Design**, which includes site-specific objectives and policies for the baseline design features that will define the built environment for the CLIBP.
- **Infrastructure**, which addresses the infrastructure required for development (i.e., facilities for potable and non-potable water, wastewater, stormwater management, transportation/circulation, and dry utilities).
- **Specific Plan Implementation**, which addresses the administration of the Specific Plan and construction costs associated with the infrastructure, airport, and multimodal transportation corridor for CLIBP development.
- **Appendix A, Crows Landing Land Use and Employment Summary**, using typical industry standards and metrics for floor area ratio (FAR), provides the assumptions and calculations for the developable area for the various land uses and associated employment projections for the Plan Area.
- **Appendix B, Land Use and Design and Development Standards**, identifies specific permitted land uses and the standards to guide the design and development of the CLIBP through both mandatory regulations and discretionary design guidance.
- **Appendix C, Aquatic Resource Delineation Report – Crows Landing Industrial Business Park**

- **Appendix D, Airport Layout Plan Narrative Report – Crows Landing Airport**
- **Appendix E, Stanislaus County Standard Plates**
- **Appendix F, Transportation Infrastructure Plan – Crows Landing Industrial Business Park**
- **Appendix G, Crows Landing Industrial Business Park Water Supply (Potable & Non-Potable) Infrastructure and Facilities Study**
- **Appendix H, Crows Landing Industrial Business Park Sanitary Sewer Infrastructure and Facilities Study**
- **Appendix I, Drainage Study for the Crows Landing Industrial Business Park**
- **Appendix J, Crows Landing Industrial Business Park Dry Utilities Infrastructure and Facilities Study**
- **Appendix K, Crows Landing Industrial Business Park Financing Plan**
- **Appendix L, Crows Landing Industrial Business Park Mitigation Monitoring Reporting Program**

1.7 RELATIONSHIP TO OTHER PLANS

1.7.1 General Plan

The Stanislaus County General Plan’s Land Use Diagram designates the CLIBP property as Agricultural, and the County’s Zoning Code identifies the CLIBP property as A-2, General Agriculture District. However, Policy 18 of the General Plan directs the County to “promote diversification and growth of the local economy” and Implementation Measure 9 of the General Plan, associated with this policy, states “encourage reuse of the Air Facility as a regional jobs center.” The Specific Plan further supports Policy 18 and implements Measure 9 of the General Plan by describing development specifically for the CLIBP Plan Area including policies, zoning, permitted uses, and design and development standards. Figure 1-1 identifies the location of the Plan Area within the County.

1.7.2 Airport Land Use Compatibility Plan (ALUCP)

The Stanislaus County ALUCP includes procedural policies and airport-specific policies for identifying the consistency of proposed land uses located in the designated airport influence areas for the County’s three public-use airports: Modesto City-County Airport, Oakdale Municipal Airport, and the former Crows Landing Naval Air Facility. All development within the CLIBP must be consistent with the Countywide ALUCP. Airport-specific policies in the ALUCP address the following:

- **Aircraft noise exposure.** The ALUCP identifies locations that will be subject to aircraft noise exposure and seeks to avoid the creation of noise-sensitive land uses in areas that are exposed to significant levels of aircraft noise.
- **Safety.** Safety compatibility criteria seek to minimize the risks associated with an off-airport incident or emergency landing. The ALUCP provides policies pertaining to the land uses that are considered compatible with aviation and the densities and intensities of such uses.

- **Airspace.** The Federal Aviation Administration (FAA) identifies federally protected airspace that must remain free of obstructions. Effects or factors such as tall structures, construction equipment, glare, emissions, and wildlife can affect or pose risks to air operations. The ALUCP identifies navigable airspace and policies for development beneath protected airspace.
- **Overflight.** Areas that are not affected by noise exposure or are outside of safety zones may be subject to aircraft overflight. Although these areas are not subject to policy restrictions, landowners and tenants must be notified that they live in an Airport Influence Area (AIA) as defined by the ALUCP. Figure 1-5 presents the AIA associated with the Crows Landing Airport.

The proposed project includes an amendment to the Countywide ALUCP that will include new policies for the proposed Crows Landing Airport. The new policies will replace the former ALUCP policies associated with the former military airfield. Figure 1-5 presents the Airport Influence Area associated with the proposed Crows Landing Airport. The AIA represents the geographic area to which the new ALUCP policies would apply following adoption.

1.7.3 Regional Transportation Plan

The adopted 2014 Stanislaus County Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) focuses on maintaining the region's vitality and character by creating a more sustainable transportation system and land use development pattern. The RTP/SCS identifies seven goals and corresponding objectives that can be used to measure its success in linking transportation and land use planning strategies, as summarized below:

- **Goal 1. Mobility & Accessibility.** Improve the ability of people and goods to move between desired locations; and provide a variety of transportation choices.
- **Goal 2. Social Equity.** Promote and provide equitable opportunities to access transportation services for all populations and ensure that all populations share in the benefits of transportation improvements and provide a range of transportation and housing choices.
- **Goal 3. Economic and Community Vitality.** Foster job creation and business attraction, retention, and expansion by improving quality of life through new and revitalized communities.
- **Goal 4. Sustainable Development Pattern.** Provide a mix of land uses and compact development patterns; and direct development toward existing infrastructure, which will preserve agricultural land, open space, and natural resources.
- **Goal 5. Environmental Quality.** Consider the environmental impacts when making transportation investments and minimize direct and indirect impacts on clean air and the environment.
- **Goal 6. Health & Safety.** Operate and maintain the transportation system to ensure public safety and security and improve the health of residents by improving air quality and providing more transportation options.
- **Goal 7. System Preservation.** Maintain the transportation system in a state of good repair and protect the region's transportation investments by maximizing the use of existing facilities.

The CLIBP reflects the goals of the RTP/SCS by providing for the development of a regional employment center near existing transportation corridors, such as I-5 and SR 33, and providing multimodal transportation opportunities on site (Goal 1); fostering job creation (Goal 3); directing development toward and reusing/maximizing the use of existing facilities, while preserving agricultural land, open space, and natural resources (Goals 4 and 7); and producing a local job center to reduce commute times and distances, and vehicle emissions associated with commuter traffic to improve air quality.

The RTP/SCS acknowledges the County's proposal to redevelop the former Air Facility to create a job center and GA airport consistent with regional planning goals, which will help the project qualify for future transportation grant funding.

1.7.4 County Code

Development within the CLIBP must adhere to the standards of the Specific Plan and the Stanislaus County Code. Where the standards of the Specific Plan conflict with regulations in the County Code, the standards of the Specific Plan shall prevail. Where the Specific Plan is silent, the standards of the County Code shall apply. Chapter 21.38 in Title 21, “Zoning,” of the County Code permits the creation of a specific plan district to govern and apply to a specific zone of land with unique characteristics that may require standards of its own, in addition to complying with other existing County standards. The S-P zoning provides a mechanism to ensure the orderly and cohesive site development of special or unique development areas, while ensuring compliance with and implementation of the General Plan. S-P zoning also provides for development consistent with site characteristics, creation of optimum quantity and use of open space, encouragement of good design, and promotion of compatible land uses.

1.8 PROJECTS THAT MUST BE CONSISTENT WITH THE CLIBP SPECIFIC PLAN

All individual development projects, ministerial or discretionary, proposed within the CLIBP Plan Area are subject to the requirements of the Specific Plan.

1.9 RELATIONSHIP OF THE SPECIFIC PLAN ENVIRONMENTAL DOCUMENT TO SUBSEQUENT DISCRETIONARY PROJECTS

Proposed projects that are prepared in accordance with the Specific Plan and the certified environmental impact report (EIR), and ALUCP, may qualify for ministerial review. A proposed project that is determined to deviate from or be inconsistent with the intent and standards of the Specific Plan and its referenced documents, or with the occurrence of the events set forth in CEQA Guidelines, Section 15183, may require a Specific Plan amendment or additional environmental analysis.

Proposed airport development projects that are prepared in accordance with the ALP Narrative Report – Crows Landing Airport (Appendix D), Specific Plan, and certified EIR may qualify for ministerial review. A proposed project that is not shown on the ALP or inconsistent with the intent and standards of the ALP, the Specific Plan and its referenced documents, or with the events set forth in the CEQA Guidelines may require an ALP update, ALUCP update, Specific Plan amendment, or additional environmental analysis.

LAND USE

2



2.1 OVERVIEW

Of the 1,528-acre property conveyed by NASA to the County, approximately 1,274 acres will be developed for a mix of aviation-compatible industrial and business park uses, general aviation, aviation-related land uses, public facilities, and a multimodal (bicycle/pedestrian) transportation corridor. The remaining acreage will be associated with necessary infrastructure, including roads and right-of-ways for stormwater drainage, water supply, wastewater facilities, and dry utilities.

This chapter describes the Crows Landing Industrial Business Park (CLIBP) Specific Plan area (Plan Area) development program (i.e., phasing) including the types of land use categories and their envisioned characteristics, land use goals, and policies. The land use goals, policies, categories, and development program described in this chapter correspond to and implement the development objectives presented in Chapter 1, “Introduction.” The development standards associated with each land use category are addressed in the CLIBP Design and Development Standards, which are provided in Appendix B.

2.2 GENERAL LAND USE CONCEPTS AND DEVELOPMENT PHASING

The CLIBP is envisioned primarily as a mixed-use industrial business park designed to support a variety of light industrial, logistics, warehouse, distribution, office, and aviation-related land uses. Only the general aviation airport, which will be constructed to reuse a former military runway (Runway 12-30), is fixed by size and location. Figure 2-1 presents a general concept of the land use and development character envisioned within the Plan Area at build-out and suggests the potential distribution of the broad land use categories.

2.2.1 Zoning, Land Use, and Design and Development Standards

The entire CLIBP Plan Area shall be zoned S-P(2) and developed to include the land uses presented in Appendix B and summarized in this chapter. Appendix B provides a more detailed list of land uses permitted within each broader land use category and identifies the design and development standards proposed for each category.

2.2.2 Infrastructure

Infrastructure includes internal roadways and infrastructure rights-of-way including water supply, wastewater facilities, stormwater drainage, and dry utilities. Infrastructure encompasses approximately 254 acres (17%) of the CLIBP Plan Area.

2.2.3 Phasing

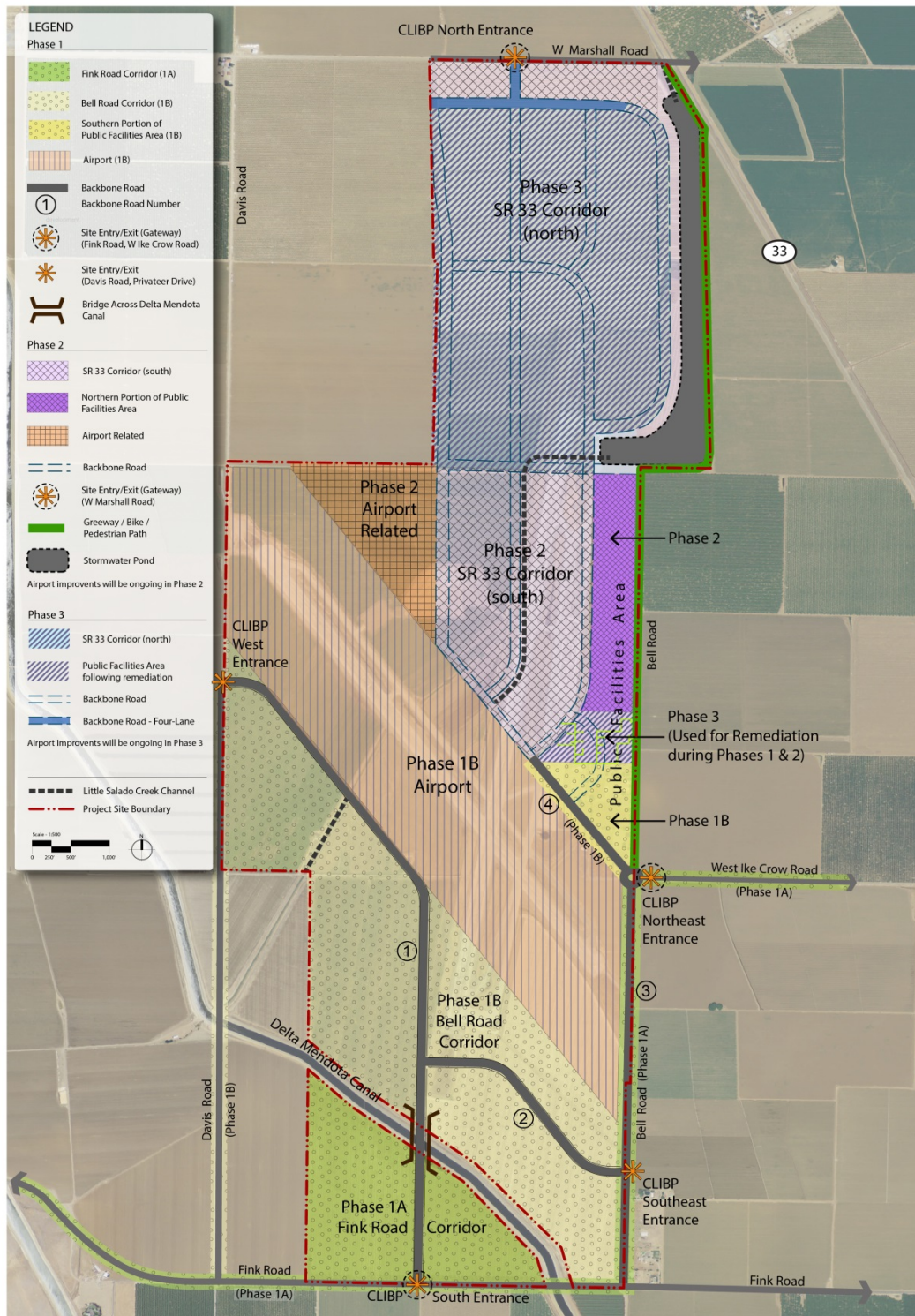
As shown in Figure 2-2, CLIBP Plan Area infrastructure and land use development would occur over three ten-year phases. Phase 1A development would occur in the Fink Road Corridor and extend to the Bell Road Corridor, airport, and southern Public Facilities Area in Phase 1B:

- Phase 1: 2017 to 2026 (includes Phases 1A and 1B)
- Phase 2: 2027 to 2036
- Phase 3: 2037 to 2046



Source: AECOM 2016

Figure 2-1: General Illustrative Concept



Source: AECOM 2016
Figure 2-2: Proposed Plan Phases

Table 2-1 and the following sections summarize the likely land use categories and extent of development associated with each phase over the 30-year build-out period. Appendix B provides a more detailed list of land uses permitted within each land use category. The proposed phasing of Plan Area development will allow the County to estimate the carrying costs of project-related impacts such as traffic, and utility infrastructure and services. As shown in Table 2-1, approximately 1,274 acres have been identified for development. The remaining acreage (approximately 254 acres) will accommodate necessary roadway and utility infrastructure. Actual development, including the mix, distribution, and acreages of specific land uses, may vary from the assumptions in Table 2-1 based on available infrastructure and market needs. Such variations may be permitted as long as they are consistent with the intent of the Specific Plan and do not create new or greater environmental impacts than those identified in the Specific Plan's Environmental Impact Report (EIR). Additional environmental studies may be required if the mix of proposed land uses would yield a greater density/intensity of use than those considered in the Specific Plan or have the potential to create environmental impacts that exceed those identified in the Specific Plan's EIR.

Table 2-1: Anticipated Development and Phasing by Land Use Category and Phase (acres)						
Land Use	Description	Phase 1		Phase 2	Phase 3	Total All Phases
		1A	1B			
Logistics/Distribution	Packaging, warehouse, and distribution, etc.	52	138	57	102	349
Light Industrial	Light industrial manufacturing, machine shops, etc.	41	110	71	128	350
Business Park	Research and development, business support services, etc.	10	28	14	26	78
Public Facilities	Government offices, professional offices, emergency services, etc.	0	15	35	18	68
General Aviation	Airport runways, aprons, hangars, etc.	0	370	0	0	370
Aviation Related	Parcel distribution, aviation classroom training, etc.	0	0	46	0	46
Multimodal Transportation Corridor/Green Space	Bicycle and pedestrian trail, greenway, monument to military use.	0	0	13	0	13
All Uses by Phase		103	661	236	274	1,274
Infrastructure	Internal roadways, water and wastewater systems, stormwater drainage, etc.					254
Plan Area Total						1,528

2.2.4 Industrial and Business Park Uses

The majority of the Plan Area is envisioned to consist of a broad range of industrial and business park uses such as logistics, warehouse, distribution, light industrial, and offices. Phasing of the industrial business park uses is described in Section 2.3.

Logistics, Warehouse, and Distribution

The demand for distribution sites in the local area that are greater than one million square feet exceeds the available supply in the region. Although logistics, warehouse, and distribution uses are allowed throughout the Plan Area, with the exception of the airport and Public Facilities Area (in some cases), it is anticipated that these uses will be developed primarily in the southern portion of the Plan Area (Fink and Bell Road Corridors) based on their proximity to Interstate Highway 5 (I-5) via Fink Road and the presence of similar nearby uses.

Light Industrial

In addition to logistics, warehouse, and distribution uses, the Specific Plan envisions light industrial uses such as assembly, furniture and consumer electronics manufacturing and machine shops.

Business Park

Business park uses are envisioned within the Plan Area and would include uses such as call centers, research and development, and business support services. Business park uses may be developed in association with proposed logistics, warehouse, distribution, and light industrial uses, or as standalone facilities.

2.2.5 Public Facilities Area Uses

The main entrance or gateway to the CLIBP is envisioned at the intersection of Bell and W. Ike Crow Roads, where a roundabout, transit stop(s), and directional signs will be constructed. An area northwest of this intersection has been designated for the development of public facilities and other uses or services to benefit County residents. The Public Facilities Area's location near the airport entrance will allow those agencies that provide immediate response services with quick access to the airport. Such agencies may provide fire suppression, law enforcement, and other emergency services. Other specific uses envisioned for the Public Facilities Area include local and district government offices, professional offices, including outpatient/medical offices, and accessory retail uses, such as a small coffee or sandwich shop for CLIBP users and workers.

The County envisions public facility development will begin in the southern portion of the Public Facilities Area during Phase 1B, as this is the former Air Facility's administration area and contains remnant roadways and other infrastructure that may be refurbished to support initial Plan Area development. Additional infrastructure, including a portion of a proposed interior road, Backbone Road #4, will be constructed during Phase 1B (see Figure 2-2). As shown, the northern portion of the Public Facilities Area will be developed during Phase 2. The remaining central portion of the Public Facilities Area will be developed in Phase 3, following the completion of groundwater remediation.

2.2.6 General Aviation Use

The approximately 370-acre Crows Landing Airport will reuse pavement and infrastructure associated with former military runway 12-30 to the greatest extent practicable. The mix of land uses associated with CLIBP

development are compatible with the airport following the application of appropriate guidance and design and development standards set forth in the Specific Plan, the Stanislaus County Airport Land Use Compatibility Plan (ALUCP), and applicable state and federal regulations and guidance. Existing and proposed roads will serve as barriers between adjacent land uses and the airport, which will be enclosed by a security fence. Potential users include business travelers, recreational aviators, flight schools, and delivery services, as well as emergency services. A helipad will be constructed in the southeastern portion of the airport.

All improvements required by the California Department of Transportation, Division of Aeronautics, to obtain a permit to operate a GA airport will be carried out during Phase 1B. Subsequent airport improvements will be constructed based on user demand during later development phases.

2.2.7 Airport-Related Area Uses

Approximately 46 acres adjacent to the northwestern airport boundary are designated for aviation-related uses. Although light industrial, logistics, distribution, warehouse, and business park uses allowed throughout the Plan Area will also be permitted in this area, the area will be preserved during initial development, as feasible, for prospective tenants who require close access to the airport to support their operations, such as airport-related cargo (parcel) distribution and medical evacuation services. As shown in Figure 2-2, this area is anticipated for development during Phase 2.

2.2.8 Multimodal (Bicycle/Pedestrian) Transportation Corridor/Green Space

A multimodal (bicycle/pedestrian) transportation path is proposed along Bell Road, between Fink and W. Ike Crow Roads, and extending north to W. Marshall Road/SR 33. The portion of Bell Road north of W. Ike Crow Road will be abandoned as a public roadway to accommodate construction of a bicycle/pedestrian transportation corridor and linear stormwater management pond, but the road will provide existing levels of access to private properties east of Bell Road.

A paved Class 3 bicycle/pedestrian path will be constructed outside of the airport fence and along the west side of Bell Road. The path will be separated from the roadway by a wide drainage swale, and it will connect to a landscaped Class 3 bicycle/pedestrian path and greenway north of W. Ike Crow Road. The path will run along the Bell Road alignment, east of the stormwater management pond, to W. Marshall Road/SR 33. The multimodal transportation path and stormwater management pond will provide a physical and visual barrier and buffer between the industrial business park and adjacent agricultural lands.

The approximately 13-acre transportation corridor north of W. Ike Crow Road is envisioned to be a landscaped bicycle/pedestrian path with a 1- to 2- acre green space area for CLIBP user and employee use. Existing site features and attractive aviation-compatible landscaping will be installed to encourage recreational use by CLIBP users and workers during breaks. The green space will include the former air traffic control tower (ATCT) structure. Although the tower will no longer be used for aviation purposes, the structure will serve as a focal point and monument to commemorate the site's five decades of military use. The proposed multimodal transportation corridor and green space are anticipated to be developed during Phase 2.

2.2.9 Agriculture Use

The County has leased portions of the CLIBP site to a local agriculturalist as an interim site use. Agricultural activities will be allowed to continue on-site until such time that the land is needed for the imminent construction of infrastructure and development, in accordance with the Specific Plan.

2.3 INDUSTRIAL AND BUSINESS PARK DEVELOPMENT TIMEFRAME AND PHASING (30 YEARS):

- **Phase 1, Fink and Bell Road Corridors:** Development is anticipated to begin adjacent to Fink Road (Fink Road Corridor) during Phase 1A (opening through year 5) and extend into the Bell Road Corridor, which includes the area between the Delta Mendota Canal (DMC) and the airport, during Phase 1B (years 6 through 10). Based on their proximity to I-5, the Fink Road and Bell Road Corridor areas are envisioned to support primarily, but not exclusively, logistics, distribution, and warehouse uses. Infrastructure, including Backbone Roads 1 through 3, and improvements to Davis Road to accommodate the Fink Road and Bell Road Corridors and the southern portion of the Public Facilities Area will be constructed (see Figure 2-2). Specific infrastructure requirements for each phase of CLIBP development are discussed in Chapter 4, “Infrastructure.”
- **Phase 2, State Route (SR) 33 Corridor (South) and Airport-Related Area:** More logistics, business park, and light industrial uses are likely to extend northward into the southern portion of the SR 33 Corridor during Phase 2. Development of SR 33 Corridor (south) and development of the Airport-related Area will benefit Phase 1B airport development, continued Public Facilities Area development, and initial logistics, warehouse, and distribution development adjacent to Fink and Bell roads. Roadway improvements associated with the westward extension of W. Ike Crow Road and gateway improvements along Bell Road during construction of Phase 1 and Phase 2 infrastructure will support development in these areas.
- **Phase 3, State Route (SR) 33 Corridor (North):** Logistics, business park, and light industrial uses are anticipated to extend further into the northern portion of the SR 33 Corridor during Phase 3. Improvements to the W. Marshall Road entrance and infrastructure improvements identified for the northern portion of the Plan Area during Phase 2 and 3 would support ongoing development. The remaining central portion of the Public Facilities Area will be developed in Phase 3 following the completion of groundwater remediation.

2.4 LAND USE GOALS

The following Land Use Goals (LGs) correspond directly to the project objectives identified in Chapter 1 for the CLIBP Plan Area.

- LG 1: Identify and plan for logistics, warehouse, distribution, light industrial, business park, aviation, and aviation-related land uses, and public facilities, on the former Crows Landing Air Facility property to provide sustainable-wage employment opportunities for the residents of Stanislaus County and the Northern San Joaquin Valley.
- 1.1 Identify and plan for land uses that will support the long-term economic growth of the County.

- 1.2 Identify and plan for land uses that can reuse the former Air Facility infrastructure to the greatest extent practicable.
- 1.3 Identify and plan for land uses that will support the development of public facilities and public administration (e.g., fire suppression, law enforcement, government offices) that will benefit County residents.
- 1.4 Identify land uses and policies that foster flexibility in terms of leasehold (lot) size, tenant development, lease agreements, and the demand for industrial and business park property.
- LG 2: Allocate land uses and develop transportation infrastructure in a manner that encourages transit opportunities and other multimodal access and circulation (e.g., bicycle and pedestrian use).
 - 2.1 Establish an on-site transit network that provides convenient access for workers commuting to and from the CLIBP and enhances the County's transit network.
 - 2.2 Establish internal circulation infrastructure that supports and incorporates bicycle and pedestrian access, where practical.
- LG 3: Identify the need for infrastructure to support a variety of logistics, warehouse, distribution, light industrial, business park, aviation, and aviation-related land uses, and public facilities, for the estimated 30-year timeframe associated with the build-out of the Plan Area.
 - 3.1 Provide primary or "backbone" infrastructure to ready the Plan Area for development in accordance with the proposed land uses and phasing plans presented in this document (see Chapter 4, "Infrastructure," for infrastructure and infrastructure phasing information).
 - 3.2 Promote ongoing coordination with nearby communities, utilities, and service providers, prior to and during development.
- LG 4: Support on-site agricultural operations until the land is needed for imminent infrastructure or proposed development.

2.5 LAND USE POLICIES

The following Land Use Policies apply to the entire CLIBP Plan Area.

- LP 1: Designate the 1,528-acre former Crows Landing Air Facility property, which was conveyed to the County through Public Law 106-82, as the Crows Landing Industrial Business Park (CLIBP).
- LP 2: Designate areas for aviation-compatible light industrial, logistics, warehouse, distribution, and business park uses based on their proximity to on-site and off-site roadway infrastructure.
 - 2.1 Designate an approximately 103-acre area of the Plan Area as the Fink Road Corridor, which shall occupy the area north of Fink Road and south of the Delta Mendota Canal.
 - 2.1.1 The Fink Road Corridor area is envisioned to support primarily logistics, warehouse, and distribution uses due to its proximity to I-5, but may accommodate other uses.
 - 2.1.2 Fink Road shall provide direct access to this area.

- 2.2 Designate an approximately 276-acre area that occupies the Plan Area south of the Crows Landing Airport and north of the Delta Mendota Canal as the Bell Road Corridor.
 - 2.2.1 The Bell Road Corridor area is envisioned to support primarily logistics, warehouse, and distribution uses due to its proximity to I-5, but may accommodate other uses.
 - 2.2.2 Fink Road, Bell Road, a portion of Davis Road south of the airport, and new interior roads shall provide access to the Bell Road Corridor area.
- 2.3 Designate a portion of the Plan Area as the State Route (SR) 33 Corridor, which shall occupy the area north of the airport, south of W. Marshall Road, and west of the Public Facilities Area and stormwater management pond.
 - 2.3.1 The SR 33 Corridor area is envisioned to support primarily, but not exclusively, light industrial, logistics, and business park uses.
 - 2.3.2 The SR 33 Corridor area shall be accessed primarily from W. Marshall Road and W. Ike Crow Road
- LP 3: Designate the area adjacent to Bell Road and north of W. Ike Crow Road as a Public Facilities Area, supporting the development of public facilities and public administration uses.
 - 3.1 The Public Facilities Area shall accommodate emergency and other services that may require close proximity and easy access to airport facilities.
 - 3.2 The Public Facilities Area shall include the Plan Area's main gateway entrance and transit stop(s).
 - 3.3 An approximately 1- to 2- acre area of the Public Facilities Area adjacent to the air traffic control tower (ATCT) shall be developed as a green space and monument to honor those who served our nation during the site's five decades of military use and multiple missions.
- LP 4: Designate the 370-acre area adjacent to former military runway 12-30 as a public-use, general aviation airport to be owned and operated by Stanislaus County.
 - 4.1 Airport development shall occur in a logical manner and in accordance with an adopted Airport Layout Plan (ALP) and an operating permit from the California Department of Transportation, Division of Aeronautics.
 - 4.2 Proposed land uses and infrastructure located within the boundaries of the Plan Area shall be consistent with the Stanislaus County Airport Land Use Compatibility Plan (ALUCP), as amended, and incorporated into the Specific Plan by reference. Any use that would pose risk to aircraft operation shall be prohibited.
 - 4.3 The Crows Landing Airport shall serve as an amenity to CLIBP users and aviators in nearby Central Valley and Bay Area Communities.
 - 4.4 Through-the-fence operations shall not be permitted.
- LP 5: Preserve an approximately 46-acre area, adjacent to the northwestern boundary of the Crows Landing Airport and east of Davis Road, for aviation-related land uses, as feasible, during initial development.

- 5.1 This area shall be preserved for tenants who require close access to the Crows Landing Airport as an integral part of their operation, but light industrial, logistics, warehouse, distribution, and business park land uses are permitted, as well as emergency services.
- LP 6: Designate an approximately 13-acre multimodal (bicycle/pedestrian) transportation corridor/greenway along the northeastern Plan Area boundary north of the intersection of W. Ike Crow and Bell Roads.
- 6.1 The multimodal transportation corridor shall serve as a transportation facility and support interior circulation. It shall also serve as a buffer between the CLIBP and adjacent land uses.
- LP 7: Promote development in three ten-year phases that are linked to the specific infrastructure improvements defined in Chapter 3, “Built Environment and Design,” Chapter 4, “Infrastructure,” and Chapter 5, “Specific Plan Implementation.”
- LP 8: Provide visual separation and buffers from adjacent land uses through the use of setbacks, berms, and appropriate landscaping and provide designs that face inward to the CLIBP.
- LP 9: Residential uses, including temporary uses, such as worker dormitories and transient uses, shall be prohibited throughout the Plan Area.
- LP 10: Agricultural activity shall continue in the Plan Area until such time that the land is needed for imminent construction of infrastructure and development.
- LP 11: All development shall comply with design and development standards established in the Specific Plan and other plans incorporated by reference.

BUILT ENVIRONMENT AND DESIGN

3



3.1 OVERVIEW

Chapter 3 addresses the built environment or physical site features that are anticipated within the Crows Landing Industrial Business Park (CLIBP) Specific Plan area (Plan Area). It will introduce the design and development framework for the CLIBP and establish the goals and policies for future development within the Plan Area. Design and development standards, which are intended to support the high-quality design and development of the CLIBP and apply to all development within the Plan Area, are provided in Appendix B.

This chapter is organized into two main sections:

1. **Public Realm:** Plan Area design features that address site planning and design elements for the overall CLIBP; and
2. **Private Realm:** Building siting and architectural design elements that apply to individual development leaseholds (lots) or future tenants and projects within the CLIBP.

This section is further organized by design topics.

Public Realm, Plan Area Wide Design

- Circulation Framework
- Streetscape and Landscape Framework
- Open Space Framework
- Signage and Wayfinding
- Sustainability

Private Realm Design

- Building Siting and Orientation Policies
- Building Facade and Articulation Concepts and Policies
- Circulation and Parking
- Loading and Service Areas
- Aviation Considerations
- Airport Development



3.2 DESIGN GOALS

The following design goals establish the overarching design themes and principles for the Plan Area and express the desired outcome of project implementation.

