



MAG On-Call Contract No. 828C-05

HIGHLINE CANAL SHARED USE PATH

ORCHID LANE TO TEMPE/CHANDLER BORDER



Project Assessment Report

September 2022

Kimley»»Horn





Table of Contents

- 1. Introduction 5
- 2. Background Data 7
 - 2.1 Need for the Project 7
 - 2.2 Project Benefits 8
 - 2.3 Areas of Interest 8
 - 2.4 Traffic Configuration and Data..... 8
 - 2.5 Pedestrian/Bicycle System..... 9
 - 2.6 Adjacent Land Use 11
- 3. Project Scope 12
 - 3.1 Scope of Work..... 12
 - 3.2 Method of Construction 12
 - 3.3 Key Project Stakeholders 13
 - 3.4 Project Meetings..... 13
 - 3.5 Project Assessment Report 14
 - 3.6 Preliminary Plans 14
- 4. Concept Alternatives 15
 - 4.1 Concept Alternatives..... 15
 - 4.2 Preferred Alternative 22
- 5. Project Development Considerations 28
 - 5.1 Environmental Requirements 28
 - 5.2 Maintenance Requirements..... 30
 - 5.3 Recreational Considerations..... 30
 - 5.4 Sustainability Considerations..... 31
 - 5.5 Concurrent Planning Efforts 31
 - 5.6 Preliminary Right-of-Way Requirements 33
 - 5.7 Critical Outside Agency Involvement..... 33
 - 5.8 Preliminary Utility Requirements..... 33
 - 5.9 Preliminary Traffic Requirements..... 33
 - 5.10 Seasonal Considerations 33
 - 5.11 Design Criteria 34



5.12 Potential Funding Sources 34

6. Preferred Alternative Estimated Cost 35

7. Meeting Schedule 36

Appendix A: Preliminary (15%) Plans 37

Appendix B: Alternatives Analysis Matrix..... 38

Appendix C: Public Meeting Graphics 39

Appendix D: Public Input Summary 40

Table of Tables

Table 1 - Proposed Plant Palette..... 26

Table 3 - Meeting Schedule..... 36

Table of Figures

Figure 1 - Project Vicinity Map..... 6

Figure 2 - Project Location..... 6

Figure 3 - Existing Highline Canal Paved Path (Tempe)..... 7

Figure 4 - Orchid Lane (Looking West)..... 8

Figure 5 - Orchid Lane (Looking East)..... 8

Figure 6 - 54th Street (Looking South) 9

Figure 7 - 54th Street (Looking North)..... 9

Figure 8 - Project Area Pedestrian and Bicycle Facilities..... 10

Figure 9 - Ultimate Pedestrian and Bicycle Facilities 10

Figure 10 - Adjacent Land Use 11

Figure 11 - Highline Canal SUP Project Area Key Map 15

Figure 12 - Highline Canal SUP Typical Section - Segment H1 15

Figure 13 - Orchid Lane Typical Section - Segment H2 Standard Bike Lanes/No Parking..... 16

Figure 14 - Orchid Lane Typical Section - Segment H2 Separated Bike Lanes/No Parking..... 16

Figure 15 - Orchid Lane Typical Section - Segment H3 Standard Bike Lanes/South Side Parking A17

Figure 16 - Orchid Lane Typical Section - Segment H3 Standard Bike Lanes/South Side Parking B17

Figure 17 - Orchid Lane Typical Section - Segment H3 Shared Use (Sharrow)..... 17

Figure 18 - Orchid Lane Typical Section - Segment H3 Standard Bike Lanes/No Parking..... 18

Figure 19 - Orchid Lane Typical Section - Segment H3 Separated Bike Lanes/No Parking..... 18

Figure 20 - 54th Street Typical Section - Segment H4 Standard Bike lanes/Parking East Side 19

Figure 21 - 54th Street Typical Section - Segment H4 Shared Use (Sharrow)..... 19

Figure 22 - 54th Street Typical Section - Segment H4 Separated Bike lanes/No Parking 19

Figure 23 - 54th Street/Ray Road Intersection - Segment H5 Standard Bike Lanes A 20

Figure 24 - 54th Street/Ray Road Intersection - Segment H5 Standard Bike Lanes B 21

Figure 25 - Orchid Lane Typical Section - Segment H2 Separated Bike Lanes/No Parking..... 22

Figure 26 - Orchid Lane Typical Section - Segment H3 Separated Bike Lanes/No Parking..... 22



Figure 27 - Orchid Lane Typical Section - Segment H3 Standard Bike Lanes/South Side Parking...23
Figure 28 - 54th Street Typical Section - Segment H4 Standard Bike Lanes/No Parking.....23
Figure 29 - 54th Street Typical Section - Segment H4 Standard Bike Lanes/Parking East Side.....24
Figure 30 – 54th Street/Ray Road Intersection - Segment H5 Standard Bike Lanes B25
Figure 31 – Kim Curvilinear Cutoff LED Area Light.....26
Figure 32 – Tempe Highline.....27



1. Introduction

The City of Chandler (City) is proposing to construct approximately one-quarter mile of new 10-foot wide concrete shared-use pathway (SUP) along the Salt River Project's (SRP) Highline Canal, beginning from the path's existing terminus at the City of Chandler/City of Tempe border and continuing southwest to Orchid Lane. Additionally, the City is proposing to add new bike lanes along Orchid Lane and 54th Street for better access to the Highline Canal pathway and better connectivity to existing bike facilities. This new pathway will complete a missing link in the Highline Canal pathway system, will provide better connectivity between existing bicycle networks, and will provide nearby residents with off-street pathway facilities.

This project has been identified in the Chandler Transportation Master Plan 2019 Update as a near-term (2020-2025) Bicycle and Pedestrian Recommended project. This preliminary study is funded by the Maricopa Association of Governments (MAG) Active Transportation Design Assistance Program. Final design and construction will use both Federal and local funds. The project is listed in the FY 2022-2025 MAG Transportation Improvement Program (TIP) as CHN23-250 for design and CHN25-250 for construction with a total budget of \$3,949,579.40. It is included in the City's Capital Improvement Projects (CIP) for design in Fiscal Year (FY) 2023 and construction in FY 2025. This project will also include the design and construction of the Kyrene Branch Canal Shared Use Path.

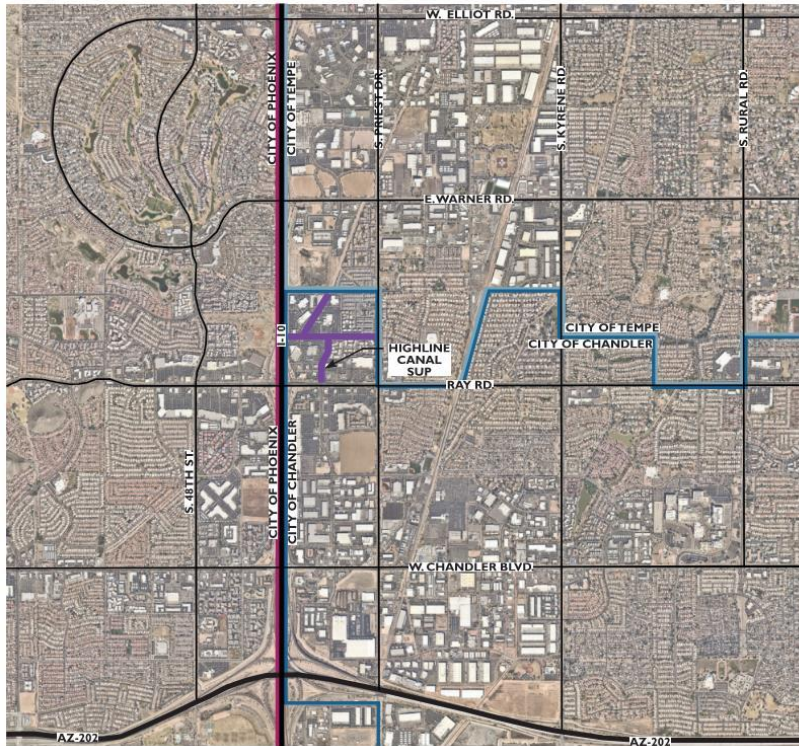


Figure 1 - Project Vicinity Map

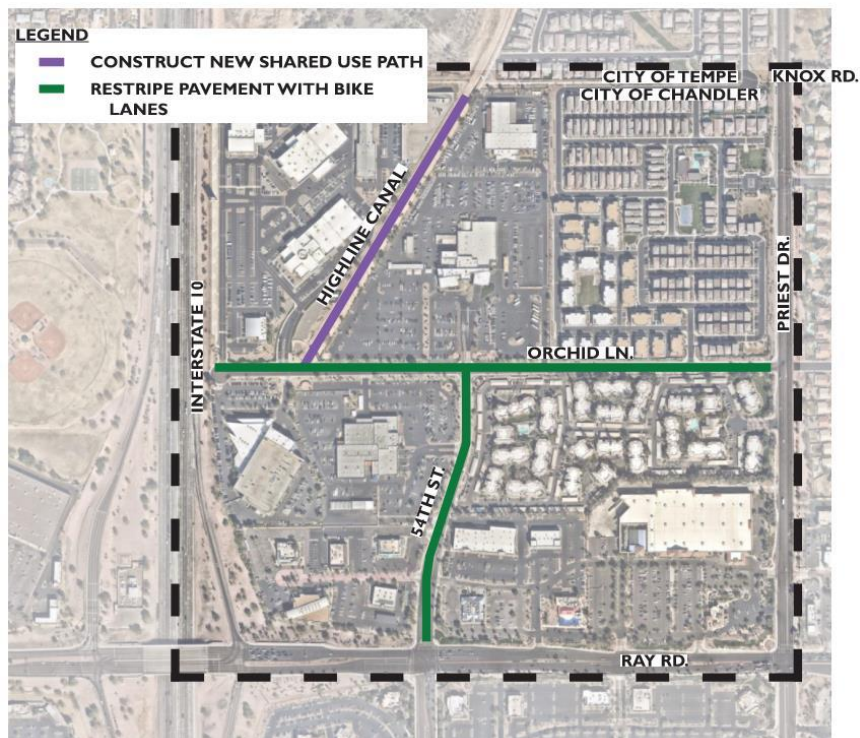


Figure 2 - Project Location



2. Background Data

2.1 Need for the Project

The existing Highline Canal pathway system runs through the City of Phoenix, the Town of Guadalupe, and the City of Tempe. This project will extend this important regional shared use pathway along the Highline Canal from its current terminus at the City of Chandler/City of Tempe border to a new terminus at Orchid Lane within the City of Chandler. This project includes new bike lanes along Orchid Lane that will ultimately connect to planned bike lanes along Priest Drive within the City of Tempe. This project also includes new bike lanes along 54th Street, beginning at Orchid Lane and connecting to existing bike lanes along Ray Road. This project will provide important connections to regional bicycle facilities and will expand both the on-street and off-street bicycle and pedestrian network in the western part of the City of Chandler as well as Tempe and East Valley residents.



Figure 3 - Existing Highline Canal Paved Path (Tempe)

The City of Chandler Transportation Master Plan 2019 Update outreach efforts found that a majority of the Chandler residents would like to bicycle as a mode of transportation but are concerned with bicycling next to high-speed traffic. This project accommodates this “interested but concerned” population by providing an extension of this regional off-street path. The addition of bike lanes along Orchid Lane and 54th Street will provide better access to commercial centers in this part of Chandler.

There is one school within a quarter mile of the project area – Kyrene de la Mariposa Elementary School – for which access would be improved with a bicycle and pedestrian focused connection. The Valley Christian High School Campus is located within one mile of the project area. These adjacent schools coupled with a high percentage of 5- to 9-year-old age population increase the need for better connectivity and safer bicycle and pedestrian facilities.



2.2 Project Benefits

By extending a safe and continuous concrete pathway through the City of Chandler, we are promoting the regional goal of connecting Valley communities via off-street networks to accommodate all levels of users. Chandler and neighboring cities' residents and employees will benefit from increased, equitable accessibility to regional and local employment opportunities, as well as recreation and commercial centers. The proposed pathway will provide additional safe and comfortable off-street and on-street bicycle and pedestrian connectivity benefitting Chandler, Tempe, and the region.

2.3 Areas of Interest

The Highline Canal Shared Use Path will provide increased access to the following points of interest and recreation:

- Mountain Vista Park
- Tempe Sports Complex
- Area commercial centers

2.4 Traffic Configuration and Data

Orchid Lane is a two-lane local road. There is continuous sidewalk along both the north and south sides of the road. Pedestrian crosswalks are provided at the intersection of 54th Street.



Figure 4 - Orchid Lane (Looking West)



Figure 5 - Orchid Lane (Looking East)



54th Street is primarily a two-lane local road that transitions to six-lanes approaching Ray Rd. There is continuous sidewalk along both the east and west sides of the road. Pedestrian crosswalks are provided at the intersection of Ray Road.



Figure 6 - 54th Street (Looking South)



Figure 7 - 54th Street (Looking North)

2.5 Pedestrian/Bicycle System

Within the study area, there are a number of existing and proposed pedestrian and bicycle travel routes which will link to this new path alignment.

Existing and proposed pathways within and adjacent to the study area:

- Highline Canal Multi-Use Path (MUP) – This City of Tempe’s 3.5-mile section of paved multi-use path is located along the SRP Highline Canal and links directly to the Knox Road Shared Use Path, the City of Chandler and the Town of Guadalupe.
- Knox Road Pedestrian Bridge – The City of Tempe is planning to design and construct a new pedestrian bridge over Interstate 10 and the Knox Road alignment of the Highline Canal MUP. This project is currently estimated for construction 2026. This bridge will provide new, direct connectivity to pedestrian and bicycle facilities located within the neighborhood of Ahwatukee in the City of Phoenix.

This project will provide Chandler residents with direct connectivity to the existing Highline Canal path located in Tempe and future connectivity to pedestrian and bicycle facilities located within the City of Phoenix.

Existing and proposed bicycle facilities within the study area are as follows:

- Existing bike lanes on W. Ray Road (Chandler)
- Future bike lanes on N. Priest Drive (Tempe)

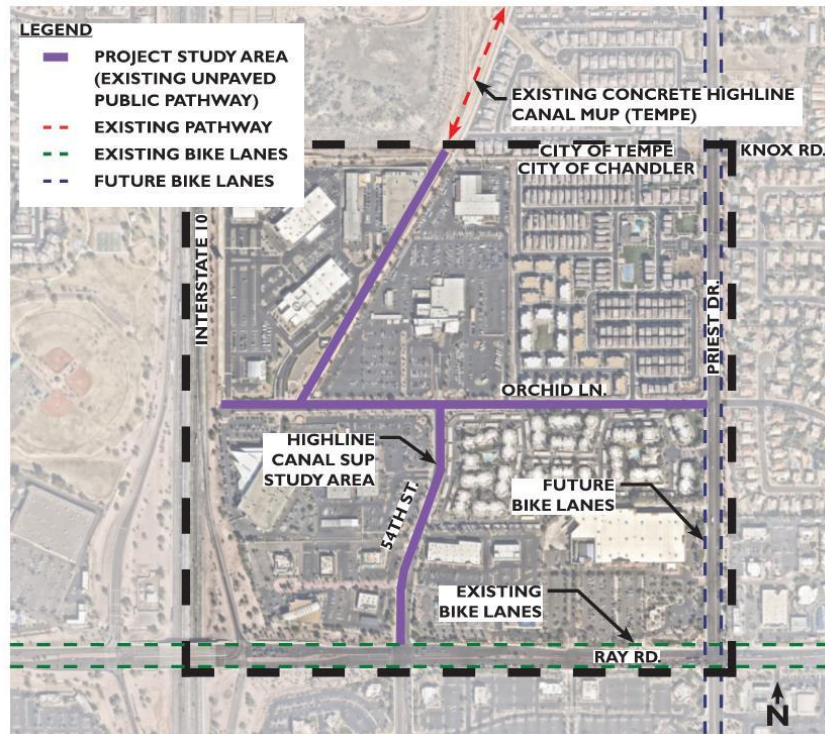


Figure 8 - Project Area Pedestrian and Bicycle Facilities

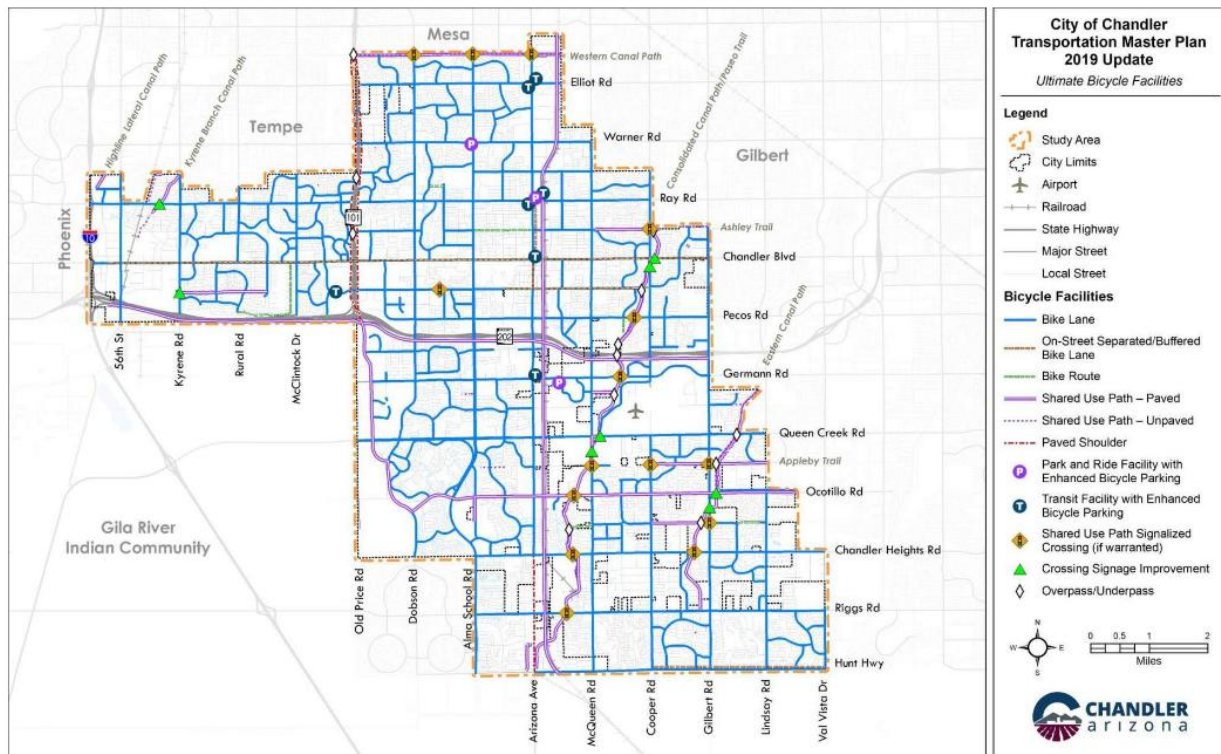


Figure 6-14. Ultimate Bicycle and Pedestrian Facilities by 2040

Figure 9 - Ultimate Pedestrian and Bicycle Facilities



2.6 Adjacent Land Use

Adjacent land use within the project area is primarily Planned Area Development (PAD) for commercial and residential uses. PAD's include auto dealership developments, commercial center Chandler Gateway West, commercial center Chandler Pavilions, and two multi-family developments – Rhythm Condominiums and Lumiere Chandler Condominiums. The north end of the study area abuts the City of Tempe with adjacent General Industrial District (GID) and a single-family residential PAD (R1-PAD). Adjacent land use information is shown in [Figure 10](#).