- D 1: Create a high-quality industrial business park that reuses the former Air Facility, to the extent practicable, and stimulates investment in Stanislaus County through attractive design, landscaping, building, and other design features.
- D 2: Provide an industrial business park that respects the rural nature of the surrounding areas by minimizing potential conflicts with adjacent land uses, to the extent feasible.
 - 2.1 Focus development internally within the Plan Area.
 - 2.2 Incorporate design features that provide visual separation and transition from adjacent land uses through use of vegetated berms and other landscaping, screening, building setbacks, and building articulation.
- D 3: Promote Plan Area design and development that draws inspiration from and takes advantage of local conditions.
 - 3.1 Incorporate water-sensitive principles and features into the landscape, building, and infrastructure design, including stormwater management, where feasible, that recognizes the importance of water conservation in the Plan Area.
- D 4: Integrate the history of the former Air Facility into the Plan Area through design features and landscape themes that commemorate the site's former military use, including the use of monuments, signs, and structures.
- D 5: Enhance the safety of aviators, workers, and those living near the Plan Area through implementation of design and development standards that prevent or reduce hazards to aircraft operations and comply with the Stanislaus County Airport Land Use Compatibility Plan (ALUCP).
- D 6: Provide flexibility for site development by providing variably sized leaseholds (lots), building types, and site configurations to accommodate a diversity of business types.
- D 7: Promote campus-style layouts within the Plan Area whenever possible. For example, allow suppliers to cluster around manufacturers to increase efficiency for businesses.
- D 8: Consider current and future business needs during planning for individual sites/leaseholder development.
- D 9: Design the circulation system to promote efficient and safe movement patterns. Specific goals include:
 - 9.1 Reduce conflicts between vehicular and pedestrian traffic,
 - 9.2 Combine driveways and access areas (when possible),
 - 9.3 Provide adequate maneuvering and stacking areas as guided by the standards in this section, and
 - 9.4 Support safe access for emergency vehicles.
- D 10: Support walkable connections between facilities by providing common areas for social interaction and worker recreation, as well as safe and convenient pedestrian circulation between buildings, parking facilities, and common spaces.

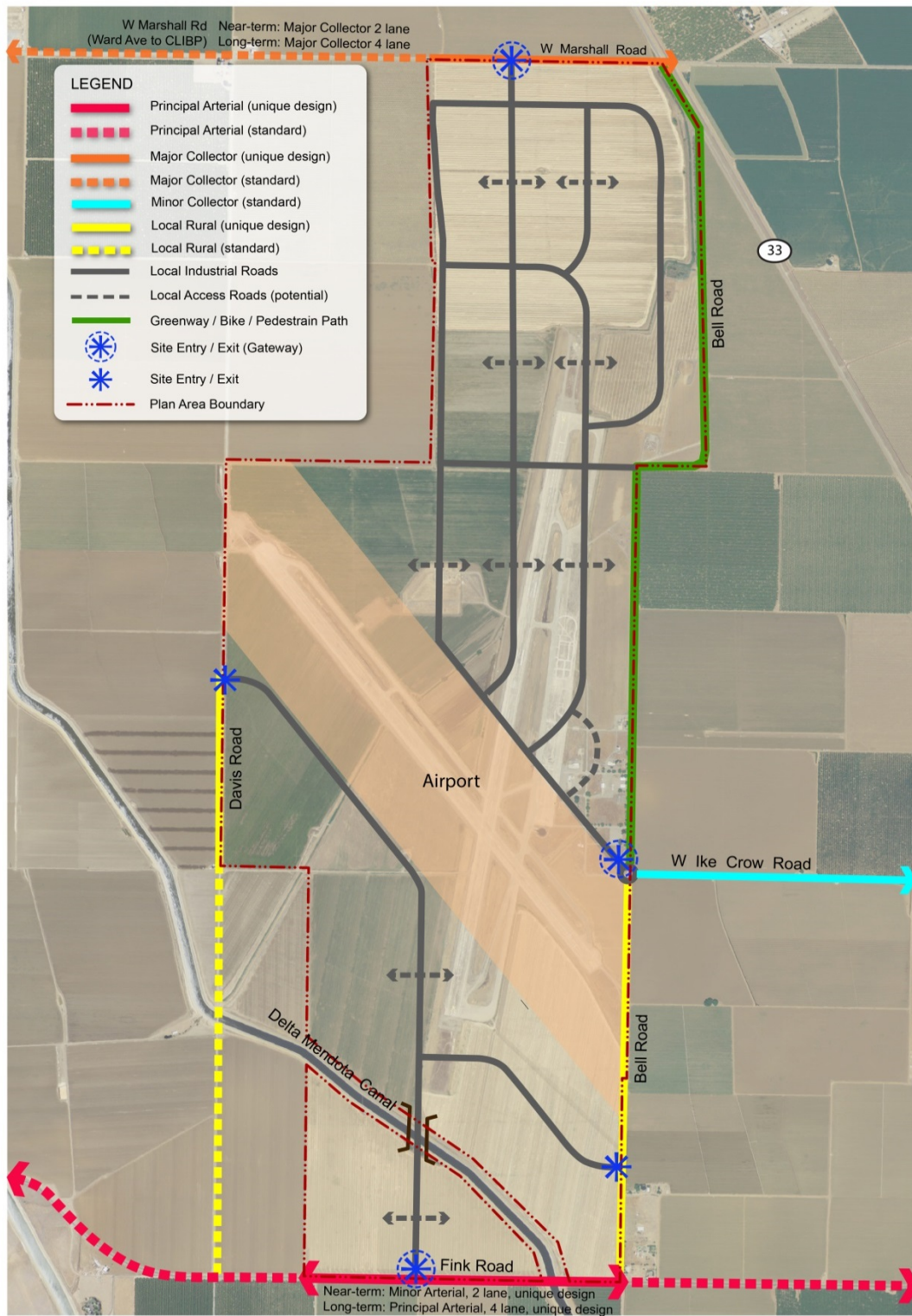
3.3 PUBLIC REALM, PLAN AREA WIDE DESIGN

3.3.1 Circulation Framework

The Plan Area roadway network will be designed to accommodate vehicular and pedestrian travel, as well as bicycle travel at strategic locations. The design and sizing of streetscape features will blend in with the rural quality of the project area by supporting a comfortable and safe environment for all users and by integrating low-impact development strategies to manage stormwater run-off on site.

The Plan Area will include a hierarchy of roadways including principal arterial, major collector, minor collector, local rural, local industrial, and local access roads as summarized in Table 3-1 and illustrated in Figure 3-1. In some cases segments of the same road will be designed according to Stanislaus County Public Works Department roadway standards (standard plates), while others will be designed to address site-specific needs. Figures 3-2 through 3-7 illustrate the site-specific roadway designs identified in Table 3-1.

Table 3-1: CLIBP Plan Area Roadway Classifications		
Roadway Classification	Purpose	Roadway Design
Principal Arterial	Road providing primary access to and from the CLIBP (south) <ul style="list-style-type: none"> • Fink Road (adjacent to CLIBP) • Fink Road (east and west of CLIBP) 	<ul style="list-style-type: none"> • See Figure 3-2 • County Standard Plate 3-A16*
Major Collector	Road providing primary access to and from the CLIBP (north) <ul style="list-style-type: none"> • W. Marshall Road (adjacent to CLIBP) • W. Marshall Road (CLIBP to Ward Avenue) 	<ul style="list-style-type: none"> • See Figure 3-3 • County Standard Plate 3-A13*
Minor Collector	<ul style="list-style-type: none"> • W. Ike Crow Road 	<ul style="list-style-type: none"> • County Standard Plate 3-A12*
Local Rural	<ul style="list-style-type: none"> • Davis Road (adjacent to CLIBP) • Davis Road (CLIBP to Fink Road) • Bell Road (with multimodal path) 	<ul style="list-style-type: none"> • See Figure 3-4 • County Standard Plate 3-A11* • See Figure 3-5
Local Industrial	Local roads providing internal circulation and access within the CLIBP and also carrying the backbone infrastructure for site development, including water, wastewater, and other utilities.	<ul style="list-style-type: none"> • See Figures 3-6 and 3-7
Local Access	Private or semi-public roads internal to specific developments that provide shared access and driveways to multiple buildings/developments.	Not applicable.
* County standard plates are those adopted at the time of Specific Plan approval, included as Appendix E for future reference, would not change if County standards or plate numbers change unless a revised Specific Plan is approved.		



Source: AECOM 2016

Figure 3-1: Roadway Classification Diagram

Principal Arterial Road

Fink Road is located at the southern boundary of the Plan Area. Figure 3-2 shows the cross section for the segment of Fink Road adjacent to the CLIBP, which will have a unique design based on a modified County standard. The portion of Fink Road between I-5 and Bell Road will be improved as a two-lane road, and eventually will include paved shoulders on both sides, a center-aligned left-turn lane, and a wide stormwater drainage swale on the section of Fink Road adjacent to the CLIBP. In the long-term, Fink Road will be improved in accordance with County Standard Plate 3-A16 to include four travel lanes within a 135-foot right-of-way (ROW) to accommodate future increase in traffic volume. A segment of Fink Road that is adjacent to the southern CLIBP boundary crosses the Delta Mendota Canal (DMC). Roadway improvements to Fink Road adjacent to the canal will require coordination with the Bureau of Reclamation.

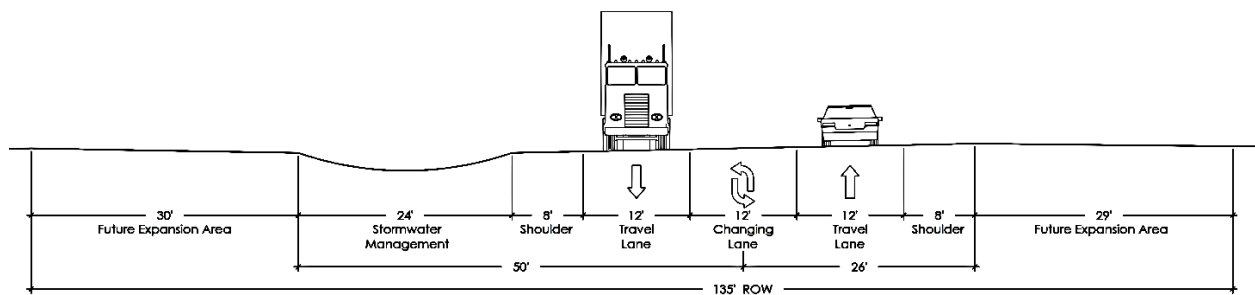


Figure 3-2: Fink Road (looking east) Near-Term Cross Section for Segment Adjacent to CLIBP

Major Collector Road

W. Marshall Road is located at the northern boundary of the Plan Area. Figure 3-3 shows the segment of W. Marshall Road adjacent to the CLIBP, which will be constructed using a unique design that is based on a modified County standard. The road segment will include four travel lanes, one center-aligned left-turn lane, and a wide stormwater drainage swale on the southern side of the road. Until traffic volumes trigger an upgrade, the segment of W. Marshall Road between the CLIBP and Ward Avenue will be improved in accordance with County Standard Plate 3-A13, which includes two lanes and narrowing at the DMC, and allows for future expansion as a four-lane major collector road.

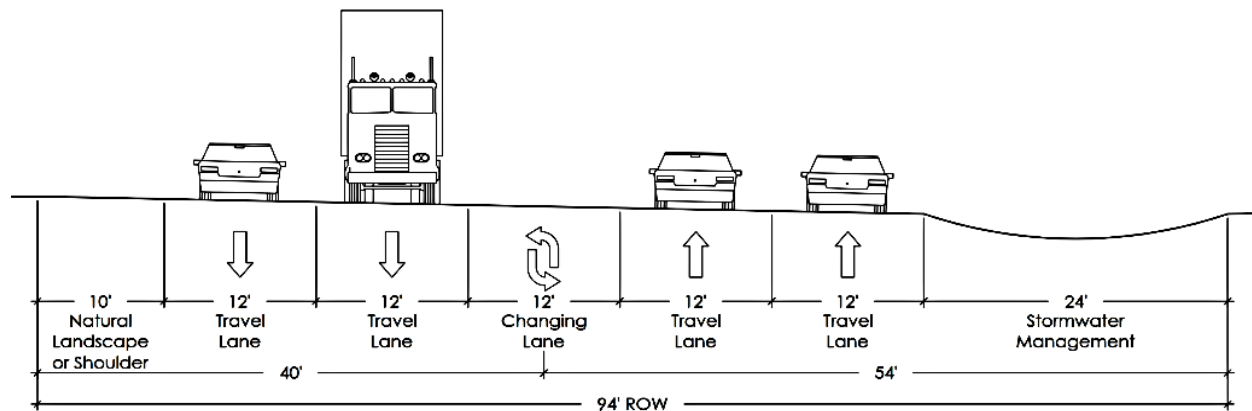


Figure 3-3: W. Marshall Road (looking east) Cross Section for Segment Adjacent to CLIBP

Minor Collector Road

W. Ike Crow Road, east of the Plan Area, will be a two lane minor collector road in accordance with County Standard Plate 3-A12, which allows for a future bike lane, if needed.

Local Rural Roads

Local rural roads within the Plan Area include Davis and Bell Roads. The section of Davis Road adjacent to the CLIBP will have a unique design that is based on a modified County standard to include a wide drainage swale (see Figure 3-4). The portion of Davis Road between Fink Road and the CLIBP will be a two lane road in accordance with County Standard Plate 3-A11.

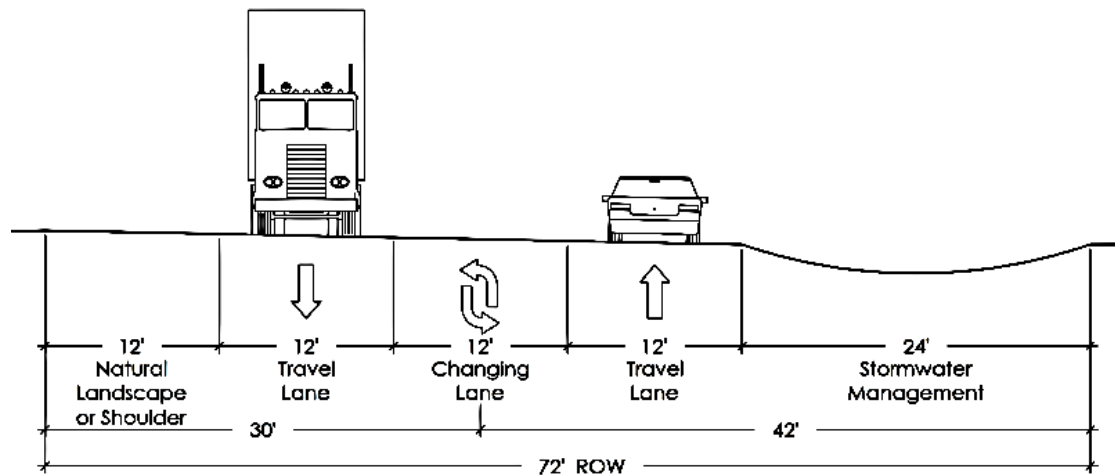


Figure 3-4: Davis Road (looking north) Cross Section Adjacent to CLIBP

The portion of Bell Road between Fink Road and W. Ike Crow Road is also envisioned as a unique local rural road with a wide swale and a multimodal (bicycle/pedestrian) path along the west side of the roadway and outside of the airport fence (see Figure 3-5). Bell Road will consist of two travel lanes, one center-aligned left-turn lane, and a bicycle/pedestrian path separated from vehicle traffic by a wide stormwater drainage swale. The multimodal path will connect to a multimodal path north of W. Ike Crow Road, which will have attractive aviation-compatible landscaping

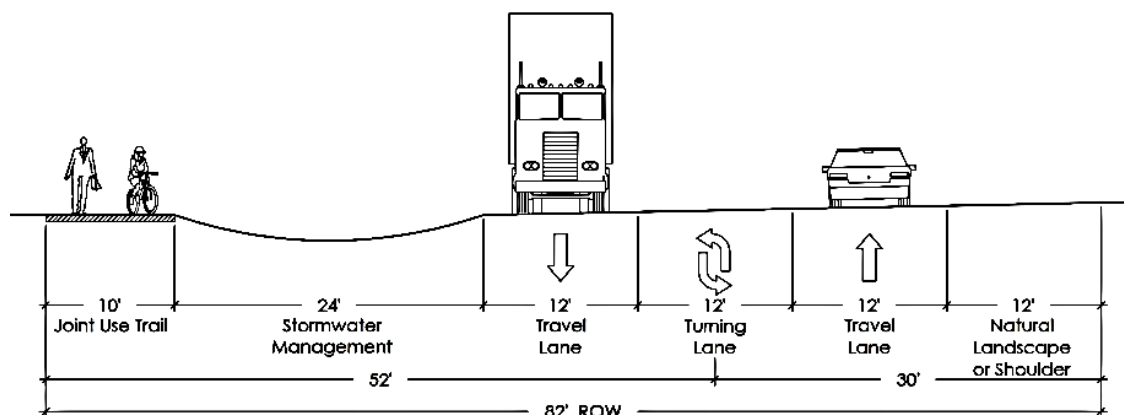


Figure 3-5: Bell Road (looking north) Cross Section between Fink Road and W. Ike Crow Road

Typical Local Industrial Roads

The typical ROW for new local industrial roads within the Plan Area has a 120-foot ROW with two travel lanes, one center-aligned left-turn lane, a parking lane, wide drainage swale, and sidewalk on each side (see Figure 3-6). The northern portion of the local industrial road that intersects with the W. Marshall Road gateway entrance will require widening to accommodate four travel lanes. This cross section will maintain the 120-foot ROW and will consist of four travel lanes, one center-aligned left-turn lane, as well as paved shoulder, wide drainage swale, and sidewalk on each side (see Figure 3-7).

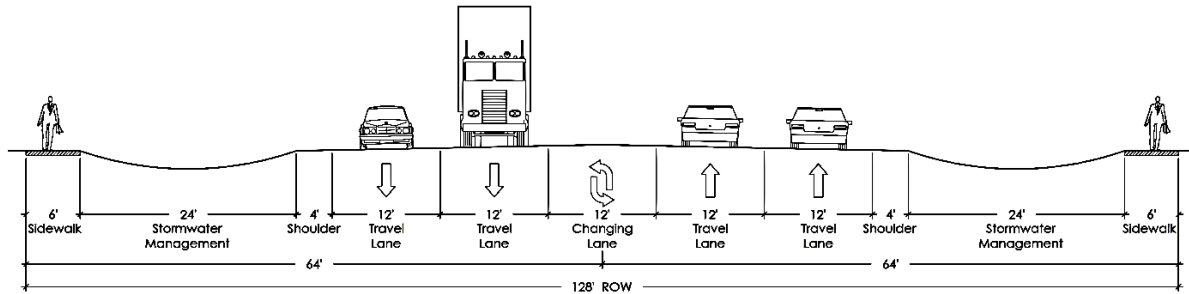


Figure 3-6: Typical Local Industrial Road, Two-Lane Cross Section

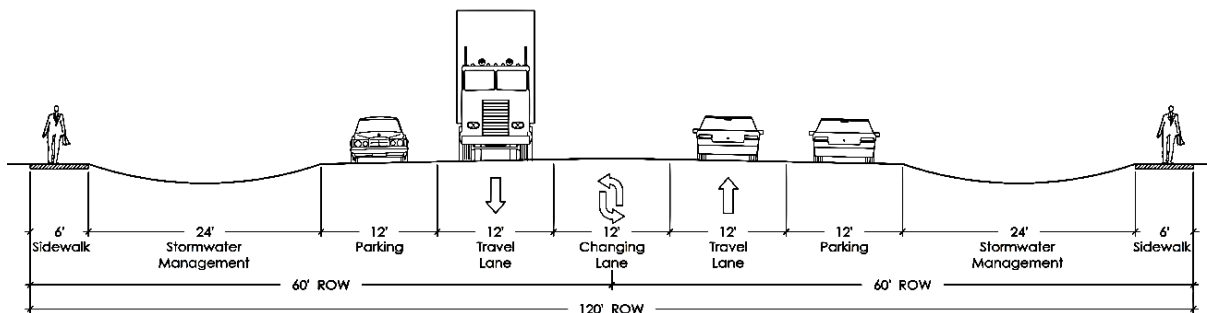


Figure 3-7: Typical Local Industrial Road, Four-Lane Cross Section

Local Access Roads

In addition to the local industrial roads that provide internal industrial business park circulation, local access roads will be provided to support access to lots and businesses in the Plan Area. When possible, the local access roads will provide shared access and driveways to multiple buildings/developments. Figure 3-1 suggests general locations of these roads for illustrative purposes only. The number, location, alignment, and cross-sections for these roads will be determined for specific development projects at the time of County site plan review based on the need for internal connections among individual buildings and developments as described in Table 3-1.

Bicycle Circulation

Bicycle facilities that will be provided within the Plan Area include:

- Class 3 multimodal (bicycle/pedestrian) path along the CLIBP eastern boundary, north of W. Ike Crow Road.
- Internal bikeways, where appropriate and logical, to connect development internally within the Public

Facilities and Industrial Business Park Areas.

The Stanislaus Council of Governments (StanCOG) Non-Motorized Transportation Master Plan designates SR 33 as a Class 3.5 bikeway or signed bicycle route with wide shoulders. Bicycle facilities within the Plan Area will provide a connection to the designated bike route and may consist of a separate joint-use path or designated bike lane within the ROW shoulder area.

3.3.2 Streetscape and Landscape Framework

Streetscape and Landscape Design

The streetscape along Plan Area roads will be designed to establish an attractive and safe work environment by integrating a variety of plant materials, stormwater drainage swales, sidewalks, lighting, and signage in a consistent and creative manner. Climate-appropriate, low-maintenance landscaping (i.e., street trees, shrubs, and groundcover) are envisioned to create a unique local character for the CLIBP, while also providing shading and accents to Plan Area roads. Landscape materials along roads, at gateway entrances, and within common open space areas will be designed to support seasonal variations and changes in color, scale, and texture, and will accentuate intersections, gateway entryways, and common open space areas.

Landscaping within the public realm will be used as a transition to soften the buildings and built edges of private development, including parking areas, fences, and service areas. The following policies will apply to the streetscapes and landscapes within the Plan Area. (Refer to Appendix B for design and development standards for streetscape and landscape design.)

Landscape Design Policies

Landscaping is an important identifying element in the overall Plan Area development.

- D 1: Landscape design themes within the Plan Area shall draw inspiration from the aviation theme present within the landscape and structures in the former air facility, while respecting the rural landscape and broad open space that characterizes the surrounding area.
- D 2: Landscaping shall employ a mix of trees, shrubs, and groundcover, as suggested by the plant palette in Figure 3-8. Water-conserving/drought-tolerant plants, including California natives and other climate appropriate trees, shrubs, and groundcover, shall be used to comply with state and County water-efficient landscape standards and to reduce maintenance costs. Xeriscape techniques are encouraged to achieve water conservation and low maintenance goals. Plants shall be native or adaptable to local climate conditions and require little or no supplemental irrigation water once established.
- D 3: Landscaping and groundcover shall be employed to reduce or prevent erosion on steep slopes or along drainage courses.
- D 4: Street trees, shrubs, and groundcover shall be selected to support the overall landscape theme within the Plan Area, such as accentuating entrances, landmarks, and common areas.
- D 5: Landscaping designs and the selection of planting materials must consider the presence of the on-site airport and must not be attractive to potentially hazardous wildlife. (Refer to Design Goal 6 and the design and development standards in Appendix B for additional guidance.) **Applicants who wish to propose similar alternative plant materials to those**

suggested by the palette in Figure 3-8 may be required to submit the proposed plant palette for review and approval by a Federal Aviation Administration (FAA) qualified Airport Wildlife Biologist.

Site Furnishing and Lighting Policies

Well designed, easy-to-maintain, and durable street furniture and lighting will be provided in the Plan Area to encourage pedestrian use. Lighting levels for street lights will be adequate to illuminate the intended space and support the safety of CLIBP users and workers and will not conflict with aviation activities. (Refer to Appendix B for design and development standards for site furnishing and lighting.)

- D 6: Bus shelters shall be permitted near intersections within the space allocated to parking areas on the local industrial roads provided the County determines the location meets applicable County or public transit agency specifications for bus access and an off-road bus stop.
- D 7: Pedestrian-oriented street furniture shall be encouraged and permitted within the front setback area of a leasehold (lot), provided their placement does not interfere with pedestrian movement or vision clearance requirements.
- D 8: A coordinated system of street furnishings and lighting shall be selected to complement the overall landscape design theme for the Plan Area and appropriate to the function and use of site development.
- D 9: The design, materials, and finishes used for street furniture and lighting shall be low-maintenance, suitable for the climate, and vandal-resistant.
- D 10: Illumination standards for roads shall respond to the ROW widths and road functions.
- D 11: Lighting fixtures and illumination shall be equipped with downward-facing shields and shall not conflict with aviation activities.

Gateway Entryway and Common Open Space Area Features

Gateway entryway features will be provided to the CLIBP Plan Area on Fink Road, Bell Road (at W. Ike Crow Road), and W. Marshall Road (see Figure 3-1). Examples of architectural and thematic approaches for gateway entryway features are shown on Figure 3-9. (Refer to Appendix B for design and development standards for gateway entryway features.)

- D 12: Gateways entrances shall include vertical architectural monumentation, hardscape and landscape elements, and public art to create visual interest for users, visitors, and passersby.

Landmarks and public art shall be encouraged in common open space areas or as focal points within the industrial business park. A landmark feature could be constructed as a monument, such as the former air traffic control tower (ATCT), special entryway signage, or another feature that complements the overall signage program and landscape treatments in the Plan Area.



General Criteria For Plant Selection

Trees	Shrubs	Groundcover	
<p>Shall be low-growing varieties so as not to intrude upon navigable airspace at maturity. Tree sizes shall range between maximum heights of 30 to 45 feet.</p> <p>Trees must not produce nuts, fruit, drupes or berries that can provide food for wildlife.</p> <p>Trees should not provide a continuous canopy.</p> <p>Vertical branch structure is preferred.</p> <p>Other varieties to consider: Desert Willow (<i>Chilopsis linearis</i>) and Palo Verde (<i>Cercidium floridum</i>).</p>	<p>Must not produce nuts, fruit, drupes, berries, or other food sources for wildlife.</p> <p>Other varieties to consider: Australian mirror bush (<i>Coprosma sp.</i>) and Forsythia.</p>	<p>Shall provide an average height of 6 to 12 inches (Heights of less than 6 inches encourage or provide opportunities for loafing and foraging, whereas heights of greater than 12 inches can harbor wildlife).</p>	<p>Plantings for stormwater drainage swales with low-growing or groundcover plants that are 6 to 12 inches in height could include: Common Rush (<i>Juncus effusus</i>); Western Columbine (<i>Aquilegia formosa</i>); Scarlet Monkeyflower (<i>Mimulus cardinalis</i>); Globe Sedge (<i>Carex globosa</i>); Douglas Iris (<i>Iris douglasiana</i>); Blue-eyed Grass (<i>Sisyrinchium bellum</i>); and Yerba Buena (<i>Satureja douglasii</i>).</p>

Figure 3-8: Proposed Landscape Palette



Archway / Canopy Gateway Feature



Horizontal Monument Gateway Feature



Wall Gateway Feature



Vertical Monument Gateway Feature

Figure 3-9: Examples of Gateway Features

3.3.3 Open Space Framework

Site Edges and Agricultural Buffers

The Plan Area is surrounded by agricultural land. Therefore, the design treatment selected for the Plan Area perimeter must provide a visual separation between the CLIBP and its adjacent rural landscape, which includes residences, access roads, viewpoints, and agricultural areas. The use of special design treatments at the Plan Area boundaries will create a distinct identity for the CLIBP Plan Area and help to avoid conflicts with nearby agricultural uses. (Refer to Appendix B for design and development standards for site edges and agricultural buffers.)

- D 13: A landscaped corridor that includes aviation-compatible native and low-maintenance groundcover, shrubs, other vegetation, and a bicycle/pedestrian path shall be designed north of the portion of W. Ike Crow Road that is adjacent to the Plan Area eastern boundary. The corridor will provide a visual screen between Plan Area buildings and adjacent agriculture use.
- D 14: Buildings located adjacent to the Plan Area boundaries shall include adequate setbacks from adjacent agricultural uses. Setback areas may consist of road and other rights-of-way, parking areas, and landscaping that provide a visual screen and separation from adjoining agricultural uses.

3.3.4 Signage and Wayfinding

A coordinated signage and wayfinding program is envisioned for the Plan Area that will be consistent with on-site architecture and landscaping and will provide identification, direction, and necessary information to CLIBP users and visitors.

At least three types of signs will be necessary.

- **Street Signs and Place Markers** will be required to identify all roads in the Plan Area and to identify key features such as bicycle/pedestrian facilities and monuments.
- **Industrial Business Park Identification and Wayfinding Signs** will convey a consistent identity of the CLIBP, identify CLIBP boundaries, and provide direction and information to CLIBP users and visitors.
- **Tenant Identification Signs** will identify individual businesses and tenants.

The following policies will guide the comprehensive design, location, and legibility of signs in the Plan Area and help create an overall identity for the CLIBP. (Refer to Appendix B for design and development standards for signage.)

- D 15: Signs shall be consistent throughout the Plan Area to enhance the identity of the CLIBP.
- D 16: Signs shall be located to be visible from roads and paths, without conflicting with safe vehicular movement and visibility.
- D 17: The type of signs used shall be designed as a group, incorporating similar, compatible materials that reinforce the design and style of the overall Plan Area or associated project design.
- D 18: Signs shall be constructed to be compatible with safe aviation in terms of their associated heights, illumination, perching potential, etc.

3.3.5 Sustainability

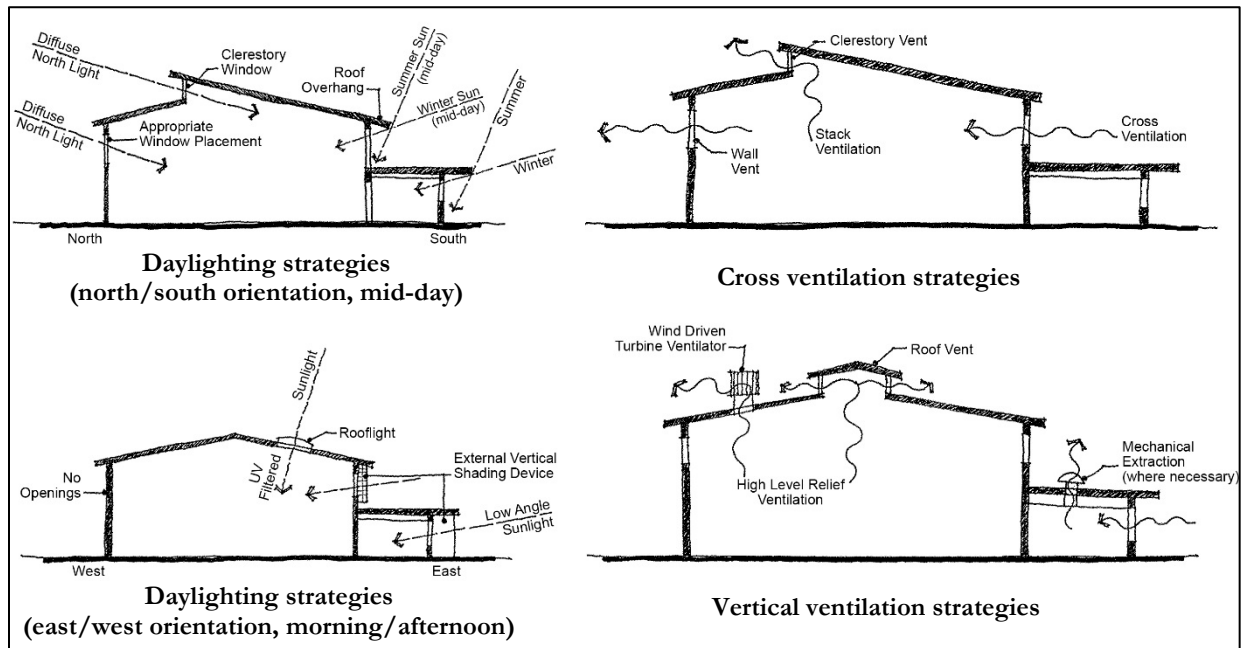
Energy Conservation Policies

One of the primary objectives of the CLIBP project is to provide local employment opportunities through the creation of a regional job center and to reduce the number of commuter vehicle miles traveled and subsequent vehicle emissions (see Chapter 1, “Introduction,” Objective 2). Another project-related objective is to encourage the use of sustainable design and implementation of federal, state, and local energy and water conservation requirements (see Chapter 1, Objective 6).

The following policies will promote sustainable development in a manner that meets or exceeds the State of California’s minimum standards for building energy efficiency standards, the CalGreen Code, and other applicable codes and regulations.

- D 19: All development shall consider proposed site, building, and landscape design features that minimize energy demand, lower operational costs, and reduce air emissions associated with facility operations.
- D 20: All development shall be encouraged to incorporate energy-efficient design concepts, building systems, and alternative energy sources. To the greatest extent possible, new development should incorporate the following measures:
- Application of Leadership in Energy and Environmental Design (LEED) Green Building principles and certification.
 - High-performance buildings materials, including glass and insulation.
 - Renewable energy technologies, such as solar water heaters, solar panels, and other on-site installed solar facilities, wind, or geothermal energy collectors or active solar energy generation systems. The County must determine that the use of these renewable energy technologies is compatible with airport operations and FAA requirements.
 - Computerized controls to monitor temperatures in tenant spaces and to adjust heating and cooling.
 - Lighting controls to monitor and adjust lights for work, security, or other functions.
 - Energy star appliances, lighting, and equipment.
 - Radiant floor heating system in large spaces.
 - Roll up or sliding doors in large spaces for natural ventilation during temperate weather.
 - Building placement to take advantage of passive heating and cooling, including within open space areas. Buildings should be adequately separated from each other to avoid obstructing solar access, especially during winter months.
 - Trees and earth sheltering with creative land grading to shade building entrances and parking areas.
 - Passive design strategies within buildings for natural heating, cooling, lighting and other energy saving opportunities.

- Operable windows, skylights, and fans to reduce mechanical ventilation and cooling.
- Windows, doors, and rooftops arranged to maximize natural ventilation and daylighting.
- Active solar energy technologies on large roof areas and in open spaces.



Passive design strategies for daylighting and ventilation in buildings help optimize energy conservation.

Stormwater and Water Quality Management Policies

The application of best practices in stormwater and water quality management will be integral to Plan Area design. Water-sensitive urban design features, such as the use of stormwater drainage swales along roads, have been incorporated into the Plan Area design to ensure that stormwater runoff from new development is detained on-site for irrigation use, to mitigate potential localized or downstream flooding effects, and to protect water quality. However, on-site stormwater and water quality management systems must not be designed so as to enhance habitat or attract potentially hazardous wildlife to aviation.

The CLIBP stormwater and water quality management programs are described in Chapter 4, “Infrastructure,” of this Specific Plan. Policies guiding the stormwater and water quality management strategies to be implemented in the Plan Area include:

- D 21: New stormwater facilities shall incorporate natural drainage systems that can connect with proposed on-site drainage facilities.



Water-sensitive design techniques shall be incorporated into site design.

- D 22: Low-impact development standards shall be implemented in accordance with all applicable federal, state, and local permit requirements.
- D 23: Every leasehold (lot) within the Plan Area shall detain all stormwater on-site and comply with the Stanislaus County Department of Public Works standards for storm drainage, including the current design storm and detention options. (Refer to Stanislaus County Public Works Standards and Specifications in effect at the time of development for detailed process and requirements.)
- D 24: The use of turf for landscaping shall be strictly prohibited.
- D 25: Water metering of individual units or spaces in a multi-tenant building shall be required.

3.4 PRIVATE REALM DESIGN

3.4.1 Building Siting and Orientation Policies

Building siting and orientation will strive to create an attractive public realm streetscape environment. Primary building frontages and entries should be sited to face roads, and buildings should be oriented to maximize energy efficiency by incorporating passive and active design elements. When possible, buildings should be oriented to maximize the potential use of natural daylighting and active solar energy systems that are compatible with aircraft operations, as noted in policy D-28 (renewable energy technologies).

The following building siting and orientation guidelines apply:

- D 26: Buildings should be sited to enhance the character of existing landforms and site features, strengthen the relationships between buildings, and facilitate pedestrian and vehicular circulation.
- D 27: Buildings should be designed and sited to maximize the use of natural daylight, passive heating and cooling strategies for energy savings, and to respect the solar access requirements of adjacent (existing and proposed) buildings).

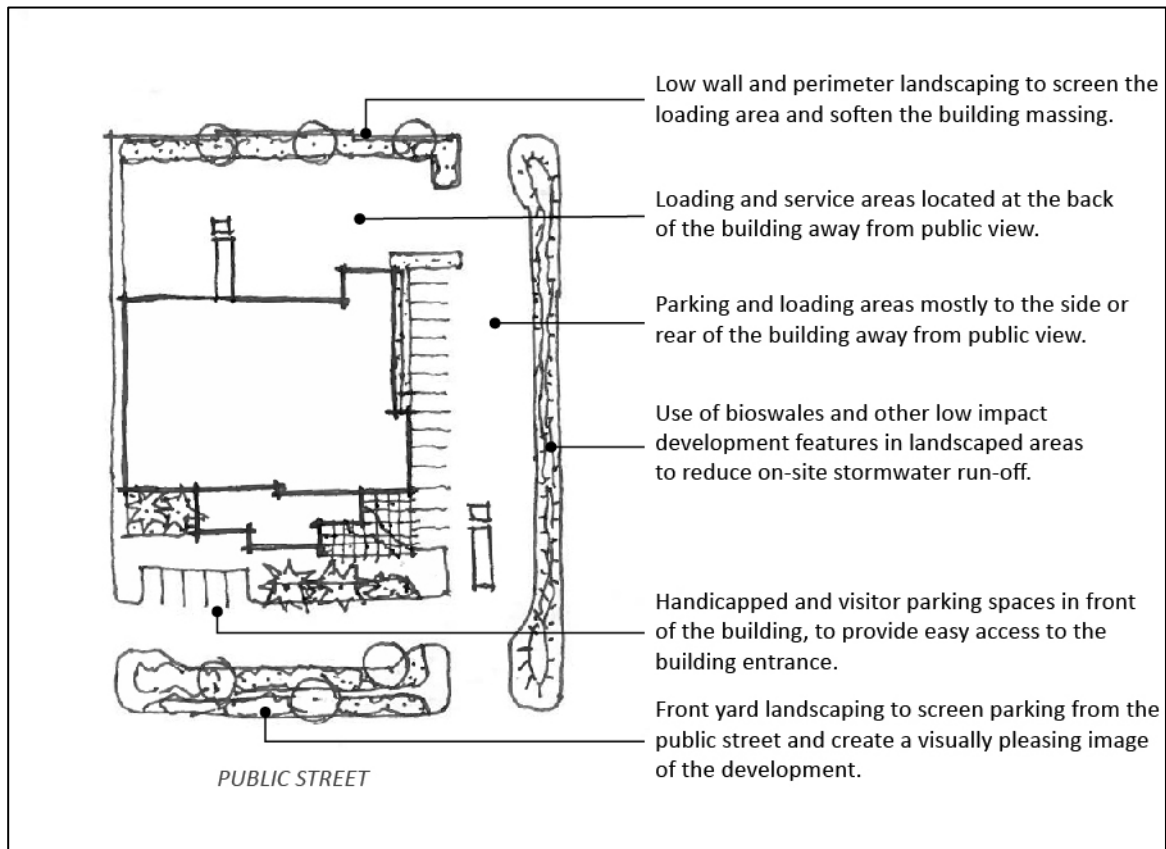
Building Setbacks

All buildings and parking areas should include a sufficient set back from perimeter and interior roads to establish a distinct, well landscaped public-realm environment. Setbacks along roads will facilitate the use of landscaped buffers to screen or provide a visual distraction from parking areas. Building setbacks should be landscaped to create a cohesive image and identity for the CLIBP. The use of different building setbacks for different land uses may help to enhance visual interest along the road and present a distinct identity for each use. (Refer to Appendix B for design and development standards for building setbacks.)

- D 28: Architectural projections that are not included in the floor area, such as roof eaves or other architectural enhancements, should not encroach more than three (3) feet into a building setback area.
- D 29: Building setbacks may be varied to accommodate pedestrian amenities and to create variation within a campus-style development.

Site Design and Layout Principles

This light industrial building entrance is both distinctive and welcoming, which contributes to the building's identity. The horizontal canopy and vertical walls shade the entrance to keep it cool in the summer and partially buffer it from strong winter cross winds.



Source: AECOM 2017

Figure 3-10: Example of Site Design and Layout

3.4.2 Building Façade and Articulation Concepts and Policies

The architectural design for each building in the Plan Area should reflect its specific function. This applies to all Plan Area buildings, including warehouses, which may be strictly utilitarian in function and character.

While design variations and flexibility are encouraged for individual buildings, each design must also promote an overall sense of cohesiveness and identity for the CLIBP. For the type of industrial uses planned, the range of architectural and site plan treatments will likely focus on providing a cost-efficient design that is also clean, distinct, durable, and long lasting. (Refer to Appendix B for design and development standards for building and architecture.



Clean lines, articulated structural bays, and different materials can be used to break up the mass of large buildings.

- D 30: Square, box-like structures with large, blank, unarticulated wall surfaces are not an acceptable development form. Building facades should be broken up by their structural bays and incorporate architectural features and patterns that provide visual interest at the scale of the pedestrian and reduce the appearance of mass.

Building Height, Scale, and Massing

- D 31: The height of new development should be compatible with and transition from the height of adjacent development, when designed to be two or more stories.
- D 32: Building heights, including antennae and other appurtenances, should not conflict with navigable airspace as defined by FAA at 14 CFR Part 77, “Safe, Efficient Use, and Preservation of the Navigable Airspace,” and shown on the Crows Landing Airport Layout Plan (ALP).

Colors, Materials, and Finishes

- D 33: Earth-tone colors should be used as the base color for proposed structures to be compatible with nearby agricultural uses. Brighter or more intense colors may be used as accents for trims, doors, window frames, etc., as long as they complement the colors of the overall structure.

- D 34: Exterior materials shall be selected to minimize any potential glare to surrounding development and aircraft operations.
- D 35: Exterior materials for buildings should be of high quality and durability to support the overall high quality of design and development desired within the CLIBP.
- D 36: A variety of building materials and textures in combination with landscape and lighting treatments is encouraged to provide visual interest and activate the building development.
- D 37: Use of recycled, local, and/or rapidly renewable materials is encouraged.
- D 38: Use of low volatile organic compound (VOC) and non-toxic building finishes is encouraged.
- D 39: Structures shall avoid the use of overhead grids, cavities, or other features that could provide refuge or nesting habitat for wildlife. If necessary, structures shall be equipped with anti-perching devices.



A variety of building materials and colors, in combination with paving and lighting, should be used to accentuate the building.

3.4.3 Circulation and Parking

On-site circulation, ingress, and egress should minimize conflicts among various travel modes; demarcate areas for pedestrians, bicyclists, cars, and service vehicles; and guide the overall configuration and appearance of parking areas. (Refer to Appendix B for design and development standards for circulation and parking.)

- D 40: The parking lot and vehicles should not be the dominant visual elements of the site. Large paved lots should be avoided in favor of multiple smaller parking areas, separated by landscaping, walkways, and buildings. Parking should be strategically located away from pedestrian traffic routes, when possible.
- D 41: Site access and internal circulation should be designed to emphasize safety and efficiency and to reduce conflicts between vehicular and pedestrian traffic.

3.4.4 Loading and Service Areas

- D 42: The placement and design of loading and service areas should be avoided at building or leasehold (lot) street area frontages and designed in accordance with the design and development standards in Appendix B.
- D 43: Development should screen or conceal loading areas/docks, outdoor storage, and service areas for trash and utilities in view of a public space and roads to the greatest extent possible. Screening materials should be designed to blend in with the landscape and architectural design of the development.

3.4.5 Aviation Considerations

The CLIBP Plan Area includes the 370-acre Crows Landing Airport. Proposed land uses and design and development standards included in this Specific Plan have been developed to optimize compatibility with the new public-use airport.

All proposed development within the Plan Area will be located within the Airport Influence Area (AIA) associated with the Crows Landing Airport (see Chapter 1, Figure 1-5), and all proposed projects must comply with the Stanislaus County ALUCP.

ALUCP policy considerations include:

- Aircraft noise exposure and the need to provide sound insulation;
- Safety Considerations (land uses, densities, and intensities);
- Navigable airspace and heights of structures;
- Overflight awareness;
- Other hazards to aircraft, such as glare, smoke, electronic interference, and hazardous wildlife.

3.4.6 Airport Development

All airport development shall be designed in accordance with appropriate federal and state regulations and guidance pertaining to airport design and development, including FAA Advisory Circular 150/5200-13A, “Airport Design,” as amended, state regulations, and other pertinent guidance. Should conflicts between federal or state aviation regulations/guidance and CLIBP Specific Plan policies occur, the aviation regulations/guidance shall prevail.

All proposed airport facilities must appear on/comply with the Crows Landing ALP, or the ALP must be amended to include the proposed facilities. In addition, all proposed ALP revisions must be reviewed to determine their consistency with the Stanislaus County ALUCP. In such cases, environmental review may be warranted.

The County will ready the Crows Landing Airport for site development and tenant use by designating and readying sites for hangar development and fixed-based operations. The following policies shall apply to airport tenants and users, as well as the specific conditions associated with lease agreements:

- D 44: The airport and its facilities shall only be used for aviation-related purposes. Airport-related uses that do not require the use of airport facilities will be sited outside of the airport boundaries.
- D 45: Hangars and aircraft parking areas shall be used only for the storage and maintenance of aircraft. Boats, trailers, other vehicles, or equipment may not be stored at the airport under any circumstance.
- D 46: All facilities constructed on airport property by the County or others, shall be constructed and maintained to provide an attractive aviation facility as described in Section 3.4.

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4.1 OVERVIEW

Chapter 4 provides a plan for the orderly and cost-effective development of on-site and nearby infrastructure needed to support each phase of development envisioned for the Crows Landing Industrial Business Park (CLIBP) Specific Plan area (Plan Area). Infrastructure includes a surface transportation system; a potable and non-potable water supply and distribution system; wastewater collection and treatment; stormwater management, including features for groundwater recharge; dry utility networks; and solid waste service. This chapter also addresses key environmental considerations associated with water quality and conservation.

“Backbone” infrastructure is defined as major public improvements designed to serve the entire Plan Area or substantial portions of the Plan Area, and is the minimum required to support phased on-site development based on proposed land uses and development densities/intensities. The backbone infrastructure systems described in this chapter are conceptual in nature and may be modified during CLIBP build-out based on changes in technology or the location and intensity of future development.

The County will initially make infrastructure improvements for development in the southern portion of the Plan Area (Fink Road Corridor) during the first five years of development, which is referred to as Phase 1A (see Chapter 2, “Land Uses,” Figure 2-2). Initial Plan Area development in the Fink Road Corridor takes advantage of the CLIBP’s proximity to Interstate Highway 5 (I-5) using the Fink Road/I-5 interchange. The Fink Road Corridor is envisioned to support primarily logistics, warehouse, and distribution uses because of its proximity to I-5, but it may accommodate other uses. Infrastructure improvements for development in the Bell Road Corridor, airport, and southern portion of the Public Facilities Area will be made during years 6 to 10 (Phase 1B). A strategy for infrastructure phasing and financing is provided in the CLIBP Infrastructure Financing Plan (Appendix K).

4.1.1 Infrastructure Goal

The following goal applies to all components of the CLIBP Plan Area’s proposed infrastructure:

- IG 1: Provide infrastructure, including roads; potable and non-potable water supply and distribution; wastewater collection and treatment; stormwater management, including features for groundwater recharge; electricity, natural gas, and communication networks; and solid waste service that will be sufficient to serve the projected growth and build-out of the CLIBP Plan Area.

4.1.2 Infrastructure Policies

The following policies apply to all components of the CLIBP Plan Area’s proposed infrastructure:

- IP 1: Promote the orderly and efficient construction or expansion of infrastructure and utilities to meet projected needs.
- IP 2: Implement capital improvements for needed service infrastructure in coordination with the direction, extent, and timing of Plan Area growth.
- IP 3: Establish equitable methods for distributing costs associated with Plan Area development, including the costs of on-site backbone infrastructure and regional serving off-site improvements needed for Plan Area development.
- IP 4: Design new infrastructure systems to consider life-cycle costs and to promote innovation in energy and water conservation.

4.2 TRANSPORTATION

The 1,528-acre former Air Facility property is generally bounded by W. Marshall Road to the north, State Route (SR) 33 to the northeast, Bell Road to the east, Fink Road to the south, and agricultural land and Davis Road to the west. Regional access to the Plan Area is provided by I-5 and SR 33, with local access provided by W. Marshall Road at the Plan Area's northern boundary and W. Ike Crow Road at its eastern boundary. Fink Road, to the south, provides regional access between the CLIBP and I-5 (see Figure 4-1). Currently, no public roadways provide access through the Plan Area.

4.2.1 Transportation Plan

The Transportation Infrastructure Plan – Crows Landing Industrial Business Park (Appendix F), referred to herein as the Transportation Plan, identifies the on-site interior or “backbone” roads that will be constructed in accordance with the phased site development presented in Chapter 2, “Land Uses,” and road design in Chapter 3, “Built Environment and Design,” as well as needed off-site improvements. The backbone roads will provide primary internal circulation and connections to the adjacent off-site roadway network.

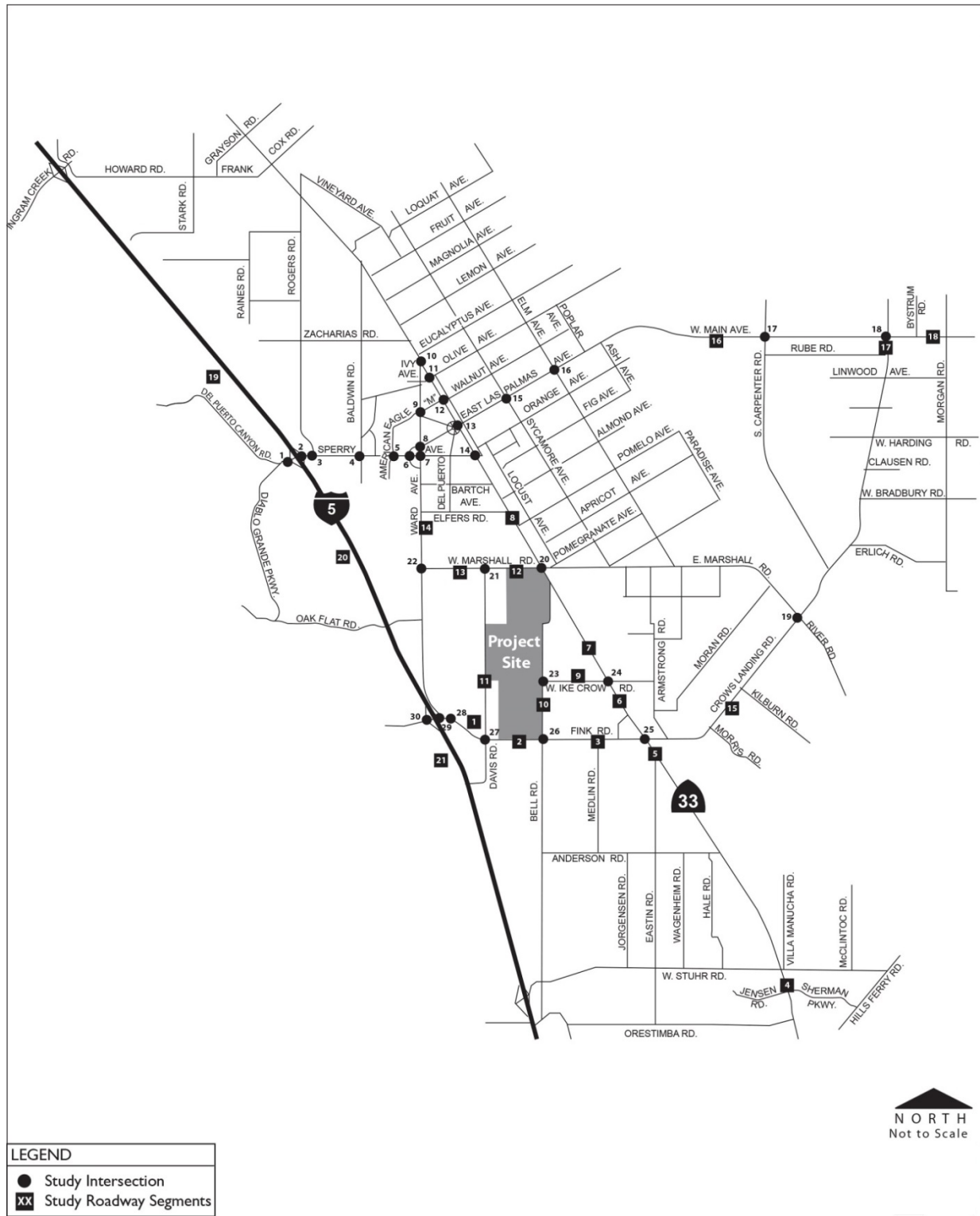
Figure 4-1 illustrates the existing roadways in the vicinity of the Plan Area. The 18 roadway segments, 3 freeway segments, and 30 intersections identified in the figure were studied in the Transportation Plan. All roadways studied are two-lane roads serving agricultural activities, incorporated areas, and nearby communities. According to the Transportation Plan, all 30 study area intersections currently operate at acceptable conditions. Furthermore, none of the non-signalized study area intersections currently exceed the County's congestion threshold for signal warrants based on their level of service (LOS). The County's current acceptable LOS for intersections is LOS C.

Approximately 14.3 million square feet of development and 14,447 jobs¹ are projected at CLIBP build-out. The Transportation Plan examines traffic impacts under existing conditions and analyzed impacts for three potential future scenarios:

- Existing conditions plus the CLIBP project;
- Anticipated year 2035 traffic conditions, based on projected growth without the CLIBP project; and
- Anticipated year 2035 traffic conditions, based on projected growth with the CLIBP project.

Transportation network and land use information for the Tri-County area, (which is the basis for traffic projections in the Transportation Plan), including Merced, San Joaquin, and Stanislaus Counties was available through 2035, so the 2035 conditions assumes full CLIBP build-out and, thus, represents a conservative analysis. The Transportation Plan utilized near-term (next 20 years) with existing conditions to determine traffic impacts triggered by CLIBP development and therefore, the CLIBP's transportation improvement responsibilities, including cost. Additionally, the study analyzed traffic impacts and improvements needed based on CLIBP development and/or regional growth over the long-term (at 2035 and beyond), and the CLIBP's fair share of traffic demand, impacts, and additional transportation improvement responsibilities.

¹ Refer to the detailed Land Use and Employment Summary table, which is provided in Appendix A of the CLIBP Specific Plan, for additional information on estimated land use categories, extent of development associated with each phase, and employment projection at CLIBP build-out.



Source: TJKM 2016
Figure 4-1: Project Vicinity

Based on the results of the transportation analysis, several road segment, signalization, and interchange improvements were identified to support CLIBP development during both the near-term (through 2035) and long-term (beyond 2035). The Transportation Plan estimated the associated phase for each needed roadway project; however, the timing of roadway improvements will be based on monitoring of roadway conditions during CLIBP build-out.

To accommodate the development envisioned for the CLIBP Plan Area, the following types of transportation improvements will be needed:

- On-site backbone roads;
- Off-site roadway rehabilitation;
- Off-site roadway widening;
- Off-site signals; and
- Fink Road / I-5 interchange improvements.

The following sections identify the anticipated development or improvement of transportation infrastructure to facilitate CLIBP build-out as envisioned in three 10-year phases. However, the timing of proposed transportation improvements may be subject to change based on the needs of site users.

4.2.2 Near Term Improvements Triggered by the CLIBP Project

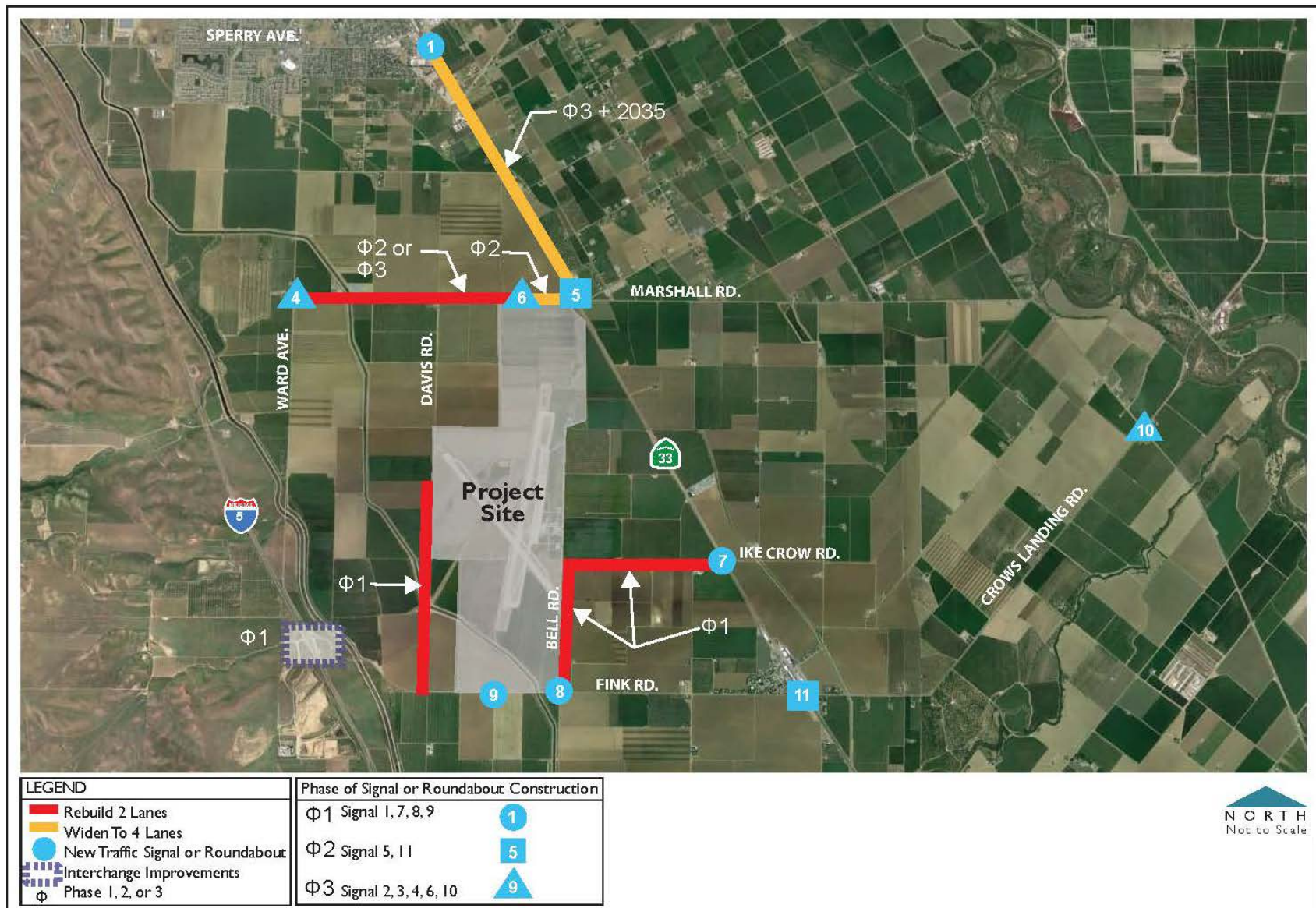
On-Site Backbone Road Requirements

Most Plan Area roadways will be constructed as local industrial roads using a two-lane cross section design (two travel lanes and one center-aligned left-turn lane) to provide internal site circulation (see Chapter 3, Figure 3-6). The only exception will be a four-lane cross section design (four travel lanes and one center-aligned left-turn lane) associated with the CLIBP north access point from W. Marshall Road, where a larger volume of traffic is expected to enter the Plan Area at a single intersection (see Chapter 3, Figure 3-7). Based on user need or as demand warrants, internal circulation roads with greater traffic demand may require additional improvements. Figure 2-2 (see Chapter 2) identifies the first four roadway segments that will be constructed during Phase 1 of Plan Area development. On-site backbone roads to be constructed during Phases 2 and 3 are shown as broken lines north of the airport.

Off-site Roadways Requiring Rehabilitation/Rebuilding

Four segments of two-lane roadways adjacent to the CLIBP will be rehabilitated to support CLIBP-related traffic (see Figure 4-2).

- **W. Ike Crow Road – Bell Road to SR 33.** This segment of W. Ike Crow Road should likely be improved beginning or during Phase 1A, to comply with Stanislaus County Department of Public Works (SCDPW) roadway standards required from Plate 3-A12, 60 FT Minor Collector, and to allow a future bike lane, if needed. The County will begin improving W. Ike Crow Road in Phase 1A.
- **Bell Road – Fink Road to W. Ike Crow Road.** Improvements to this segment of Bell Road will be required during Phase 1 of Plan Area development, and will include a bicycle/pedestrian path (see Chapter 3, Figure 3-5). This roadway will also connect to a bicycle/pedestrian path and greenway that continues north from W. Ike Crow Road to W. Marshall Road/SR 33. The County will begin improving Bell Road in Phase 1A.



Source: TJKM 2016

Figure 4-2: Off-Site Road Improvements, CLIBP Project Area

- Davis Road – Fink Road to CLIBP west entrance.** This segment of Davis Road is located west of and partially adjacent to the Plan Area. Improvements to Davis Road will be required during Phase 1 and will include the construction of the western entrance to the CLIBP. The portion of Davis Road that is not adjacent to the CLIBP will be improved to comply with SCDPW roadway standards required from Plate 3-A11, 60 FT Local Rural. The section of Davis Road adjacent to the CLIBP has a unique design that is based on a modified County standard to include a wide drainage swale (see Chapter 3, Figure 3-4). Davis Road includes a bridge that crosses over the Delta Mendota Canal (DMC). The existing bridge appears to have adequate width to accommodate the improvements. The County will begin improving Davis Road in Phase 1B.
- W. Marshall Road – Ward Avenue to CLIBP entrance.** This segment of W. Marshall Road will be improved to comply with SCDPW roadway standards required from Plate 3-A13, 80 FT Major Collector. This segment of W. Marshall Road includes a series of power poles, which are considered immovable objects. The poles are located on the north side of the road between the CLIBP and the east side of the DMC, and on the south side of the road west of the electrical substation located just east of the DMC. A 20- to 22-foot-wide bridge conveys W. Marshall Road across the DMC, and the bridge was determined to be marginally acceptable, at least during the initial phases of site development. Improvements to this segment of W. Marshall Road should occur in Phase 2 or 3 of Plan Area development.

Although not requiring additional capacity improvements, the County will enhance Fink Road between I-5 and Bell Road with an added overlay and striping during Phase 1A to provide a clean, functional south entrance to the CLIBP.

Off-Site Roadway Requiring Additional Travel Lanes

The portion of W. Marshall Road from the CLIBP to SR 33 is the only roadway segment adjacent to the site that will be widened to four travel lanes and one center-aligned left-turn lane to accommodate existing and CLIBP-related traffic (see Chapter 3, Figure 3-3). The additional lanes will be needed by the midpoint of Phase 2 development.