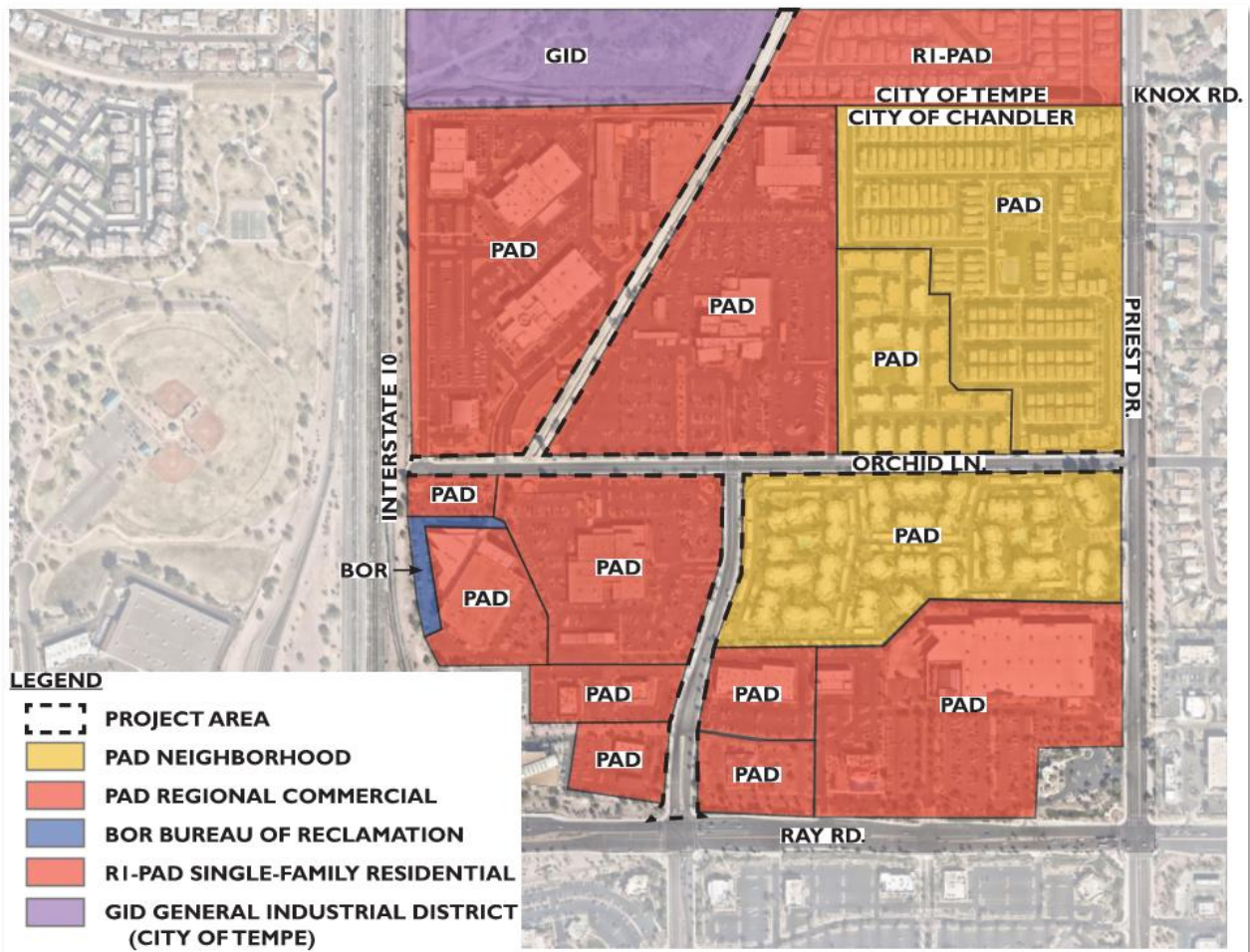


Figure 10 - Adjacent Land Use



3. Project Scope

3.1 Scope of Work

The City of Chandler is evaluating improvements to an approximate one-quarter mile segment of unpaved shared use pathway along the Highline Canal. Additionally, the City is evaluating the addition of bicycle facilities to approximately one-half mile of Orchid Lane, west of Priest Drive, and approximately 1,200 feet of 54th Street, from Orchid Lane to Ray Road. This scope of work for this project is to study and evaluate alternatives for providing new 10-foot wide, concrete shared use pathway along SRP's Highline Canal, between the existing path terminus and the City of Chandler/City of Tempe border to Orchid Lane. This study also provides alternatives for adding bike lanes along Orchid Lane and 54th Street. Preliminary engineering is provided for the preferred alternative and included in a Project Assessment (PA) report, Preliminary (15%) Plans, and Cost Estimate.

The study considered the following alternatives for bicycle facilities along Orchid Lane and 54th Street:

- Standard bike lanes
- Separated bike lanes
- Shared-use lanes (sharrow)
- Minimizing or eliminating parking

The study also considered two alternatives for incorporating bicycle facilities at the intersection of 54th Street and Ray Road:

- Eliminate the NB outside travel lane and add 6-ft bike lane
- Eliminate the SB outside dedicated left-turn lane and add 6-ft bike lane
- Revise SB thru lane to shared thru/right-turn lane
- Narrow median and restripe for dedicated left-turn lane, add 4-ft bike lane, and two thru lanes

Additional project elements that were considered include pathway lighting, wayfinding, and decorative pavement markings.

Each alternative is described and illustrated below. Additionally, a crossing analysis matrix was developed for each location and can be found in [Appendix B](#).

3.2 Method of Construction

This project will be delivered using the Design/Bid/Build method, enabling it to be awarded to the lowest responsive bid.



3.3 Key Project Stakeholders

Agency, technical, and adjacent project stakeholders include Maricopa Association of Governments (MAG), the City of Chandler, the City of Tempe, Salt River Project (SRP), Kimley-Horn (Consultant), AeroTech Mapping, Inc. (Subconsultant), and LandCor Consulting (Subconsultant).

3.4 Project Meetings

The project included the following stakeholder meetings:

Project Meeting No. 1: Project kick-off meeting with the Agency/Technical Stakeholders to introduce and provide an overview of the project, to outline project goals and objectives, to determine the design team members and organization, to review the project scope, project schedule, and meeting schedule. A field review was also performed by meeting attendees to further discuss and document existing conditions and possible design considerations.

Project Meeting No. 2: Post Data Analysis phase, concept alternative review meeting with the City of Chandler to gain consensus on the selection of a preferred alternative

Project Meeting No. 3: Concept alternative review meeting with City of Chandler and City of Tempe to present the concept alternatives.

Project Meeting No. 4: Path alignment review meeting with the City of Chandler and Salt River Project (SRP) to verify SRP requirements for public recreational amenities within SRP canal rights of way and to confirm plan review and licensing process.

Public Meeting: Open house public outreach meeting to introduce the study area, present the preferred alternatives for improvements, and obtain public comments. The open house presented information from both the Highline Canal Shared Use Path project and the Kyrene Branch Canal Shared Use Path projects. The public meeting was held on August 22, 2022. The public input summary can be found in [Appendix D](#) (note: public input summary included for both Highline Canal and Kyrene Branch Canal Shared Use Paths). The following eight graphics pertaining to the Highline Canal Shared Use Path project were provided at the open house public meeting as 24" x 36" boards (See [Appendix C](#)):

- East Valley Existing Path Network
- City of Chandler Transportation Master Plan (2019 Update) Bicycle & Pedestrian Recommendations 2020-2040
- Kyrene Branch Canal and Highline Canal Shared Use Path – Land Use and Rights-of-Way
- Project Purpose, Objectives, & Schedule
- Highline Canal – Project Area Key Map & Proposed Improvements



- Highline Canal – 54th Street & Ray Road Intersection
- Highline Canal – Typical Street Sections
- Kyrene/Highline Canal Shared Use Path – Potential Project Elements

3.5 Project Assessment Report

This Project Assessment report provides a summary of the project, information collected, analysis performed, project needs/benefits, concept alternatives, and preferred concept. The report summarizes stakeholder feedback, presents the preferred alternative, and provides Preliminary (15%) Plans and cost estimate.

3.6 Preliminary Plans

Preliminary (15%) Plans can be found in [Appendix A](#) of this document.

4. Concept Alternatives

4.1 Concept Alternatives

A conceptual shared use pathway alignment was developed for the project limits adjacent to the Highline Canal. This alignment follows along the east side of the canal and connects to the existing Highline Canal pathway in the City of Tempe. Twelve concept alternatives were developed for Orchid Lane and 54th Street. Each location was divided into two segments based on existing conditions and proposed improvements. All bike lane alternatives were based on the assumption that improvements will occur within the roadway. No changes are proposed to existing curbs, sidewalks, or right-of-way.

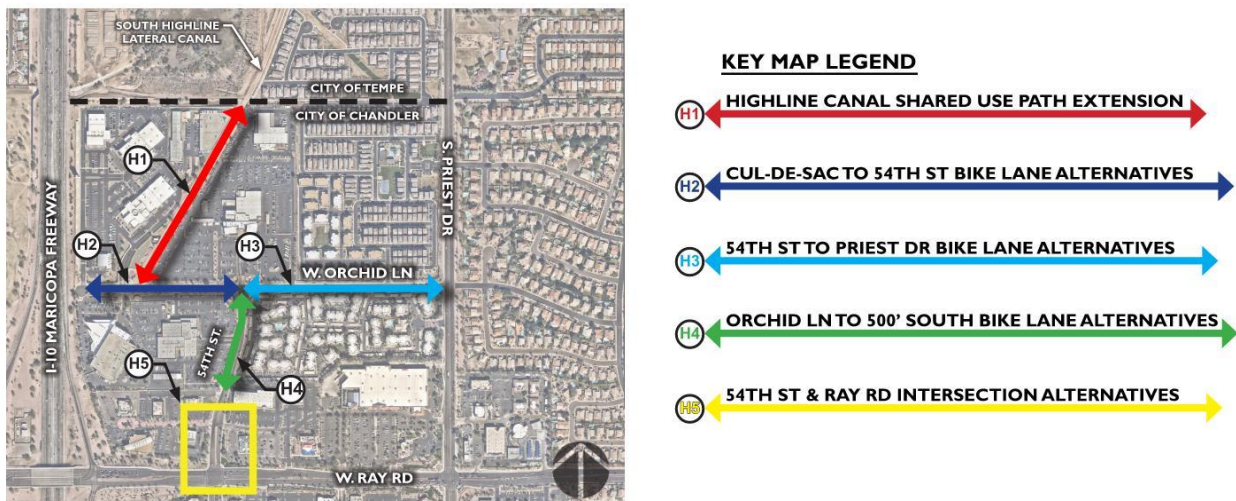


Figure 11 - Highline Canal SUP Project Area Key Map

Below is the proposed typical section of shared use pathway for Segment H1 and includes a 10-ft wide concrete path, 2-ft bench, new path lighting, and new landscape:

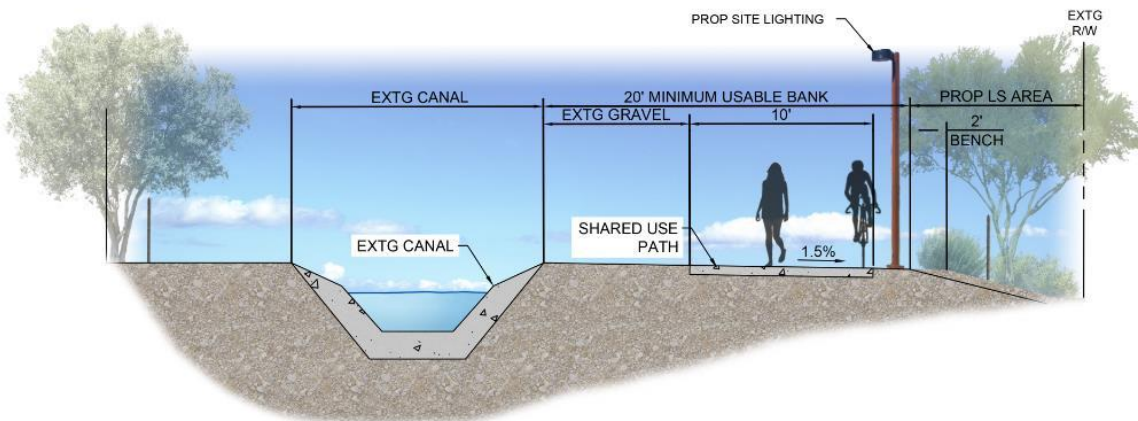


Figure 12 - Highline Canal SUP Typical Section - **Segment H1**

Below are the alternatives for providing bike lanes along Orchid Lane, from the cul-de-sac on the west end to 54th Street:

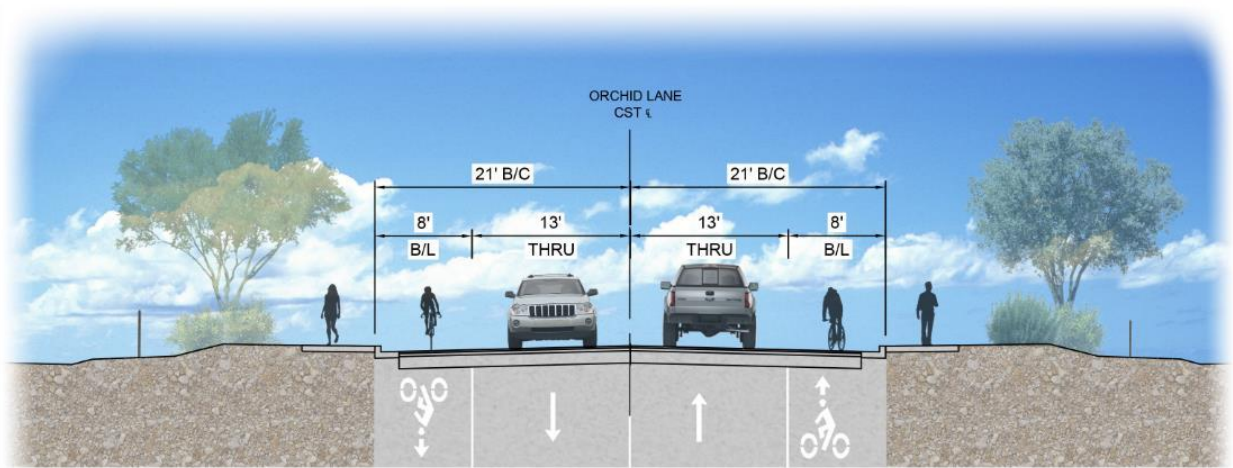


Figure 13 - Orchid Lane Typical Section - **Segment H2 Standard Bike Lanes/No Parking**

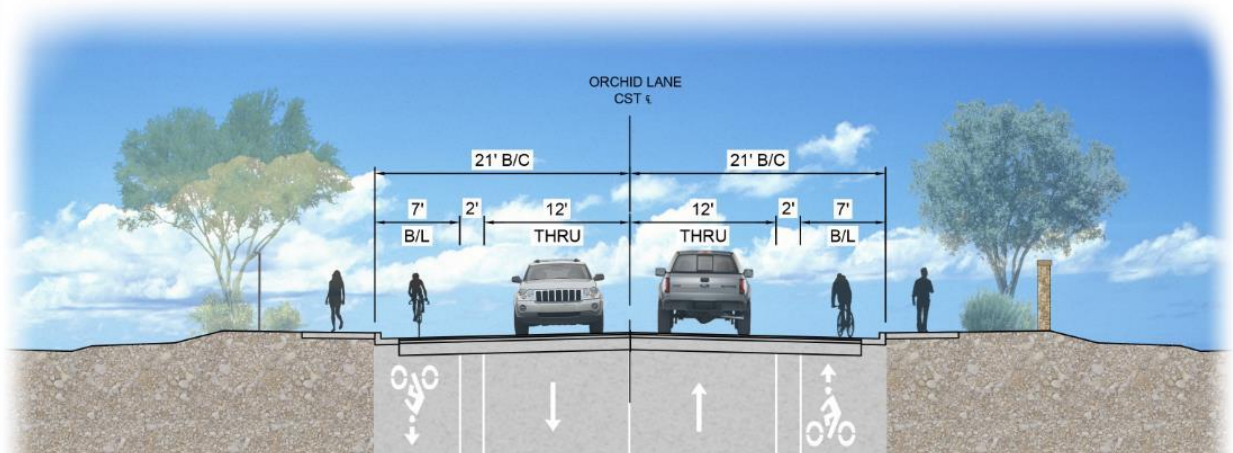


Figure 14 - Orchid Lane Typical Section - **Segment H2 Separated Bike Lanes/No Parking**

Below are the alternatives for providing bike lanes along Orchid Lane, between 54th Street and Priest Drive, where on-street parking is currently allowed:

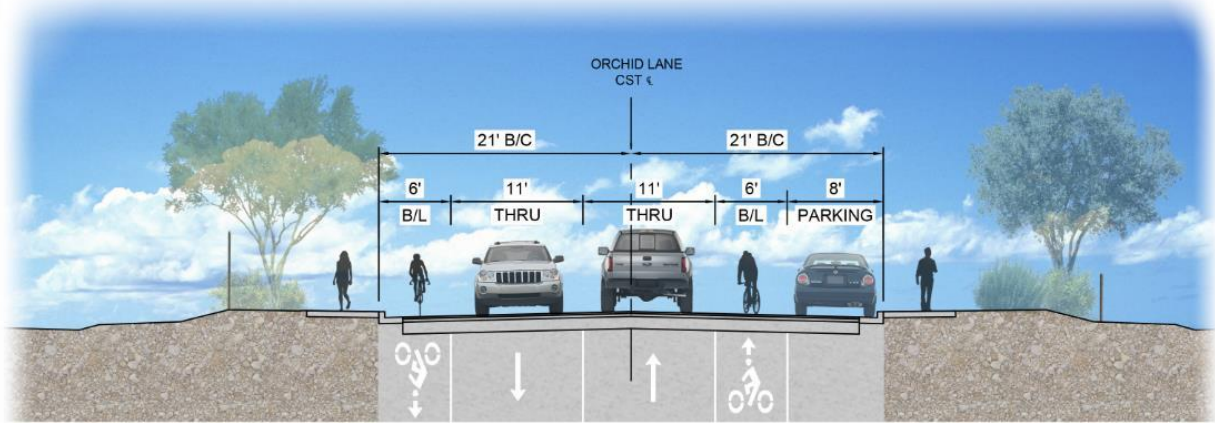


Figure 15 - Orchid Lane Typical Section - **Segment H3 Standard Bike Lanes/South Side Parking A**

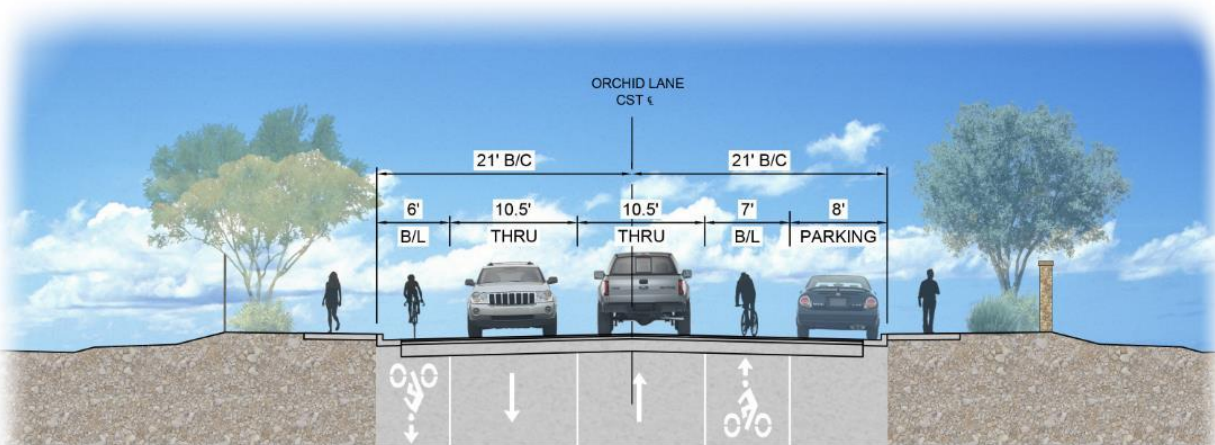


Figure 16 - Orchid Lane Typical Section - **Segment H3 Standard Bike Lanes/South Side Parking B**

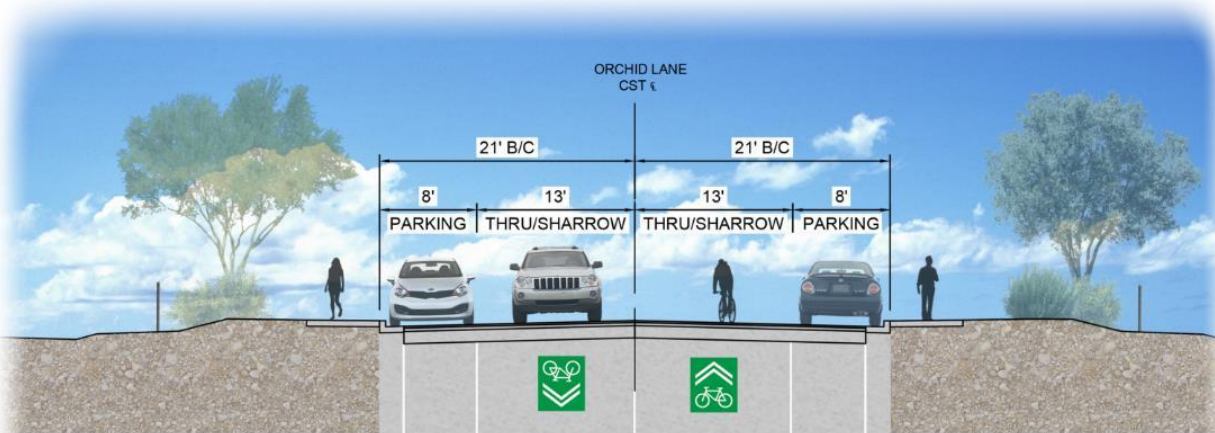


Figure 17 - Orchid Lane Typical Section - **Segment H3 Shared Use (Sharrows)**

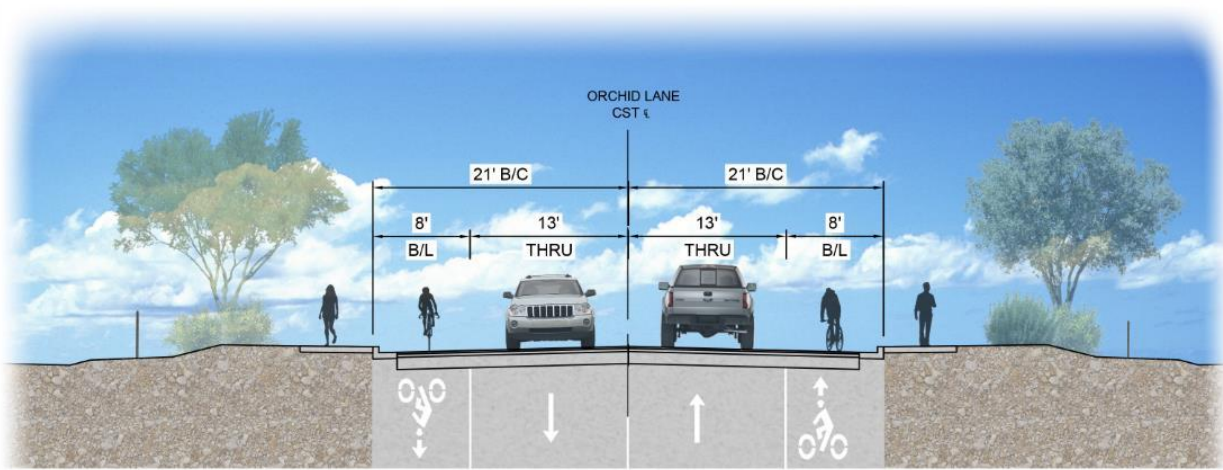


Figure 18 - Orchard Lane Typical Section - **Segment H3 Standard Bike Lanes/No Parking**

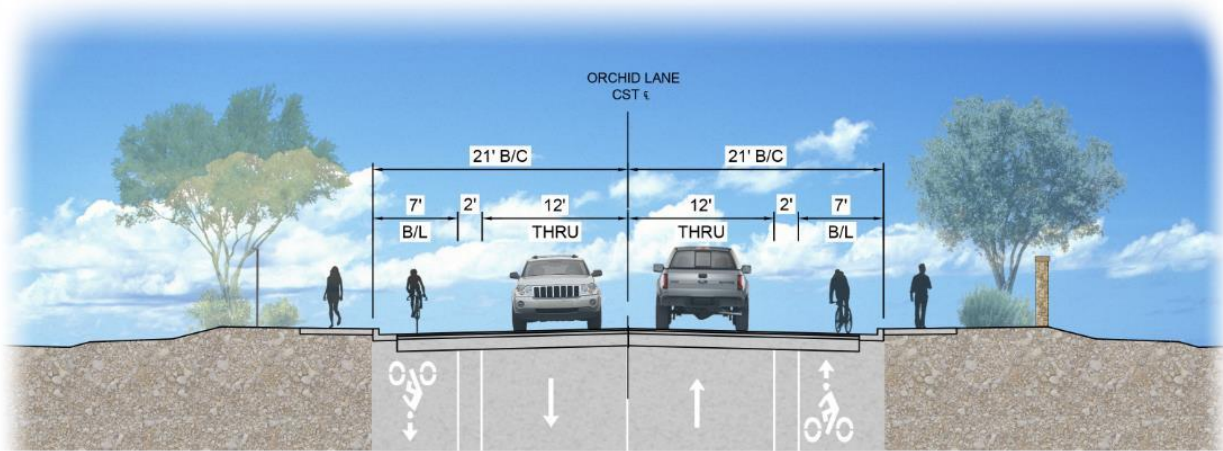


Figure 19 - Orchard Lane Typical Section - **Segment H3 Separated Bike Lanes/No Parking**

Below are options for providing bike lanes along 54th Street from Orchid Lane to approximately 500 feet south, where on-street parking is currently allowed:

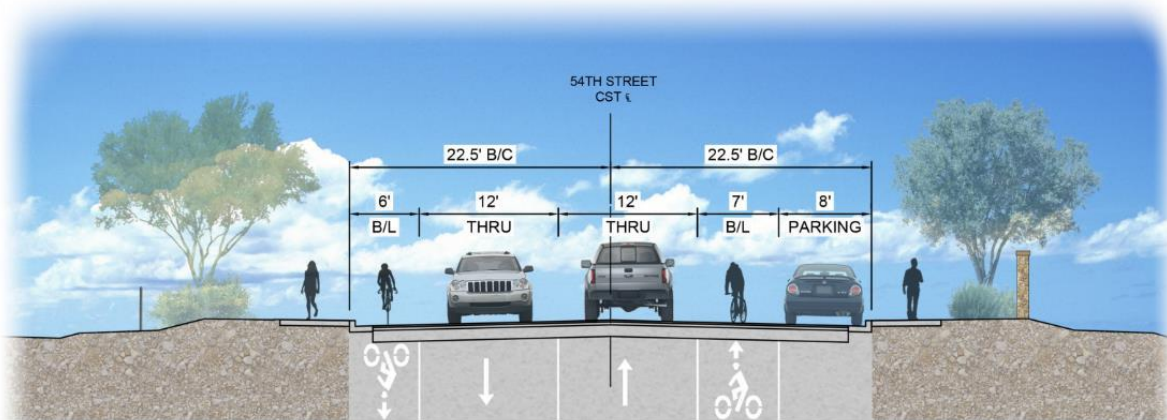


Figure 20 - 54th Street Typical Section - **Segment H4 Standard Bike lanes/Parking East Side**

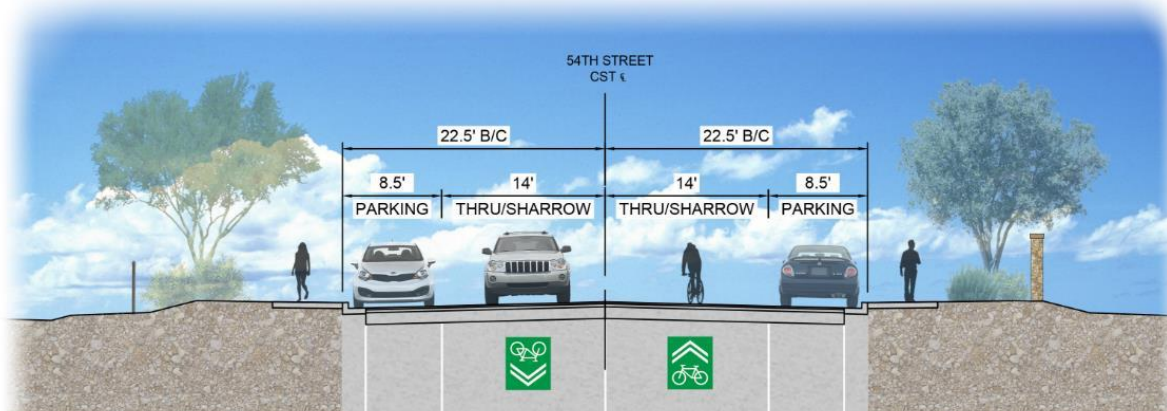


Figure 21 – 54th Street Typical Section - **Segment H4 Shared Use (Sharrow)**

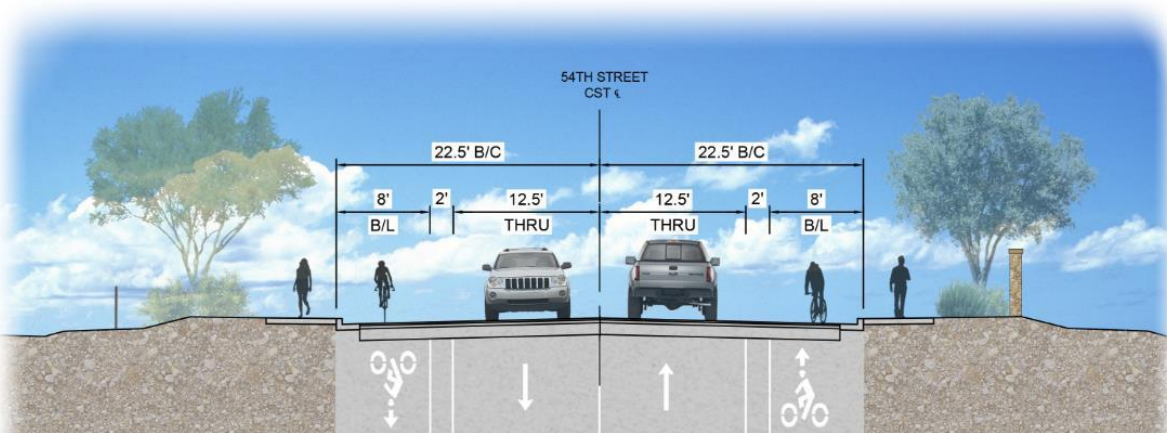


Figure 22 – 54th Street Typical Section - **Segment H4 Separated Bike lanes/No Parking**



Below is the first alternative for providing bike lanes along 54th Street at and approaching the intersection of Ray Road. In the northbound direction, this option includes eliminating the outside travel lane and adding a standard 6-ft bike lane. The remaining thru lanes range from 15-ft to 18-ft in width. The dedicated left turn lane into the commercial center remains 11-ft in width. In the southbound direction, the dedicated left turn lane into the commercial center and onto Ray Road is eliminated to provide a standard 6-ft bike lane. The southbound through lane ranges from 13-ft to 16-ft in width and becomes a shared though/right-turn lane.



Figure 23 - 54th Street/Ray Road Intersection - **Segment H5 Standard Bike Lanes A**



Below is the second alternative for providing bike lanes along 54th Street at and approaching the intersection of Ray Road. The concept for the northbound direction is the same as the previous option - eliminating the outside travel lane and adding a standard 6-ft bike lane. The remaining through lane ranges from 15-ft to 18-ft in width. In the southbound direction, the existing median is modified to allow for restriping the southbound movements to include a 12-ft dedicated left-turn lane into the commercial center and onto Ray Road, a 6-ft bike lane, a 12-ft through lane and a 12-ft left turn lane at Ray Road.



Figure 24 – 54th Street/Ray Road Intersection - **Segment H5 Standard Bike Lanes B**



4.2 Preferred Alternative

There were no additional comments on the proposed typical section of shared use pathway adjacent to Highline Canal.

Based on input from the stakeholders, the preferred alternative for Orchid Lane, from cul-de-sac to 54th Street, is below:

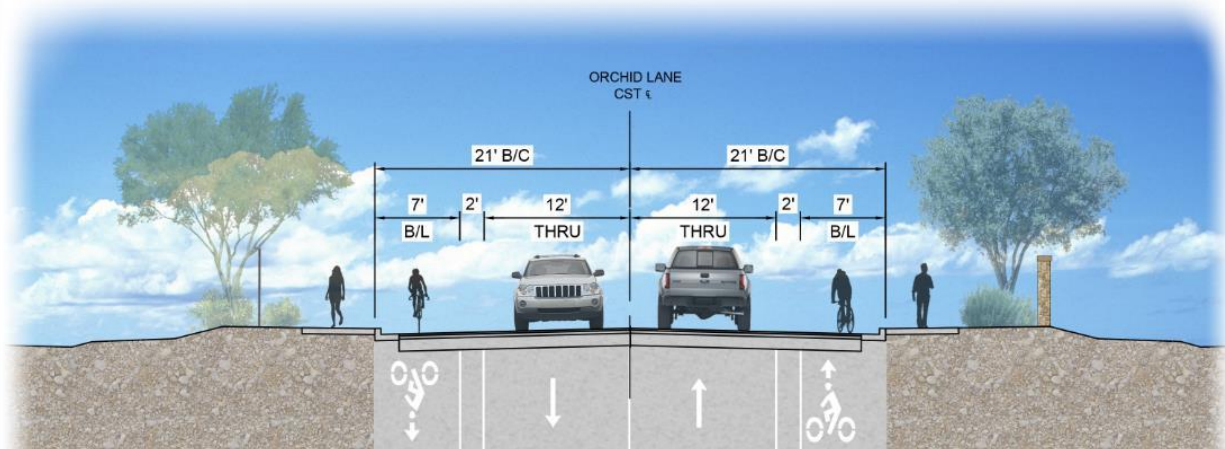


Figure 25 - Orchid Lane Typical Section - **Segment H2 Separated Bike Lanes/No Parking**

This Preferred alternative was selected due to the following benefits it provides:

- Promotes multi-modal transportation
- Dedicates and protects space for bicyclists to increase level of comfort for riders
- Improved perceived safety for bicycle riders
- Narrows vehicular travel lanes to reduce motor vehicle speed

Based on input from the stakeholders, the preferred alternative for Orchid Lane from 54th Street to Priest Drive, is below:

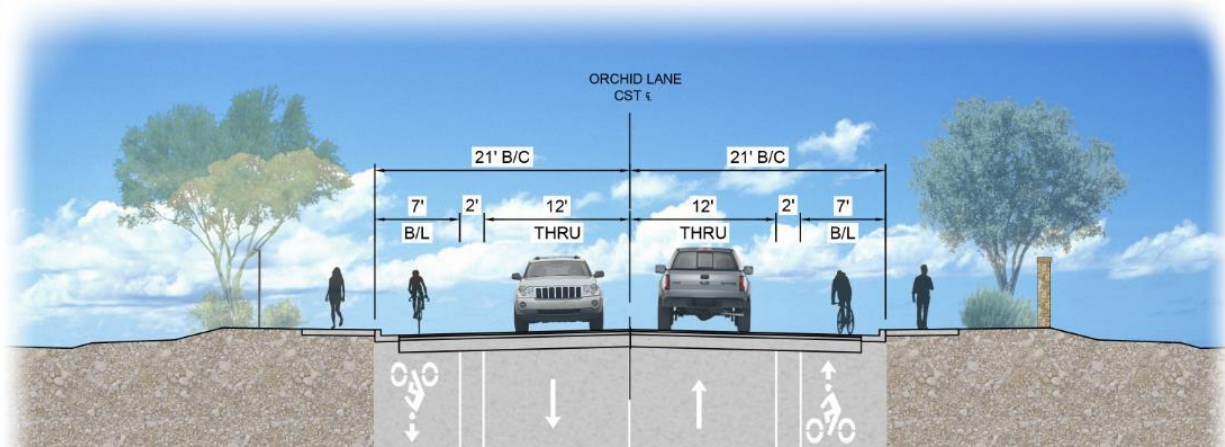


Figure 26 - Orchid Lane Typical Section - **Segment H3 Separated Bike Lanes/No Parking**



This Preferred alternative was selected due to the following benefits it provides:

- Promotes multi-modal transportation
- Dedicates and protects space for bicyclists to increase level of comfort for riders
- Improved perceived safety for bicycle riders
- Narrows vehicular travel lanes to reduce motor vehicle speed
- Provides a consistent street section for all of Orchid Lane

Through visual observation at three separate site visits (weekday a.m., weekday p.m., and weekend a.m.) existing on-street parking was documented. A maximum of three vehicles were parked along the south side of Orchid Lane. However, for final design a traffic study for on-street parking count is recommended to determine if the elimination of on-street parking is warranted. If so, the below alternative is recommended for the segment of Orchid Lane between 54th Street and Priest Drive:

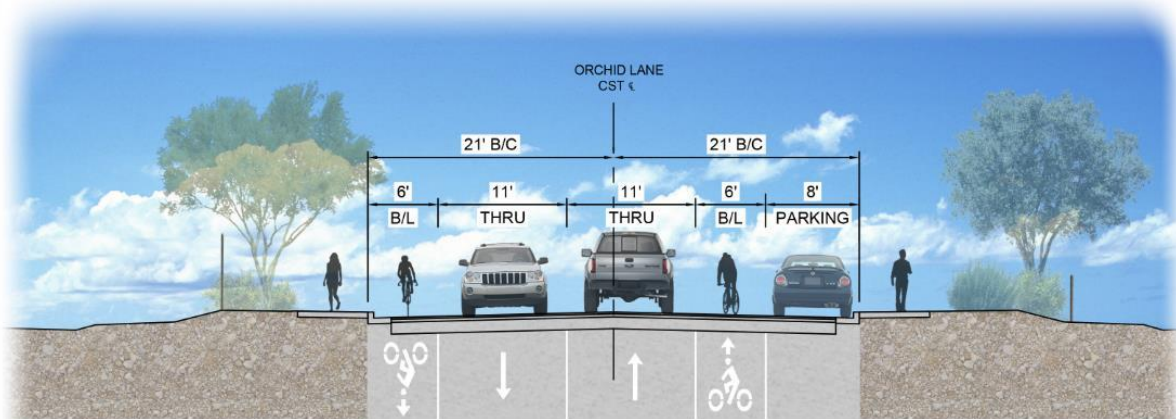


Figure 27 - Orchid Lane Typical Section - **Segment H3 Standard Bike Lanes/South Side Parking**

Based on input from the stakeholders, the preferred alternative for 54th Street is below:

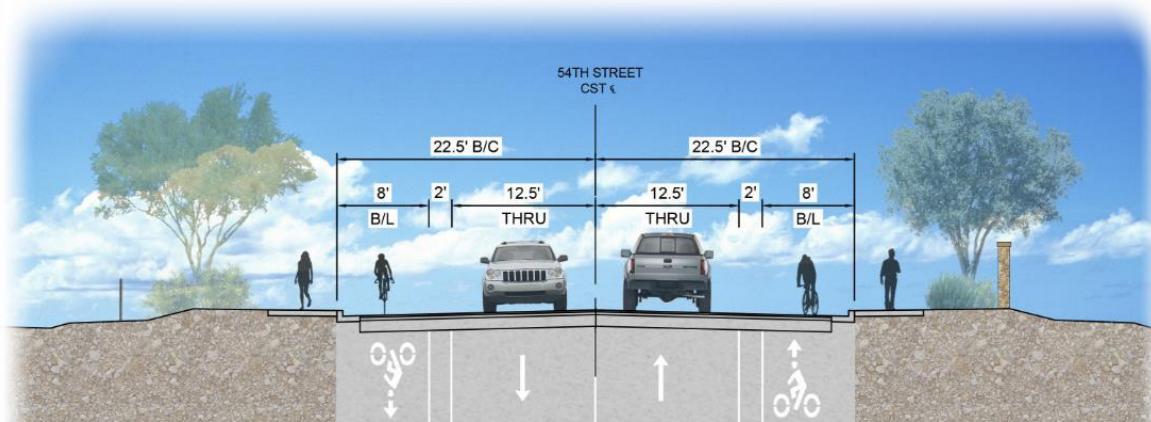


Figure 28 - 54th Street Typical Section - **Segment H4 Standard Bike Lanes/No Parking**



This Preferred alternative was selected due to the following benefits it provides:

- Promotes multi-modal transportation
- Dedicates and protects space for bicyclists to increase level of comfort for riders
- Improved perceived safety for bicycle riders
- Narrows vehicular travel lanes to reduce motor vehicle speed
- Provides a consistent street section with Orchid Lane

As noted above, existing on-street parking along 54th Street was observed and documented at three separate site visits – weekday a.m., weekday p.m., and weekend a.m. No vehicles were parked along 54th Street. However, for final design a traffic study for on-street parking count is recommended to determine if the elimination of on-street parking is warranted. If so, the below alternative is recommended for 54th Street:

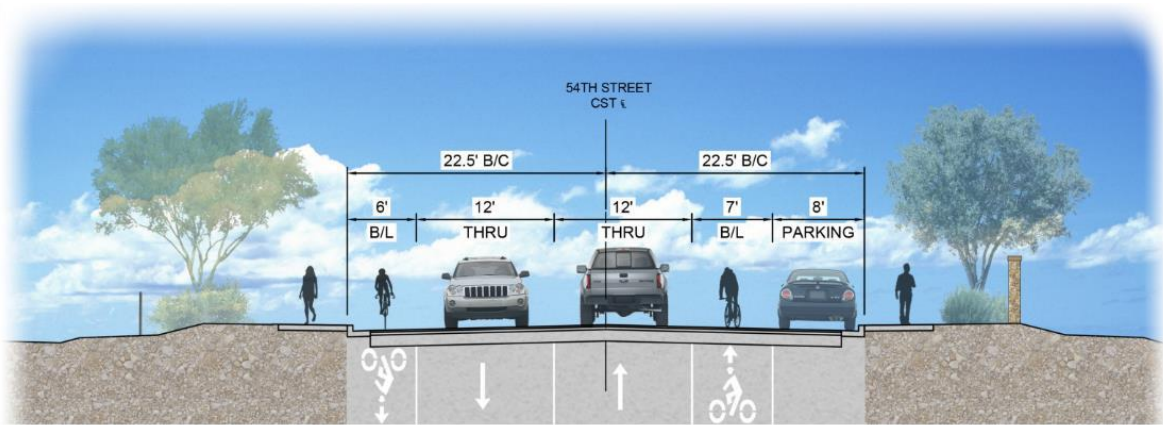


Figure 29 - 54th Street Typical Section - **Segment H4 Standard Bike Lanes/Parking East Side**

Based on input from the stakeholders, the preferred alternative for the 54th Street/Ray Road intersection is below:



Figure 30 – 54th Street/Ray Road Intersection - **Segment H5 Standard Bike Lanes B**

This Preferred alternative was selected due to the following benefits it provides:

- Promotes multi-modal transportation
- Provides connectivity to existing bike lanes along Ray Road
- Maintains exclusive right-turn lane SB 54th Street to Ray Road



Other Preferred Alternative Elements.