Off-Site Signals

As shown in Figure 4-2, eleven non-signalized intersections adjacent to or near the Plan Area, including the intersections at the proposed CLIBP entrances on W. Marshall Road and Fink Road, will need to be signalized or reconfigured to include a roundabout to accommodate existing and CLIBP-related traffic. The eleven intersections are expected to satisfy peak hour signal warrants, meaning that they will need to be signalized or reconfigured to support peak-hour traffic demand. Four of these locations, intersections 1, 7, 8, and 9, are the highest priority and will be needed during the end of Phase 1 or at the beginning of Phase 2 development.

1. Sperry Avenue at SR 33
2. Carpenter Road at W. Main Avenue
3. Crows Landing Road at W. Main Avenue
4. W. Marshall Road at Ward Avenue
5. W. Marshall Road at SR 33
6. W. Marshall Road at CLIBP entrance
7. W. Ike Crow Road at SR 33
8. Fink Road at Bell Road
9. Fink Road at CLIBP entrance

10. Crows Landing Road at E. Marshall Road
11. Fink Road at SR 33

Fink Road/I-5 Interchange Improvements

The Fink Road/I-5 interchange is less likely to be used than other travel routes by CLIBP employees because I-5 does not provide direct access to some of the communities in which employees are likely to reside, such as Newman, Gustine, and the SR 99 corridor cities in Stanislaus County. However, the interchange will be an important link for trucks traveling to and from the CLIBP.

Improvements to the Fink Road/I-5 interchange will include:

- Signalizing Fink Road at I-5 northbound ramps by Phase 1B; and
- Widening the roadway beneath the freeway to create a westbound left-turn lane at the southbound ramps intersection by Phase 1B.

City of Patterson Impacts

Two intersections in the City of Patterson will have unacceptable levels of service under existing plus project conditions:

- Sperry Avenue at the I-5 southbound ramps, which is part of interchange improvement being planned as a joint City/County/State project.
- Ward Avenue and Sperry Avenue will have a level of service of F in the am and pm peaks times; however, construction of the South County Corridor (the precise alignment of which is to be determined) should provide some traffic relief to Patterson streets, including Sperry Avenue.

4.2.3 2035 Regional Growth and CLIBP-Triggered Off-Site Improvements

Additional off-site intersection and roadway improvements will be required to accommodate regional growth-and/or CLIBP-related traffic, such as the widening of roadway sections and additional traffic signals. A traffic impact fee will be established based on the traffic analysis and projections in the Transportation Plan to determine the fair share contribution required from CLIBP tenants/leaseholders/contractors for off-site improvements. Other future off-site projects that are not part of the CLIBP but benefit from proposed off-site transportation improvements will also be required to reimburse the County for their proportionate share of the cost. The specific methodology, timing of payment, and other details related to fair share cost allocation for such transportation improvements will be determined by the County separately from this Specific Plan according to the requirements of California's Mitigation Fee Act (California Government Code sections 66000 *et seq.*). This state law sets forth the procedural requirements for establishing and collecting development impact fees and requires public agencies imposing a fee to demonstrate a reasonable relationship, or nexus, between the fee and the purpose for which the fee is collected. This nexus is typically established through a study (in this case, a road impact mitigation fee nexus study) that establishes the extent to which future developments benefit from the off-site roadway improvements needed to serve the Plan area.

Off-Site Roadway Widening and Signal Requirements to Accommodate 2035 Regional Growth

Sections of two roadways will require widening to accommodate anticipated regional growth.

- W. Main Avenue/E. Las Palmas Ave. - S. Carpenter Road to SR 33
- I-5 north of Sperry Avenue requires widening to six lanes.

Four intersections will meet signal warrants during one or more peak hour periods:

1. Olive Avenue/SR 33
2. Ward Avenue/SR 33
3. I-5 SB Ramps/Sperry Avenue
4. I-5 NB Ramps/Sperry Avenue

Off-Site Roadway Widening and Signal Requirements to Accommodate 2035 Regional Growth Plus CLIBP Project

Sections of three roadways, not previously identified will require widening to accommodate anticipated regional growth- and CLIBP-related traffic.

- **SR 33 – Sperry Avenue to Marshall Road.** The portion of SR 33 between Sperry Avenue in the City of Patterson and Marshall Road will be widened to accommodate Phase 2 CLIBP development and regional traffic conditions in 2035. The ideal width in this section would be 78 feet of pavement including four travel lanes, an approximately 14-foot median or center-aligned left-turn lane, and two 8-foot shoulders. This corresponds to SCDPW 110 FT Minor Arterial roadway standard (Plate 3-A15). The County may consider intermittent spot improvements (e.g., adding center left turn lanes at existing public intersections) during Phases 2 and 3 of CLIBP development to enhance capacity and safety.
- **SR 33 – Stuhr Road to Fink Road.** The portion of SR 33 through Newman may be restricted to an ultimate width of three lanes. However, if a three-lane road section were extended north to Stuhr Road, with signalization and other intersection improvements at Stuhr Road, these improvements could potentially supply adequate capacity. Traffic resulting from completion of CLIBP Phase 3 development combined with regional traffic conditions in 2035 will exceed this roadway segment's two-lane capacity and will require widening to three lanes.
- **I-5 Between Fink Road and Sperry Avenue** requires widening from four to six lanes by completion of CLIBP Phase 3 development combined with regional traffic conditions in 2035.

Four additional intersections, not previously identified, will meet signal warrants during one or more peak hour periods:

1. Fink Road/Davis Road
2. Fink Road/Ward Avenue
3. I-5 NB Ramps/Fink Road
4. I-5 SB Ramps/Fink Road

Fink Road Interchange Improvements

- Signalizing the southbound ramp intersection by the completion of the 30-year CLIBP build-out timeframe.

City of Patterson Impacts

Under cumulative conditions, one signalized intersection will have unacceptable levels of service without the project. No intersection in the City of Patterson will degrade to unacceptable conditions when CLIBP traffic is included in the cumulative traffic. The intersection with unacceptable conditions without the project occurs at:

- Ward Avenue and Sperry Avenue (also cited as a problem under near term plus project conditions). The level of service at this intersection fails even without CLIBP. Development of the South County Corridor, an expressway linking SR 99 and I-5 immediately north of Patterson, should improve the level of service associated with the intersection.

4.2.4 Transportation Demand Management

Transportation Demand Management (TDM) is a term referring to strategies to influence or encourage changes to travel behavior that result in more efficient use of land and transportation resources. A TDM program for CLIBP will be organized to provide employees with safe and convenient travel options to commute to work that will serve as an alternative to the use of single-occupant vehicles, particularly during peak travel times; as well as, and that will promote the health and environmental benefits of more sustainable transportation modes such as walking, biking, and transit use. Business participation in the TDM program will be mandatory and require the following elements to benefit employees, tenants, CLIBP, and the surrounding community.

Stanislaus County, in consultation with StanCOG, Stanislaus Regional Transit, the cities in Stanislaus County, and private sector business organizations to prepare a TDM plan that identifies public and private entities responsible for implementing the plan and specific TDM strategies, and tracking achievement of the plan's objectives. Among the elements of a TDM plan and implementation will be:

- A comprehensive strategy for reducing solo occupant vehicle travel by employees, business vehicles, and visitors.
- Mandatory participation by all companies within the CLIBP, with a responsible point person assigned to represent CLIBP and coordinate with individual businesses.
- A designated TDM representative from each individual business.
- Annual mandatory employee surveys, with a required response of 90 percent of employees. Surveys will identify, at a minimum, mode and time of travel by employees.
- An annual report indicating status of compliance with TDM goals, established by the County.
- Individual companies and the CLIBP TDM organization shall consider the following measures to achieve compliance with TDM goals:
 - Encourage employees to use flex time;
 - Carpool matching programs;
 - Preferred parking for carpoolers;
 - Van pool programs;
 - On-site facilities, such as breakrooms and shower facilities;
 - Employer sponsor shuttles from Turlock and Modesto;
 - On-site secure bicycle racks;
 - Bike share program for employee use at lunchtime; and
 - Other measures

4.2.5 Transportation Goal

The following goals apply to the transportation plan and improvements for CLIBP:

- TG 1: Provide primary on-site (“backbone”) roadways and make off-site roadway improvements sufficient to serve the projected growth and build-out of the CLIBP Plan Area, and coordinate with Caltrans and the Federal Highway Administration on any roadway or interchange improvements to state or federal highways required by development at the CLIBP.
- TG 2: Establish and require businesses within CLIBP to participate in a TDM program designed to: reduce the stress of commuting and travel congestion on the County’s roadways; support alternative modes of travel that also enhance the health and well-being of employees; conserve energy and natural resources; and enhance community livability by reducing the pollution and greenhouse gas emissions resulting from single-occupant vehicle use.

4.2.6 Transportation Policies

The following policies apply to the transportation plan and improvements for CLIBP:

- TP 1: The construction of on-site backbone roads identified as part of Phase 1 is anticipated to start in the portion of the site between southern CLIBP entrance on Fink Road to the DMC, and construction will expand northward as needed during Plan Area build-out.
- TP 2: Two-lane roads listed in Sections 4.2.2 will be rehabilitated to accommodate CLIBP-related traffic and maintain acceptable traffic service levels.
- TP 3: Fink Road, W. Ike Crow Road, and Bell Road will be initially rehabilitated with an overlay and striping.
- TP 4: Traffic levels of service shall be monitored and improvements shall be implemented prior to deterioration below applicable jurisdictional standards identified in the Stanislaus County General Plan, Circulation Element.
- TP 5: Traffic signals will be installed at specified intersections in a timely manner to avoid deterioration of intersection service levels, beginning with the four high-priority locations identified in Section 4.2.2.
- TP 6: The County shall work with Caltrans and any other applicable agencies to implement improvements to the Fink Road/I-5 interchange to support CLIBP-related truck traffic, according to the phasing of truck-intensive land uses within the Plan Area.
- TP 7: Provisions for trucks shall be incorporated into the design of designated truck routes.
- TP 8: A signage system shall be established to direct trucks to the designated truck routes.
- TP 9: Interior roads shall be constructed to accommodate the flow of trucks and peak employee traffic. Interior roadway alignments shall be determined as development plans for specific building sites are submitted for approval.
- TP 10: Equitable methods shall be established to distribute fair share costs associated with constructing off-site transportation improvements required as a result of regional growth- and CLIBP-related land uses.

- TP 11: A Transportation Demand Management Program shall be implemented for CLIBP that includes measures for mandatory participation by all businesses; annual monitoring for compliance with TDM goals; commute and travel options to, from, and at work; incentives for carpooling, transit use, and bicycling; promotion of flexible work schedules; and other measures.

4.3 WATER SUPPLY AND DISTRIBUTION

The Plan Area is located within the Del Puerto Water District, which provides agricultural water supplies and incidental municipal and industrial water deliveries. The majority of the area surrounding the Plan Area relies heavily upon groundwater for agricultural and urban uses, both potable and non-potable. Four active wells are on the CLIBP project site.

As described in greater detail in the *Crows Landing Industrial Business Park Water Supply (Potable & Non-Potable) Infrastructure and Facilities Study* (Appendix G), referred to herein as the Water Supply Study, both potable and non-potable water will be provided by on-site extraction and treatment of groundwater through the use of existing wells and new public wells. The Water Supply Study includes a Groundwater Resources Impact Assessment. As documented in the Water Supply Study, some decline in local groundwater elevations has occurred due to abnormally low rainfall that resulted in increased groundwater pumping, but more recent studies indicate that groundwater elevations are relatively stable over time. Pursuant to state law and County ordinance, the CLIBP project must demonstrate that the new groundwater pumping facilities will not create an unsustainable extraction of groundwater. The County will establish the site baseline conditions prior to project implementation and develop a groundwater monitoring plan that outlines the monitoring well network and procedures for the groundwater level monitoring program. The extent and frequency of monitoring will be evaluated every five years. Groundwater extracted from new wells will be treated at the wellheads for potable use. Fluctuations in surface water deliveries and the lack of existing entitlements or rights makes the use of surface water infeasible; however, a conjunctive use strategy that incorporates surface water to augment groundwater sources may be considered in the future.

Analyses performed as part of the Water Supply Study indicate that existing wells will be capable of supporting groundwater extraction for non-potable use at their historical annual extraction volumes of 834 acre feet /year (AFY) when pumped year round. If the existing wells fail to supply the assumed volumes, the water supply volume would be supplemented as needed through the installation of new wells of similar construction. Any non-potable water demand in excess of 834 AFY will be supplied using new, on-site shallow aquifer wells. Optimal locations for the new shallow aquifer wells will be selected based on performance of the existing wells, groundwater level monitoring data developed during CLIBP operation, and additional water supply development studies, as needed. Other components of the water supply strategy, including ensuring sustainable groundwater yield, include:

- Shallow groundwater demand in excess of the historical average shallow aquifer extraction rate – 183 AFY at Phase 2 build-out and 489 AFY at Phase 3 build-out – will be offset by an equivalent volume of increased recharge, such that the net groundwater extraction rate from the shallow aquifer does not increase above historical levels. This increased shallow aquifer recharge will be derived from a combination of the following sources:
 - A stormwater pond along the northeastern boundary of the Plan Area will be constructed to detain runoff from Little Salado Creek and allow for groundwater recharge. (See Section 4.5, “Stormwater Management,” for details about the stormwater pond.)

- Developers of individual leaseholds (lots) will be required to meet specified net recharge increase/demand reduction (to be determined) through the implementation of a combination of Low Impact Development (LID) standards that promote on-site stormwater detention and recharge and in-lieu recharge derived from non-potable water demand reduction.

LID elements for future development may include features such as on-site detention/infiltration basins, rock wells, permeable pavements, street planters, vegetated swales, drainage area disconnection, and other elements that will not create habitat for potentially hazardous wildlife. (See Appendix B design and development standards for streetscape/landscape guidance.) In lieu recharge may be derived from landscape development using xeriscape techniques. It is anticipated that the CLIBP non-potable water demand can be decreased by an additional 200 AFY through the application of these methods.

The CLIBP potable water supply will be developed as follows:

- New water supply wells will be installed into the aquifer at the approximate locations shown in the Water Supply Study. The potable supply wells will be constructed to pump water from the full usable depth of this aquifer.
- Groundwater extracted from the aquifer for potable use will be treated to meet applicable water quality standards.

CLIBP water demand projections were developed based on the total acreage of developable area within the Plan Area and a total water rate of 2,500 gallons per day/acre (gpd/ac), from the SCDPW. The SCDPW estimates that the potable water necessary to meet CLIBP demand will be 60 percent of the total water demand and the non-potable water demand for fire protection and irrigation uses makes up the remaining 40 percent. The projected average daily demand for the CLIBP at build-out is 2.5 million gpd (1.34 million gpd potable and 1.18 million gpd non-potable), which equates to approximately 1,501 AFY of potable water and 1,322 AFY of non-potable water. Actual demands may vary somewhat from the projections based on factors such as the types of industry developed, density, employees per acre, conservation, or other factors. However, land uses that include intensive water uses are not permitted on site. Non-potable water may be utilized for irrigation and fire protection, which will significantly reduce water treatment costs required to achieve drinking water standards. While providing potential flood and groundwater quality protection, the LID standards incorporated into site development, such as vegetated swales and infiltration planters along roadways, will also promote stormwater detention and on-site irrigation use.

4.3.1 Water System Plan

CLIBP build-out will require approximately 2.71 million gallons (MG) of potable water storage and 0.72 MG of non-potable water storage. Three alternatives were identified to supply water to CLIBP, with each alternative assumed to provide the same supply capacity. Based on these water storage requirements, it is estimated that a total of four water storage tanks (three for potable water and one for non-potable water) will be required in the Plan Area. A water plant at the southeast corner of CLIBP at the juncture of Fink and Bell Roads is common to all three alternatives. Both potable and non-potable water piping systems have been shown for each alternative. Non-potable water may or may not be split out after water is piped to the water plant. A split of non-potable from potable water supplies would occur if water treatment is required for potable water or there is a need by the County for piping facilities to accept non-potable water from other

sources (e.g., use of highly treated reclaimed water). Each of the three alternatives also envisions using two or more wells in each phase to:

- ensure reliability in supply (redundancy in the event a well should fail in the first phase or water quality should drop in a well); and
- provide more flexibility during operations to minimize and better control aquifer drawdown if project-related subsidence effects are believed to be occurring.

In addition, compliance with acceptable potable water standards can be very expensive and can sometimes require the use of reverse osmosis (RO) and/or blending to achieve allowable levels.

Section 4.3.2 describes the alternatives for the anticipated development or improvement of infrastructure to facilitate CLIBP build-out as envisioned in three 10-year phases. However, the timing of proposed water system improvements may be subject to change based on the needs of site users and timing/location of proposed on-site development.

4.3.2 Water Supply and Distribution System

The County will explore three alternatives and select a preferred alternative prior to initiation of Phase 1:

- Option 1: extending the Crows Landing Community Services District (CSD) service area to include the CLIBP to enable the development of a shared water system under the CSD's existing drinking water supply permit;
- Option 2: Obtaining a new water supply permit to enable the County to develop a standalone water supply for the CLIBP, or
- Option 3: extending the City of Patterson's water service area to include the CLIBP under its existing drinking water supply permit.

Option 1

Under Option 1, the County would combine the water supply at the CLIBP with the water supply from the Crow's Landing Community Service District (CLCSD) by extending the CLCSD service area along Fink road to include the CLIBP site (Figure 4-3). A combined water supply system would provide the following benefits:

- Provide blended water for improved water quality. Blending the waters from each area could reduce the chemical concentrations of concern associated with each area to produce good quality drinking water and potentially reduce or eliminate the need for treatment. (Refer to the E-PUR Technical Memorandum, CLIBP Water Supply Alternatives for Consideration (October 24, 2017), which is appended to this document as Appendix C of Appendix G, CLIBP Water Supply (Potable & Non-Potable) Infrastructure and Facilities Study.)
- Provide a single, consolidated single water system. A consolidated water system could provide efficiency in administration, operation, and maintenance; enable the County able to obtain state grant funding for water meters more easily; allow for the use of a tiered rate structure to make water more affordable to residential customers; and provide additional reserve funds for capital planning and system maintenance, to minimize service disruptions.

The raw water transmission system and the potable and non-potable water pipe system, wells, and storage tanks associated with Option 1 are illustrated in Figures 4-3 through 4-6 and summarized by phase below.

Phase 1

Backbone infrastructure constructed during Phase 1 will include the development of a raw water supply system from two existing wells at the CSD, which would be conveyed through a pipeline to the CLIBP (Figure 4-4). Potable and non-potable water would be delivered to the Fink Road Corridor during Phase 1A and to the airport, southern Public Facilities Area, and Bell Road Corridor during Phase 1B (Figure 4-5).

- Phase 1A: Potable water improvements include a water treatment system plant and potable water storage tank (1.19 MG) and booster pump (BP) station at the corner of Bell Road and Fink Road; two water wells and wellhead treatment system (indicated by red triangles) in the northern part of the Plan Area to supply water to both the potable and non-potable water tanks; and distribution pipes and valves (Figure 4-5). Non-potable water infrastructure improvements include distribution pipes, valves, and fire hydrants, and a non-potable water storage tank (0.72 MG) (Figure 4-6). Two existing wells at the CLCSD would provide additional water, which would be conveyed through a water supply pipeline along Fink Road.
- Phase 1B: Construction of backbone infrastructure for potable water is limited to distribution piping and valves for service to the Bell Road Corridor, airport, and southern Public Facilities Area (Figure 4-5). Non-potable water infrastructure improvements include distribution pipes, valves, and fire hydrants (Figure 4-6).²

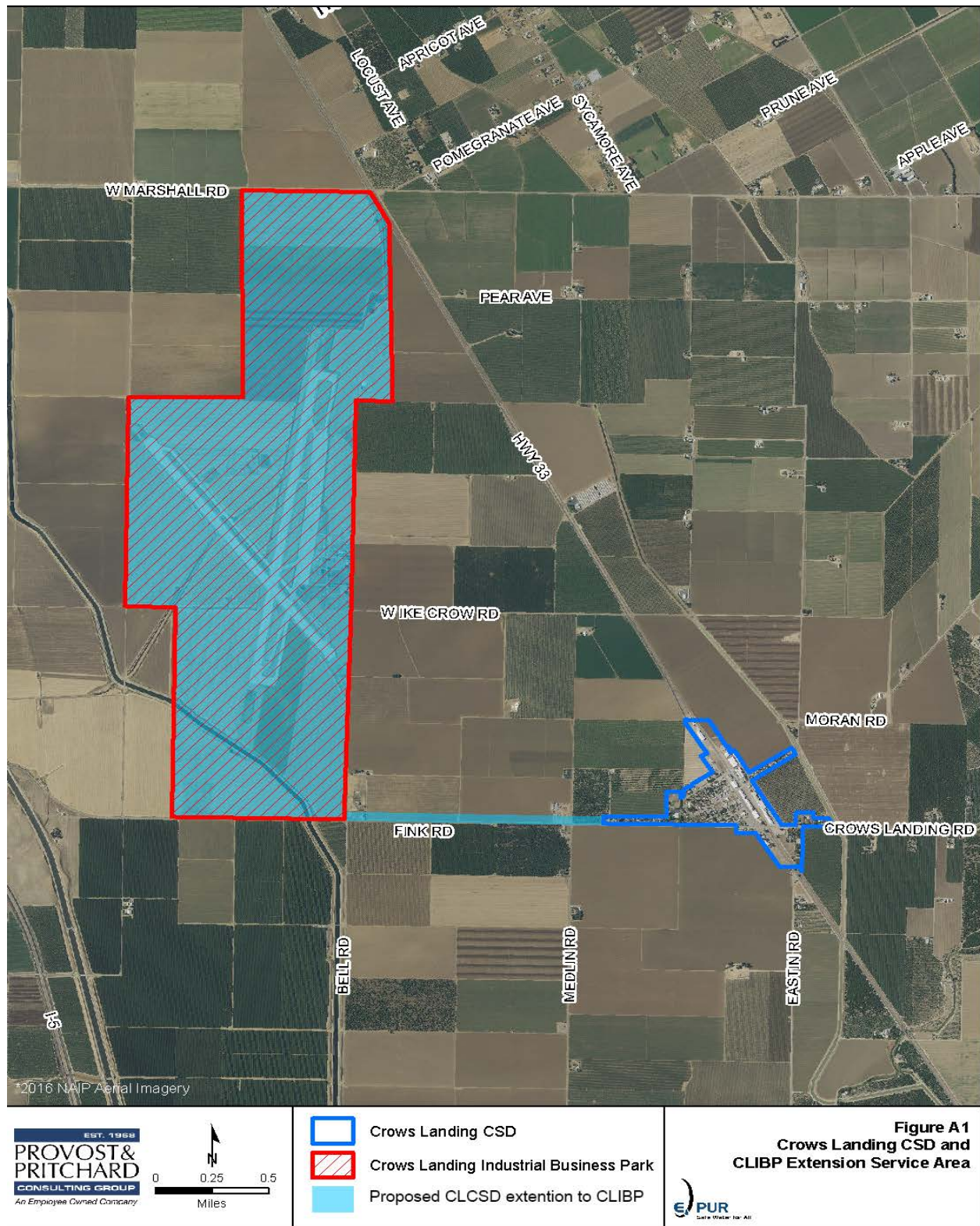
Phase 2

Construction of Phase 2 infrastructure includes the extension of raw water transmission lines from the wells and storage tanks to the raw water transmission lines and water treatment plant installed in Phase 1 (Figure 4-4). Potable water infrastructure includes a potable water storage tank, Tank 2B (1.52 MG), and a BP station at the northern part of the Specific Plan Area, two new water wells and wellhead treatment system (as indicated by the blue triangles) also located in the northern part of the Specific Plan Area to supply water to both the potable and non-potable water systems, and distribution pipes and valves (Figure 4-5). Non-potable water infrastructure required for Phase 2 is primarily limited to distribution pipes, valves, and fire hydrants, with connections to the non-potable water tank and raw water transmission line in Bell Road (Figure 4-6).

Phase 3

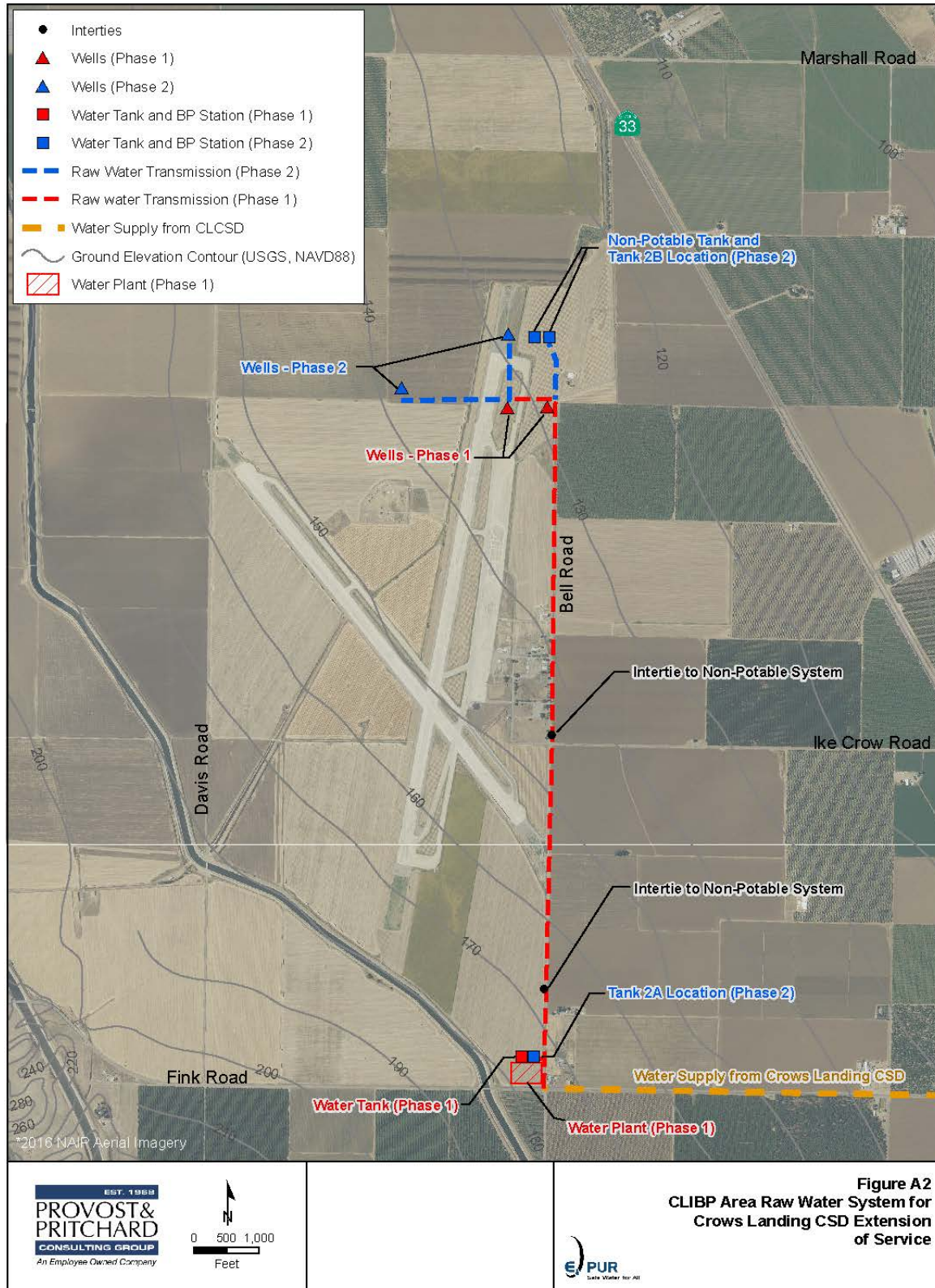
Phase 3 infrastructure improvements for potable water service to the Phase 3 areas south of W. Marshall Road includes distribution pipes and valves (Figure 4-5). Non-potable water infrastructure required for Phase 3 includes distribution pipes, valves, and fire hydrants (Figure 4-6).

² Figures 4-5 and 4-6 do not break down Phase 1 into sub-phases “A” and “B.”



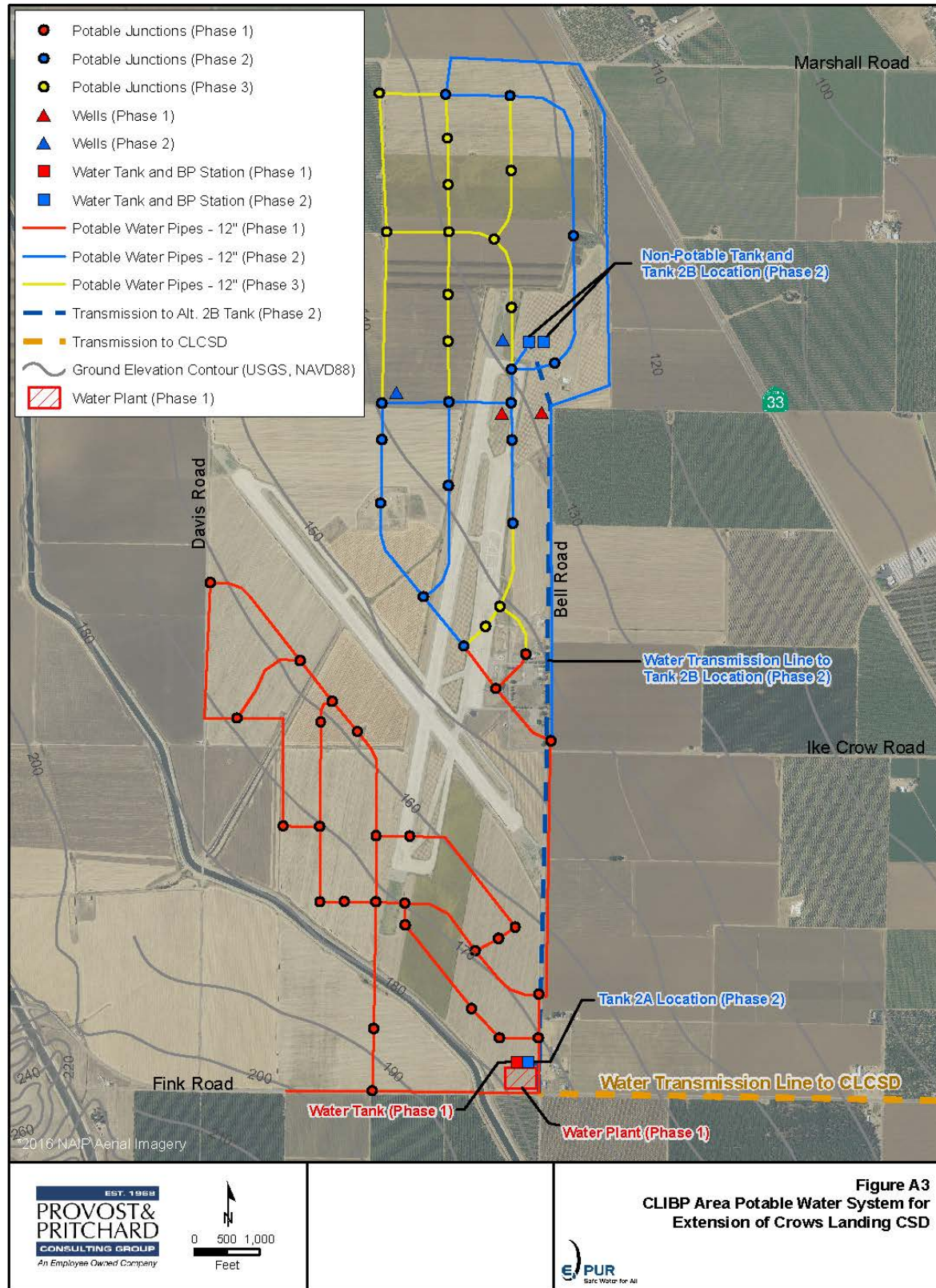
Source: E-PUR, Provost & Pritchard 2017

Figure 4-3: Alternative A – Crows Landing CSD Water Supply



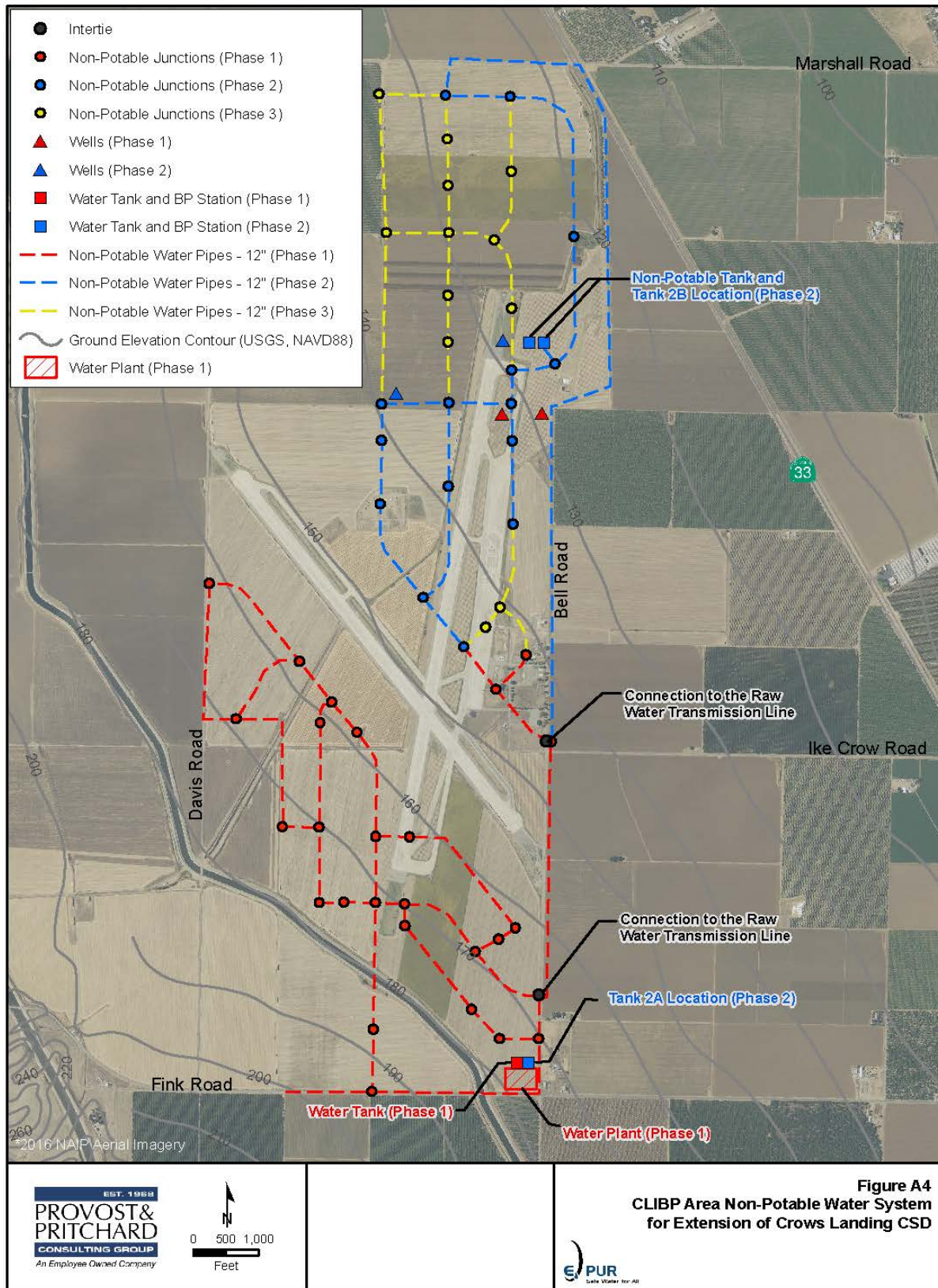
Source: E-PUR, Provost & Pritchard 2017

Figure 4-4: Alternative A CLIBP Raw Water System



Source: E-PUR, Provost & Pritchard 2017

Figure 4-5: Alternative A CLIBP Potable Water System



Option 2

Under Option 2, the County would provide a standalone water supply the CLIBP by undertaking all steps necessary to obtain a new drinking water permit to CLIBP, including the performance of valuations of nearby CLCSD and City of Patterson systems (Figure 4-7). The raw water transmission system and the potable- and non-potable water pipe system, wells, and storage tanks for Alternative B are illustrated in Figures 4-8 through 4-10 and summarized by phase below.

Phase 1

Backbone infrastructure constructed during Phase 1 would include the installation of two new wells and a raw water transmission line that would supply potable and non-potable water tanks and a new water treatment plant near the intersection of Bell Road and Fink Road (Figure 4-8). Potable and non-potable water would be delivered to the Fink Road Corridor during Phase 1A and to the airport, southern Public Facilities Area, and Bell Road Corridor in Phase 1B.

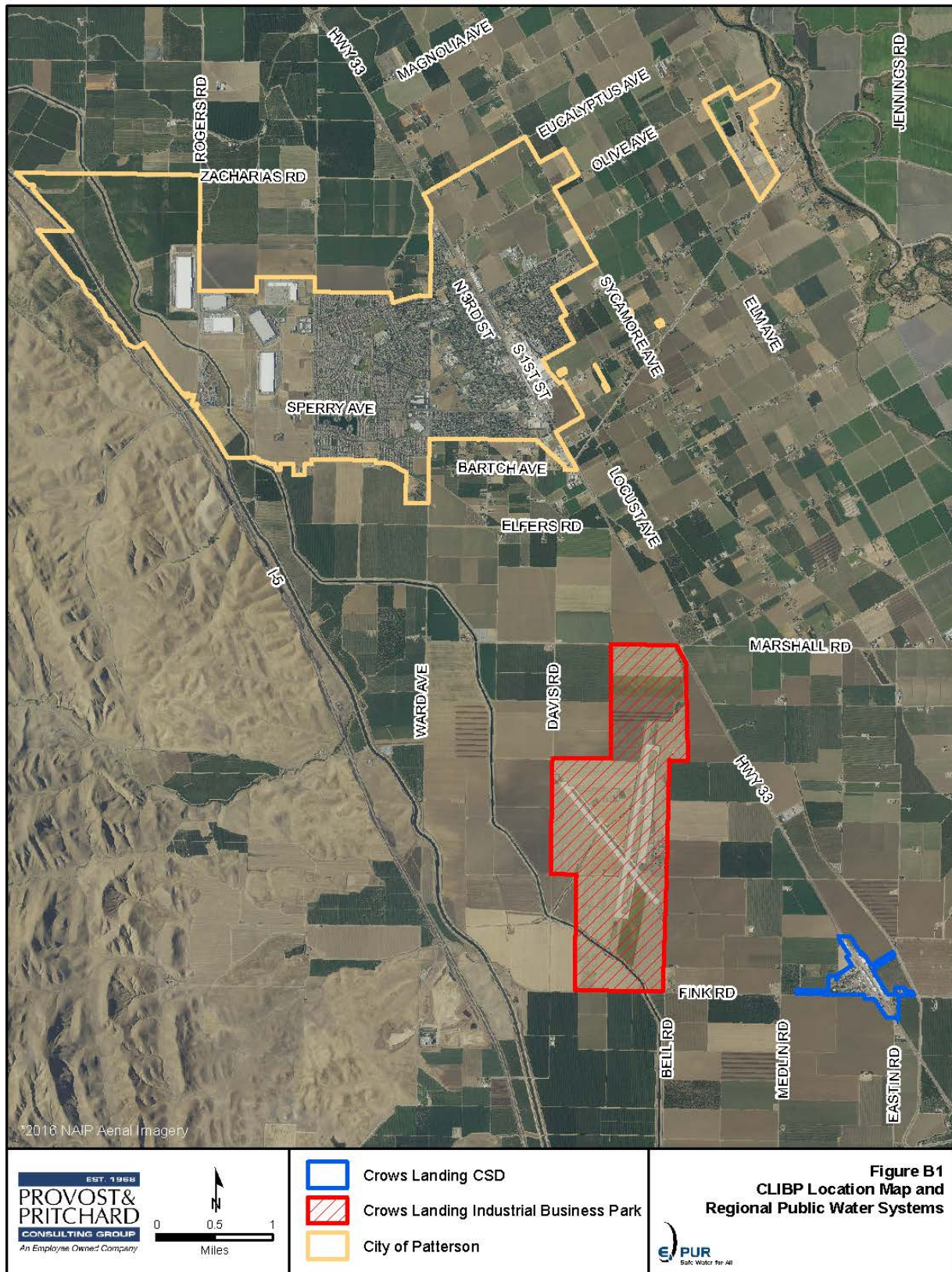
- Phase 1A: Potable water improvements includes a water treatment system plant, potable water storage tank (1.19 MG), and booster pump (BP) station at the corner of Bell Road and Fink Road; two water wells and wellhead treatment system (indicated by red triangles) in the northern part of the Plan Area to supply water to both the potable and non-potable water tanks; and distribution pipes and valves (Figure 4-9). Non-potable water infrastructure improvements include distribution pipes, valves, and a non-potable water storage tank (0.72 MG) (Figure 4-10).
- Phase 1B: Construction of backbone infrastructure for potable water is limited to distribution piping and valves for service to the Bell Road Corridor, airport, and southern Public Facilities Area (Figure 4-9). Non-potable water infrastructure improvements include distribution pipes, valves, and fire hydrants (Figure 4-10).

Phase 2

Construction of Phase 2 infrastructure includes the extension of raw water transmission lines from the new wells and storage tanks to the raw water transmission lines and water treatment plant installed during Phase 1 (Figure 4-8). New potable water infrastructure include a potable water storage tank (1.52 MG), Tank 2B, and a BP station at the northern part of the Specific Plan Area, two new water wells and wellhead treatment system (as indicated by the blue triangles) also located in the northern part of the Specific Plan Area, supplying water to both the potable and non-potable water systems, and distribution pipes and valves (Figure 4-9). Non-potable water infrastructure required for Phase 2 is limited primarily to distribution pipes, valves, and fire hydrants, with connections to the non-potable water tank and raw water transmission line in Bell Road (Figure 4-10).

Phase 3

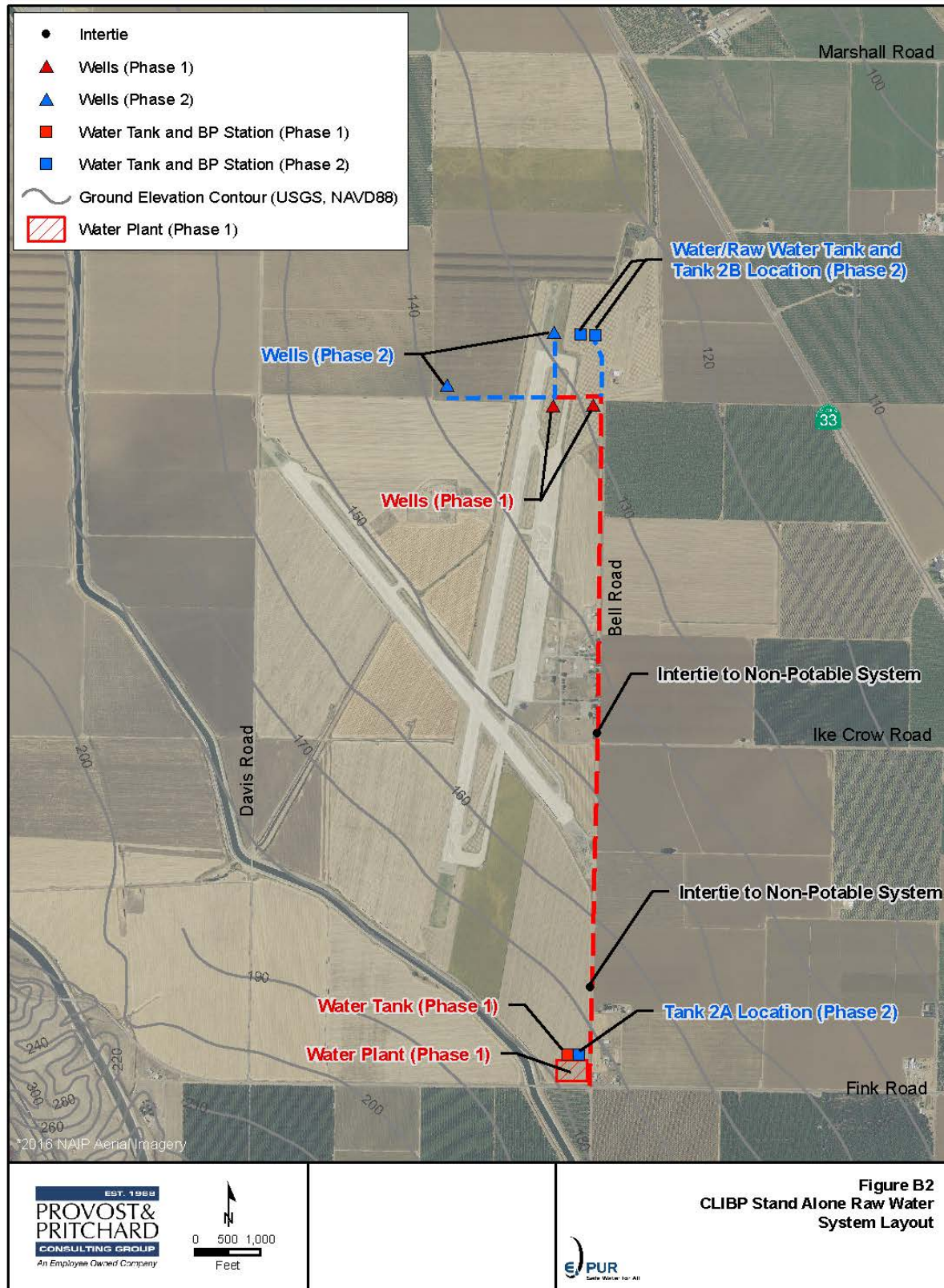
Phase 3 infrastructure improvements for potable water service to the Phase 3 areas south of W. Marshall Road includes distribution pipes and valves (Figure 4-9). Non-potable water infrastructure required for Phase 3 includes distribution pipes, valves, and fire hydrants (Figure 4-10).



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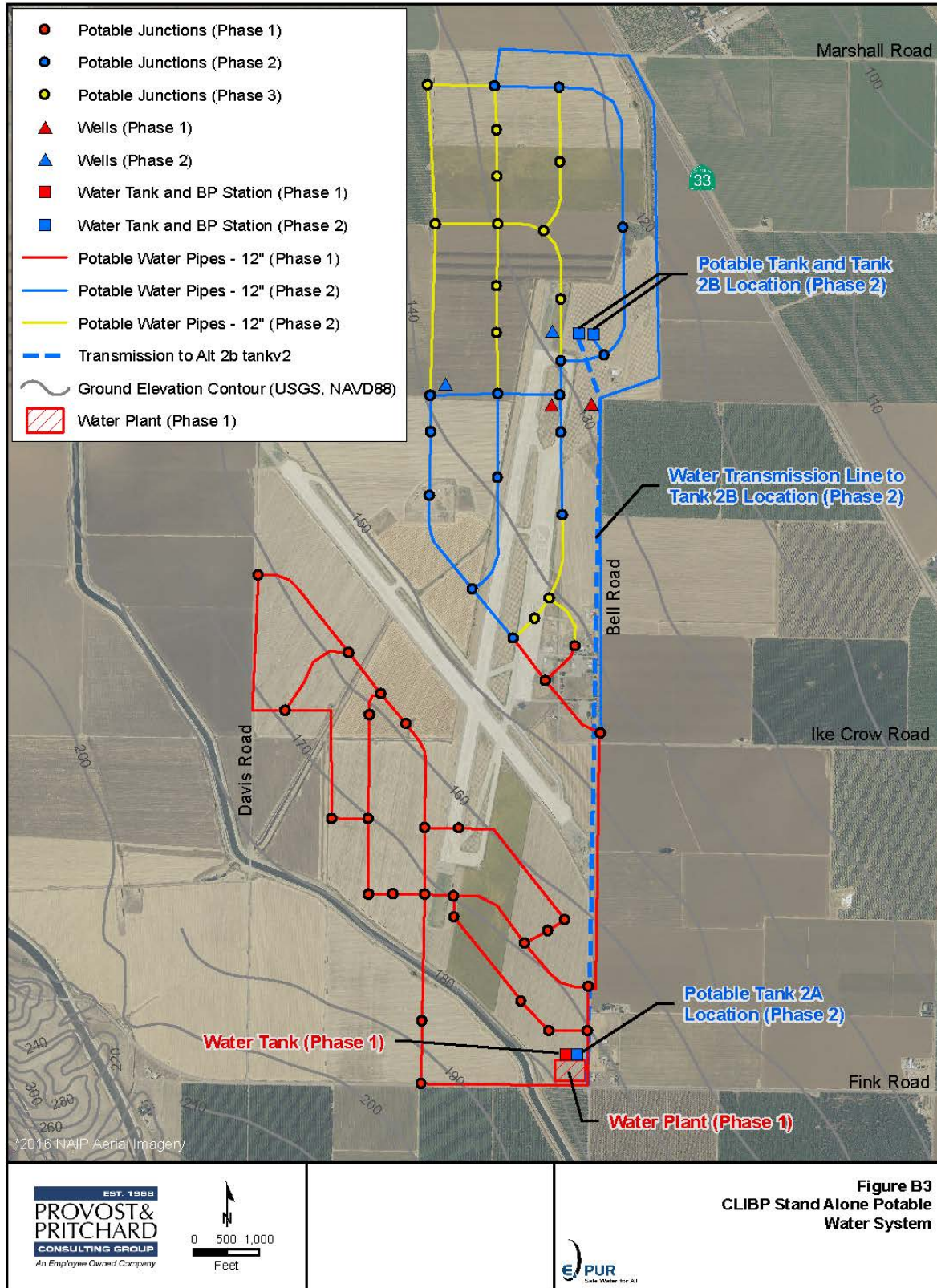
Source: E-PUR, Provost & Pritchard 2017

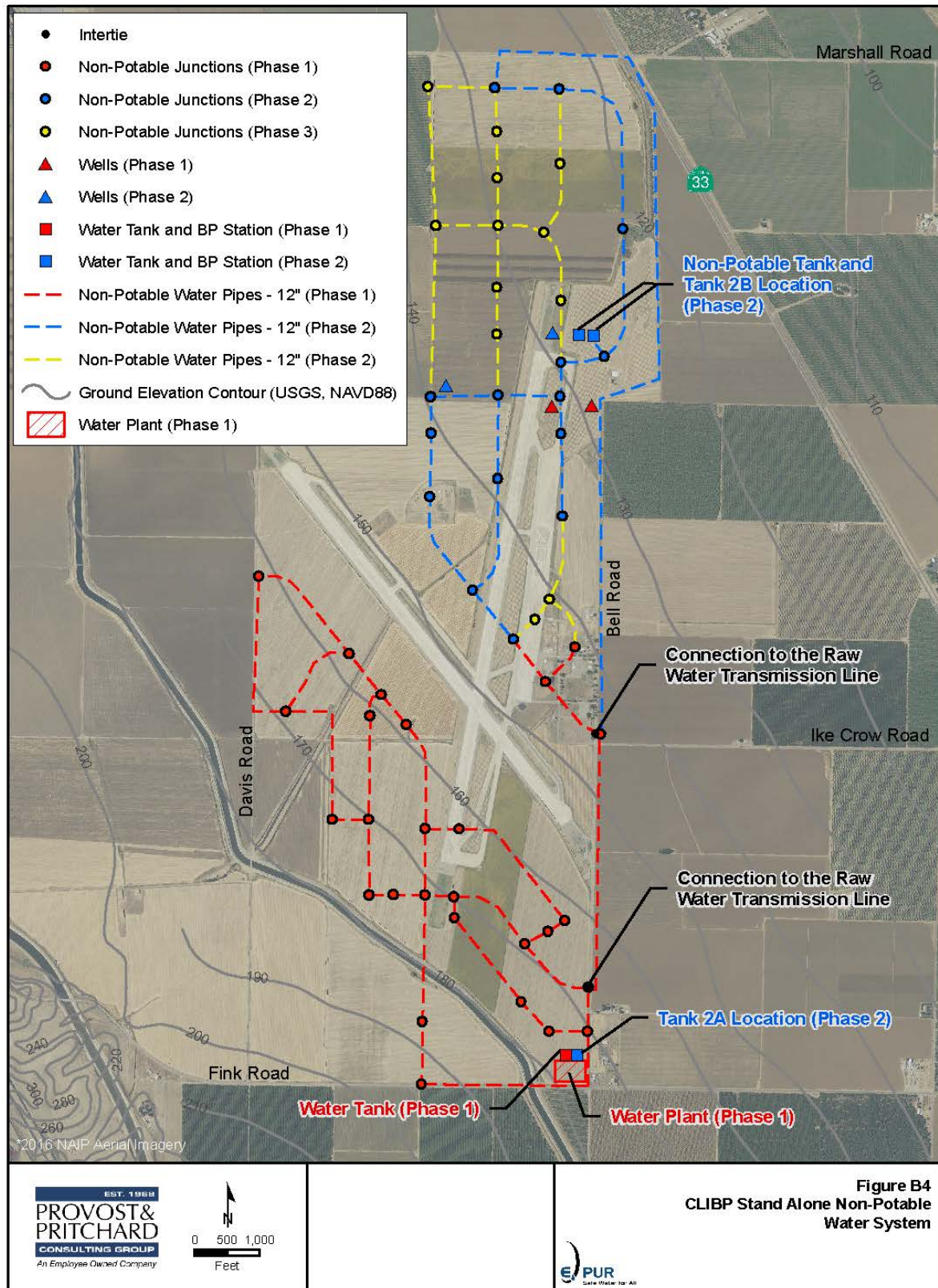
Figure 4-7: Alternative B – Stand Alone Water Supply for CLIBP



Source: E-PUR, Provost & Pritchard 2017

Figure 4-8: Alternative B CLIBP Raw Water System





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Source: E-PUR, Provost & Pritchard 2017

Figure 4-10: Alternative B CLIBP Non-potable Water System

Option 3

Based on discussion with the City of Patterson, there is inadequate capacity to supply the CLIBP with potable water, and the City's recently updated Water Master Plan does not provide for an extension of water service to the CLIBP.. Under Option 3, the County will drill and install a series of groundwater potable water supply wells at the CLIBP to provide the required water supply capacity for the project and install an interconnecting water supply pipeline between the CLIBP and current Patterson service area to provide additional water service reliability (Figure 4-11). The raw water transmission system, potable and non-potable water pipe system, wells, and storage tanks for Alternative C, are illustrated in Figures 4-12 through 4-14 and summarized by phase below.

Phase 1

Backbone infrastructure constructed during Phase 1 will include two new wells and a raw water transmission line that will supply water to potable and non-potable water tanks and the water treatment plant proposed near the intersection of Bell Road and Fink Road (Figure 4-12). Potable and non-potable water will be delivered to the Fink Road Corridor during Phase 1A and to the airport, southern Public Facilities Area, and Bell Road Corridor in Phase 1B.

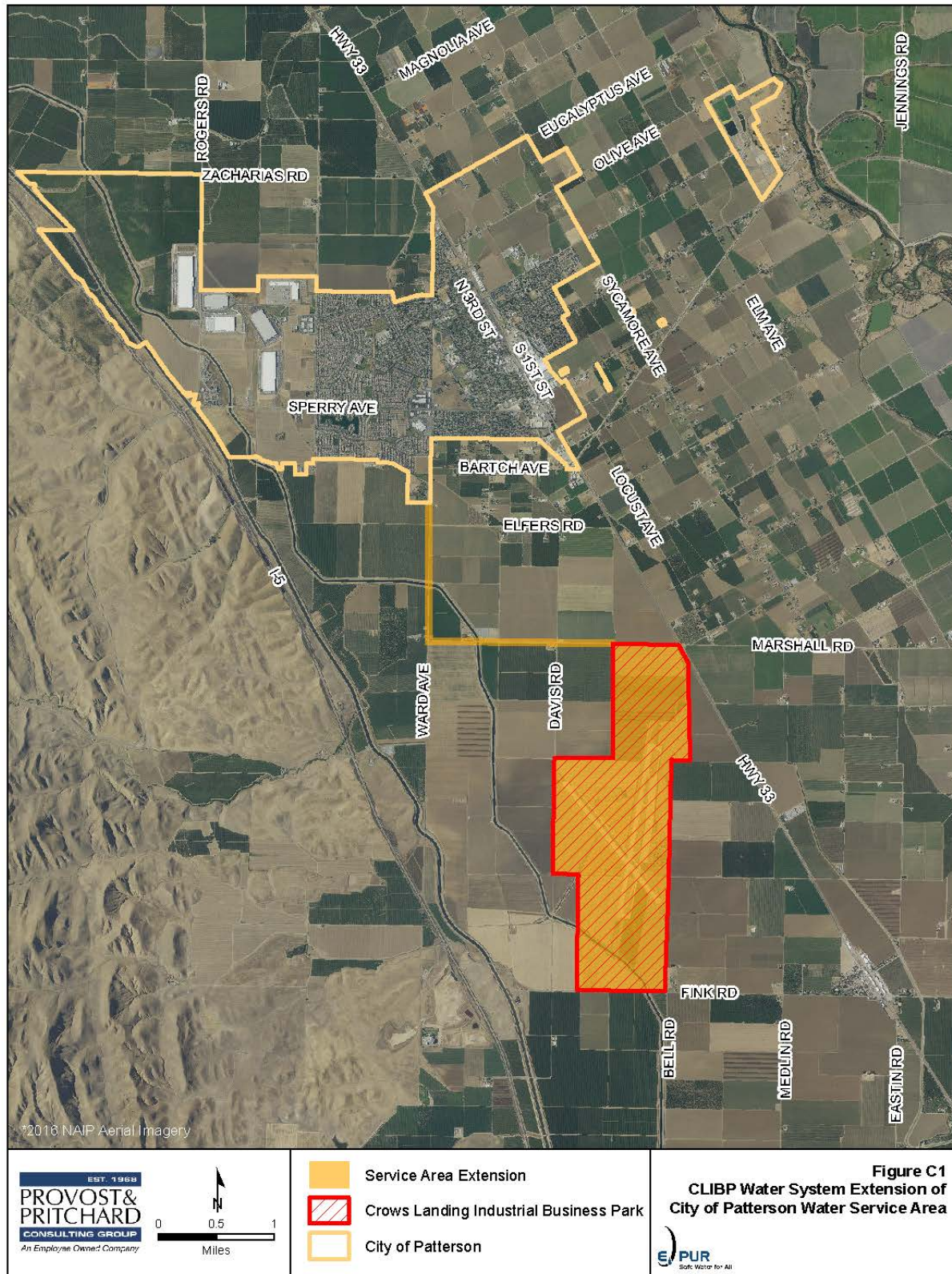
- Phase 1A: Potable water improvements include a water treatment system plant, potable water storage tank (1.19 MG), and booster pump (BP) station at the corner of Bell Road and Fink Road; two water wells and wellhead treatment system (indicated by red triangles) in the northern part of the Plan Area to supply water to both the potable and non-potable water tanks; and distribution pipes and valves (Figure 4-13). Non-potable water infrastructure improvements include distribution pipes, valves, and fire hydrants, and a non-potable water storage tank (0.72 MG) (Figure 4-14).
- Phase 1B: Backbone infrastructure for potable water is limited to distribution piping and valves for service to the Bell Road Corridor, airport, and southern Public Facilities Area (Figure 4-13). Non-potable water infrastructure improvements include distribution pipes, valves, and fire hydrants (Figure 4-14).

Phase 2

Construction of Phase 2 infrastructure includes the extension of raw water transmission lines from the wells and storage tanks to the raw water transmission lines and water treatment plant installed in Phase 1 (Figure 4-12). Potable water infrastructure includes a potable water storage tank (1.52 MG), Tank 2B, and a BP station at the northern part of the Specific Plan Area; two new water wells and wellhead treatment system (as indicated by the blue triangles) also located in the northern part of the Specific Plan Area, supplying water to both the potable and non-potable water systems; and distribution pipes and valves (Figure 4-13). Non-potable water infrastructure required for Phase 2 is primarily limited to distribution pipes, valves, and fire hydrants, with connections to the non-potable water tank and raw water transmission line in Bell Road (Figure 4-14). Additional water supply would come from the City of Patterson and conveyed through a water supply pipeline located along Marshall Road and Ward Avenue.