Path Lighting. There is existing pathway lighting along the existing Highline Canal path within the City of Tempe. Pathway lighting along the Chandler portion of Highline Canal path to match is proposed.



Figure 31 – Kim Curvilinear Cutoff LED Area Light

Landscape. Landscape features will include a palette of shrubs and groundcover that are in keeping with the existing plant palette along the Highline Canal path in the City of Tempe. This plant palette will also adhere to the SRP approved groundcover list and may include the following:

Table 1 - Proposed Plant Palette

Proposed Plant Palette	
Botanical Name	Common Name
<i>Ambrosia deltoidea</i>	Triangle Leaf Bursage
<i>Baileya multiradiata</i>	Desert Marigold
<i>Chrysactinia Mexicana</i>	Damianita
<i>Encelia farinose</i>	Brittlebush
<i>Lantana montevidensis 'Purple'</i>	Purple Trailing Lantana
<i>Lantana montevidensis 'Yellow'</i>	Yellow Trailing Lantana
<i>Ruellia brittoniana 'Katie'</i>	Katie Ruellia
<i>Euphorbia rigida</i>	Gopher Plant
<i>Muhlenbergia rigida 'Nashville'</i>	Nashville Purple Muhly
<i>Yucca rupicola</i>	Twisted Yucca



Wayfinding. A Highline Canal Path trail map will be proposed at the entry point to the Chandler limits. The trail map will be designed to match the existing trail maps located within the City of Tempe but modified to reflect the City of Chandler.



Figure 32 – Tempe Highline Canal Trail Map



5. Project Development Considerations

5.1 Environmental Requirements

Environmental Requirements

A Categorical Exclusion (CE) Checklist will be appropriate National Environmental Policy Act (NEPA) documentation for the project. The supporting technical documentation will include a Biological Evaluation Short Form (BESF), Preliminary Initial Site Assessment (PISA), asbestos/lead sampling, Section 4(f) review, and a review of cultural resources.

Biological Resources

Based on the project scope of work, we anticipate that a BESF will be appropriate for this project. A BESF will be completed by a qualified biologist during the environmental clearance process.

Wetland and Riparian Areas

The Highline Canal is mapped as riverine; however, no wetland or riparian areas are present in the project limits.¹

Section 401/404 of the Clean Water Act

No potential waters of the U.S. (WOTUS) are located within the project limits; therefore, a Preliminary Jurisdictional Delineation and Section 404/401 permitting will not be required.

Floodplain Encroachment

The project is located on FEMA FIRM Panel 04013C2705L, which has an effective date of 10/16/2013. Zone A floodplain is located along the west side of the Highline Canal.² Impacts to floodplains typically occur when the topography within a floodplain is substantially modified either by placement or removal of materials within the floodplain. Although the proposed path is located in Zone A within the floodplain, the minor scope of work is not anticipated to substantially modify the floodplain. Analysis of potential floodplain impacts will be determined during final design.

Sole Source Aquifer

The project is not located within a Sole Source Aquifer.³

¹ <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>

² <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html>

³ <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>



Cultural Resources

In accordance with Section 106 of the National Historic Preservation Act, a Class I records review will be completed to document any cultural inventories and/or sites that may occur within the project area and a half-mile buffer around it. A preliminary review of AZSITE indicates that 17 previous projects have been undertaken within the buffer, primarily along the I-10 and Priest Drive corridors. One survey in 2000 was located just north of the project area on the east side of the canal. Except for the Orchid Lane approaches to I-10 and Priest, no surveys are shown within the path alignment. Only two sites have been recorded in the buffer - the Highline Canal itself and the Maricopa and Phoenix Railroad. The former has been determined eligible for inclusion on the National Register of Historic Places; portions of the latter have been determined ineligible. Both are currently in-use structures. Maricopa County property records indicate that the project area runs through primarily commercial development (specifically automobile dealerships). No historic-age (>50 years old) buildings were noted adjacent to the project. Because the alignment has not been surveyed previously, a Class III field survey of the project area to determine if the shared-use path will have a potential adverse effect on cultural resources is recommended.

Section 4(f) Resources

The project is subject to Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 (49 U.S.C. 303). Based on preliminary review, the existing Highline Canal MUP should be evaluated as a potential Section 4(f) resource. Potential impacts to Section 4(f) properties will be evaluated during the environmental clearance process.

Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 (16 U.S.C. 4601-4 et seq.) applies to all transportation projects, regardless of funding source or approval authority, which propose to use land from a Section 6(f) property. Based on preliminary review, there are no potential protected Section 6(f) properties in the project limits.⁴ Potential impacts to Section 6(f) properties will be evaluated during the environmental clearance process.

Visual

Due to the project scope, no visual impacts are anticipated. Therefore, visual analysis is not required.

Scenic and Historic Route

The project is not located on scenic road or historic route.^{5,6}

⁴ <https://lwcf.tplgis.org/mappast/>

⁵ <https://azdot.gov/about/historic-and-scenic-roads/list-scenic-roads>

⁶ <https://azdot.gov/about/historic-and-scenic-roads/list-historic-roads>



Socioeconomic Impacts

No residential or commercial displacements will occur as a result of this project. Detours will not be required for this project, but lane closures are anticipated. Disproportionate impacts to protected populations are not anticipated.

Hazardous Materials

A PISA and sampling for asbestos/lead will be conducted by an ADOT approved consultant during the environmental clearance process to further investigate the potential for facilities with hazardous materials concerns.

Noise

Sensitive noise receptors are located in the project vicinity; however, the proposed project does not involve adding traffic capacity to existing roadway or altering roadway alignments. Construction noise will be temporary and controlled by appropriate means and methods.

AZPDES Stormwater Permit

Construction will disturb more than one acre of land; therefore, a Section 402 [Arizona Pollutant Discharge Elimination System (AZPDES)] permit and a Stormwater Prevention Pollution Plan (SWPPP) will be required from the Arizona Department of Environmental Quality (ADEQ).

Air Quality

The project is located in the Phoenix Carbon Monoxide maintenance area, the Phoenix Ozone 8-Hour non-attainment area, and the Phoenix PM10 non-attainment area. Due to the nature of the work this project requires, it is exempt from conformity regulations. This project will not have a negative effect on air quality in the area; therefore, quantitative air quality analysis is not required.

Agency Scoping

Agency scoping will be completed during the environmental clearance process in the form of scoping letters and will be documented in the CE.

5.2 Maintenance Requirements

All of the project improvements will be maintained by the City of Chandler.

5.3 Recreational Considerations

The proposed improvements included in this study provide additional connectivity to and expansion of the Highline Canal Path - an important regional pathway and link to other regional path systems. Additional off-street and on-street bicycle and pedestrian facilities



increases recreational opportunities to the adjacent neighborhoods, Chandler residents, and regional path users.

5.4 Sustainability Considerations

Through an increase in non-vehicular options for travel, opportunities increase for a greater number of people to elect alternative or active modes of travel. This increase in active transportation improves both physical and mental health. This increase contributes to cultivating healthy, multi-modal transit behavior, thereby encouraging sustainable practices within a community. The more non-vehicular travel increases, the more associated reductions in air pollution from vehicular travel will occur. Additionally, providing a concrete shared use pathway in place of the existing gravel pathway will contribute to a reduction in dust pollution from SRP vehicles periodically traversing the canal bank for maintenance purposes. Through a regional off-street active transportation network, community livability, levels of service, user satisfaction, and system accessibility are all greatly improved.

Another consideration to support sustainable practice is through the careful selection of materials and elements of the project. In terms of materials, manufacturing concrete is a high energy and water-intensive process. The Sustainable SITES Initiative (SITES®) recommends specifying sustainable concrete from manufacturers using supplementary cementing materials, like fly ash. Other recommendations for project elements include drought-tolerant, low water-use landscape, reducing the project's need for energy and water.

5.5 Concurrent Planning Efforts

Chandler General Plan 2016

The Chandler General Plan 2016 establishes the latest vision and policies to be used to guide development decision making. The Chandler General Plan 2016 is organized in a series of topics that tie directly to the community's vision and is based three guiding principles: Strategic community building, focused stewardship, and strong community foundation. Strategic community building sets the framework for physical development to occur and identifies the importance of pedestrian and bicycle amenities as a community placemaking policy for land use and development. A comprehensive bicycle and pedestrian network is critical to Chandler's vision of connecting major destinations with and near the community. This philosophy forwards the city's vision of becoming an environmentally friendly city, supporting multimodal transportation goals, and promoting a healthy Chandler.

Chandler Transportation Master Plan 2019 Update

The Chandler Transportation Master Plan 2019 Update looks at transportation conditions, needs, and recommends transportation improvements within the City. The vision for this Plan is to *Develop an environmentally friendly, multimodal transportation system that leverages technology and provides choices to make Chandler known as the "Most Connected City"*. The



Transportation Master Plan 2019 Update identifies a paved shared use path along the Highline Canal and signalized path crossings as a mid-term (2026-2030) Bicycle and Pedestrian Recommendation.

City of Chandler Parks Strategic Master Plan July 2021

The City of Chandler Parks Strategic Master Plan, July 2021, provides the City with a roadmap for future development and improvement of recreational facilities and opportunities. A recommended priority identifies a bike/trail master plan as an important action to improve access, maintain quality, and increase connectivity in the bicycle and pedestrian facilities. Paved walking and biking trails was ranked number one in the list of Top Priorities for Investment for Facilities.

City of Chandler 2023-2032 Proposed Capital Improvement Program (CIP)

The City of Chandler 2023-2032 Proposed Capital Improvement Program (CIP) provides a financial plan to assist the City Council and City management with meeting their long-term goals and objectives for the City by planning for capital improvements required to help provide quality services at the lowest cost to the citizens of Chandler. The Kyrene Branch and Highline Canal Shared Use Path is listed in the 2023-2032 CIP for design in Fiscal Year (FY) 2023 and construction in FY 2025.

City of Tempe & Maricopa Association of Governments Priest Drive Bicycle and Pedestrian Improvements, Project No. 37-202-5003, dated January 21, 2022

The City of Tempe requested funding from the Maricopa Association of Governments (MAG) design assistance program for the development of a project assessment report and an estimate of probable cost for bike and pedestrian improvements along Priest Drive between Ray Road and Grove Parkway. The goal of this project is to improve pedestrian and bicycle facilities along Priest Drive between Ray Road and Grove Parkway. No final design or construction funding is currently identified.

2005 MAG Pedestrian Policies and Design Guidelines

The Pedestrian Policies and Design Guidelines are “intended to provide a source of information and design assistance to support walking as an alternative transportation mode. Through application of the policies and design guidance in this document, jurisdictions, neighborhoods, land planners, and other entities will be able to: 1) better recognize opportunities to enhance the built environment for pedestrians; 2) better create and redevelop pedestrian areas throughout the region that integrate facilities for walking with other transportation modes; 3) support the development of areas where walking is the preferred transportation mode; and 4) encourage the development of other independent pedestrian focused transportation facilities”.



5.6 Preliminary Right-of-Way Requirements

Pathway improvements along the Highline Canal will be located within Salt River Project's (SRP) right-of-way and will require a land use license agreement between SRP and the City of Chandler. The bike lane improvements along Orchid Lane and 54th Street will be located within City of Chandler right-of-way. No right-of-way acquisition is anticipated.

5.7 Critical Outside Agency Involvement

Coordination with City of Chandler Fire, Police, and Water Services departments, as well as utility companies, will be required in conformance with standard City guidelines.

The involvement of Salt River Project (SRP) will be critical in obtaining design approval and obtaining clearances. Design will follow the published *'Design Requirements for Public Recreational Amenities on SRP Canal Rights-of-Way – Canal Multiple Use - 2020'*, including general design requirements, plan review, and licensing. Additionally, based on discussions held during a coordination meeting with the City of Chandler and SRP, the environmental and cultural clearance process has become more detailed and could require additional time to obtain clearances. It is recommended that this process be started as early as possible during final design.

5.8 Preliminary Utility Requirements

Mapping and utility infrastructure information was provided by the City of Chandler. No major utility relocations or adjustments are anticipated.

5.9 Preliminary Traffic Requirements

Temporary traffic control will be required during construction activities involving work on Orchid Lane and 54th Street. Traffic control requirements will be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices, the latest edition of ADOT Traffic Control Design Guidelines, and the January 2021 City of Chandler Traffic Barricade Design Manual (TDM #7). Temporary lane closures, restrictions, or changes in access will be necessary during construction activities. Traffic control measures will be implemented, and construction activities will be timed to minimize impacts on vehicular traffic during peak hours of use. Access will be maintained to all businesses; however, those with access from more than one direction may be limited to one access point during some construction activities. The City of Chandler will provide a public information specialist to notify surrounding residents and businesses of potential restrictions/delays anticipated during construction of the project.

5.10 Seasonal Considerations

Minor seasonal differences in bicycle and pedestrian use patterns are anticipated. During the intensity of the summer heat, pedestrian and bicycle travel is anticipated to reduce during summer mid-days but may increase before sunrise.



No construction will take place during severe or inclement weather. To the extent practical, the construction activities should be completed during the off-season or summer months when anticipated path use will be lowest.

5.11 Design Criteria

The project will design pedestrian and bicycle improvements in compliance with the City of Chandler Engineering & Design Standards Manual (January 2022), the MAG Pedestrian Policies and Design Guidelines 2005, American Association of State Highway Transportation Officials (AASHTO) “Guide for the Development of Bicycle Facilities” (2012), AASHTO ‘Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004), and the most current edition of ADA Standard for Accessible Design to improve pedestrian and bicycle access for the project area.

5.12 Potential Funding Sources

The City of Chandler has been awarded a grant to fund the project. Congestion Mitigation and Air Quality Improvement (CMAQ) funds have been identified in the FY 2022-2025 MAG Transportation Improvement Program (TIP) for construction. Federal and local funds have been identified in the FY 2022-2025 MAG TIP for design.



6. Preferred Alternative Estimated Cost

ENGINEER'S OPINION OF PROBABLE COST

Item No.	Item Description	Unit	15%		DATE:	
			Quantity	Unit Price	9/27/2022	
					Amount	Amount
1	Concrete Sidewalk, MAG Det 230	SF	14,738	\$	8.00	\$ 117,904.00
2	Asphalt Concrete Pavement (Marshall 1/2" Mix)	SY	474	\$	15.00	\$ 7,110.00
3	Vertical Curb & Gutter, MAG Det 220, Type A, H=6"	LF	28	\$	30.00	\$ 840.00
4	Curb Ramp for Roll Curb, Modified 10' Wide, COC Dtl C-243	SF	222	\$	15.00	\$ 3,330.00
5	Decorative Pavement Marking	EA	2	\$	1,000.00	\$ 2,000.00
6	Remove Concrete Curb & Gutter	LF	579	\$	8.00	\$ 4,632.00
7	Remove Sidewalk	SF	124	\$	5.00	\$ 620.00
8	Remove Median Concrete	SF	162	\$	8.00	\$ 1,296.00
9	Remove Asphaltic Concrete Pavement	SY	348	\$	10.00	\$ 3,480.00
10	Remove & Dispose of Existing Street Light	EA	1	\$	800.00	\$ 800.00
11	Remove Thermoplastic Stripe	LF	1,165	\$	0.50	\$ 582.50
12	Remove Thermoplastic - Left Arrow	EA	3	\$	100.00	\$ 300.00
13	Remove Thermoplastic - Right Arrow	EA	2	\$	100.00	\$ 200.00
14	Pavement Marking (White Thermoplastic) 4" Equivalent	LF	19,166	\$	0.50	\$ 9,583.00
15	Pavement Marking (Yellow Thermoplastic) 4" Equivalent	LF	1,814	\$	0.50	\$ 907.00
16	Thermoplastic/Preformed Symbol Arrow (Straight)	EA	1	\$	60.00	\$ 60.00
17	Thermoplastic/Preformed Symbol Left Turn Arrow	EA	2	\$	60.00	\$ 120.00
18	Thermoplastic/Preformed Symbol Right Turn Arrow	EA	1	\$	60.00	\$ 60.00
19	Thermoplastic/Preformed Symbol (Bike Lane Marking Set)	EA	16	\$	70.00	\$ 1,120.00
20	Reflectorized Raised Pavement Marker (Type G, Clear, 1-Way)	EA	11	\$	4.00	\$ 44.00
21	Perforated Sign Post	LF	81	\$	50.00	\$ 4,050.00
22	Perforated Sign Post Foundation, MAG Det 2058	EA	9	\$	185.00	\$ 1,665.00
23	Flat Sheet Aluminum Sign Panel, High Intensity Grade	SF	79	\$	50.00	\$ 3,950.00
24	Wayfinding Path Map Structure	EA	1	\$	25,000.00	\$ 25,000.00
25	Path & Street Lighting	LS	1	\$	155,000.00	\$ 155,000.00
26	Landscape & Irrigation	LS	1	\$	60,000.00	\$ 60,000.00
CONSTRUCTION SUBTOTAL						\$ 404,653.50
	Unidentified Item Allowance	LS	20%	\$	80,930.70	\$ 80,930.70
CONSTRUCTION TOTAL						\$ 485,584.20
	Contingency	LS	10%	\$	48,558.42	\$ 48,558.42
	Mobilization	LS	10%	\$	48,558.42	\$ 48,558.42
	Construction Management	LS	18%	\$	87,405.16	\$ 87,405.16
	Construction Survey & Layout	LS	1	\$	20,000.00	\$ 20,000.00
	Construction Record & Drawing Allowances	ALL	1	\$	10,000.00	\$ 10,000.00
ITEM SUBTOTAL						\$ 214,522.00
PROJECT TOTAL						\$ 700,106.20

7. Meeting Schedule

Table 2 - Meeting Schedule

MILESTONE	TARGET COMPLETION DATE
Project Kick-off Meeting / Site Visit	2/22/2022
Preliminary Alignment and Crossing Alternative Review	4/20/2022
Stakeholder Outreach	5/4/2022
Chandler Transportation Commission Meeting	5/18/2022
Draft Project Assessment and Preliminary (15%) Plans Comment Resolution Meeting	5/26/2022
Public Meeting	8/22/2022

Appendix A: Preliminary (15%) Plans

CITY OF CHANDLER, ARIZONA

HIGHLINE CANAL

PROJECT NO. STXX.XX

MAG PROJECT NO. 828C-0S

DATE: SEPTEMBER 2022



MAYOR
KEVIN HARTKE

VICE MAYOR
TERRY ROE

COUNCIL
CHRISTINE ELLIS
OD HARRIS
RENE LOPEZ
MATT ORLANDO
MARK STEWART

**CITY OF CHANDLER
PUBLIC WORKS DEPT.**
215 EAST BUFFALO STREET
CHANDLER, AZ 85225
PHONE NO. (480) 782-3331

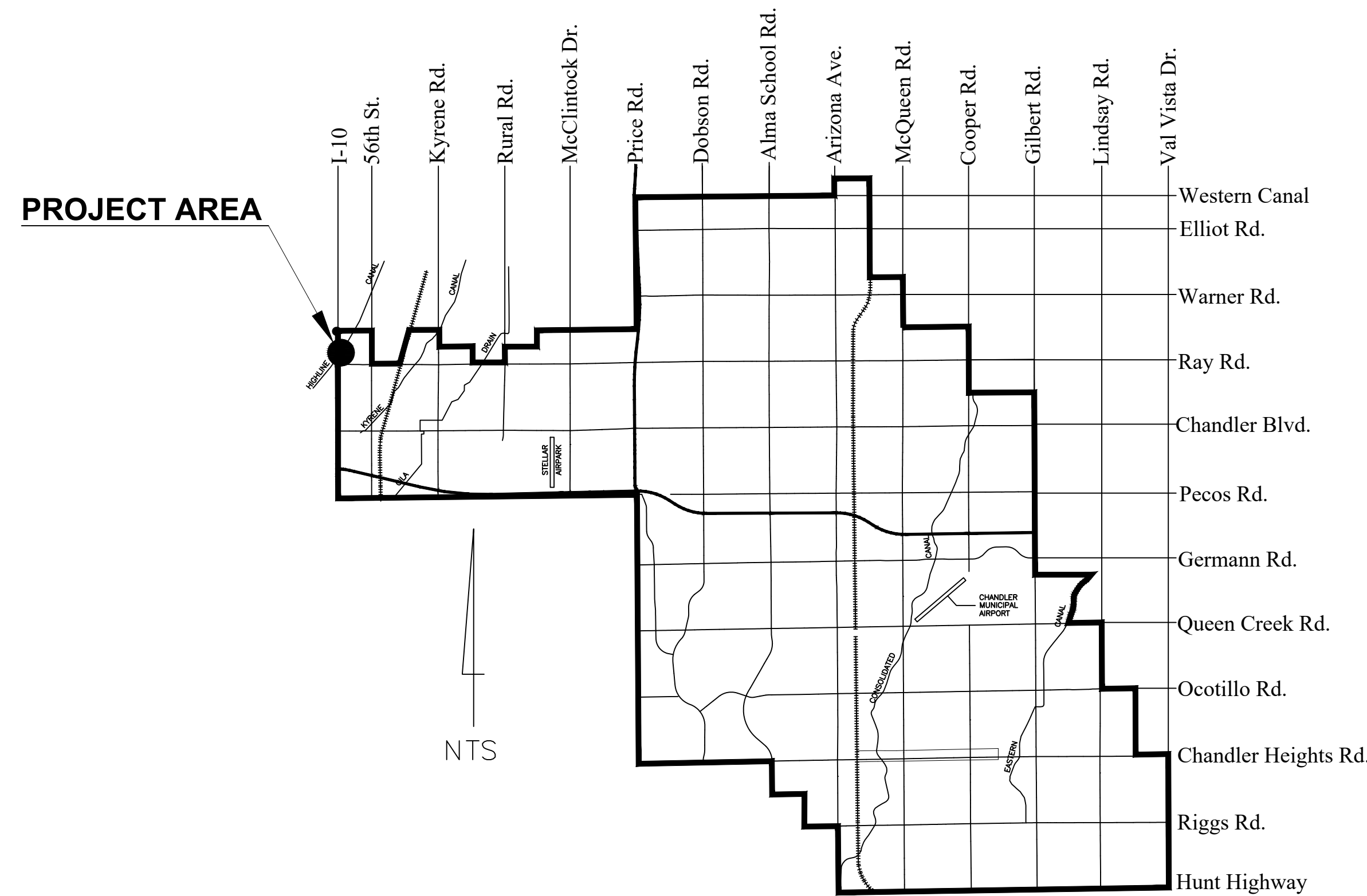
APPROVED:

_____	_____
PUBLIC WORKS & UTILITIES DIRECTOR	DATE
_____	_____
CITY ENGINEER	DATE
_____	_____
CITY TRANSPORTATION ENGINEER	DATE
_____	_____
CIVIL PLAN REVIEW	DATE
_____	_____
MARICOPA COUNTY ENVIRONMENTAL SERVICE DEPARTMENT (AS REQUIRED)	DATE
_____	_____
MARICOPA COUNTY ENVIRONMENTAL SERVICE DEPARTMENT (WATER)	DATE
_____	_____
MARICOPA COUNTY ENVIRONMENTAL SERVICE DEPARTMENT (SANITARY SEWER)	DATE
N/A	_____
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (AS REQUIRED)	DATE

AS-BUILT CERTIFICATION: I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION AS SHOWN HEREON WAS MADE UNDER MY SUPERVISION, OR AS NOTED, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____	_____	_____
REGISTERED LAND SURVEYOR SIGNATURE	PRINTED NAME	DATE
_____	_____	_____
REGISTRATION NO.	EXPIRATION DATE	
I HEREBY CERTIFY THAT THE "AS-BUILT" SHOWN HEREON SATISFIES THE INTENT OF THE DESIGN.		
_____	_____	_____
REGISTERED CIVIL ENGINEER SIGNATURE	PRINTED NAME	DATE
_____	_____	_____
REGISTRATION NO.	EXPIRATION DATE	

UTILITY COMPANY	UTILITY CONTACTS	DATE SUBMITTED
COX	RYAN KANN	SEPTEMBER 2022
GILA RIVER TELECOMMUNICATIONS	EDIE HEPLER	SEPTEMBER 2022
GRIC - UTILITY AUTHORITY	KURT POLINGYOMA	SEPTEMBER 2022
LUMEN	LANCE HOLJE	SEPTEMBER 2022
ROOSEVELT WATER CONSERVATION DISTRICT	TABATHA LANGLAND	SEPTEMBER 2022
SOUTHWEST GAS	GENE FLOREZ	SEPTEMBER 2022
SRP	WENDY LESUER	SEPTEMBER 2022
TOWN OF GILBERT	TOM CONDIT	SEPTEMBER 2022
ZAYO GROUP	MATT BURKE	SEPTEMBER 2022



VICINITY MAP

ROOSEVELT WATER CONSERVATION DISTRICT

CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE; FABRICATION, PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES; THE SATISFACTORY PERFORMANCE OF HIS WORK. THE DISTRICT'S REVIEW OF THE PLANS IS A VOLUNTARY AND DISCRETIONARY ACTION WHICH IS NOT MANDATED BY STATE STATUTE. THE DISTRICT'S REVIEW OF THE PLANS IS SOLELY FOR THE DISTRICT'S BENEFIT, CONDUCTED WITH ONLY THE DISTRICT'S INTEREST IN MIND, AND SHOULD NOT BE RELIED UPON BY ANY THIRD PARTY. BY REVIEWING THE PLANS THE DISTRICT DOES NOT ASSUME ANY DUTY TO THIRD PARTIES.

ENGINEER: _____ DATE: _____
RWCD: _____ DATE: _____

UTILITY JOB DESCRIPTION

SRP/APS JOB ORDER NUMBER _____
DDC/DESIGNERS: _____
JOB NAME: _____
JOB ADDRESS: _____

TYPE (HYPE, LED, OTHER): _____
NEW OR EXISTING CABINET: _____
EXISTING CABINET NUMBER: _____
CONSUMPTION (SYSTEM WATTS): _____

DATE: SEPTEMBER 2022
STATUS: 15%

REV. NO.	DATE	DRWN	CHKD	REMARKS

PRELIMINARY
15%
NOT FOR
CONSTRUCTION
OR RECORDING

Kimley»Horn
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PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

Plotted By: DeBeard, Anne (Reviewers), Sheet: SattHighline Canal MUP, Layout: C:\01 - September 28, 2022 - 02:22:56pm, K:\PHX_LA\291720001\MAG-Highline Canal MUP - Chandler\Cadd\Plans\C\01 - 291720001.dwg

HIGHLINE CANAL SHARED USE PATH PROJECT NO. STXX.XX 15% SUBMITTAL (SEPTEMBER 2022)

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ADOPTED MAG SPECIFICATIONS AND STANDARD DETAILS AS SUPPLEMENTED BY THE CITY OF CHANDLER.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
- THE DEVELOPMENT ENGINEERING OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO STARTING EACH PHASE OF CONSTRUCTION (480-782-3300).
- PROJECT ELEVATIONS ARE BASED UPON NAVD 88 DATUM. THE FOLLOWING BENCHMARK WAS UTILIZED:

BENCHMARK NUMBER	NGVD 29 ELEVATION	DESCRIPTION	EQUATION	NAVD 88 ELEVATION
RYAN	1254.7514	ARIZONA DEPARTMENT OF HIGHWAY BRASS CAP SET IN CONCRETE ON BEDROCK DOWN 0.1', 0.37 MILES SOUTH ON I-10 FROM THE INTERSECTION OF I-10 AND BASELINE ROAD, ABOUT 80' WEST OF CENTER OF SOUTH BOUND LANE OF I-10.	2.018	1256.77
1	1190.178	SECTION 21, T1S, R4E, 7' BRASS CAP SET IN FOOTING OF ELECTRICAL TRANSMISSION TOWER #14, BETWEEN 56TH STREET AND KYRENE RD., 40' EAST OF RAILROAD TRACKS, 920' NORTH OF RAY ROAD	1.883	1192.06

- PRIOR TO ANY CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR/DEVELOPER SHALL NOTIFY THE LANDSCAPE COMPLIANCE COORDINATOR AT 480-782-3428. ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL CONDITIONS USING THE FOLLOWING REQUIREMENTS:
 - ALL LANDSCAPE IMPACTED BY CONSTRUCTION SHALL BE REPLACED IN KIND AND SIZE, OR AS DETERMINED BY THE CITY;
 - ALL IRRIGATION SYSTEMS SHALL BE RESTORED TO FULLY FUNCTIONING STATUS. ANY IRRIGATION LOCATED BENEATH ASPHALT OR CONCRETE SHALL BE SLEEVED WITH SCHEDULE 40 PVC TWO NOMINAL SIZES LARGER;
 - THE AREA OF CONSTRUCTION SHALL BE TREATED WITH PRE-EMERGENT HERBICIDE (I.E. SURFLAN);
 - GRANITE OF A SIZE AND COLOR TO MATCH EXISTING SHALL BE SPREAD A MINIMUM OF TWO INCHES THICK;
 - THE STREET DIVISION SHALL BE CONTACTED TO INSPECT ALL WORK BEFORE A CONDITIONAL ACCEPTANCE IS ISSUED;
 - THE CONTRACTOR/DEVELOPER SHALL MAINTAIN THE AREA FOR NINETY DAYS AFTER CONDITIONAL ACCEPTANCE. AFTER 90 DAYS THE CITY SHALL BE CONTACTED FOR FINAL ACCEPTANCE AND ASSUMPTION OF MAINTENANCE.
- WORK PERFORMED BY THE CONTRACTOR:
 - ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE CITY ENGINEER AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
 - WHENEVER THE INSPECTOR FINDS ANY WORK BEING PERFORMED IN A DANGEROUS OR UNSAFE MANNER, OR CONTRARY TO THE PLANS OR SPECIFICATIONS, OR NOT MEETING THE INTENT OF THE PLANS OR SPECIFICATIONS, THE INSPECTOR WILL ISSUE A STOP WORK ORDER. UPON ISSUANCE OF A STOP WORK ORDER, THE CITED WORK SHALL IMMEDIATELY CEASE. THE STOP WORK ORDER SHALL STATE THE REASON FOR THE ORDER, AND THE CONDITIONS WHICH CITED WORK IS AUTHORIZED TO RESUME UPON WRITTEN ORDER TO RESUME WORK. WHERE AN EMERGENCY EXISTS, THE INSPECTOR SHALL NOT BE REQUIRED TO GIVE A WRITTEN NOTICE PRIOR TO STOPPING THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS AND DELAYS FOR THE WORK RELATED TO THE STOP WORK ORDER.
- THE CONTRACTOR SHALL UNCOVER ALL EXISTING CITY UTILITY LINES BEING TIED INTO TO VERIFY THEIR TYPE, CONDITION, LOCATION, INVERT SLOPE AND ANY OTHER INFORMATION NEEDED TO DETERMINE THAT THE UTILITY CONNECTION WILL FUNCTION AS DESIGNED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY REPAIRS NECESSARY TO THE LATERAL OR MAIN LINES OF THE CITY WATER, RECLAIMED WATER, SANITARY SEWER, AND/OR STORM DRAIN SYSTEM NECESSARY FOR THE CONNECTION TO FUNCTION AS DESIGNED. THE CONTRACTOR SHALL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND PRIVATE UTILITIES (ELECTRIC, TELEPHONE, PIPELINES, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND SHALL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION. BLUE STAKE TELEPHONE (602) 263-1100.
- THE CITY OF CHANDLER IS NOT RESPONSIBLE FOR LIABILITY INCURRED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR UTILITY RELOCATION.
- NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL 4 MIL PHOTO MYLAR REPRODUCIBLE "AS-BUILT" PLANS CERTIFIED AND SEALED BY A REGISTERED CIVIL ENGINEER, HAVE BEEN SUBMITTED AND ACCEPTED BY THE CITY ENGINEER.
- APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. ALL PAVEMENT REPLACEMENT SHALL BE IN ACCORDANCE WITH SECTION 336 AND AS MODIFIED BY CITY SUPPLEMENTS.
- BACKFILLING SHALL NOT BE STARTED UNTIL LINES ARE APPROVED BY THE CITY ENGINEER. ALL BACKFILL SHALL BE HALF-SACK CLSM UNLESS OTHERWISE APPROVED ON THE PLANS. ABC OR NATIVE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH MAG SECTION 601, TYPE I. BACKFILL PLACEMENT AND SURFACE REPLACEMENT SHALL BE IN ACCORDANCE WITH MAG STD DTL 200 TTOP.
- CONSTRUCTION OF CONCRETE OR PAVING ITEMS SHALL NOT COMMENCE UNTIL ALL UNDERGROUND WORK HAS BEEN INSPECTED AND TESTED.
- DISPOSAL OF AND STOCKPILING OF EXCESS MATERIAL WITHIN THE CHANDLER CITY LIMITS OR PLANNING AREA SHALL BE DONE IN SUCH A WAY THAT WILL NOT CREATE A NUISANCE. THE PLACING OF MATERIAL ON PRIVATE PROPERTY OF ANOTHER REQUIRES WRITTEN AUTHORIZATION. EARTHWORK STOCKPILES ARE NOT TO EXCEED 6 FEET IN HEIGHT. SLOPES ON ALL SIDES OF THE STOCKPILE SHALL NOT EXCEED A 1 TO 2 RATIO OF HEIGHT TO LENGTH. ANY EARTHWORK STOCKPILE, EVEN LESS THAN 6 FEET, MUST BE REMOVED WITHIN 7 DAYS OF CITY NOTIFICATION IF DUST SUPPRESSION EFFORTS FAIL TO MAINTAIN SATISFACTORY AIRBORNE CONTAMINANT CONTROL.
- TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE CHANDLER TRAFFIC BARRICADE MANUAL AND APPROVED TRAFFIC SEQUENCING PLANS AND/OR NOTES.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST-FREE CONDITION AT ALL TIMES THE CONTRACTOR SHALL UTILIZE A PM10-CERTIFIED STREET SWEEPER FOR STREET CLEANING.
- AN APPROVED SET OF PLANS SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES THAT WORK IS IN PROGRESS. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT AN APPROVED PLAN REVISION.
- A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN SEWER SERVICES AND WATER OR FIRELINE SERVICES. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN RECLAIMED WATER SERVICES AND SEWER, WATER, OR FIRELINE SERVICES.
- SETBACKS FOR UTILITY POLES, STRUCTURES, AND OTHER SIMILAR FACILITIES (NOT INCLUDING LANDSCAPING) GREATER THAN 18 INCHES IN HEIGHT SHALL BE 5.5 FEET FROM THE BACK OF CURB UNLESS APPROVED IN WRITING BY THE CITY ENGINEER. IN CASES WHERE THE FACILITIES ARE ADJACENT TO A DECELERATION LANE, BUS BAY, OR MEDIAN CURB, THE SETBACK CAN BE REDUCED TO 2.5 FEET FROM THE BACK OF CURB.
- SCREEN WALLS OVER 7', RETAINING WALLS OVER 4' MUST HAVE A BUILDING PERMIT AND BE IN CONFORMANCE WITH CHANDLER BUILDING CODE.
- ALL UNDERGROUND FACILITIES INSTALLED IN ANY REAL PROPERTY OUTSIDE THE CITY'S RIGHT-OF-WAY SHALL COMPLY WITH THE FOLLOWING MARKING STANDARDS IN ACCORDANCE WITH HOUSE BILL 2256. A YELLOW INSULATED COPPER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO UNDERGROUND UTILITIES FOR FIRE LINE PIPING, POTABLE WATER DISTRIBUTION PIPING, SANITARY SEWER LINES, STORMWATER PIPING, RECLAIMED WATER PIPING, GRAVITY FLOW IRRIGATION PIPING AND PRESSURIZED IRRIGATION PIPING LARGER THAN TWO (2) INCHES IN DIAMETER UNLESS THESE FACILITIES CAN BE DETECTED FROM ABOVE GROUND WITH AN ELECTRONIC LOCATING DEVICE. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE ABOVE GROUND AT EACH END OF THE PIPING. THE TRACER WIRE SHALL NOT BE LESS THAN 18 AWG AND THE INSULATION TYPE SHALL BE SUITABLE FOR DIRECT BURIAL.
- ANY CONSTRUCTION DETOURS WILL REQUIRE AN ALL-WEATHER SURFACE PER MARICOPA COUNTY AIR QUALITY REQUIREMENTS.
- THE CONTRACTOR SHALL SUPPLY CITY INSPECTOR CONSTRUCTION MATERIAL TESTING DOCUMENTATION THROUGHOUT THE PROJECT.
- ALL SITE IMPROVEMENTS, INCLUDING LANDSCAPE AND SITE CLEANUP, MUST BE COMPLETE PRIOR TO CERTIFICATE OF OCCUPANCY FOR ANY BUILDING WITHIN A PHASE.
- UTILITY COMPANIES HAVE BEEN IDENTIFIED BY BLUE STAKE COORDINATION AND PROJECT PLANS HAVE BEEN SUBMITTED MOST RECENTLY. SEE PAGE CV01 FOR UTILITIES AND DATES.

PAVING NOTES:

- THE LOCATION OF ALL VALVES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION.
- NO PAVING CONSTRUCTION SHALL BE PERFORMED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE RIGHT-OF-WAY HAVE BEEN COMPLETED.
- THE BASE COURSE WILL NOT BE PLACED ON SUBGRADE UNTIL BASE REQUIREMENTS HAVE BEEN COMPLETED AND ACCEPTED BY THE CITY ENGINEER.
- GUTTERS WILL BE WATER TESTED IN THE PRESENCE OF THE CITY ENGINEER TO INSURE PROPER DRAINAGE PRIOR TO FINAL APPROVAL.
- THE EXACT POINT OF PAVEMENT MATCHING FOR TERMINATION AND OVERLAY MAY BE DETERMINED IN THE FIELD BY THE CITY ENGINEER.
- NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, PAVEMENT AND SIDEWALKS HAVE BEEN SWEEPED CLEAN OF ALL DIRT AND DEBRIS.
- STREET NAME SIGNS WILL BE INSTALLED BY THE CITY ON DEVELOPER INSTALLED POLES AT THE DEVELOPER'S EXPENSE. POLES SHALL BE PER C-613. PAYMENT WILL BE COLLECTED AT THE TIME A PAVING PERMIT IS ISSUED.
- ALL TRAFFIC CONTROL SIGNS SHALL BE CONSTRUCTED OF HIGH INTENSITY GRADE SHEETING, UNLESS OTHERWISE NOTED.
- ALL STREET SECTIONS, EXCEPT ARTERIALS, SHALL HAVE INSTALLED A PRESERVATIVE SEAL COAT PER MAG SECTION 334 AND SHALL BE AN ASPHALT EMULSION SEALER PER MAG SECTION 718.3. THE SEAL SHALL BE INSTALLED AT THE END OF THE WARRANTY PERIOD, OR AT THE CITY'S OPTION, A FEE MAY BE COLLECTED IN LIEU OF THE APPLICATION.
- ALL CURB-OPENING CATCH BASIN ACCESS COVERS SHALL BE PER MAG STD DTL 536. ALTERNATE COVER. A STORM DRAIN INLET MARKER IN ACCORDANCE WITH C-508 SHALL BE INSTALLED ON THE TOP OF THE CURB AND ALIGNED WITH THE CENTER OF THE INLET.
- PAVEMENT MATCHING AND SURFACING REPLACEMENT SHALL BE IN ACCORDANCE WITH MAG STD DTL 200, MAG SECTION 336, AND SECTION 337. ALL CRACKS AND JOINTS SHALL BE SEALED, UNLESS OTHERWISE DIRECTED BY CITY ENGINEER OR STREET SUPERINTENDENT.

GRADING AND DRAINAGE NOTES:

- A GRADING PERMIT IS REQUIRED.
- APPROVED MINIMUM FINISH FLOOR ELEVATION SHALL NOT BE ALTERED.
- STAKING FINISH FLOOR ELEVATION IS THE RESPONSIBILITY OF THE DEVELOPER AND HIS ENGINEER.
- CONTRACTOR SHALL PROVIDE GRADING FOR POSITIVE DRAINAGE IN ALL RETENTION BASINS AT ELEVATIONS AS SHOWN ON THE PLANS. BOTTOM OF BASIN SHALL BE GRADED TO DRAIN TOWARD DRYWELLS (WHEN USED). MAXIMUM SIDESLOPES SHALL BE 4:1.
- DRYWELL INLET GRATE SHALL BE FLUSH WITH ROAD SURFACE OR TURF, OR 1-1/2" ABOVE THE FINISHED GRADE OF DECOMPOSED GRANITE LANDSCAPED AREAS.
- DRILLING LOGS FOR DRYWELLS WILL BE FURNISHED TO THE CITY INSPECTOR PRIOR TO FINAL ACCEPTANCE.
- A PERCOLATION TEST SHALL BE REQUIRED OF COMPLETED DRYWELLS PRIOR TO ACCEPTANCE. SHOULD EXISTING SOIL CONDITIONS BE ENCOUNTERED WHICH LACK SUFFICIENT PERCOLATION RATES, ADDITIONAL DRYWELLS OR AN ALTERNATE METHOD OF STORM WATER RUN-OFF DISPOSAL WILL BE REQUIRED.
- DRYWELL CONSTRUCTION SHALL BE DONE ONLY BY CONTRACTORS LICENSED BY THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. APPLICATION FOR DRYWELL REGISTRATION WAS SUBMITTED TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ON 3/24/2021.
- THE APPROVED DRYWELL REGISTRATION SHALL BE SUBMITTED TO THE CITY BY THE DEVELOPER OR HIS ENGINEER AT THE TIME AS-BUILTS ARE SUBMITTED.
- ALL WEEP HOLES IN WALLS SHALL BE PROVIDED WITH EROSION PROTECTION 12" THICK WITH D50 = 4" RIPRAP, 24" IN WIDTH, EXTENDED TO THE BACK OF SIDEWALK OR TO THE BOTTOM OF RETENTION BASIN, WHICHEVER APPLIES.
- A RETAINING WALL WILL BE REQUIRED IF AT THE COMPLETION OF GRADING THERE EXISTS MORE THAN ONE FOOT OF DIFFERENCE IN ELEVATION BETWEEN THIS SITE AND ADJACENT PROPERTIES.
- SCREEN WALLS OVER 7', RETAINING WALLS OVER 4' MUST HAVE A BUILDING PERMIT AND BE IN CONFORMANCE WITH CHANDLER BUILDING CODE.
- THE EXISTING RETENTION AND DRAINAGE FACILITIES ON THIS SITE WILL NOT BE REMOVED FROM SERVICE UNTIL THE PERMANENT RETENTION AND DRAINAGE FACILITIES ARE FUNCTIONAL.