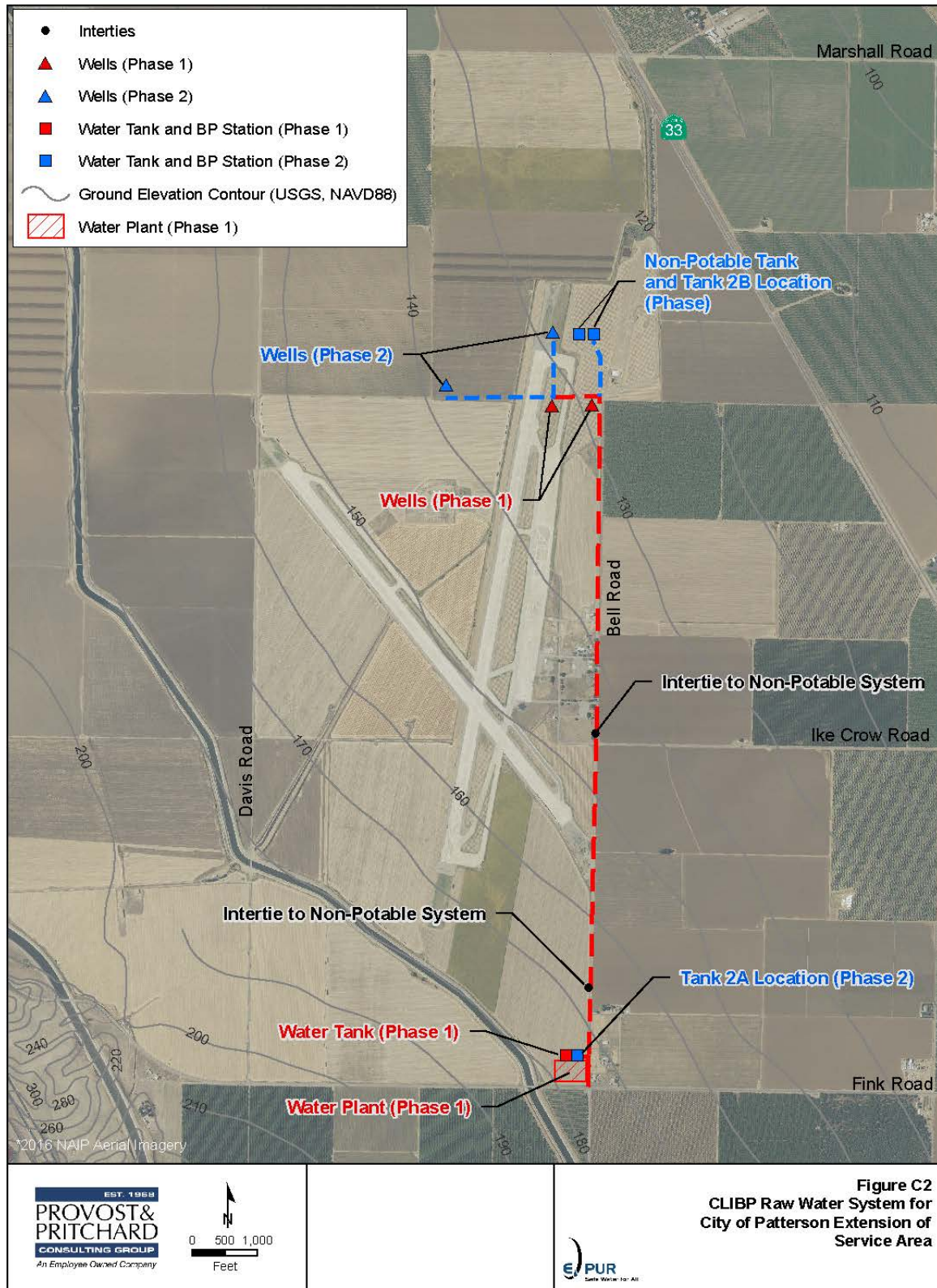
Phase 3

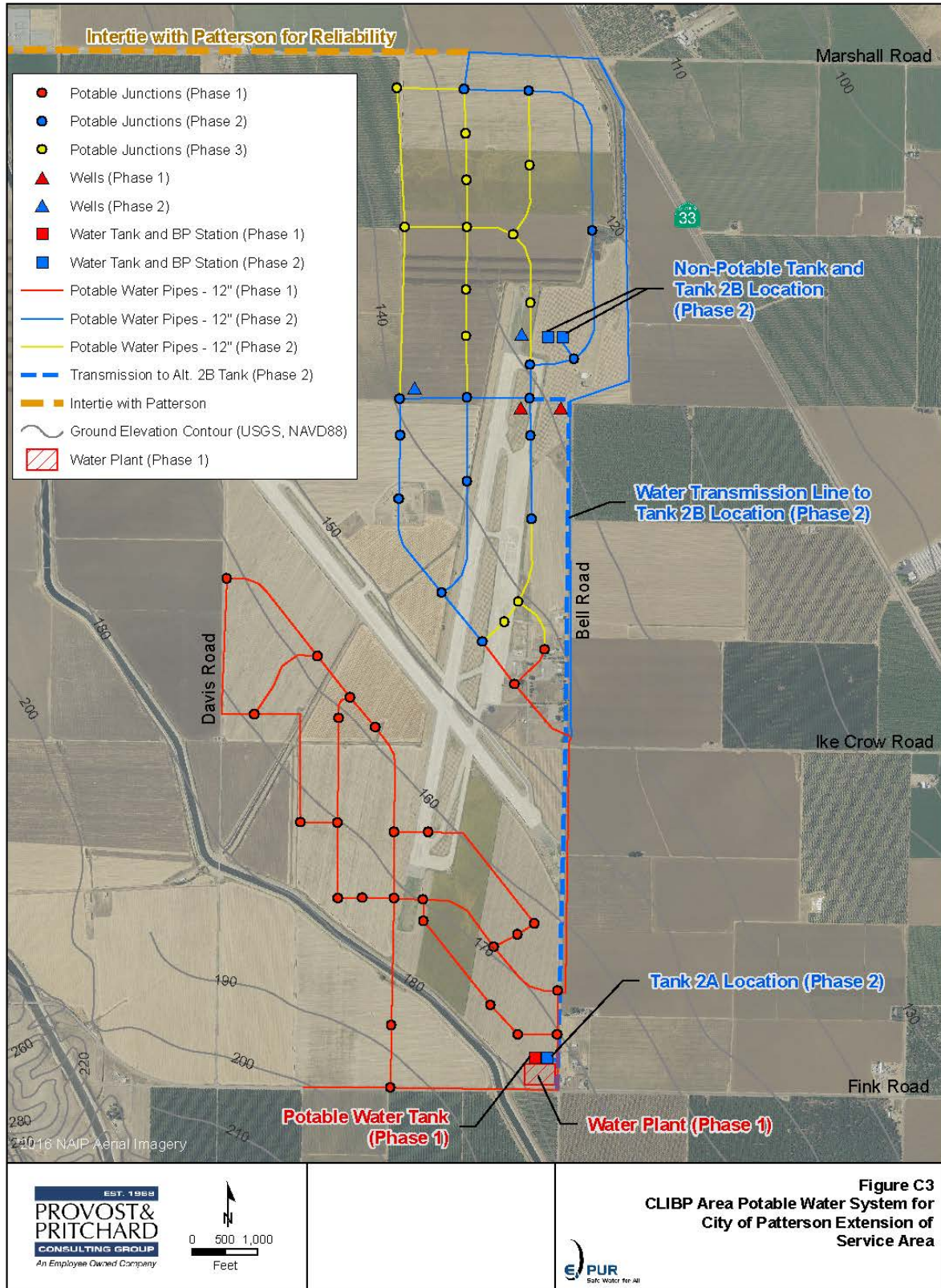
Phase 3 infrastructure improvements for potable water service to the Phase 3 areas south of W. Marshall Road includes distribution pipes and valves (Figure 4-13). Non-potable water infrastructure required for Phase 3 includes distribution pipes, valves, and fire hydrants (Figure 4-14).

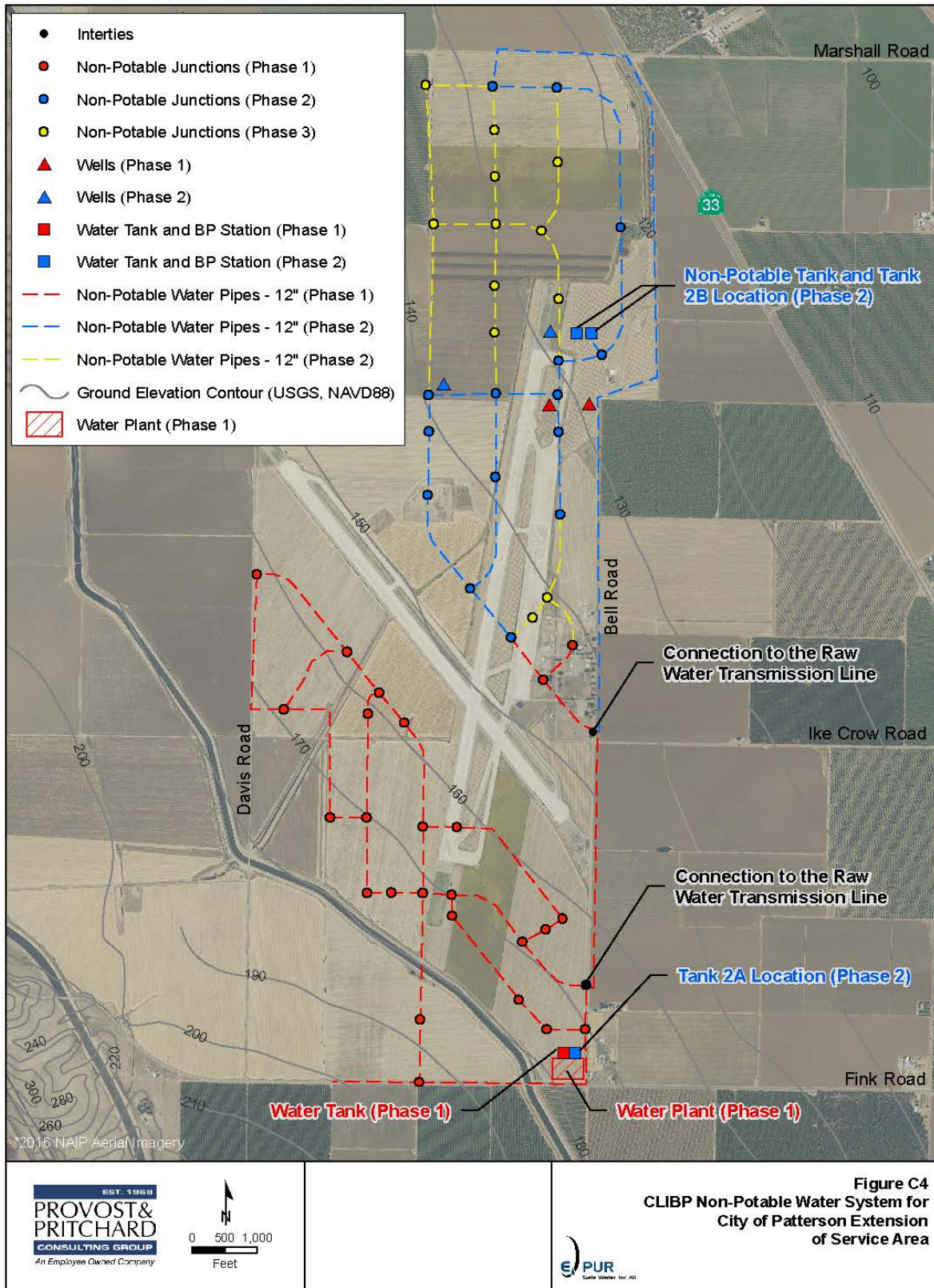


Source: E-PUR, Provost & Pritchard 2017

Figure 4-11: Alternative C – Extension to CLIBP from the City of Patterson







Source: E-PUR, Provost & Pritchard 2017

Figure 4-14: Alternative C CLIBP Non-Potable Water System

4.3.3 Water System Goals

The following goals apply to CLIBP on-site water supply and distribution system improvements:

- WG 1: Provide a water supply and distribution system that is sufficient to serve the projected build-out of the CLIBP Plan Area; if feasible, does not rely on water supply from other providers; and results in sustainable groundwater extraction.
- WG 2: Identify baseline conditions and develop a groundwater-monitoring plan prior to CLIBP project implementation.

2.1.1 Water System Policies

The following policies apply to CLIBP on-site water supply and distribution system improvements:

- WP 1: Initial water system infrastructure shall be constructed to provide water supply to the Fink Road Corridor and extends to the Bell Road Corridor, airport, and southern portion of the Public Facilities Area.
- WP 2: Water conservation shall be encouraged in industrial processes by making reclaimed wastewater available for cooling and other industrial use in the Plan Area.
- WP 3: Water conservation methods shall be incorporated into site and streetscape landscaping. Potable water will be restricted from use in site landscaping and streetscape landscaping.
- WP 4: Groundwater for potable and non-potable use shall result in a sustainable yield through both water conservation and groundwater recharge measures, such as:
- Compliance with state and County conservation requirements for potable water use;
 - Requirement for climate-appropriate landscaping in both the public and private realms that reduces applied water to the greatest extent feasible once plants are established; and
 - Construction of naturalized stormwater management systems (e.g., natural swales, improved/restored creekways, and detention areas) that maximize opportunities for groundwater recharge without creating potential wildlife hazards to aircraft operations.
- WP 5: Placement and design of above ground water systems (such as tanks and water plant) shall enhance the overall project design through use of setbacks and landscaping to scale the systems with surrounding development.

4.4 WASTEWATER COLLECTION AND TREATMENT

Although remnants of a sewage storage and treatment system are located within the CLIBP Plan Area, the system is inadequate for Plan Area wastewater collection and treatment. The County's preferred strategy is for the CLIBP to connect to the Western Hills Water District (WHWD) sanitary sewer effluent conveyance system, which will transport CLIBP effluent to the City of Patterson's wastewater conveyance system for treatment at the City of Patterson Water Quality Control Facility (WQCF).

4.4.1 Wastewater Collection System Plan

Although the Specific Plan proposes to transport CLIBP effluent to the City of Patterson's wastewater conveyance system for treatment, in the event that the County determines this option is infeasible, the County will develop a plan to provide on-site wastewater treatment through a package treatment plant system that can be expanded as development of each project phase proceeds. The specific on-site septic system facilities option selected by the County will meet Stanislaus County's Guidelines for Septic System Design.³

A package treatment plant system can accommodate the wastewater discharge from multiple lots or different buildings on the same lot and can potentially include tertiary treatment. "Specific on-site septic system facilities" are individual onsite wastewater treatment systems (OWTS) developed for a building or lot. This type of system would treat effluent only to a primary and secondary level.

At the time of preparation of this Specific Plan, the County cannot determine which type of system will be necessary for any specific development within the Specific Plan area. Soil composition and size, use, and occupancy of buildings/lots (among other factors) would determine the size and type of system needed. A system that treats industrial waste would also need to comply with different requirements and permitting/oversight of the Central Valley Regional Water Quality Control Board (RWQCB).

According to a Technical Memorandum prepared by Blackwater Engineering, Potential Impacts to Patterson Wastewater Facilities from Crows Landing Industrial Business Park (August 25, 2017), the City of Patterson's existing wastewater collection system does not have sufficient capacity to accept CLIBP Phase 1 flows and accommodate known potential developments in the City of Patterson. Flows to the Patterson WQCF are projected to exceed the existing reliable capacity of 1.85 mgd ADWF within the next five years. The process for design, permitting, and construction for expansion of the WQCF could take up to 12 years total. Depending on timing of development in Phases 1 and 2, the County may need to construct a temporary on-site septic system (temporary package treatment plant or other suitable option) to handle wastewater needs for part, or all, of Phase 1 and part of Phase 2. The County could subsequently connect to Patterson's system. However, the following improvements to the collection system can be implemented to increase capacity in the existing system to accept CLIBP Phase 1 flows.

- a. Replacing pipe segment E5-6:E5:5 on M Street, as previously identified in the WWMP.
- b. Upsizing of approximately 1,300 feet of 21-inch pipe in Ward Avenue.

The following sections identify the anticipated development or improvement of infrastructure to facilitate CLIBP build-out as envisioned in three 10-year phases. However, the timing of proposed wastewater collection system improvements may be subject to change based on the needs of site users and

³ A package treatment plant is a pre-manufactured facility to treat wastewater in small communities or on individual properties.

timing/location of proposed on-site development. Phasing of the wastewater collection system will coincide with on-site roadway construction and phasing of development to supply adequate services.

4.4.2 Wastewater Collection System

Service to the City of Patterson

Phase 1

Backbone infrastructure constructed during Phase 1 will include a wastewater collection system for the Fink Road Corridor during Phase 1A and for the airport, southern Public Facilities Area, and Bell Road Corridor in Phase 1B.

- Phase 1A: Construction of backbone infrastructure, includes:
 - Gravity trunk main;
 - 2.70-MGD sanitary sewer lift station southwest of the W. Marshall Road and SR 33 intersection;
 - 0.32-MGD sanitary sewer lift station south of the airport near the DMC;
 - A force main within W. Marshall Road to convey effluent to the existing WHWD trunk main in Ward Avenue;
 - Tunneler crossing of the DMC south of the airport;
 - Replacement of pipe segment: E5-6:E5:5 on M Street in the City of Patterson; and
 - Upsizing the existing 21-inch sections of the Ward Avenue trunk sewer to 24-inches to accommodate potential growth in Patterson and CLIBP Phase 1 flows.

Construction of the Phase 1A gravity trunk main system includes installation of lines with pipes ranging from 8 inches to 18 inches in diameter and manholes. The gravity trunk mains and the lift stations to be constructed in Phase 1A are sized to accommodate ultimate expansion within the Plan Area and the force main constructed in Phase 1A is sized to accommodate effluent from all phases. The County may allow leaseholders/tenants initiating development during Phase 1 to use new on-site septic systems (packaged wastewater treatment facility) until the permanent sewer system and connection to the City of Patterson WQCF has been completed for their area. The specific on-site septic system facilities will meet Stanislaus County's Guidelines for Septic System Design. Permanent on-site facilities are anticipated to serve development during part or all of Phase 1A.

During Phase 1A, the County will convey the CLIBP sewer flows from Phase 1A development to the WHWD Ward Ave. trunk line down to the City of Patterson Ward Ave. trunk line, which flows to the City of Patterson's WQCF.

- Phase 1B: Construction of backbone infrastructure for wastewater improvements are limited to collection system piping ranging from 8-inches to 15-inches in diameter and manholes. During Phase 1B, the County will tie in to the Phase 1A corridor sanitary sewer infrastructure to convey the combined Phase 1A and Phase 1B CLIBP sewer flows to the WHWD Ward Ave. trunk.

Phase 2

Construction of Phase 2 infrastructure for wastewater service includes installation of gravity trunk mains to connect to existing sanitary sewer infrastructure constructed in Phase 1, with pipes ranging from 8 inches to 12 inches in diameter and manholes, removal of the temporary connection to the WHWD's sanitary sewer trunk line, and installation of a 12-inch diameter force main parallel to the existing WHWD sewer trunk line along Ward Avenue between W. Marshall Road and Barch Avenue for connection to the proposed South Patterson Trunk Sewer (SPTS) line (City of Patterson's Wastewater Master Plan, 2010). This new trunk line will be utilized to convey CLIBP-generated sewage to the City of Patterson WQCF.

Construction of the SPTS system was recommended by Blackwater before accepting CLIBP flows up to the estimated project buildout average dry weather flow (ADWF). The system would be built to accommodate full buildout flows from Diablo Grande, CLIBP, and South Patterson

Phase 3

Construction of Phase 3 infrastructure for wastewater service includes installation of lines with pipes ranging from 8-inches to 10-inches in diameter and manholes. This phase will utilize the newly constructed parallel force main system in Ward Ave. to convey CLIBP sewer flows to the City of Patterson. The SPTS will carry build-out flows from the CLIBP to the expanded City of Patterson WQCF.

Figures 4-15 to 4-17 illustrate phasing of the wastewater system improvements. The d/D ratios referenced in the figures is a measure of the depth of flow to the pipe diameter. The ratio helps to determine how full the pipe is in gravity systems.

According to the City of Patterson's Wastewater Master Plan (2010), the permitted capacity of 3.5 MGD does not account for development outside the City's 2004 sphere of influence; therefore, facility expansion may be required to handle project-related effluent. The timing of such expansion will be determined through coordination with the City of Patterson.

Comparing projected CLIBP sewer flows to the existing and anticipated available capacities of the City of Patterson trunk lines, the following trunk line infrastructure phasing plan for each phase of CLIBP build-out is described as follows:

On-Site Treatment Alternatives

If the preferred option to transport CLIBP effluent to the City of Patterson WQCF is infeasible, the County will develop a plan to provide on-site wastewater treatment through a package treatment plant system that can be expanded as development of each project phase proceeds (see Section 7.2 of the *Crows Landing Industrial Business Park Sanitary Sewer Infrastructure and Facilities Study* in Appendix H). Packaged or custom wastewater treatment systems, complying with California Title 22 recycled water regulations and State Water Board wastewater discharge regulations can be constructed on the CLIBP property to manage its wastewater over time. Modular treatment systems can be matched to the treatment capacity required for each phase and constructed as needed, not unlike the phased expansion projects that the City of Patterson is planning with its WQCF.

To compare an on-site wastewater treatment system (OWTS) to the option of disposal at the Patterson WQCF, an assessment was made of treatment systems for the full buildout wastewater ADWF. Two types of modular, packaged treatment systems were considered: Sequencing Batch Reactor (SBR) and Membrane Bioreactor (MBR) Process. For initial developments with OWTS for individual facilities, the County has permitting authority and mechanisms available to evaluate, approve and permit such systems. State criteria are

mostly siting based and the County would remain the lead agency as long as treated effluent cannot percolate into groundwater or migrate into surface waters.

Wastewater Goal

The following goal applies to CLIBP on-site and off-site wastewater collection system improvements:

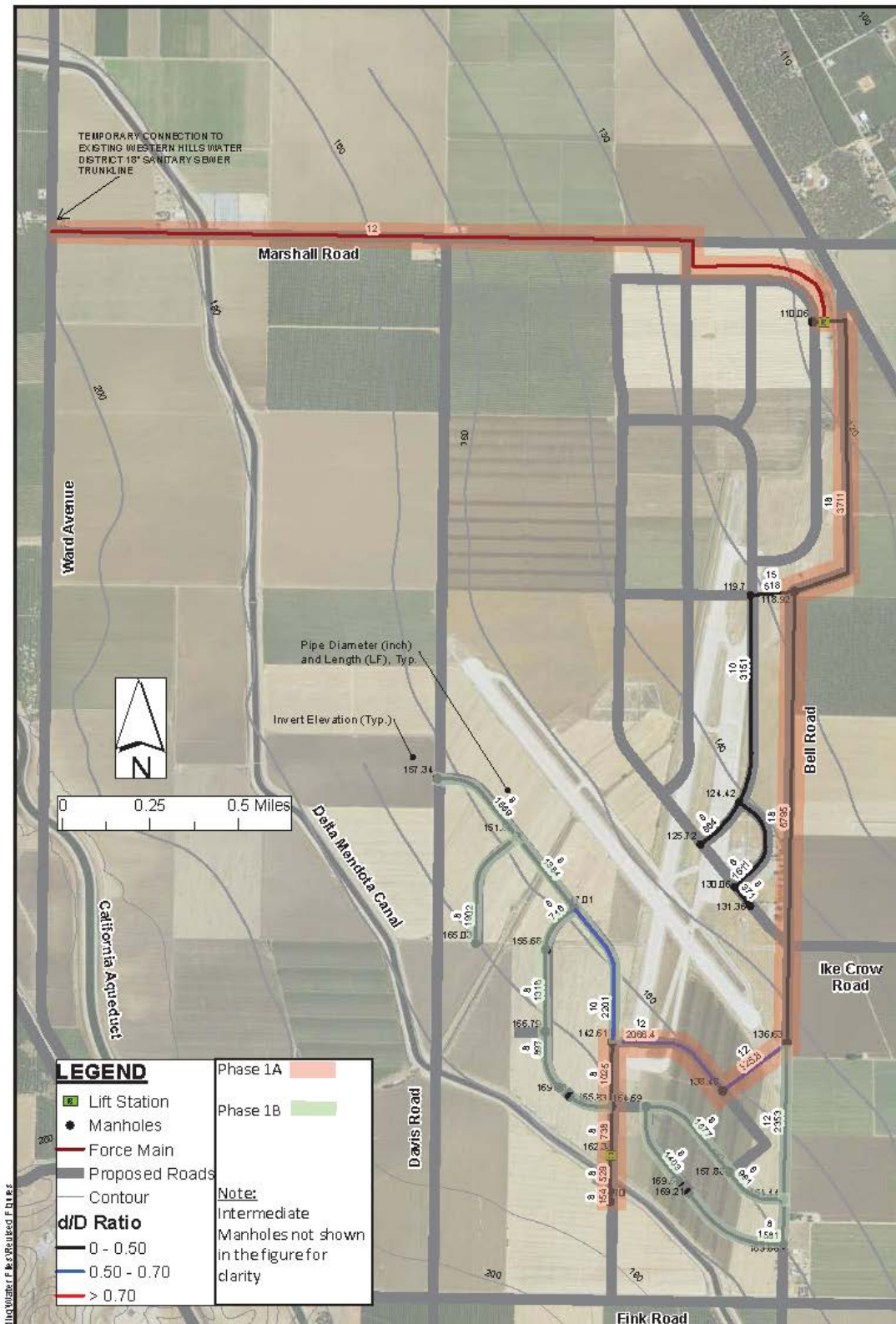
WWG 1: Provide a wastewater collection system and treatment sufficient to serve build-out of the CLIBP Plan Area.

4.4.3 Wastewater Policies

The following policies apply to CLIBP on-site and off-site wastewater collection system improvements:

WWP 1: Initial wastewater system infrastructure shall be constructed to provide service to the Fink Road Corridor and extend to the Bell Road Corridor, airport, and southern Public Facilities Area, and accommodate effluent from all phases.

WWP 2: Future leaseholders/developers/contractors shall submit a wastewater budget indicating the total wastewater demand, the quality of the wastewater, and the opportunities for use of reclaimed wastewater, where appropriate.



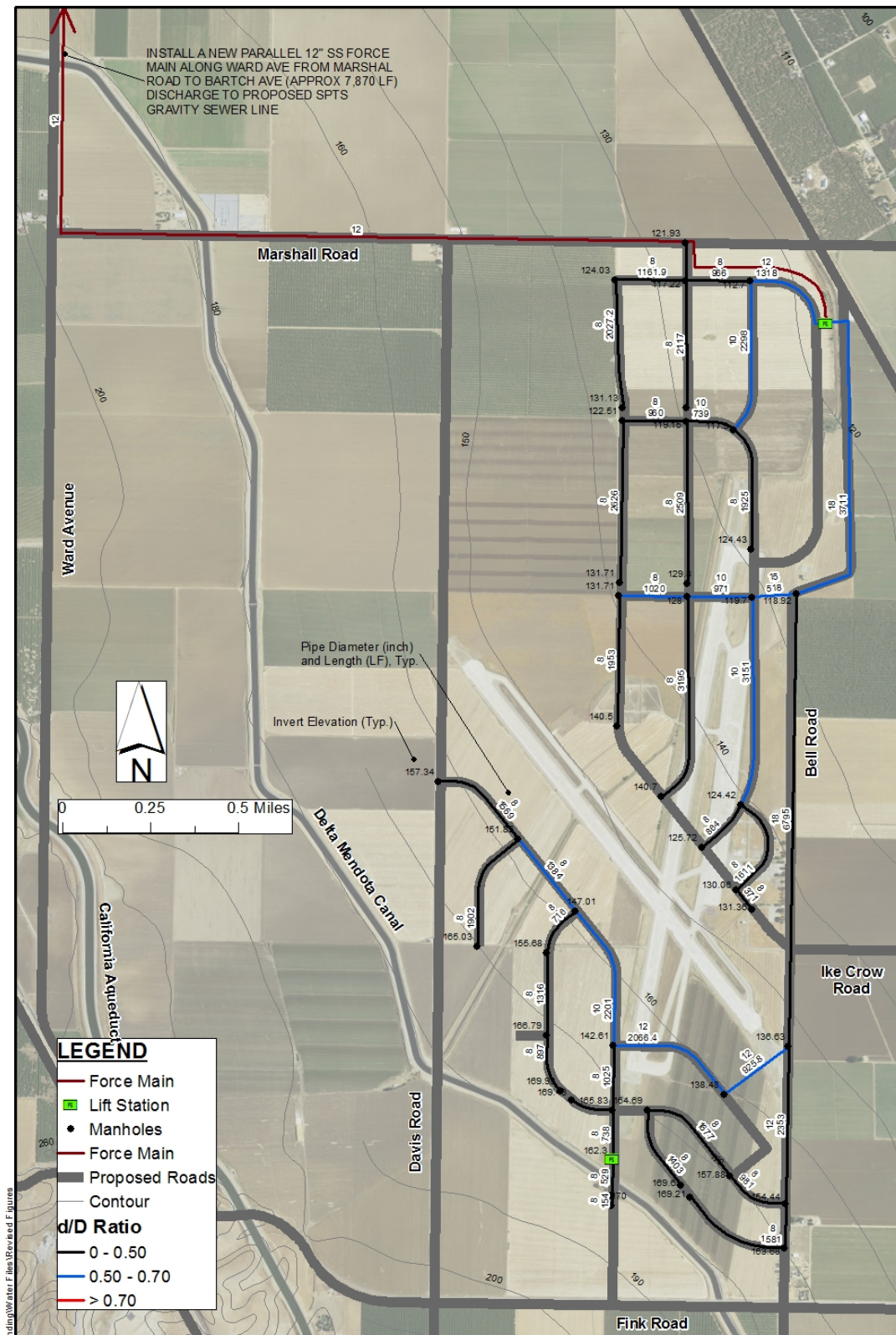
Source: AECOM 2016

Figure 4-15: Wastewater System, Phase 1

Note: The d/D Ratio represents the relationship between the maximum depth of flow and diameter of the pipe and is used to model the ability of a pipeline to convey wastewater flow under both dry weather and wet weather conditions.



Figure 4-16: Wastewater System, Phases 1 and 2



Source: AECOM 2016

Figure 4-17: Wastewater System, Phases 1, 2, and 3

4.5 STORMWATER MANAGEMENT

The terrain west of I-5 is characterized by rolling hills with elevations ranging from 220 feet to 1,400 feet above mean sea level (msl). Upstream watersheds east of I-5 between the California Aqueduct and the DMC consist of land that generally slopes to the northeast. Stormwater runoff from the Little Salado Creek watershed west of the California Aqueduct crosses both I-5 and the California Aqueduct and then flows toward the DMC. Flow is conveyed under the DMC by two, 5-foot-square box culverts that have capacity for 700 cubic feet/second (cfs). During a 100-year, 24-hour storm event, the creek would result in a peak flow discharge of 700 cfs of stormwater to the Plan Area.

On the east side of the DMC, box culverts drain into an open channel that continues in a northeasterly direction through the Plan Area and passes through the culverts that convey flows beneath the former military runways. The open channel ultimately drains toward the low point of the Plan Area, which is located near the intersection of SR 33 and Marshall Road. From this low point, runoff drains through a linear sedimentation basin towards a raised concrete control structure. The control structure contains a 24-inch outlet controlled by a slide-gate valve, which discharges to the 24-inch “Marshall Drain.” The Marshall Drain runs parallel to Marshall Road for approximately 4.3 miles to its final discharge point at the San Joaquin River.

Specific development projects in the Plan Area will be required to detain stormwater runoff associated with a 100-year storm event on site. This requirement will reduce the amount of runoff to be conveyed or detained downstream and reduce the amount of drainage infrastructure required. However, excess runoff is known to accumulate in the northeast portion of the Plan Area, primarily as a result of limited discharge capacity within the Marshall Drain. During heavy rainfall events under existing conditions, runoff pools against the adjacent railroad tracks located on the east side of SR 33, eventually over-tops the railroad, and then flows northwesterly towards the San Joaquin River. In addition, flows migrate north towards the City of Patterson and contribute to flooding. Development of the Plan Area will require the construction of stormwater drainage infrastructure to accommodate off-site runoff from upstream tributary areas.

The following sections identify the anticipated development or improvement of infrastructure to facilitate CLIBP build-out as envisioned in three 10-year phases. However, the timing of proposed stormwater management improvements may be subject to change based on the needs of site users and timing/location of proposed on-site development.

4.5.1 Stormwater Management Plan

As further described in the Drainage Study for Crows Landing Industrial Business Park (Appendix I), referred to herein as the Drainage Study, Plan Area development will include new stormwater management and groundwater recharge infrastructure as part of the backbone infrastructure provided by the County. Such facilities will include:

- Raising an approximately 750-foot segment of Davis Road located off site and south of the DMC by approximately 4 feet during Phase 1A to protect the area west of the DMC and block flows from ponding in the Plan Area;
- Increasing the capacity of Little Salado Creek during Phase 1B by widening the channel downstream of the runway and increasing the capacity of the culverts that convey water flows beneath the runway. Off-site runoff flows will be conveyed to the northeastern corner of the Plan Area through the expanded open channel and culverts;

- Constructing an on-site stormwater pond in the northeastern portion of the Plan Area, beginning in Phase 1B. The linear pond will be constructed along the northeastern site boundary to accommodate the increased flows coming from Little Salado Creek and culverts beneath the runway and also to detain and infiltrate runoff from Little Salado Creek, to promote groundwater recharge.

Figure 4-18 shows the segment of Davis Road that will be raised, the segments of Little Salado Creek that will be widened, and the location of the proposed stormwater pond.

In addition, on-site stormwater will be collected from rooftops, parking lots, and roadways and conveyed through a system of pipes, swales, and ditches, on-site detention/infiltration basins, Little Salado Creek channel and the stormwater pond, such as the County may require on site for individual developments. The stormwater pond will be used to detain and infiltrate stormwater runoff for groundwater recharge.