GRADING/DRAINAGE:

- A GRADING PERMIT IS REQUIRED
- APPROVED MINIMUM FINISH FLOOR ELEVATION SHALL NOT BE ALTERED
- STAKING FINISH FLOOR ELEVATION IS THE RESPONSIBILITY OF THE DEVELOPER AND HIS ENGINEER.
- CONTRACTOR SHALL PROVIDE GRADING FOR POSITIVE DRAINAGE IN ALL RETENTION BASINS AT ELEVATIONS AS SHOWN ON THE PLANS. BOTTOM OF BASIN SHALL BE GRADED TO DRAIN TOWARD DRYWELLS (WHEN USED). MAXIMUM SIDESLOPES SHALL BE 4:1.
- DRYWELL INLET GRATE SHALL BE FLUSH WITH ROAD SURFACE OR TURF, OR 1-1/2" FINISHED GRADE OF DECOMPOSED GRANITE LANDSCAPED AREAS.
- DRILLING LOGS FOR DRYWELLS WILL BE FURNISHED TO THE CITY INSPECTOR PRIOR TO FINAL ACCEPTANCE.
- A PERCOLATION TEST SHALL BE REQUIRED OF COMPLETED DRYWELLS PRIOR TO ACCEPTANCE. SHOULD EXISTING SOIL CONDITIONS BE ENCOUNTERED WHICH LACK SUFFICIENT PERCOLATION RATES, ADDITIONAL DRYWELLS OR AN ALTERNATE METHOD OF STORM WATER RUN-OFF DISPOSAL WILL BE REQUIRED.

DRY WELL KEY MAP #	ADEQ REG. #	FIELD PERC RATE (CFS)

- DRYWELL CONSTRUCTION SHALL BE DONE ONLY BY CONTRACTORS LICENSED BY THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. APPLICATION FOR DRYWELL REGISTRATION WAS SUBMITTED TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ON (DATE) (DATE).
- THE APPROVED DRYWELL REGISTRATION SHALL BE SUBMITTED TO THE CITY BY THE DEVELOPER OR HIS ENGINEER AT THE TIME AS-BUILTS ARE SUBMITTED.
- ALL WEEP HOLES IN WALLS SHALL BE PROVIDED WITH EROSION PROTECTION 12" THICK WITH D50 = 4" RIPRAP, 24" IN WIDTH, EXTENDED TO THE BACK OF SIDEWALK OR TO THE BOTTOM OF RETENTION BASIN, WHICHEVER APPLIES.
- A RETAINING WALL WILL BE REQUIRED IF AT THE COMPLETION OF GRADING THERE EXISTS MORE THAN ONE FOOT OF DIFFERENCE IN ELEVATION BETWEEN THIS SITE AND ADJACENT PROPERTIES.
- SCREEN WALLS OVER 7', RETAINING WALLS OVER 4' MUST HAVE A BUILDING PERMIT AND BE IN CONFORMANCE WITH CHANDLER BUILDING CODE.
- THE EXISTING RETENTION AND DRAINAGE FACILITIES ON THIS SITE WILL NOT BE REMOVED FROM SERVICE UNTIL THE PERMANENT RETENTION AND DRAINAGE FACILITIES ARE FUNCTIONAL.

SIGNING AND STRIPING

- THE CITY TRANSPORTATION ENGINEER'S OFFICE SHALL BE NOTIFIED 5 BUSINESS DAYS PRIOR TO STARTING ANY SIGNING OR STRIPING WORK AT (480) 782-3454.
- ALL PAVEMENT MARKINGS, SIGN MATERIALS AND CONSTRUCTION SHALL CONFORM TO ARIZONA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- SIGN LOCATIONS AND OFFSETS MAY BE ADJUSTED BY THE CITY TRANSPORTATION ENGINEER TO IMPROVE VISIBILITY.
- ALL MEDIAN NOSES SHALL BE PAINTED YELLOW WITH REFLECTIVE GLASS BEADS PER C-617.
- ALL RAISED PAVEMENT REFLECTORS SHALL BE INSTALLED WITH CRAFCO PAVEMENT REFLECTOR ADHESIVE, OR EQUAL.
- ALL TRAFFIC CONTROL SIGNS, EXCEPT STOP SIGNS, SHALL BE ATTACHED TO STREET LIGHT POLES IF THE POLE IS WITHIN 25 FT. OF SIGN LOCATION AS SHOWN ON THE SIGNING AND STRIPING PLANS.
- ALL CROSSWALKS, STOP BARS, MINI-SKIPS, TURN ARROWS AND LEFT/RIGHT TURN LANE STRIPING SHALL BE THERMOPLASTIC.
- ALL TRAFFIC CONTROL SIGNS SHALL BE CONSTRUCTED OF HIGH INTENSITY GRADE SHEETING SCREENED WITH 3-M APPROVED INKS OR EQUIVALENT APPROVED BY THE TRANSPORTATION DIVISION. WARRANTY DOCUMENTS ARE REQUIRED AND SHALL BE SUBMITTED PRIOR TO FINAL JOB ACCEPTANCE.
- ALL EXISTING SIGNS TEMPORARILY REMOVED BY THE CONTRACTOR SHALL BE SALVAGED FOR REINSTALLATION BY THE CONTRACTOR. ALL EXISTING SIGNS PERMANENTLY REMOVED BY THE CONTRACTOR SHALL BE SALVAGED FOR RETURN TO THE CITY SIGN SHOP.
- ALL CONFLICTING PAVEMENT MARKINGS WILL BE OBLITERATED BY WATER BLASTING BY THE CONTRACTOR. GRINDING IS NOT PERMITTED.
- A SEALANT APPROVED BY THE CITY OF CHANDLER STREETS DIVISION SHALL BE APPLIED BY THE CONTRACTOR TO ALL AREAS OF PAVEMENT MARKING OBLITERATION. REFER TO THE LIST OF APPROVED PRODUCTS.
- CITY TRANSPORTATION ENGINEER MAY REQUIRE THE CONTRACTOR TO ADJUST SIGNING AND STRIPING AS NECESSARY.
- CONFLICTING SIGNAGE SHALL BE REMOVED BY THE CONTRACTOR.
- CITY SIGNS MUST BE RETURNED TO THE CITY SIGN SHOP.

PAVEMENT MARKING LEGEND:

- PROPOSED 6" SOLID WHITE LINE
- · — · — · — · — · — · — · — · — · — PROPOSED 6" BROKEN WHITE LINE WITH TYPE G RPMS AT 40' SPACING
- - - - - PROPOSED 6" DASHED WHITE LINE
- PROPOSED 8" SOLID WHITE LINE WITH TYPE G RPMS AT 20' SPACING
- ===== PROPOSED 6" DOUBLE SOLID YELLOW LINE

NO.	REVISIONS	DATE	BY

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CONSTRUCTION
OR RECORDING

SCALE (H):	N/A
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/20/22

MAG
CITY OF CHANDLER
HIGHLINE CANAL
SHARED USE PATH
GENERAL NOTES

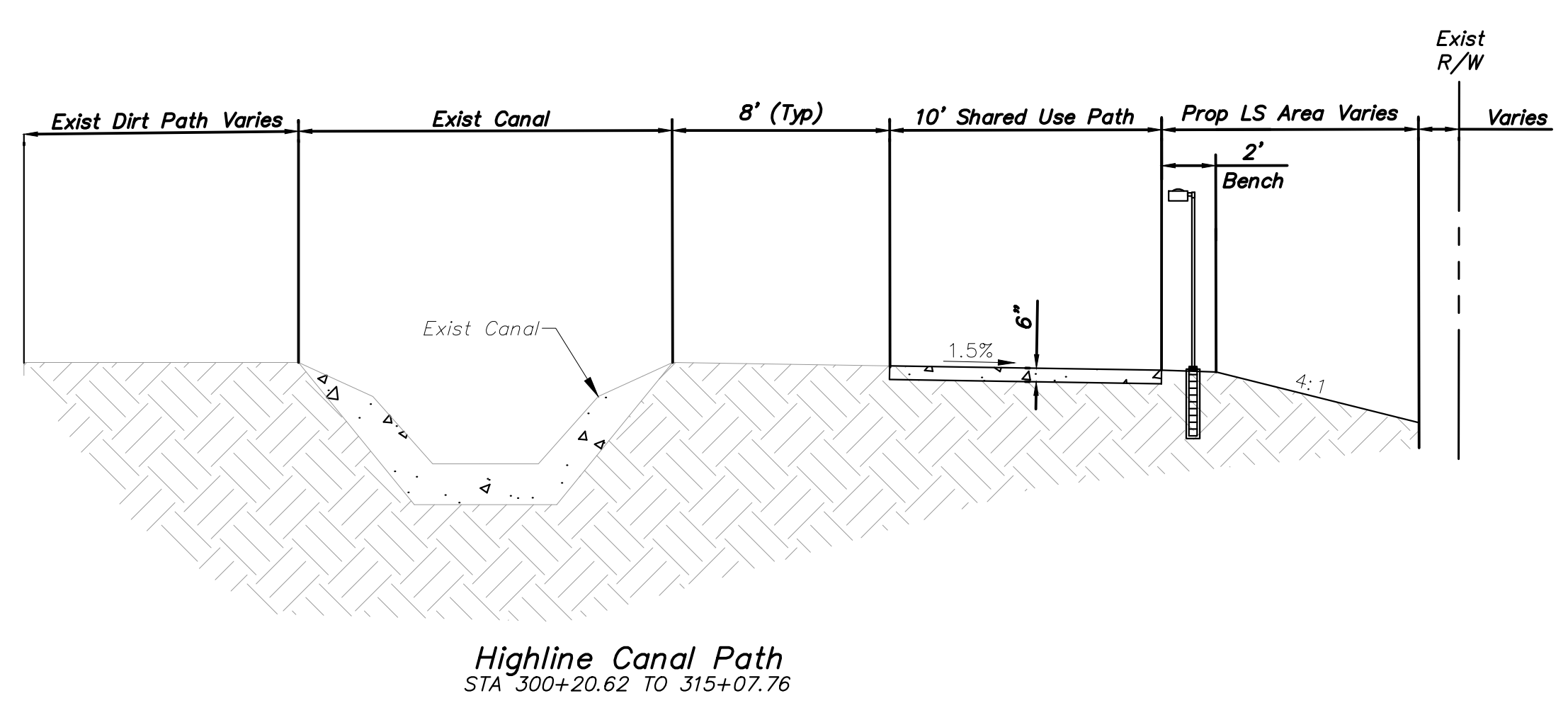
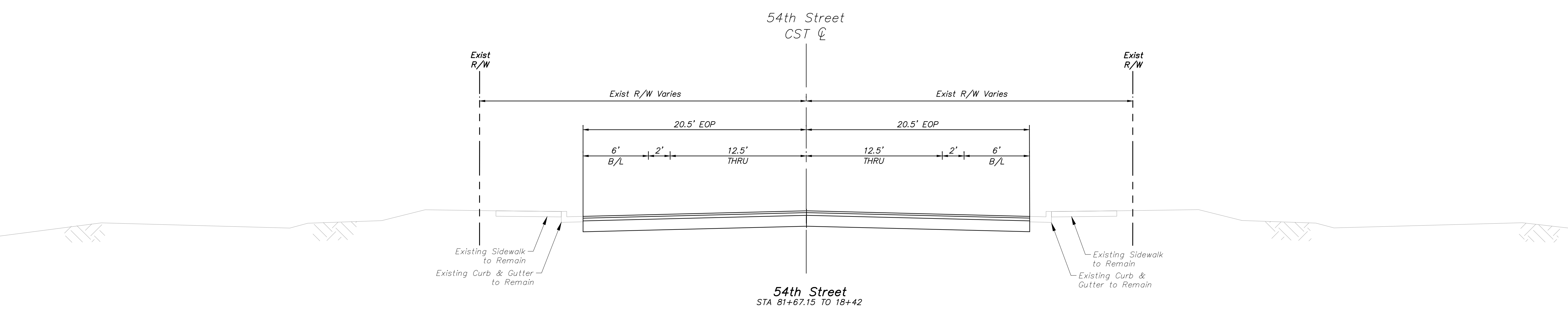
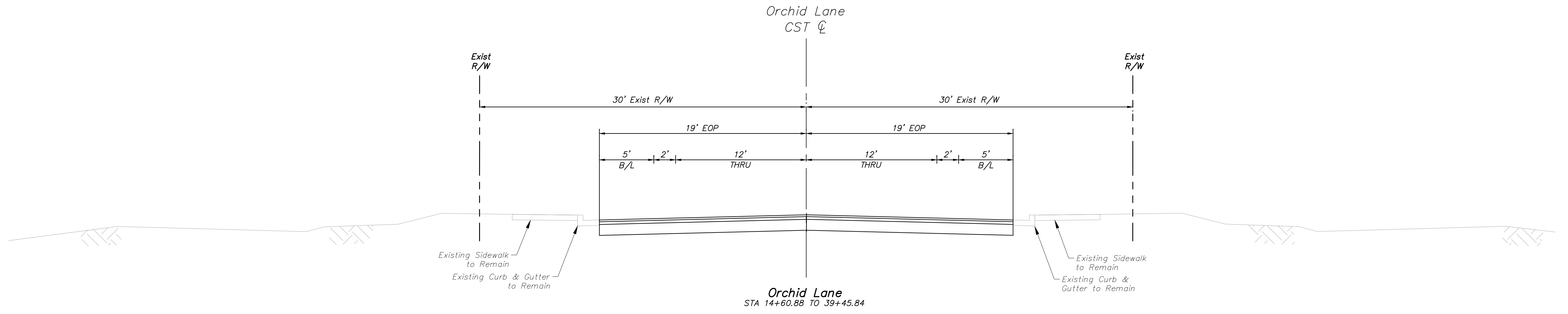
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2 OF 10



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C.O.C. LOG NO. CV XX-XXX CHANDLER PATH MUP IMPROVEMENTS

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SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/20/22

MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 TYPICAL SECTIONS

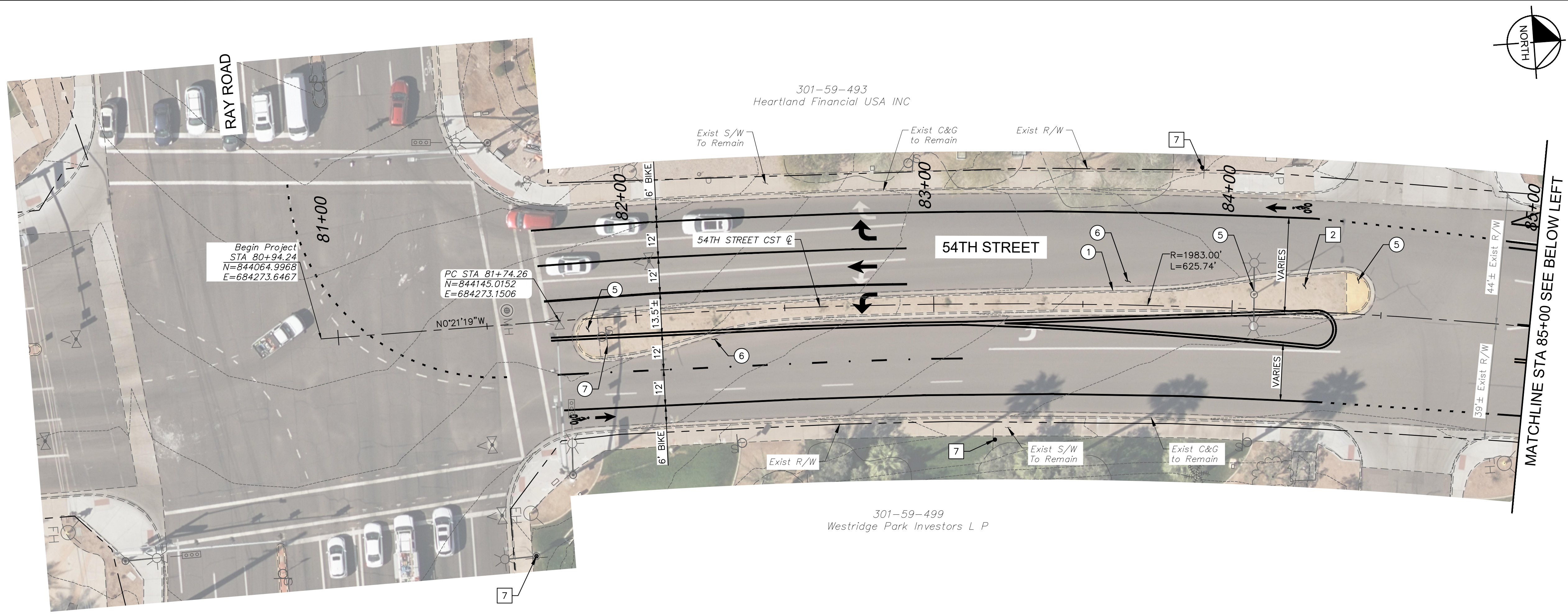
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SHEET DWG
 TS01
 3 OF 10



C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

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CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY	UNIT
2	AC Pavement Per Structural Section No.1	474	SY
7	Install Bike Route Guide Sign	3	EA

REMOVAL NOTES

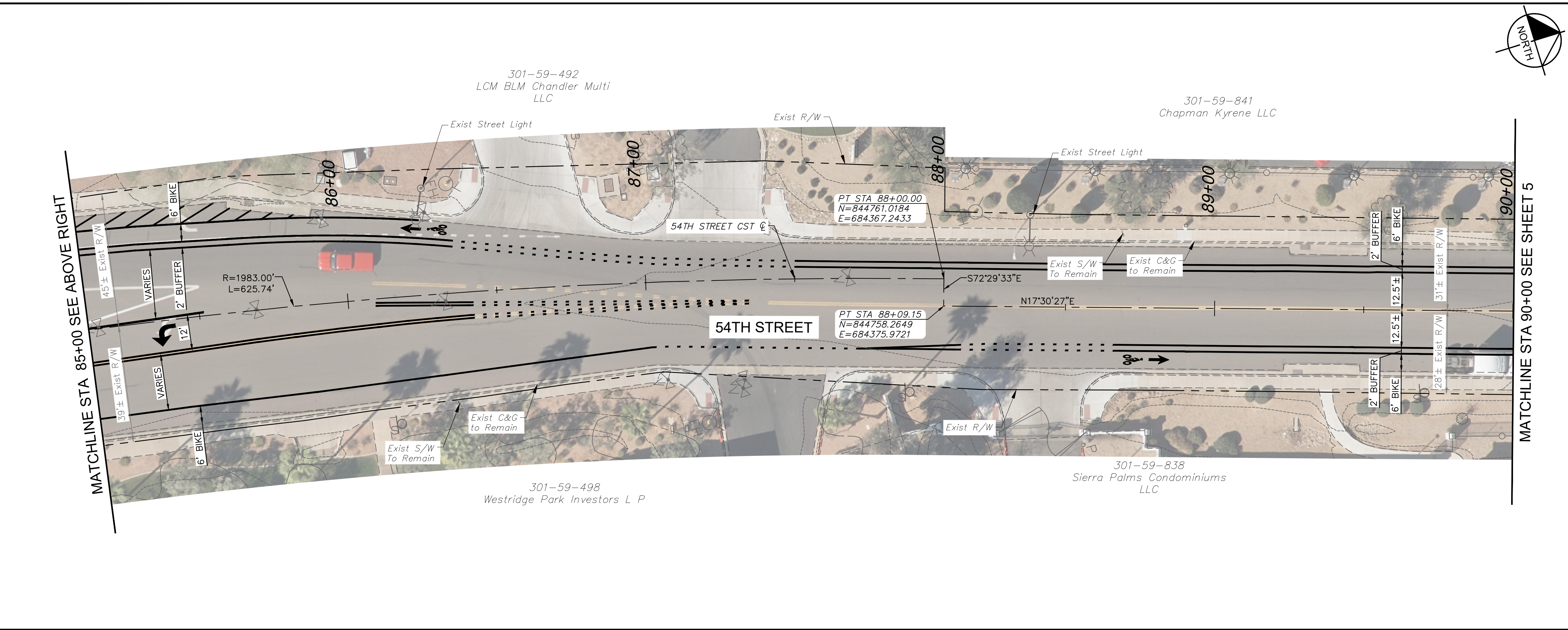
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1	Remove & Dispose Existing Curb and Gutter	551	LF
5	Remove & Dispose Median Concrete	162	SY
6	Remove & Dispose Asphalt Pavement	348	SY
7	Remove & Dispose Existing Sign	1	EA
7	Remove & Dispose Existing Street Light	1	EA