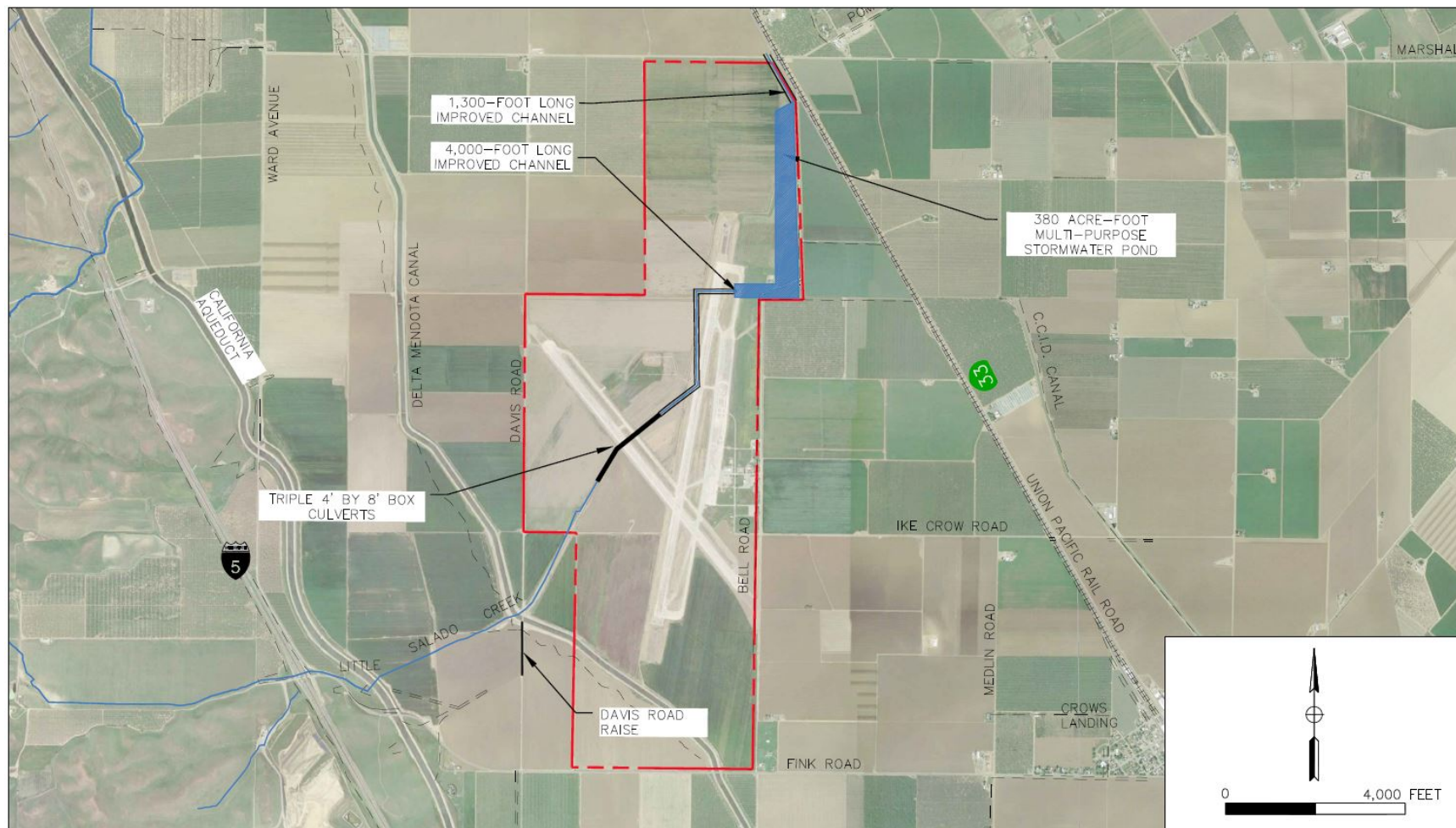
Based on its proximity to the runway, the channel design must address guidance set forth in Federal Aviation Administration (FAA) orders and guidance. FAA Order 13, Design, provides guidance for drainage facilities constructed on airports. FAA Advisory Circular 150/5200-33B, “Wildlife Hazard Attractants on and Near Airports,” provides guidance for open water facilities constructed within the critical zone for wildlife hazards, which is defined as the area within 10,000 feet of aircraft movement and within 5 miles of approach departure areas. Such guidance requires that water associated with a 10-year storm drain within 24 to 48 hours of the storm event.

Widening Little Salado Creek channel and increasing the capacity of the culverts under the airport runway will allow runoff that currently accumulates on-site to be conveyed across the Plan Area and will eliminate off-site pooling along the adjacent railroad tracks. However, peak flows that travel north towards Patterson would be increased without mitigation. An on-site stormwater pond will be constructed to mitigate the northward flows towards Patterson. The stormwater pond will be constructed on site along the northeastern boundary. The pond will be constructed to detain runoff from Little Salado Creek. The pond will have a capacity of 380-acre feet over an area of approximately 40 acres, consisting of 200-acre feet of runoff retention storage (for infiltration) in the bottom and 180-acre feet of runoff detention storage above. Based on the ponds proximity to the airport, the pond will be designed and constructed in accordance with guidance set forth in FAA Advisory Circular 150/5200-33B, and it will include a small outlet structure to allow the pond to drain completely within 48-hours of a 10-year storm event.

If the County selects an on-site wastewater treatment alternative (refer to the *CLIBP Wastewater Master Plan* for additional details), one option will be to discharge highly treated effluent to the stormwater pond for infiltration into the upper aquifer. This would require a re-evaluation of the area of pond bottom that would receive engineered improvements to enhance infiltration.

If necessary and feasible to provide adequate flood protection and minimize stormwater runoff, the County may also implement one or more of the following improvements:

- Increase the capacity of the culvert under the DMC to allow runoff to pass under the canal to prevent Plan Area ponding. This option would require increasing the capacity of the proposed stormwater pond and the channel. These improvements would begin as part of Phase 1B.
- Placing fill on the parcel to raise the site to prevent ponding. The fill would result in a similar condition as the raising of Davis Road and require other improvements to address runoff on properties to the northwest. These improvements would begin as part of Phase 1A.



Source: AECOM 2016

Figure 4-18: Stormwater Drainage Improvements

* Note: An on-site wastewater treatment alternative, with the option to discharge highly treated effluent to the stormwater pond, may require engineering improvements to the pond.

- Restrict development to areas outside the floodplain. This would result in about 20 acres of land that could not be developed but could be used as open space and for the required detention from the on-site runoff (see Section 4.6.2).
- Engineering improvements to enhance infiltration of the stormwater pond if an on-site wastewater treatment system is required.

According to the March 2017 *Drainage Study for Crows Landing Industrial Business Park* (Appendix H to the Specific Plan, Section 3, Table 6), the open space/detention pond would be constructed in phases as the project develops and additional stormwater detention is required. The total volume of planned detention is 615,000 cubic yards (cy), of which 368,807 cy would be constructed in Phase 1B, 113, 925 cy in Phase 2, and 132,268 cy in Phase 3. Along with the detention basin, earthworks will be the construction of supporting drainage infrastructure in Phase 1B and infiltration trenches in Phases 1B, 2, and 3, as detailed in Table 6 of the Drainage Study.

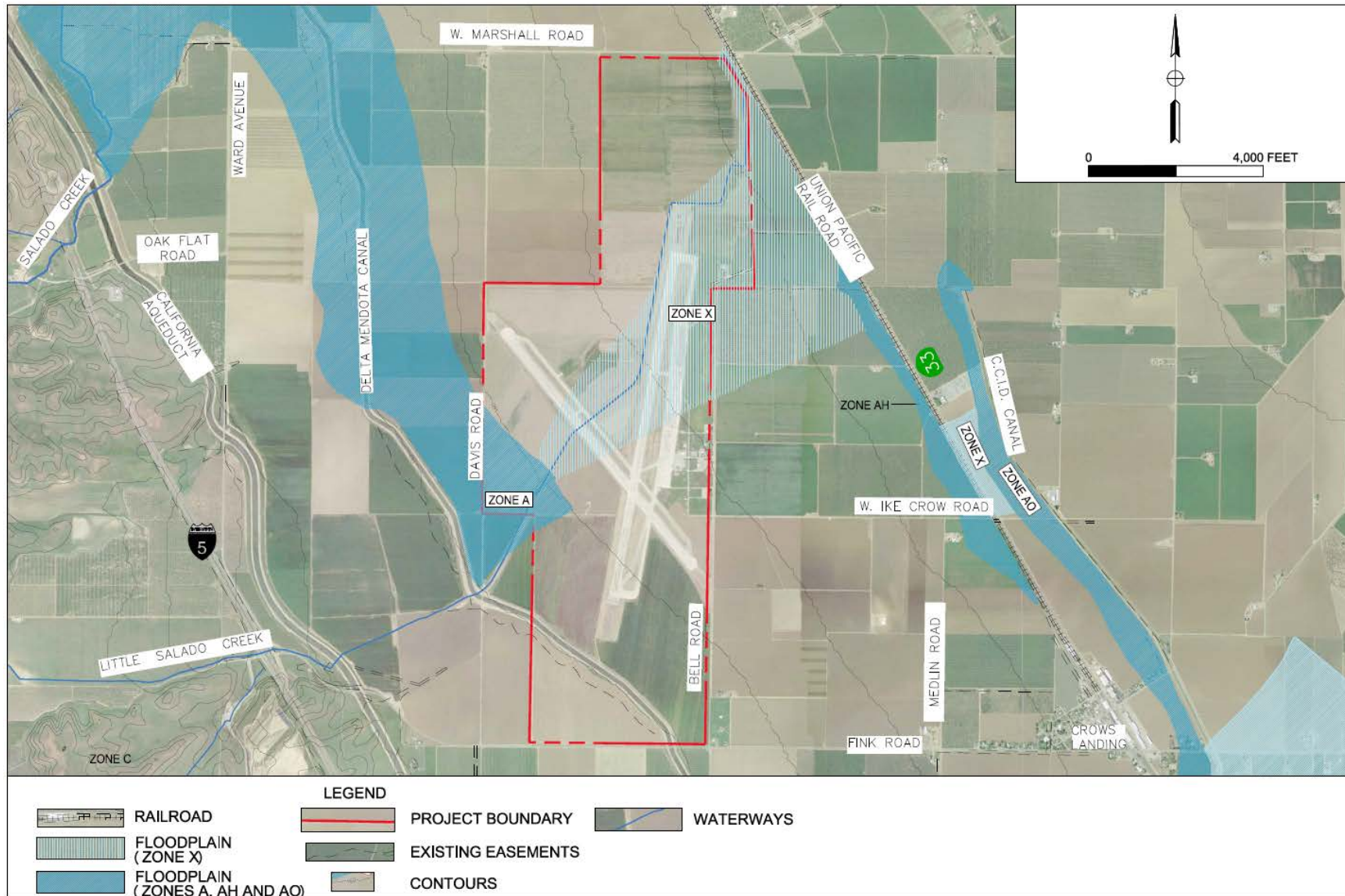
Groundwater Recharge

In 2014, California adopted the Sustainable Groundwater Management Act (SGMA), which provides a framework for sustainable management of groundwater supplies by local authorities. Subsequently, in 2015, California updated its Model Water Efficient Landscape Ordinance (California Water Code, Title 23, Chapter 2.7) to promote water efficient landscapes, better manage landscape water use to prevent waste, and reduce water use to the lowest practical amount. Prior to SGMA, Stanislaus County adopted a Groundwater Ordinance (chapter 9.37 of the County Code) to prevent the unsustainable extraction of groundwater within unincorporated areas and promote no net drawdown of aquifers. Chapter 3 and Appendix B contain policies, development standards, and design guidelines to implement the State of California's and the County's policies and requirements related to sustainable groundwater extraction and use.

With the application of water efficient landscape standards and the construction of the stormwater pond with retention storage for infiltration and groundwater recharge, potential groundwater extraction to serve the CLIBP at build-out is intended to provide sustainable groundwater yields. As noted in Section 4.3, "Water Supply and Distribution," to meet the County's objective of no net drawdown of groundwater, a sustainable groundwater recharge strategy, including potential use of reclaimed water, will be adopted in order to maximize groundwater recharge. The details of the strategy will be developed separately from the Specific Plan, but would generally consist of the design and construction of water detention facilities to reduce flow and increase permeability and water infiltration.

4.5.2 Floodplain Mapping

Figure 4-19 shows that the existing Federal Emergency Management Agency (FEMA)-defined floodplain covering the project site includes designations for Zone A (100-year no elevations determined) and Zone X (500-year or 100-year with depths less than 1 foot). FEMA permits the County Flood Plain Manager to allow development in A Zones if base flood elevations have been determined and the development is outside the limits of the 100-year floodplain. Zone X areas allow development without flood insurance.



Source: AECOM 2016

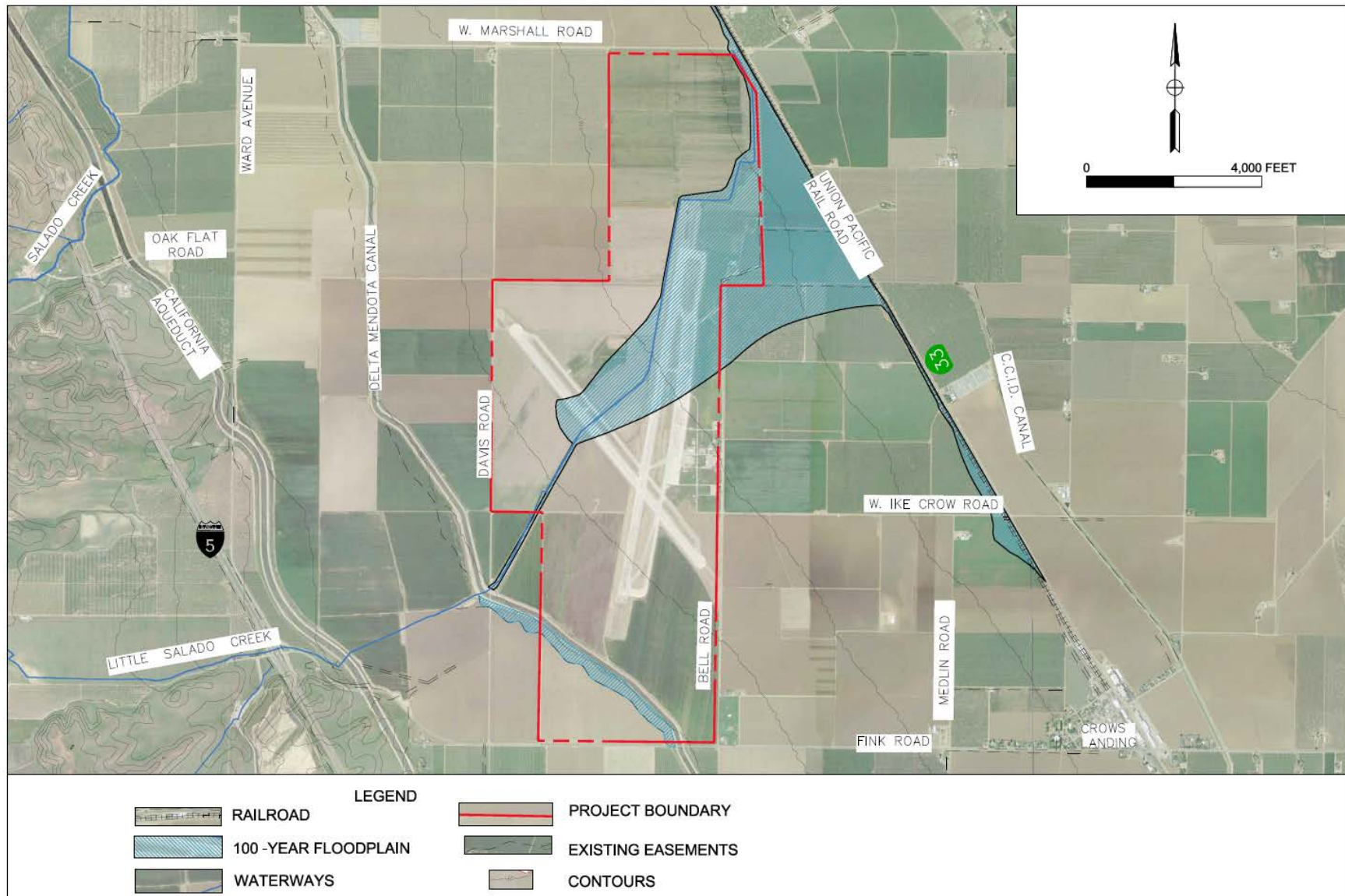
Figure 4-19: FEMA Floodplain

Based on the Drainage Study, the County has determined that the existing FEMA floodplain designation for Zone A (see Figure 4-19) is incorrect. As part of the study, peak flows on Salado Creek were investigated to determine whether runoff from the watershed was combining with runoff from Little Salado Creek to create the larger floodplain shown in the FEMA map. Using a one-dimensional hydraulic model to simulate a 100-year flood event, the analysis indicated that flood elevation would be contained within the channel in the Zone A area. However, as shown in Figure 4-20, hydraulic modeling results indicate that Little Salado Creek would experience overtopping at locations where the channel is too narrow and where the culverts convey flow under the existing airport. Figure 4-21 compares the location of the 100-year flood event as indicated by the hydraulic model compared to the floodplain shown by the existing FEMA map.

The capacity of the culverts beneath the runway must be increased, and the Little Salado Creek channel must be improved prior to and during development. The analytical results obtained from the hydraulic model showed that flood flows would be conveyed without overtopping the creek by widening the channel, providing better maintenance, and increasing the capacity of the culverts under the runway. The stormwater pond will mitigate for the resulting increased flow (see Figure 4-22).

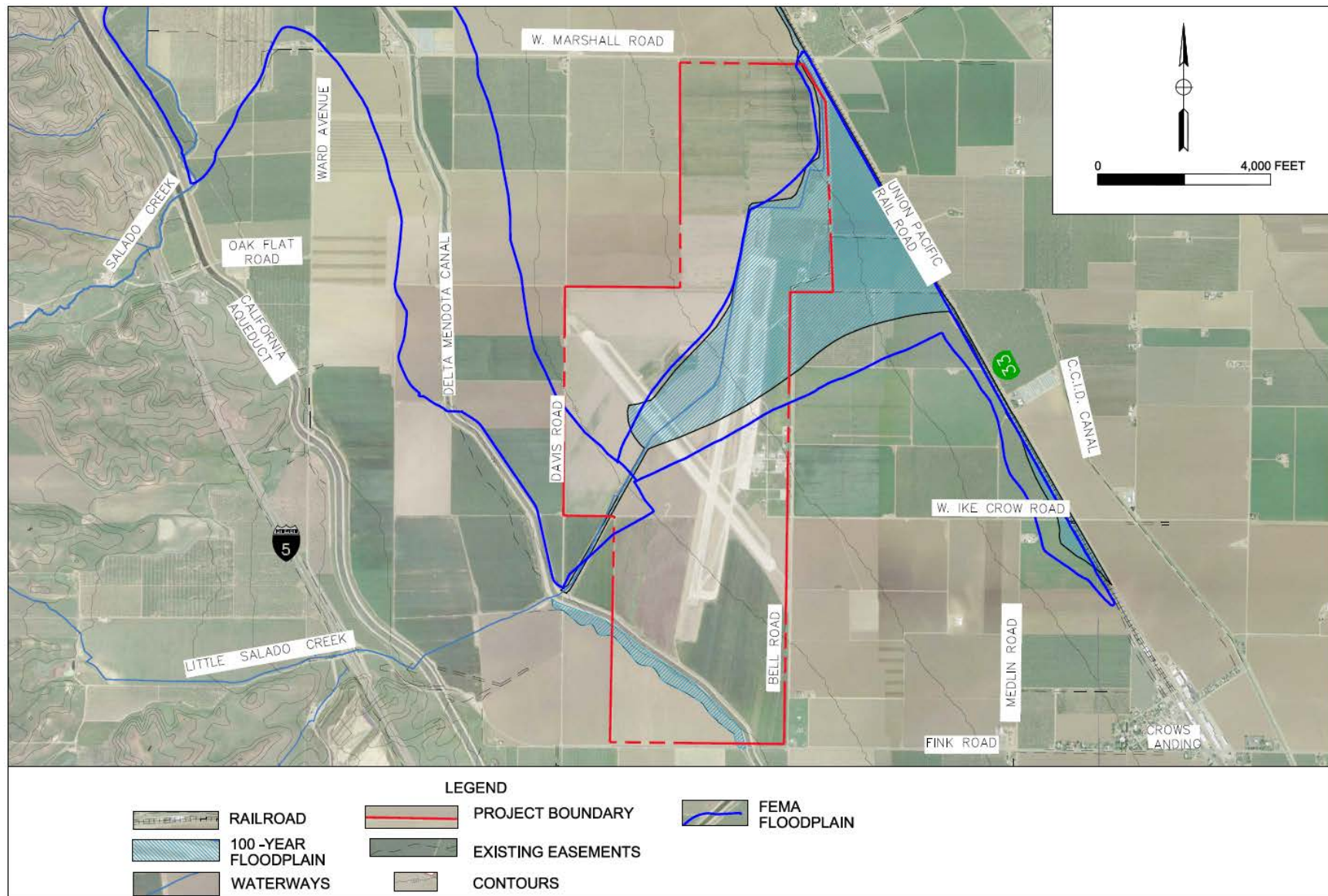
A Conditional Letter of Map Revision (CLOMR) is not necessary for project entitlement; only a small portion of the site is in the FEMA floodplain, and project development can still be permitted. However, after the stormwater improvements have been made, the County will need to process a Letter of Map Revision (LOMR) for the section of Plan Area currently in FEMA Zone A, so that development on this portion of the project will not be subject to development restrictions, including flood insurance.

Raising Davis Road will protect the portion of Plan Area west of the DMC from flooding, but will cause more area to the west of Davis Road to be inundated during large flood events. The inundation will be deeper than under current conditions, however, the duration will be short. The existing floodplain west of the DMC is not currently mapped by FEMA so no letter of map change will be required as part of this development. In the future, if the area west of Davis Road is mapped by FEMA it would probably be categorized as a Zone A or Zone AE (100-year elevations determined).



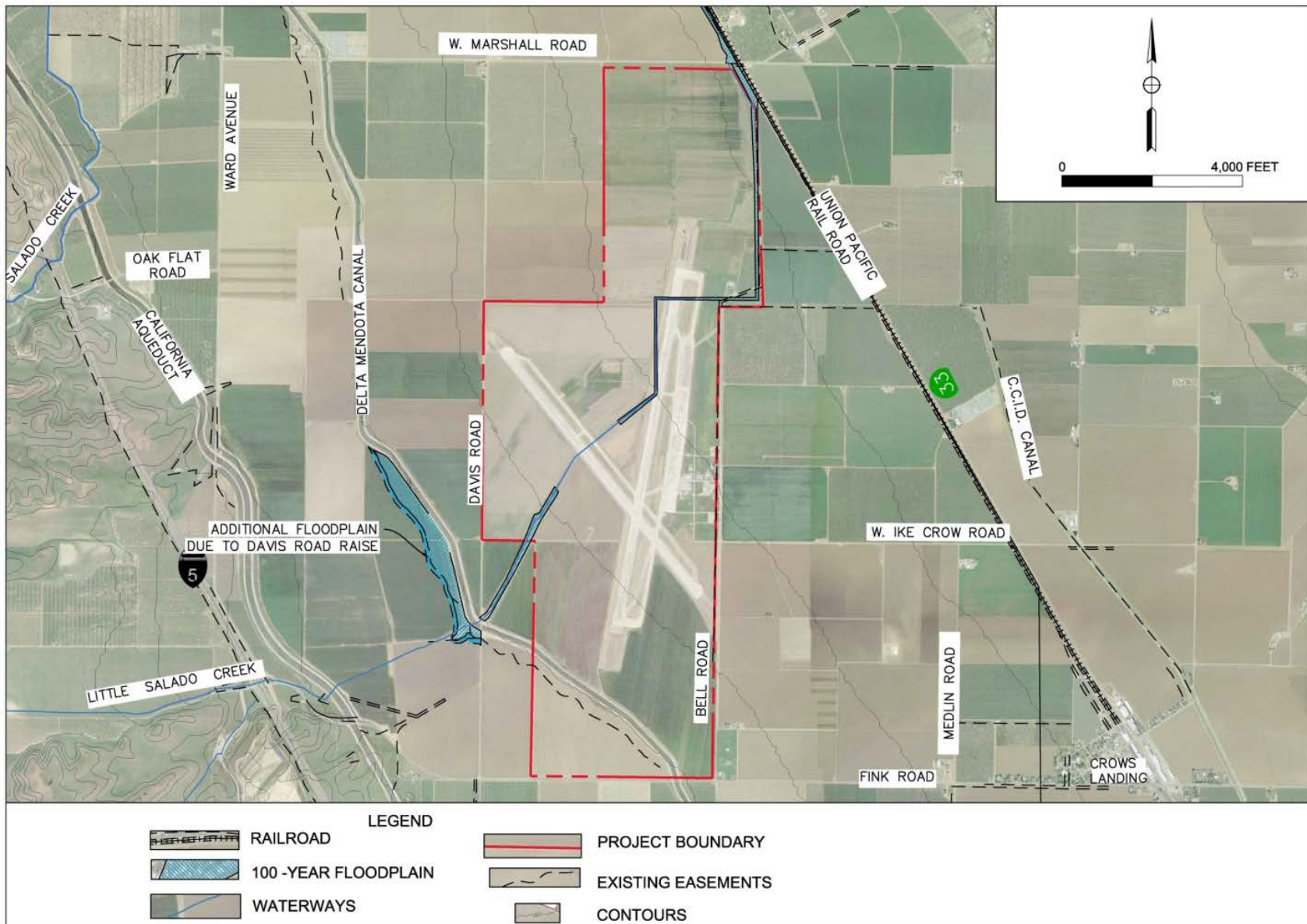
Source: AECOM 2016

Figure 4-20: Existing Floodplain (Based on Hydraulic Modeling Results)



Source: AECOM 2016

Figure 4-21: FEMA and Existing Floodplain Comparison



Source: AECOM 2016

Figure 4-22: Proposed FEMA Floodplain (Following Project-related Improvements)

4.5.3 Stormwater Management Goal

The following goal applies to CLIBP on-site stormwater management improvements:

SG 1: Provide a stormwater management system, incorporating groundwater recharge facilities, sufficient to serve the projected growth and build-out of the CLIBP Plan Area.

4.5.4 Stormwater Management Policies

The following policies apply to CLIBP on-site stormwater management improvements:

- SP 1: All development shall detain stormwater runoff associated with the 100-year storm event, on site.
- SP 2: All on-site detention facilities shall be designed according to guidance set forth in FAA Advisory Circular 150/5200-33B.
- SP 3: Grassy swales and other best management practices to filter stormwater shall be encouraged and shall comply with the Landscape Design Policies in Section 3.3.2 of Chapter 3, “Built Environment and Design.”
- SP 4: On-site stormwater detention features, basins or swales, used as a landscape design feature may be considered for credit against the required landscape area on any site, provided that:
- The detention basin or swale is visually incorporated in the adjacent site landscape;
 - The detention basin or swale may be landscaped to include grass, trees, and other improvements that are similar to, and visually compatible with, the adjacent landscaping, but the features shall not create large areas of open water or other habitat for potentially hazardous wildlife; and
 - The detention basin or swale is located in the front setback where it is visible from the road, or is part of the on-site landscaped area in the side yard or rear yard setback areas visible from the road or the occupied area of buildings on site.
- SP 5: Stormwater management swales shall be landscaped with appropriate erosion control plant materials.

4.6 DRY UTILITIES PLAN

All dry utilities, including electricity, gas, telephone, cable, and internet will be conveyed through the major Plan Area roads in a “joint trench” and parallel to backbone roads. The Crows Landing Industrial Business Park Dry Utilities Infrastructure and Facilities Study (Appendix J), herein referred to as the Dry Utilities Study, identifies the major infrastructure elements required to provide sufficient electricity, natural gas, and communications to the Plan Area.

Electricity

According to the Dry Utilities Study, representatives of the Turlock Irrigation District (TID), which currently serves the project area, state that TID has electrical capacity to serve the CLIBP; however, electrical distribution infrastructure is required. TID is capable of generating slightly more than 505 megawatts (MW) of electricity throughout a 662-square-mile service area, including the Plan Area. A TID substation is located at the northeast corner of W. Marshall and Davis roads. This substation is fed from a double circuit 115 kilovolt (kV) line with a 12kV under build located along W. Marshall Road on the northern boundary of the CLIBP Plan Area. TID will require 15- to 20-foot-wide public utility easement to accommodate electricity

facilities. Manholes will be required at 800-foot-intervals to accommodate underground electrical facilities, which will include 4-inch and 6-inch diameter conduits. Pad-mounted switchgear and pad-mounted capacitor banks could also be required.

Natural Gas

Pacific Gas and Electric Company (PG&E) provides natural gas and electric service throughout a 70,000-square-mile service area in northern and central California. A 24-inch diameter transportation pipeline is present on the northern boundary of the Plan Area, and a 3-inch diameter gas-distribution pipeline runs from I-5 along the southern boundary of the Plan Area to serve the community of Crows Landing. PG&E would realign the gas lines to serve the CLIBP.

Communications

AT&T and Global Valley Networks (GVN) currently provide telephone communications to the CLIBP project area, and both have stated that they will provide telephone services to the Plan Area (CLIBP Dry Utilities Infrastructure and Facilities Study, 2015). AT&T provides local phone service, long distance phone service, and high-speed internet service throughout Stanislaus County. GVN provides telephone and internet services to the nearby communities of Patterson, Livingston, Diablo Grande, Westley, and Grayson. Manholes will be required at 600-foot intervals to accommodate underground communication facilities, which will include 4-inch diameter conduits for telecommunication cable distribution.

Comcast provides service to the Crows Landing community, but it will need to extend its existing fiber optic cable from the Crows Landing community to provide cable television and internet service to the Plan Area. Underground facilities will include a 2-inch diameter conduit and manholes for cable distribution.

4.6.1 Dry Utilities Goal

The following goal applies to CLIBP dry utilities improvements:

DUG 1: Ensure that infrastructure for dry utilities, including electricity, natural gas, and communication services is sufficient to serve the projected build-out and growth of the CLIBP Plan Area.

4.6.2 Dry Utilities Policies

The following policies apply to CLIBP dry utilities improvements:

- DUP 1: Specific infrastructure requirements for TID, PG&E, AT&T, GVN, and Comcast shall be determined prior to initiating Plan Area development.
- DUP 2: The County shall work with TID to ensure that the local electricity distribution grid is in place in a timely manner to serve CLIBP users.
- DUP 3: Electric lines 12kV and smaller shall be located underground.
- DUP 4: All facilities shall be constructed to avoid conflicts with on-site aviation.
- DUP 5: The County shall work with PG&E to ensure timely provision of natural gas service to CLIBP users.
- DUP 6: The County shall work with AT&T, GVN, and Comcast to design and site necessary communication service infrastructure to serve CLIBP users.

DUP 7: Proposed site landscaping designs and architecture shall consider the use of energy conservation to reduce building heating and cooling loads.

4.7 SOLID WASTE COLLECTION PLAN

The diversity of light industrial, warehouse, distribution, logistics, aviation-related, business, and public facility uses that may occur in the Plan Area indicates that most uses will be served by local franchise or industrial waste haulers under contract with CLIBP users.

Stanislaus County maintains franchise agreements with four different waste hauling companies to operate in four areas of the County. The CLIBP project site is within the area served by Bertolotti Disposal, which provides residential and commercial waste and recycling collection services, as well as temporary small bin and roll-off dumpster rentals.

Solid waste collected from the CLIBP would be hauled to the Fink Road Landfill, which is anticipated to have capacity until 2029 for Class III (inert, nonhazardous solid waste) and 2043 for Class II (waste that may be designated as hazardous or nonhazardous). (Stanislaus County 2014). The County has initiated plans to expand and reconfigure the existing facility to extend its useful life by another 10 to 15 years (2058) (Stanislaus County 2009).

4.7.1 Solid Waste Goal

The following goal applies to CLIBP solid waste collection services:

SWG 1: Ensure the provision of sufficient solid waste facilities and services to serve CLIBP tenants and compliance with state and local laws, regulations, or executive orders regarding commercial recycling.

4.7.2 Solid Waste Policies

The following policy applies to CLIBP solid waste collection services:

SWP 1: The County shall work with CLIBP tenants to provide adequate solid waste facilities and ensure compliance with commercial recycling requirements mandated by local or state law, California Department of Waste Management (CalRecycle) regulation, or executive order.

SWP 2: Site users must provide appropriate receptacles that must remain covered or closed at all times.

SPECIFIC PLAN IMPLEMENTATION

5



5.1 OVERVIEW

Chapter 5 presents the procedures that will be used to implement the Crows Landing Industrial Business Park (CLIBP) Specific Plan and subsequent CLIBP Specific Plan area (Plan Area) development projects during the anticipated 30-year build-out period. The purpose of the implementation procedures is to ensure that on-site development projects will support the orderly development of the Plan Area in coordination with the provision of the necessary infrastructure and services and provide sufficient flexibility to respond to fluctuations in the economy and market demand.

Stanislaus County is the public agency responsible for plan implementation, and the County will administer the provisions of the Specific Plan in accordance with all County rules, regulations, and policies:

- Stanislaus County General Plan;
- Stanislaus County Code (including Chapter 21.38 pertaining to the Specific Plan District);
- State of California Government Code Section 65451 (pertaining to specific plans); and
- Stanislaus County Airport Land Use Compatibility Plan (ALUCP).

Additionally, the following documents and technical studies have been prepared in support of the Specific Plan and contain more detailed information on environmental conditions, infrastructure, and financing. As required, these studies may need to be updated or future studies prepared to support the development of the Specific Plan. Any future studies should be included as an appendix section to the Specific Plan.

- Aquatic Resource Delineation Report – Crows Landing Industrial Business Park (Appendix C)
- Airport Layout Plan Narrative Report – Crows Landing Airport (Appendix D)
- Transportation Infrastructure Plan – Crows Landing Industrial Business Park (Appendix F)
- Crows Landing Industrial Business Park Water (Potable & Non-Potable) Supply Infrastructure and Facilities Study (Appendix G)
- Crows Landing Industrial Business Park Sanitary Sewer Infrastructure and Facilities Study (Appendix H)
- Drainage Study for Crows Landing Industrial Business Park (Appendix I)
- Crows Landing Industrial Business Park Dry Utilities Infrastructure and Facilities Study (Appendix J)
- Crows Landing Industrial Business Park Financing Plan (Appendix K)
- Crows Landing Industrial Business Park Environmental Impact Report (see Section 5.2.6)
- Crows Landing Mitigation Monitoring Reporting Program (Appendix L)

5.2 SPECIFIC PLAN ADMINISTRATION AND PROCEDURES

5.2.1 Specific Plan Area Zoning

The CLIBP Plan Area shall be zoned S-P(2) and developed in accordance with County standards for specific plans in Chapter 21.38 of the County Code.

5.2.2 Design and Development Standards

The CLIBP permitted land use and design and development standards shall be adopted by ordinance as Appendix B to the Specific Plan. The design and development standards supplement the Stanislaus County

Zoning Code and will serve as the zoning regulations governing development, improvement, and construction within the Plan Area. Where a standard is not provided in the Specific Plan, the standards of the County's Zoning Code and/or Standards and Specifications shall apply. The standards of Appendix B shall supersede and take precedence over conflicting County Zoning Code standards and/or Standards and Specifications governing the Plan Area.

The design and development standards shall be referenced in coordination with Chapter 3, "Built Environment and Design," of the Specific Plan, to assist future applicants, County staff, the Planning Commission, and Board of Supervisors in evaluating development proposals. Exceptions from the design and development standards in Appendix B may be permitted if determined by the Planning Director or his/her designee to provide a substantially consistent design approach that is equal in quality and design and meets the intent of the original standard.

5.2.3 Public Improvement Plans

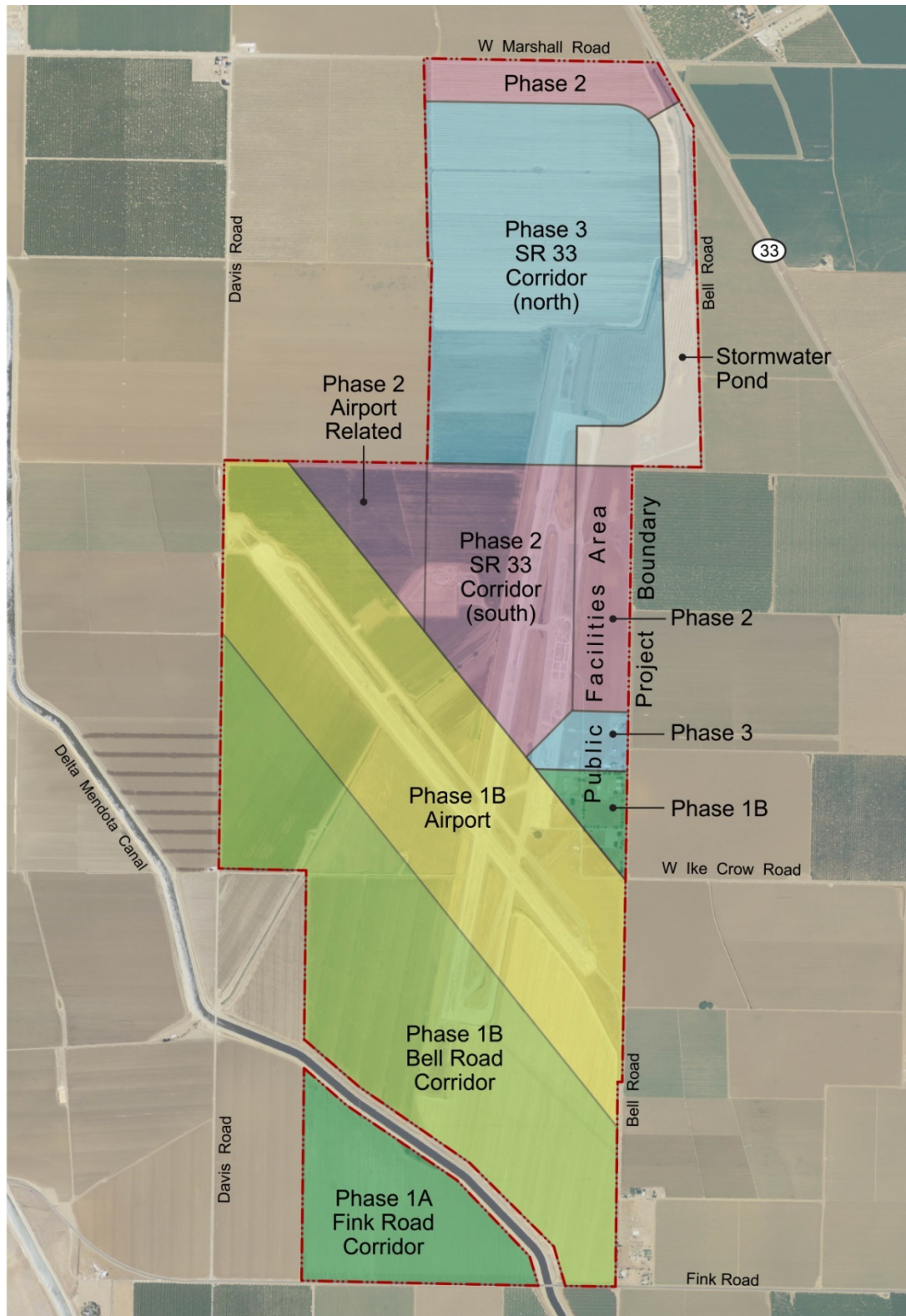
The on-site and off-site public improvements necessary to serve the Plan Area will be designed by the County to accommodate the envisioned Plan Area development and address particular site features. Plans will include an infrastructure sequencing program that coordinates with and allows for orderly development throughout the Plan Area. The sequencing program includes the construction of roads; sewer, water, and stormwater management and groundwater recharge systems; water treatment; and other utilities that must be in place before development can be permitted. Building permits will not be issued until the County's Public Works Director determines that all improvement plans are complete (engineered and approved) and found to be consistent with the CLIBP Specific Plan and Financing Plan. The infrastructure will be sequenced with first phase improvements put in place to provide the backbone infrastructure and support initial Phase 1 development, which is identified as Phase 1A, the Fink Road Corridor and several initial roadway improvements, and Phase 1B, which includes development of the Bell Road Corridor, airport, and the southern portion of the Public Facilities Area (see Figure 5-1). Future infrastructure improvements will be required as remaining leaseholds (lots) within the Specific Plan are developed. However, some improvements will only be needed following full buildout of the Plan Area and the completion of cumulative transportation improvements.

Public improvements, including off-site improvements, will either be installed by the County or by other public agencies with responsibility for those improvements. A fee will be developed to reimburse the upfront costs of each phase of development as it occurs. Should the County decide that a Master Developer would be desirable, a development agreement (DA) will be executed with the master developer. The DA would set out the requirements for the roles and responsibilities of each party.

5.2.4 Development Review and Entitlement Process

Following adoption of the CLIBP Specific Plan, subsequent development projects within the Plan Area will be reviewed for consistency and compliance with the Specific Plan and any other County regulations in effect at the time of development. Development projects located in the Plan Area and outside of the Crows Landing Airport boundaries shall be subject to the following review and entitlement processes:

Permitted Uses. Uses identified as permitted in Appendix B, Table B-1 of this Specific Plan shall be subject to a site plan review to be conducted independently or as part of the building permit review process. The site plan review shall be considered ministerial provided the project complies with all applicable standards of Appendix B and all other applicable regulations required for issuance of a building permit.



Source: AECOM 2016

Figure 5-1: Proposed Plan Phasing Areas

The application for site plan review shall be submitted to the County Department of Planning and Community Development (Department) using the application form provided by that Department and subject to fees adopted by the Board of Supervisors. A permitted use that is determined by the Planning Director, or his/her designee, as not achieving the design and development standards presented in Appendix B, shall be subject to the approval of a staff approval permit or require a use permit.

Staff Approval Permit Required. Uses identified as requiring a staff approval permit in Table B-1 of the Specific Plan, shall be subject to the requirements of Chapter 21.100, “Staff Approval Permits,” of the County Zoning Ordinance, including filing of a planning application. Uses permitted by staff approval permit may be approved by the Planning Director, or his/her designee, when determined to be consistent and compatible with the Specific Plan and meets the design and development standards of Appendix B.

A Staff Approval Permit shall also be required for consideration of any exception to design and development standards of Appendix B requiring specific findings be made.

Use Permit Required. Uses that are not defined as permitted and are determined by the Planning Director or his/her designee to be similar in nature to a permitted use in Appendix B, Table B-1, of the Specific Plan, and not meeting the design and development standards of Appendix B, may be approved. Such uses would be subject to the requirements of Chapter 21.96, “Use Permits,” of the County Zoning Ordinance, and Planning Commission approval subject to Section 5.2.5 Findings Required for Discretionary Action.

Subdivision. The most current provisions and procedures of the County Subdivision Ordinance shall apply to any subdivision within the Plan Area.

Amendment to Specific Plan. Procedures to amend the Specific Plan shall be those adopted by Stanislaus County. In addition, amendments to the General Plan may be required if a conflict is found to exist with any proposed Specific Plan amendment.

Appendix B of the Specific Plan serves as the regulating ordinance for purpose of implementing the Specific Plan. Any amendment to Appendix B shall be treated as an ordinance amendment subject to Chapter 21.108 Ordinance Amendments of the County’s Zoning Ordinance and shall not be considered an amendment to the Specific Plan itself.

5.2.5 Findings Required for Discretionary Action

Discretionary actions allowed under Section 5.2.4 shall demonstrate all of the following in addition to meeting findings required by the County Zoning and/or Subdivision Ordinances.

1. The project is consistent with the goals and policies of the Specific Plan and all applicable laws and regulations.
2. The project does not propose a substantial change in the overall intensity of land uses.
3. The environmental impacts of the project are addressed by the Specific Plan EIR or by subsequent environmental impact studies that may be required by Stanislaus County under the California Environmental Quality Act (CEQA).
4. The project will not degrade services and/or facilities beyond the capacities approved by the Specific Plan.
5. The project is consistent with the Specific Plan phasing and has the available infrastructure to serve the development.

5.2.6 Environmental Review

The CLIBP Specific Plan is a project as defined by the California Environmental Quality Act (CEQA), and is subject to environmental review and documentation as specified in CEQA. CEQA requires lead agencies to disclose and consider the environmental consequences of projects for which they have discretionary authority prior to taking action on approval. CEQA also requires lead agencies (either local or state government agencies) to avoid significant environmental impacts wherever feasible, and to mitigate impacts to less-than-significant levels wherever feasible. An Environmental Impact Report (EIR) was prepared and certified concurrently with the approval of the Specific Plan and serves as the basis for subsequent entitlement for proposed development in the CLIBP Plan Area.

CEQA requires all state and local agencies to establish reporting and monitoring programs for projects approved by a public agency whenever the approval involves adoption of either a “mitigated negative declaration” or specified environmental impact findings in an EIR. The Mitigation Monitoring and Reporting Program (MMRP) (Appendix L) established for the Specific Plan, which is provided as an appendix to the Final EIR, shall be used by County staff and the project developers to ensure compliance with adopted mitigation measures during project implementation. Monitoring and documentation of the implementation of mitigation measures will be coordinated as outlined in the MMRP. Design and development standards contained in Appendix B have been written to: 1) mitigate environmental impacts that can be appropriately addressed through these standards and 2) facilitate development approval and ensure implementation of the MMRP.

5.2.7 Specific Plan Interpretation

The Planning Director or his/her designee shall be responsible for interpreting the provisions of the Specific Plan. Interpretation shall be considered a staff decision and may be appealed in accordance with County Code Chapter 21.112, “Appeals.”

5.3 INFRASTRUCTURE COSTS AND FINANCING

“Backbone” infrastructure is defined to mean major public improvements designed to serve the entire Plan Area or substantial portions of the Plan Area, and is the minimum infrastructure required to support phased on-site development based on proposed land uses and development densities/intensities. Examples of backbone infrastructure include, but are not limited to, the following:

- New local industrial roads within the Plan Area or improvements to existing streets serving the Plan Area as described in Chapter 3, “Built Environment and Design,” and Chapter 4, “Infrastructure,” including any overcrossing structures and improvements assumed for purposes of the traffic analysis in the EIR;
- Water (potable and non-potable) supply and distribution, wastewater collection and treatment, and stormwater management facilities, as described in Chapter 4, required to serve the Plan Area as a whole, including ancillary facilities such as pumps and other mechanical systems; and
- Other County facilities and/or buildings that serve the Plan Area.

The CLIBP Financing Plan (Appendix K) identifies potential financing mechanisms and funding sources that may be used to finance planned improvements. The financing associated with planned CLIBP improvements/facilities addresses three key components:

- Construction of public improvements and facilities;

- Financing of public improvements and facilities; and
- Financing of ongoing municipal services (including on-going operations and maintenance costs).

While this section provides a general framework for financing infrastructure improvements, the comprehensive Financing Plan has been adopted concurrently with the Specific Plan. The Financing Plan:

- Describes the financial obligation of new development within the Plan Area to pay for cost of backbone infrastructure by estimating the cost to construct backbone infrastructure and identifying financing mechanisms and any existing funding sources for that infrastructure; and
- Estimates the financial obligation of development within CLIBP to pay for the cost of municipal services demands by estimating the cost of those municipal services.

At the end of section 5.3.1 is Table 5-1, which lists proposed infrastructure improvements and estimated costs by phase. Specifics on Phase 1A and 1B costs are detailed in the Financing Plan and Infrastructure Plans.

5.3.1 Crows Landing Airport and CLIBP Infrastructure Improvements and Cost

Airport Runway and Facilities Costs

Approximately 370 acres of the former Air Facility property will be used to construct a new county-owned and operated general aviation airport. The infrastructure improvements required to open and operate the airport were identified in the Airport Layout Plan (ALP) Narrative Report – Crows Landing Airport (2016), which is included as Appendix D of the Specific Plan.

Phase 1 improvements will be constructed to enable the County to obtain an airport operating certificate from the California Department of Transportation's Division of Aeronautics:

- Design and construct access road, entrance and vehicle parking;
- Install security fence, gate and lights at airport entrance;
- Remove old runway lighting and perform grading of safety areas, object free areas, etc.;
- Repair and remark airfield pavements to provide runway 11-29 (former military Runway 12-30) for visual use;
- Construct four connector taxiways and install taxiway hold signs;
- Install segmented circle and 3 wind cones (non-lit);
- Install ten tie-down positions and prepare five 780-square-foot hangar sites;
- Install modular unit for operations office with restrooms and utility connections (estimated 780 square feet); and
- Install 12,000-gallon skid-mounted general aviation fuel tank (100LL), jet-A refueler truck, truck pad and wash rack.

Additional Airport improvements will be constructed during Phase 2 and Phase 3 based on user demand. Phase 2 and Phase 3 improvements to be provided by the County would include:

- Construct additional apron area northeast of the runway and prepare area to accommodate aircraft tiedowns, hangars, and Fixed-based Operator (FBO) sites;

- Construct internal perimeter access road and install manual gate at Bell Road to access helipad;
- Construct helipad and paint helipad markings on southwest side of runway;
- Remark runway 11-29 to reflect non-precision (GPS based) instrument approach;
- Install Medium Intensity Runway Edge Lights (MIRL);
- Install Runway End Identifier Lights (REILS) and Precision Approach Path Indicator (PAPI) at each runway end;
- Install rotating beacon;
- Light existing wind cones (three wind cones);
- Construct additional apron area northeast of airfield; and
- Replace modular unit with permanent terminal building including pilot lounge, restrooms and airport office space(s).

The ALP identifies two phases of development: Opening (through year 10), which coincides with Phase 1 of CLIBP development and Future, which would occur during Phases 2 and 3 of CLIBP development. The ALP also identifies an “ultimate” airport development scenario that would occur based on user demand. The need for these facilities is not anticipated within the 30-year buildout period and is not included as part of the CLIBP infrastructure financing cost estimate.

As shown in Table 5-1, the estimated cost for airport improvements associated with Phase 1 development is \$4.6 million and for Phase 2 and Phase 3 is \$10.9 million. Including agency/engineering fees and a 25 percent contingency, the possible cost for airport improvements through Phase 3 is \$22.1 million. Any additional Phase 3 improvements will be based on user demand. Initial airport improvements will be made during Phase 1B.

Transportation

The CLIBP Plan Area is near, but not adjacent to, Interstate Highway 5 (I-5). Access to the Plan Area from I-5 is available from the Fink Road/I-5 interchange to the west and from State Route (SR) 33 to the east. Eighteen roadway segments, three freeway segments, and 30 intersections in and around the Plan Area were studied in the Transportation Infrastructure Plan - Crows Landing Industrial Business Park (Appendix F). To accommodate the full development scenario within the Plan Area, in addition to on-site street requirements, improvements are needed for the Fink Road/I-5 interchange. Off-site roadway improvements and widening, traffic signalization, and bridge crossing improvements are also suggested to facilitate increased traffic flow stemming from both the project and regional growth. Additionally, the County will improve Fink Road between I-5 and Bell Road with a new overlay and striping during Phase 1A to ensure a clean functional south entrance to the CLIBP.

As shown in Table 5-1, the estimated probable cost associated with Phase 1 roadway improvements, including improvements made to the Delta Mendota Canal (DMC) Bridge Crossing and the Fink Road/I-5 interchange is approximately \$29.9 million (\$3.8 million for Phase 1A and \$26.1 million for Phase 1B). Phase 2 roadway improvements are estimated at approximately \$10 million, and Phase 3 at \$26.2 million. Including agency/engineering fees (prorated share of the total cost) and an added 25 percent contingency, the total possible cost for transportation improvements is \$94.2 million. The estimated probable cost would be substantially similar for the potable and nonpotable water infrastructure under all three options, described in detail in the CLIBP Water Supply (Potable & Non-Potable) Infrastructure and Facilities Study (Appendix G).

Table 5-1: Infrastructure Improvement Category Costs by Phase		
Description	Phase 1 Onsite	Phase 1 Offsite
Airport Improvements	\$4,610,000	\$0
Roadways	\$7,258,000	\$6,485,000
DMC Bridge Crossing	\$1,150,000	\$0
Fink Road /I-5 Interchange	\$0	\$15,000,000
Potable Water	\$11,004,000	TBD for connection to CLCSD (Alternative A)
Non-Potable Water	\$7,983,000	\$0
Wastewater/Sewer*	\$21,830,000	\$0
Stormwater Management	\$4,657,000	\$0
Earthwork and Grading	\$267,000	\$135,000
Street Lighting	\$380,000	\$340,000
Traffic Signals and Lighting	\$0	\$3,500,000
Striping and Signage	\$400,000	\$250,000
Right-of-Way Acquisition	\$0	\$837,000
Engineering and Agency Fees****	\$8,084,000	\$3,716,000
Contingency (25%)**	\$5,336,000	\$7,566,000
Contingency (20% for sewer & water)	\$6,557,000	\$0
TOTAL PHASE 1 COSTS	\$79,516,000	\$37,828,000
Description	Phase 2 Onsite	Phase 2 Offsite
Airport Improvements***	\$10,869,000	\$0
Roadways	\$8,492,000	\$1,496,000
Potable Water	\$9,708,000	\$0
Non-Potable Water	\$3,843,000	\$0
Wastewater/Sewer*	\$7,513,000	\$945,000
Stormwater Management	\$699,000	\$0
Earthwork and Grading	\$196,000	\$33,000
Street Lighting	\$360,000	\$84,000
Traffic Signals and Lighting	\$0	\$2,600,000
Striping and Signage	\$400,000	\$400,000
Multimodal Corridor & Green Space	\$1,300,000	\$0
Right-of-Way Acquisition	\$0	\$49,000
Engineering and Agency Fees****	\$6,037,000	\$842,000
Contingency (25%)**	\$6,360,000	\$1,329,000
Contingency (20% for sewer & water)	\$3,495,000	\$227,000
TOTAL PHASE 2 COSTS	\$59,273,000	\$8,004,000
Description	Phase 3 Onsite	Phase 3 Offsite
Airport Improvements	TBD	\$0
Roadways	\$15,237,000	\$10,954,000
Potable Water	\$4,720,000	TBD for connection to Patterson (Alternative C)
Non-Potable Water	\$2,070,000	\$0
Wastewater/Sewer*	\$12,338,000	\$0
Stormwater Management	\$812,000	\$0
Earthwork and Grading	\$327,000	\$96,000
Street Lighting	\$648,000	\$128,000
Traffic Signals and Lighting	\$0	\$2,250,000
Striping and Signage	\$400,000	\$800,000
Right-of-Way Acquisition	\$0	\$669,000
Engineering and Agency Fees****	\$4,125,000	\$2,085,000
Contingency (25%)**	\$4,966,000	\$4,245,000
Contingency (20% for sewer & water)	\$2,024,000	\$0
TOTAL PHASE 3 COSTS	\$47,666,000	\$21,277,000
PROJECT TOTAL	\$186,455,000	\$67,059,000
<i>Costs rounded to nearest \$thousand and may not match totals due to rounding errors</i> * Cost based on conveyance to the City of Patterson for treatment. Refer to discussion of "Wastewater Collection and Treatment" in this section for costs associated with an alternative on-site treatment system. ** Does not include 20% contingency used for sewer and potable and non-potable water *** Airport improvements identified for development years 11-30 in the Airport Layout Plan Narrative Report – Crows Landing Airport (2017)		

Table 5-1: Infrastructure Improvement Category Costs by Phase

are identified in Phase 2 to provide a conservative development cost estimate and will be constructed based on demand.

**** Civil Engineering and Construction Staking (8%), Agency Plan Checking (1%), and Agency Inspection – Construction Management (5%)

Water Supply and Distribution

As described in section 4.3.1 in Chapter 4 (Infrastructure), development of on-site backbone infrastructure for water includes for three options:

- Option 1: extending the Crows Landing Community Services District (CSD) service area to include the CLIBP to enable the development of a shared water system under the CSD's existing drinking water supply permit;
- Option 2: Obtaining a new water supply permit to enable the County to develop a standalone water supply for the CLIBP, or
- Option 3: extending the City of Patterson's water service area to include the CLIBP under its existing drinking water supply permit.

Implementation of Alternative B would require the County to supply water and perform all steps necessary to obtain a new permit drinking water permit to CLIBP, including required valuations of nearby systems and the CLCSD and system for the City of Patterson.

Potable water infrastructure includes distribution piping, valves, a water treatment plant at the corner of Bell and Fink Roads, potable water storage tanks, water wells, booster pump stations located adjacent to the potable water storage tanks, and well head treatment systems. Construction of non-potable water infrastructure includes distribution piping, valves, water wells, water well pumps, a non-potable water storage tank, a booster pump station, and fire hydrants.

According to the Crows Landing Industrial Business Park Water Supply (Potable & Non-Potable) Infrastructure and Facilities Study (Appendix G), the preliminary cost estimate for water supply (potable and non-potable) improvements for Phase 1 is approximately \$17.8 million (\$9.0 million for Phase 1A and \$8.8 million for Phase 1B). Cost estimates are \$11.1 million and \$8.0 million for Phases 2 and 3 developments, respectively (see Table 5-1). Including engineering and agency fees and a 20 percent contingency, the total possible cost for the water supply system is \$53.0 million.

Wastewater Collection and Treatment

The CLIBP Plan Area will connect to the Western Hills Water District (WHWD), a sanitary sewer effluent conveyance system, which serves the unincorporated community of Diablo Grande located northwest of the Plan Area. The City of Patterson's Water Quality Control Facility (WQCF), which conveys, treats and disposes of wastewater for Western Hills, would also require improvements to accommodate the addition of Plan Area flows. Wastewater collection backbone infrastructure required as part of Phase 1 improvements include gravity trunk mains, a lift station southwest of Marshall Road and State Route 33, a lift station south of the airfield near the Delta Mendota Canal, and a force main within Marshall Road. The gravity trunk mains and lift station to be constructed in Phase 1A are sized to accommodate ultimate expansion in the Plan Area. Phase 1B and Phase 2 improvements include construction of gravity trunk mains to connect to existing sanitary sewer infrastructure constructed in Phase 1A and 1B, respectively. Phase 3 improvements propose construction of the gravity trunk main system to serve the Phase 3 areas south of Marshall Road.

According to the Crows Landing Industrial Business Park Sanitary Sewer Infrastructure and Facilities Study (Appendix H), the preliminary cost estimate for the wastewater collection system to the City of Patterson,

including commercial and industrial connection fees for Phase 1, is approximately \$21.8 million (\$9.5 million for Phase 1A and \$12.4 million for Phase 1B). Cost estimates are \$8.5 million and \$12.3 million for Phases 2 and 3, respectively (see Table 5-1). Including engineering and agency fees and a 20 percent contingency, the total possible cost for the wastewater collection improvements is \$47.8 million.

As noted in Chapter 4, while the Specific Plan proposes to transport CLIBP effluent to the City of Patterson's wastewater conveyance system for treatment, the existing collection system does not have sufficient capacity to accept the CLIBP Phase 1 flows and known potential developments in the City of Patterson. The process for design, permitting, and construction of expansion of the WQCF could take up to 12 years total. Depending on timing of development in Phases 1 and 2, the County will allow or may need to construct a temporary on-site septic system (temporary package treatment plant or other suitable option) to handle wastewater needs for part, or all, of Phase 1 and part of Phase 2 until the permanent sewer system and ultimate connection to the City of Patterson WQCF has been completed. In the event that the County determines this option is infeasible, the County would develop a plan to provide on-site water treatment through a packaged treatment plant that can be expanded as development of each project phase occurs. Two options for modular package treatment systems: a sequencing batch reactor (SBR) and membrane bioreactor (MBR) are described in Appendix H.

Assuming full capacity build-out, the construction cost opinions would average \$24.5M for the SBR process and \$26.3M for the MBR process, as summarized in Appendix H.

Stormwater Management

As further provided in the Drainage Study for Crows Landing Industrial Business Park (Appendix I), referred to herein as the Drainage Study, development of the Plan Area will require the construction of new backbone stormwater management and groundwater recharge infrastructure, which will include:

- Raising an approximately 750-foot segment of Davis Road off site and south of the DMC during Phase 1A to protect the area west of the DMC and block flows from ponding in the Plan Area;
- Increasing the capacity of Little Salado Creek during Phase 1B by widening the channel and increasing the capacity of culverts that convey flows beneath the airport runway. Off-site runoff flows would be conveyed to the northeastern corner of the Plan Area through the expanded open channel and culverts; and
- Constructing an on-site stormwater pond in the northeastern portion of the Plan Area beginning in Phase 1B, to detain runoff from Little Solado Creek and allow groundwater recharge.

The estimated cost for stormwater management improvements during Phase 1 is approximately \$4.7 million (\$0.2 million for Phase 1A and \$4.5 million for Phase 1B), and \$0.7 million for Phase 2, and \$0.8 million for Phase 3 (see Table 5-1). Including engineering/agency fees and a 25 percent contingency, the total possible cost for stormwater improvements is \$8.8 million.

In conjunction with the above improvements, other CLIBP build-out infrastructure includes street lighting (approximately \$2.8 million), traffic signals and lighting (approximately \$11.9 million), lane striping and signage (approximately \$3.8 million), earthwork and grading (approximately \$1.5 million), right-of-way acquisition (approximately \$2.2 million), and multimodal (bicycle/pedestrian) transportation corridor/green space (approximately \$1.9 million). Cost estimates, including engineering/agency fees and a contingency, for the infrastructure improvement categories are provided in Table 5-1 by phase.

Phase 1, Phase 2, and Phase 3 represent approximately 47 percent, 25 percent, and 28 percent of the total costs, respectively. On-site infrastructure represents approximately 74 percent of the total infrastructure costs, and off-site infrastructure represents approximately 26 percent of the total infrastructure costs. These preliminary cost estimates were prepared for planning purposes only and are subject to change. The possible cost for CLIBP Plan Area infrastructure development is estimated at approximately \$249.9 million (\$182.9 million on-site improvements and \$67.1 million off-site improvements).

5.3.2 CLIBP Financing Plan

The CLIBP Financing Plan (Appendix K) outlines the requirements for construction of infrastructure necessary to implement the goals and vision of the CLIBP Specific Plan and potential financing mechanisms and funding sources to finance the backbone infrastructure and public facilities. The Financing Plan provides detailed cost estimates for the various infrastructure requirements by land use within the Plan Area and by development phase. In summary, the Financing Plan addresses the following:

- Briefly describes the CLIBP project and phasing of needed infrastructure;
- Provides a summary of the infrastructure and public facility requirements to serve future development within the Plan Area;
- Includes infrastructure cost estimates by land use and by development phase per acre, and the estimated infrastructure cost at build-out of the CLIBP;
- Presents cost estimates for operating and maintaining the required infrastructure and for ongoing municipal services;
- Identifies potential funding sources for both the construction of infrastructure and provision of municipal services;
- Sums the overall cost burden by land use and by development phase per acre; and
- Provides recommended action steps for implementation of infrastructure financing.

The CLIBP Financing Plan will serve as a framework to guide and support the objectives of the CLIBP Specific Plan. As development progresses, the timing and mix of cost and funding sources may change. The assumptions and results are estimates at this time, and actual results could vary. Regardless of the extent to which certain financing mechanisms are used or funding sources are available, the overall cost burden has been calculated for the purpose of determining most appropriate and feasible financing strategies and mechanisms to proceed with development under the Specific Plan.

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