NO.	REVISIONS	DATE	BY

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SCALE (H):	1"=50'
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022



CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY	UNIT
2	AC Pavement Per Structural Section No.1	474	SY
7	Install Bike Route Guide Sign	3	EA

REMOVAL NOTES

NO.	DESCRIPTION	QTY	UNIT
1	Remove & Dispose Existing Curb and Gutter	551	LF
5	Remove & Dispose Median Concrete	162	SY
6	Remove & Dispose Asphalt Pavement	348	SY
7	Remove & Dispose Existing Sign	1	EA
7	Remove & Dispose Existing Street Light	1	EA

MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

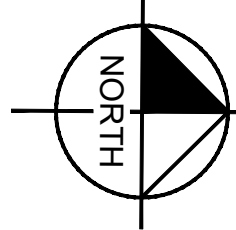
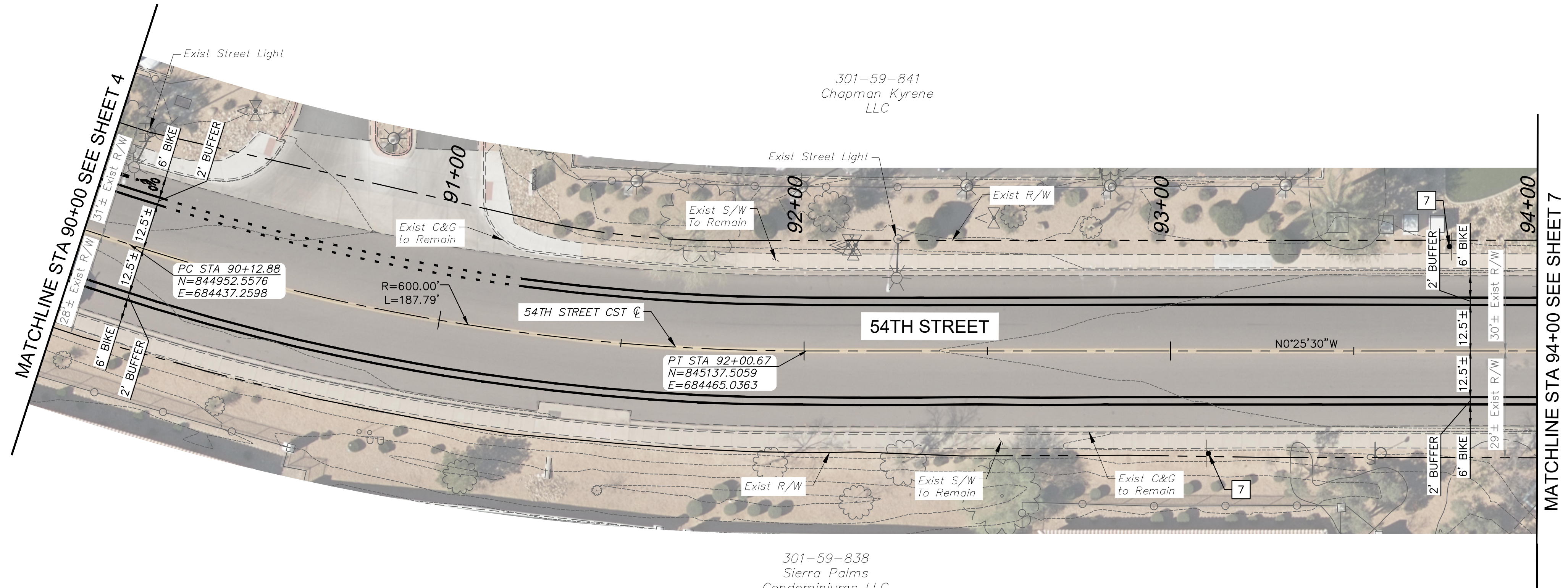
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MAG PROJECT NO.	0600-0145-22-E001-828C-0S.0000001
SHEET DWG	PL01
4 OF 10	

GRAPHIC SCALE IN FEET
 0 10 20 40

Call at least two full working days before you begin excavation.
ARIZONA 811
 Arizona One Stop, Inc.
 Dial 8-1-1 or 1-800-STAKE-IT (742-8346)
 In Maricopa County: (602) 263-1100

C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

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CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY	UNIT
7	Install Bike Route Guide Sign	2	EA

No.	REVISIONS	DATE	BY

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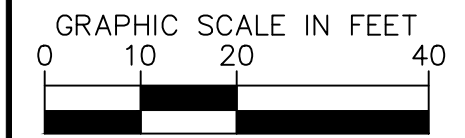
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DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

CITY PROJECT NO.
 STXX.XX
 MAG PROJECT NO.
 0600-0145-22-E001-828C-
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SHEET DWG
 PL02

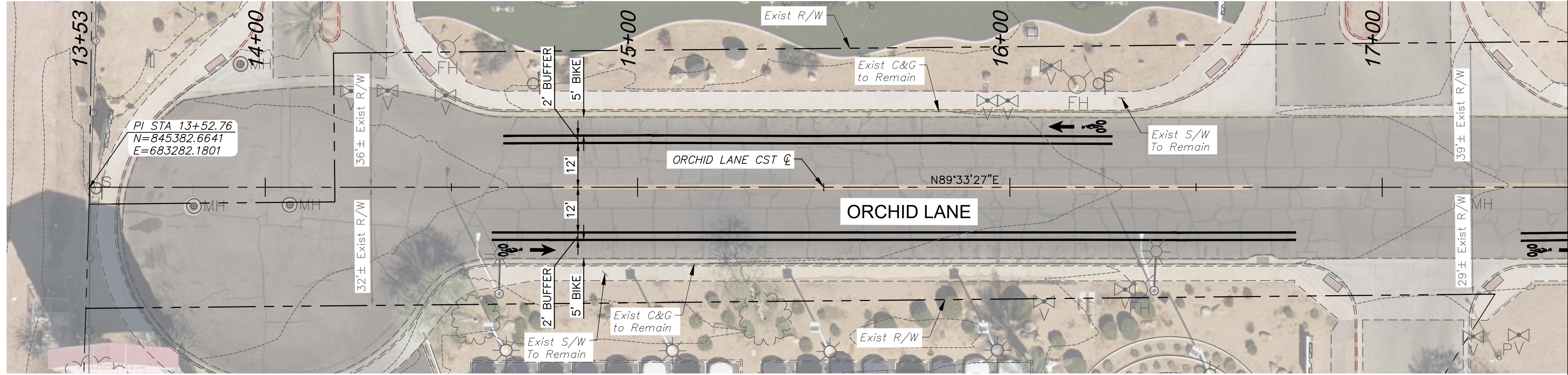
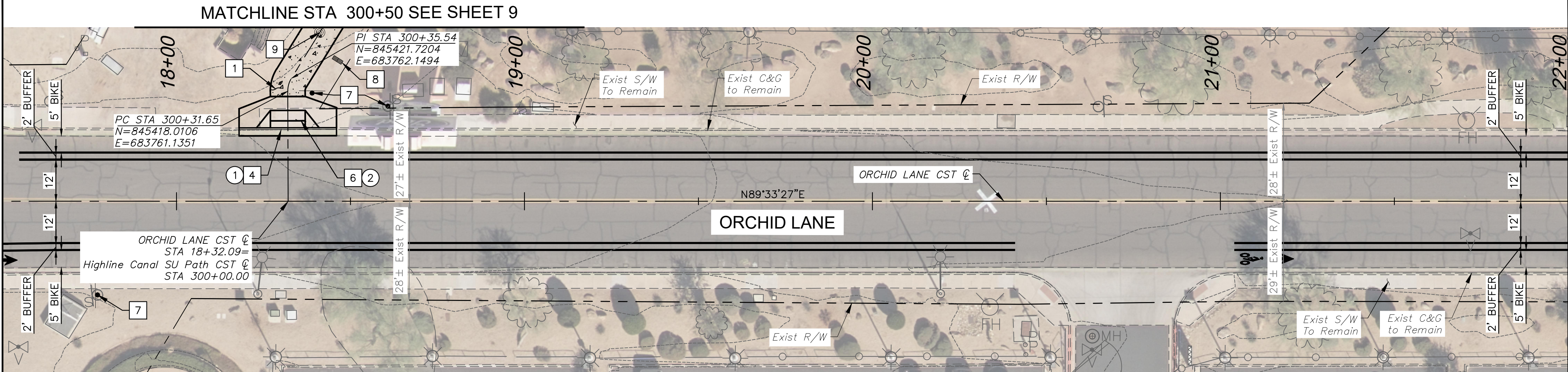
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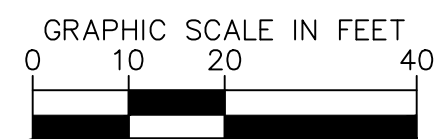
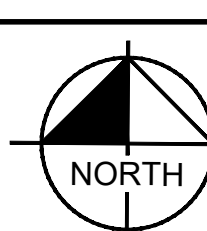
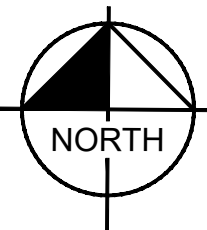
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MATCHLINE STA 17+50 SEE ABOVE RIGHT



MATCHLINE STA 17+50 SEE SHEET BELOW LEFT



SCALE (H):	1"=50'
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

MAG
CITY OF CHANDLER
HIGHLINE CANAL
SHARED USE PATH
CIVIL PLAN SHEET

CITY PROJECT NO.
STXX.XX
MAG PROJECT NO.
0600-0145-22-E001-828C-
0S.0000001

SHEET DWG
PL03
6 OF 10

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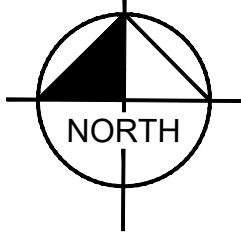
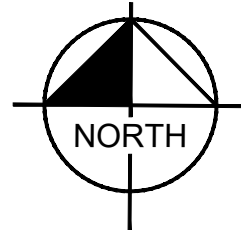
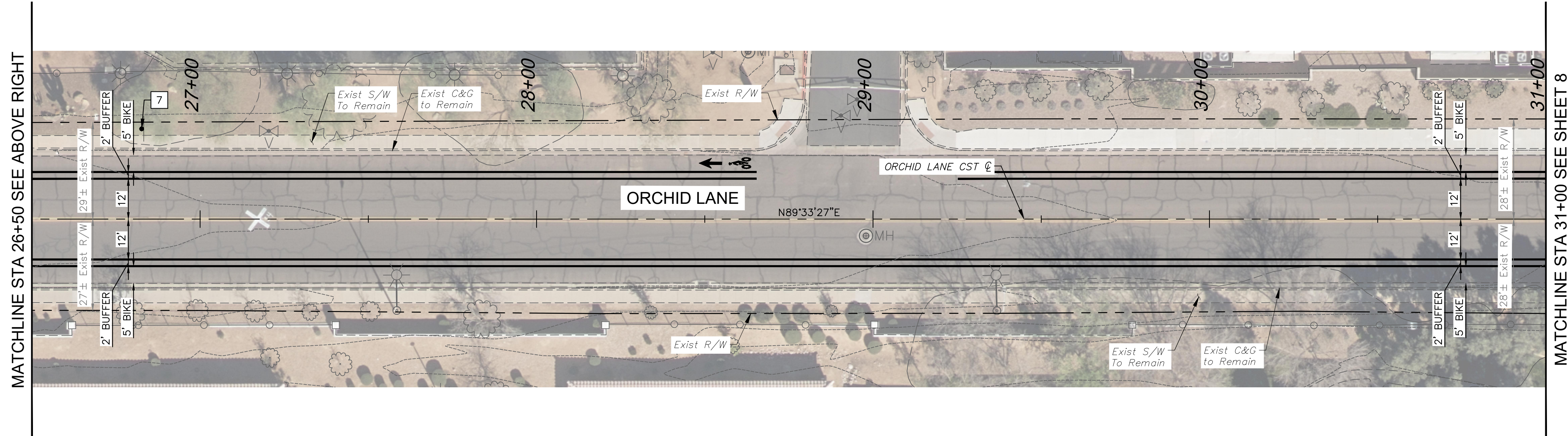
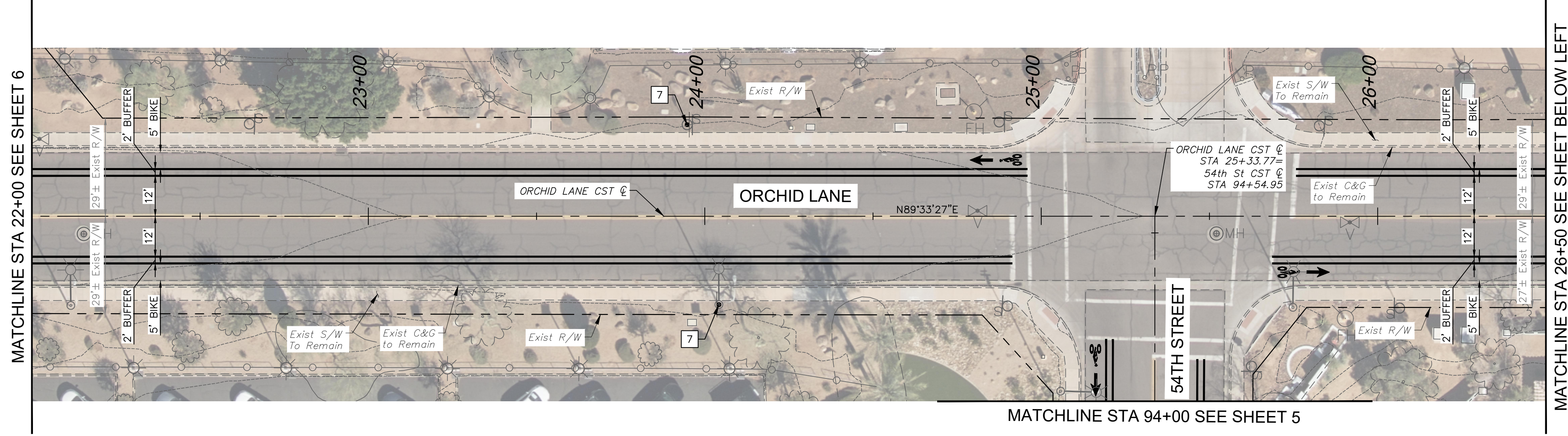
CONSTRUCTION NOTES			
NO.	DESCRIPTION	QTY	UNIT
1	Concrete Shared-Use Path, MAG Dtl 230, 10' Wide, 6" Thick PCCP	226	SF
4	Concrete Curb & Gutter Per MAG Dtl 220-1, Type 'A', H=6"	28	LF
6	Curb Ramp for Roll Curb, Modified 10' Wide, Per COC Dtl C-243	222	SF
7	Install Bike Route Guide Sign	3	EA
8	Install Path Map Structure	1	EA
9	Install Decorative Pavement Marking	1	EA

REMOVAL NOTES			
NO.	DESCRIPTION	QTY	UNIT
1	Remove & Dispose Existing Curb & Gutter	28	LF
2	Remove & Dispose Existing Sidewalk	124	SF

REVISIONS		DATE	BY
No.			

C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

Plotted By: DaBoard, Anna (Beavers) Sheet Set: CHANDLER HEIGHTS RD IMPROVEMENTS Layout: PL04 September 28, 2022 02:24:04pm K:\PHX\LA\291720001\MAG-Highline Canal MUP-Chandler\Cadd\PL01-291720001.dwg



CONSTRUCTION NOTES		
NO.	DESCRIPTION	QTY UNIT
7	Install Bike Route Guide Sign	2 EA

NO.	REVISIONS	DATE	BY

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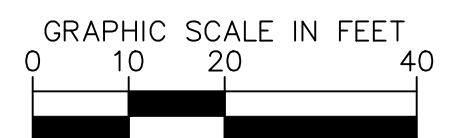
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SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

CITY PROJECT NO.
 STXX.XX
 MAG PROJECT NO.
 0600-0145-22-E001-828C-
 0S.0000001

SHEET DWG
 PL04

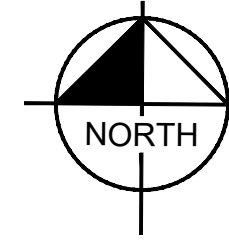
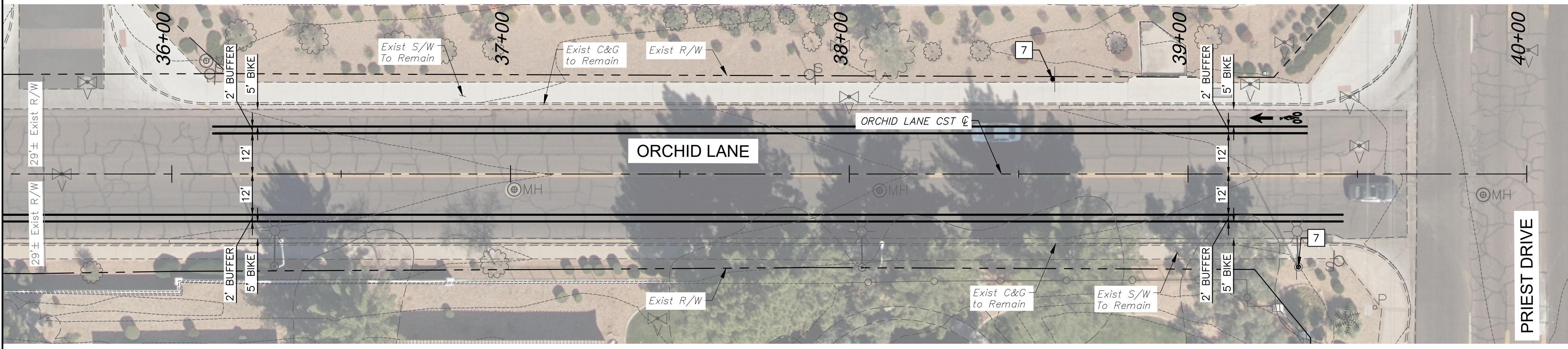
7 OF 10



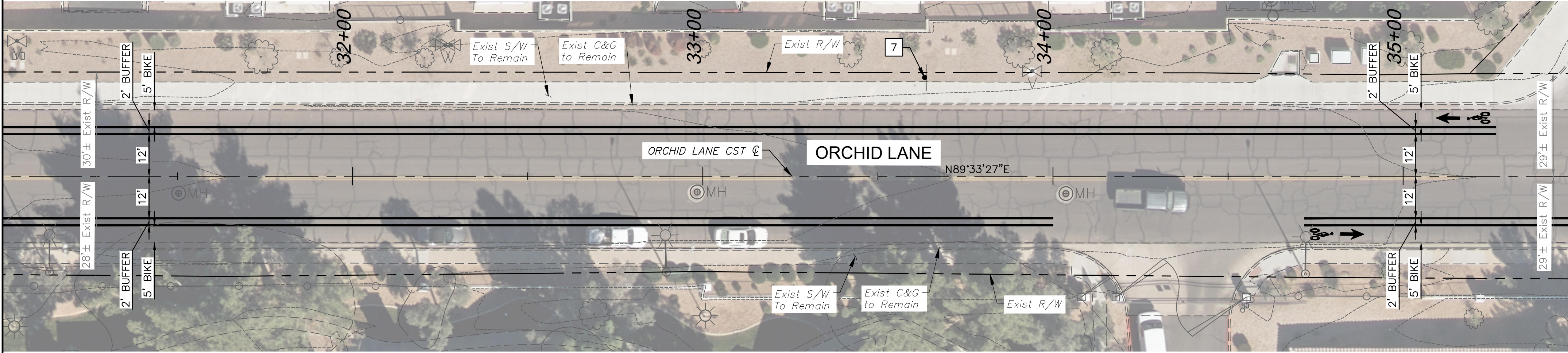
C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

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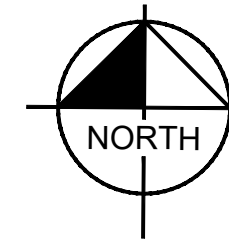
MATCHLINE STA 35+50 SEE ABOVE RIGHT



MATCHLINE STA 31+00 SEE SHEET 7



MATCHLINE STA 35+50 SEE SHEET BELOW LEFT



CONSTRUCTION NOTES			
NO.	DESCRIPTION	QTY	UNIT
7	Install Bike Route Guide Sign	3	EA

REVISIONS		DATE	BY
No.			

Kimley»Horn
 © 2022 KIMLEY-HORN AND ASSOCIATES, INC.
 7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
 PHONE: 602-944-5500 FAX: 602-944-7423
 WWW.KIMLEY-HORN.COM

PRELIMINARY
15%
 NOT FOR
 CONSTRUCTION
 OR RECORDING

SCALE (H):	1"=50'
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

CITY PROJECT NO.
 STXX.XX
 MAG PROJECT NO.
 0600-0145-22-E001-828C-
 0S.0000001

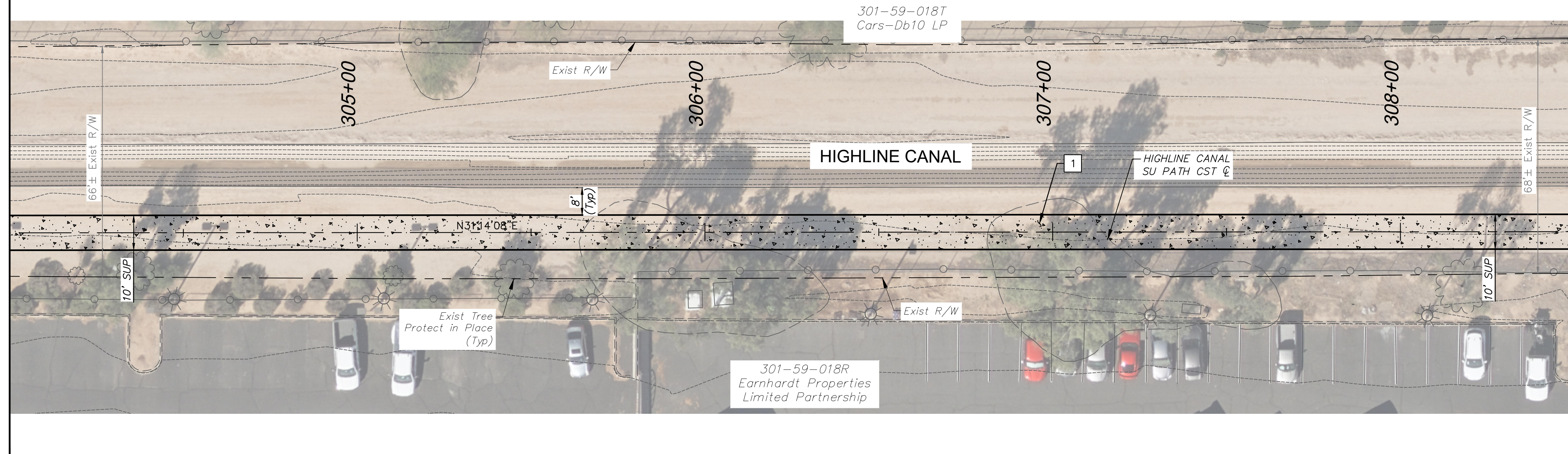
SHEET DWG
 PL05

8 OF 10

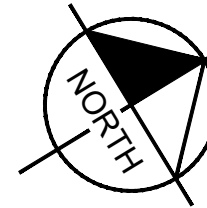
C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

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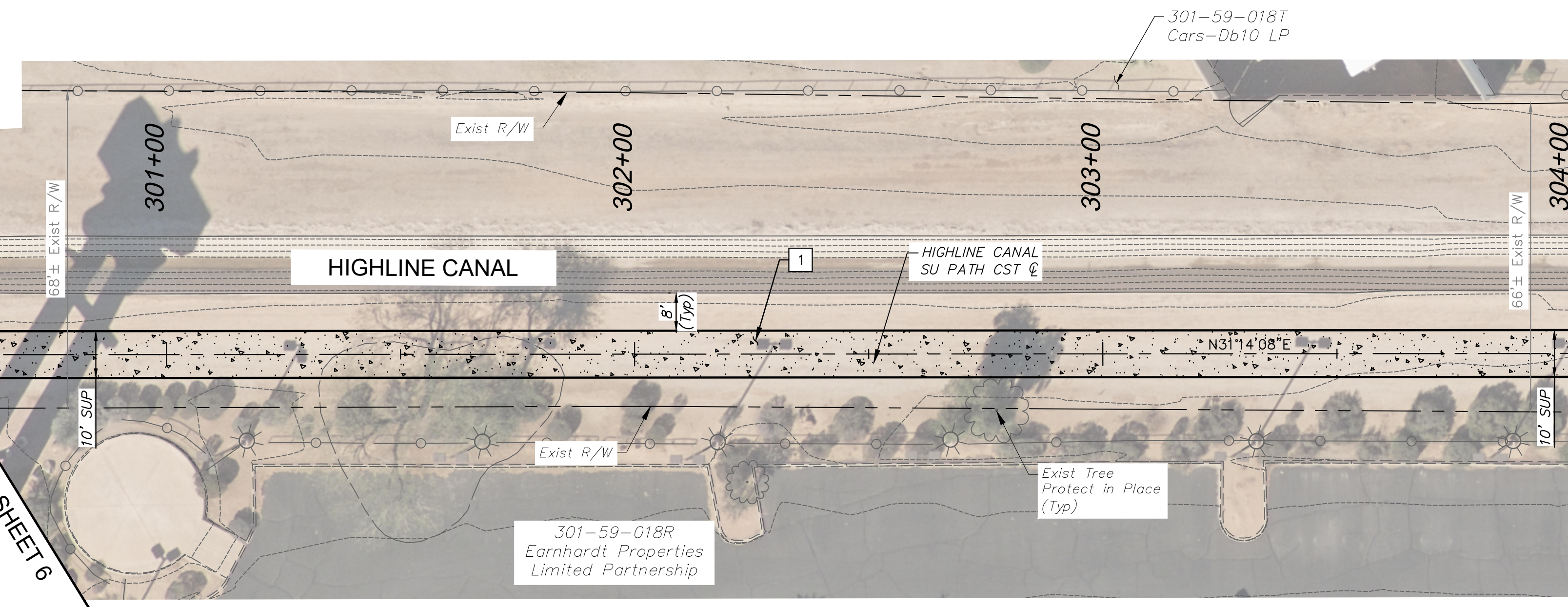
MATCHLINE STA 304+00 SEE SHEET ABOVE RIGHT



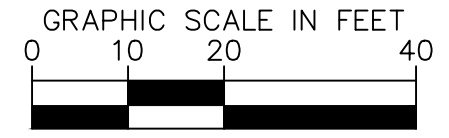
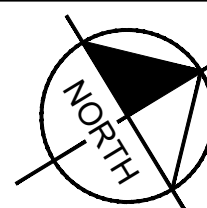
MATCHLINE STA 308+50 SEE SHEET 10



MATCHLINE STA 300+50 SEE SHEET 6



MATCHLINE STA 304+00 SEE SHEET BELOW LEFT



CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY	UNIT
1	Concrete Shared-Use Path, MAG Dtl 230, 10' Wide, 6" Thick PCCP	8,144	SF

NO.	REVISIONS	DATE	BY

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 WWW.KIMLEY+HORN.COM

PRELIMINARY
15%
 NOT FOR CONSTRUCTION OR RECORDING

SCALE (H):	1"=50'
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

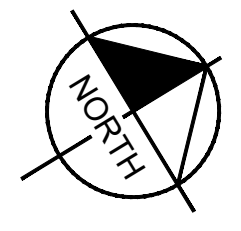
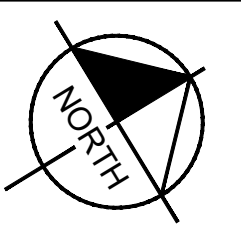
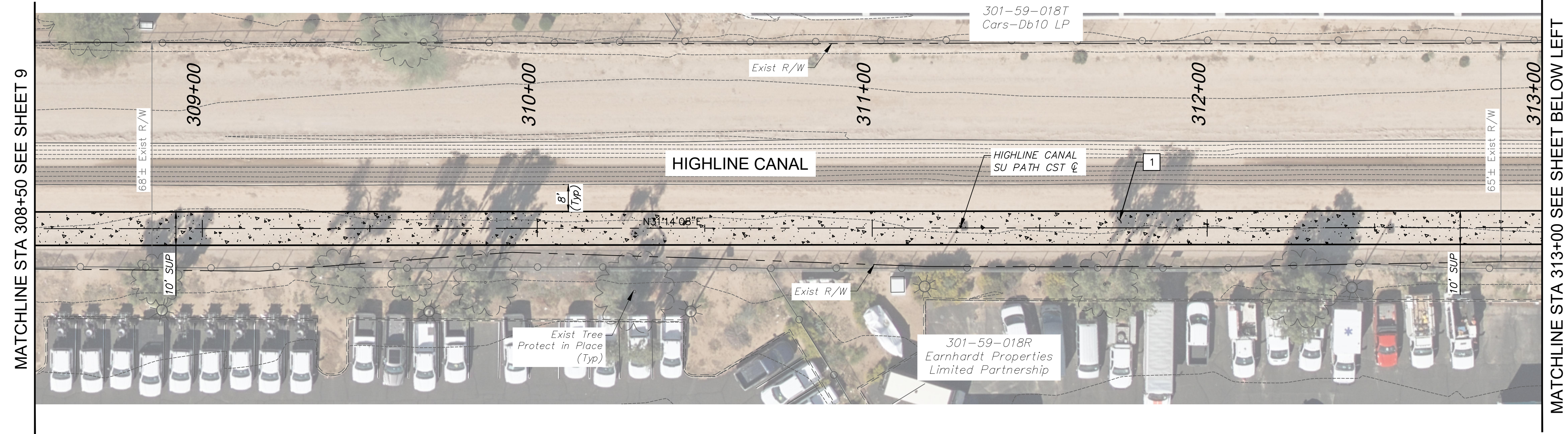
MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

CITY PROJECT NO. STXX.XX
 MAG PROJECT NO. 0600-0145-22-E001-828C-0S.0000001

SHEET DWG
 PL06
 9 OF 10

C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

Plotted By: DeBoard, Anne (Beavers) Sheet Set: CHANDLER HEIGHTS RD IMPROVEMENTS Layout: PL07 September 28, 2022 02:24:48pm K:\PHX\LA\291720001\MAG-Highline Canal MUP-Chandler\Cadd\PL01-291720001.dwg



CONSTRUCTION NOTES			
NO.	DESCRIPTION	QTY	UNIT
1	Concrete Shared-Use Path, MAG Dtl 230, 10' Wide, 6" Thick PCCP	6,368	SF
7	Install Bike Route Guide Sign	1	EA
9	Install Decorative Pavement Marking	1	EA

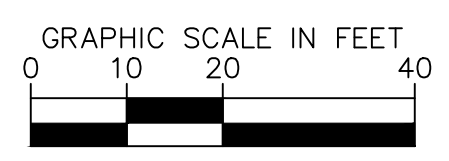
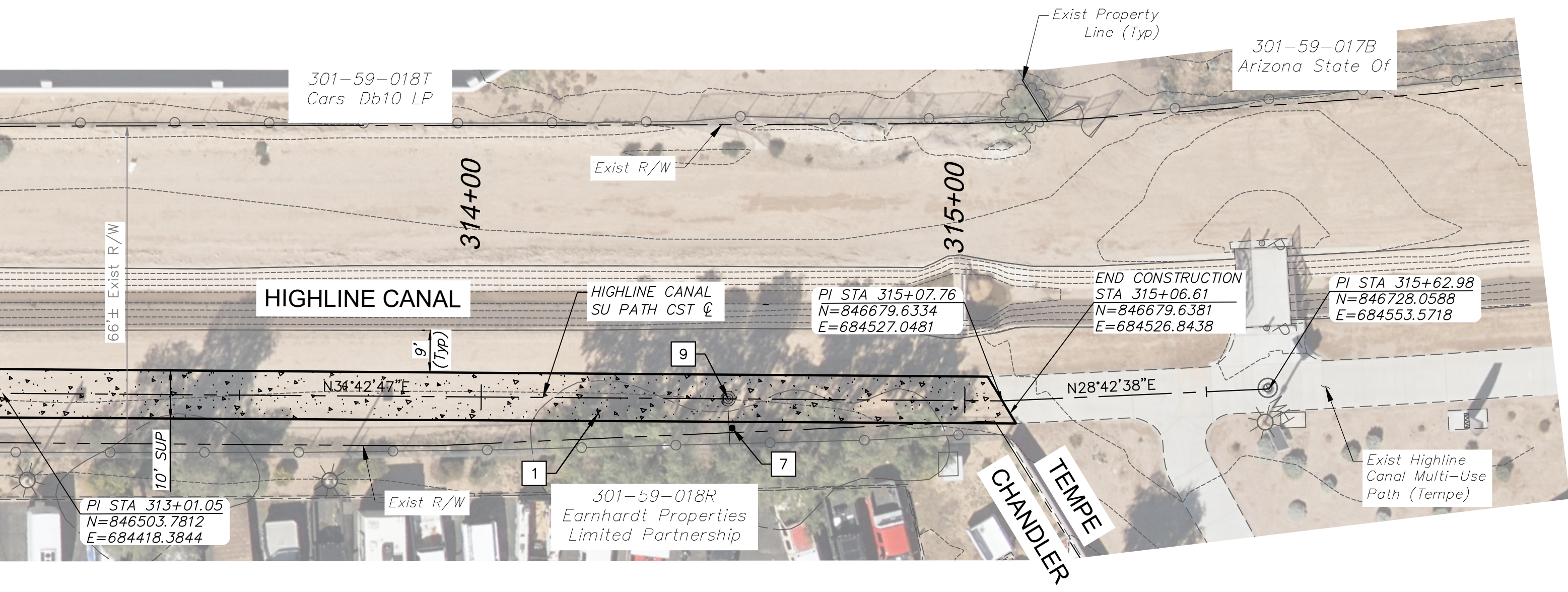
NO.	REVISIONS	DATE	BY

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 WWW.KIMLEY-HORN.COM

PRELIMINARY
15%
 NOT FOR
 CONSTRUCTION
 OR RECORDING

SCALE (H):	1"=50'
SCALE (V):	N/A
DESIGNED BY:	JCV
DRAWN BY:	ALM
CHECKED BY:	ASD
DATE:	09/2022

MATCHLINE STA 313+00 SEE SHEET ABOVE RIGHT



MAG
 CITY OF CHANDLER
 HIGHLINE CANAL
 SHARED USE PATH
 CIVIL PLAN SHEET

CITY PROJECT NO. STXX.XX
 MAG PROJECT NO. 0600-0145-22-E001-828C-0S.0000001

SHEET DWG
 PL07

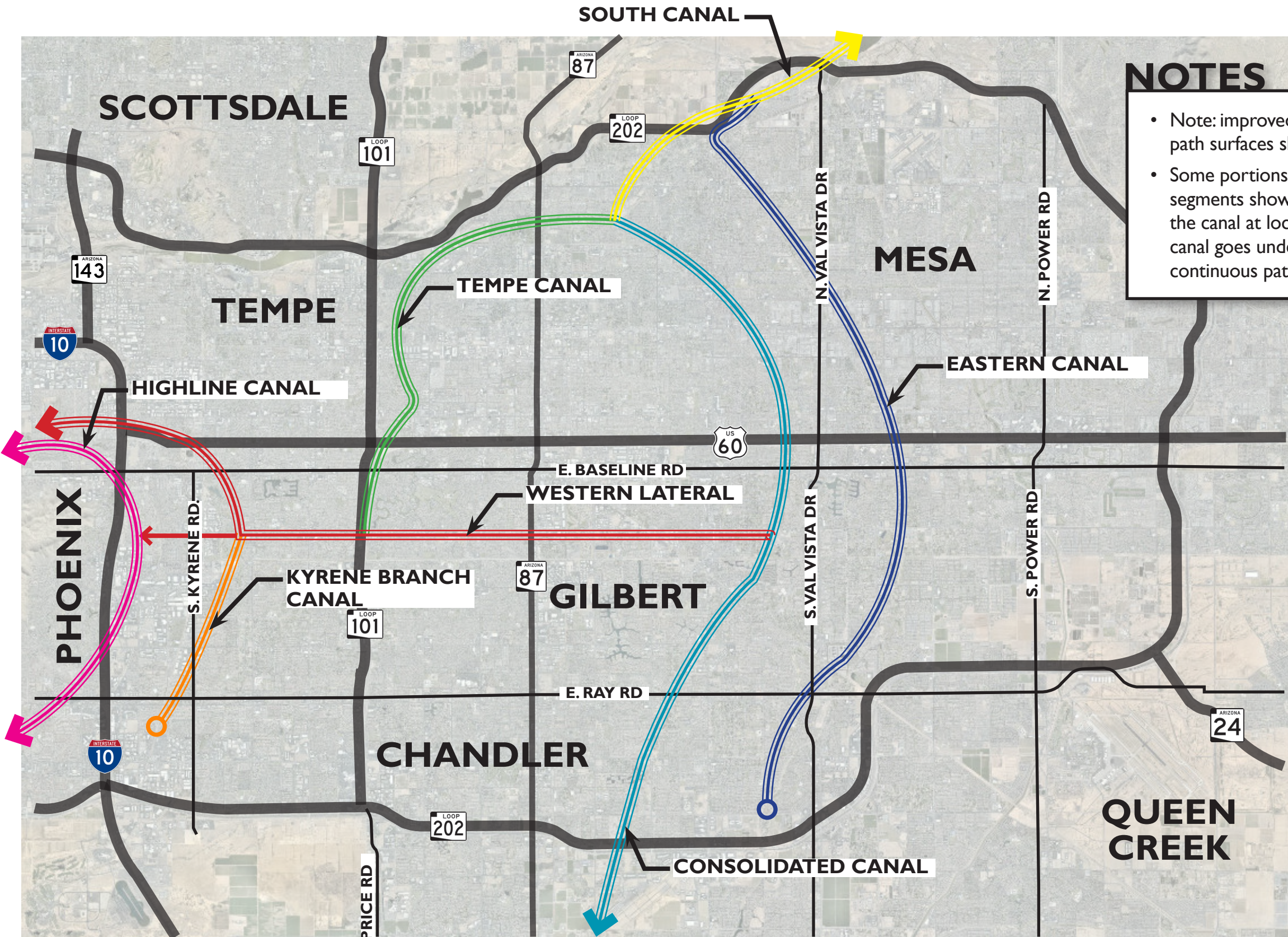
10 OF 10

C.O.C. LOG NO. CIV XX-XXXX CHANDLER PATH MUP IMPROVEMENTS

Appendix B: Alternatives Analysis Matrix

Segment	Option	Advantages	Disadvantages
H2 & H3	Standard Bike Lanes/No Parking	<ul style="list-style-type: none"> Provides wide travel lanes in both directions Provides standard bike lanes in both directions 	<ul style="list-style-type: none"> Does not provide on-street parking Does not provide buffers between bike lanes and travel lanes
H2 & H3	Separated Bike Lanes/No Parking	<ul style="list-style-type: none"> Provides standard vehicle travel lanes in both directions Provides striped buffer separation for bike lanes 	<ul style="list-style-type: none"> Does not provide on-street parking
H3	Standard Bike Lanes/South Side Parking – A	<ul style="list-style-type: none"> Provides vehicle travel lanes in both directions Provides bike lanes in both directions On-street parking in one direction Standard lane widths 	<ul style="list-style-type: none"> Does not provide on-street parking in both directions
H3	Standard Bike Lanes/South Side Parking – B	<ul style="list-style-type: none"> Provides vehicle travel lanes in both directions Provide bike lanes in both directions On-street parking in one direction Wider bike lane next to on-street parking 	<ul style="list-style-type: none"> Does not provide on-street parking in both directions Narrower than typical vehicle travel lanes
H3	Shared Use Lanes/Parking Both Sides	<ul style="list-style-type: none"> Provide vehicle travel lanes in both directions Provides on-street parking in both directions 	<ul style="list-style-type: none"> Does not provide dedicated bike lanes
H4	Standard Bike Lanes/East Side Parking	<ul style="list-style-type: none"> Provides vehicle travel lanes in both directions Provide bike lanes in both directions On-street parking in one direction Standard lane widths 	<ul style="list-style-type: none"> Does not provide on-street parking in both directions Does not provide buffers between bike lanes and travel lanes
H4	Shared Use Lanes/Parking Both Sides	<ul style="list-style-type: none"> Provide vehicle travel lanes in both directions Provides on-street parking in both directions 	<ul style="list-style-type: none"> Does not provide dedicated bike lanes
H4	Separated Bike Lanes/No Parking	<ul style="list-style-type: none"> Provides wide travel lanes in both directions Provides striped buffer separation for bike lanes 	<ul style="list-style-type: none"> Does not provide on-street parking

Appendix C: Public Meeting Graphics





















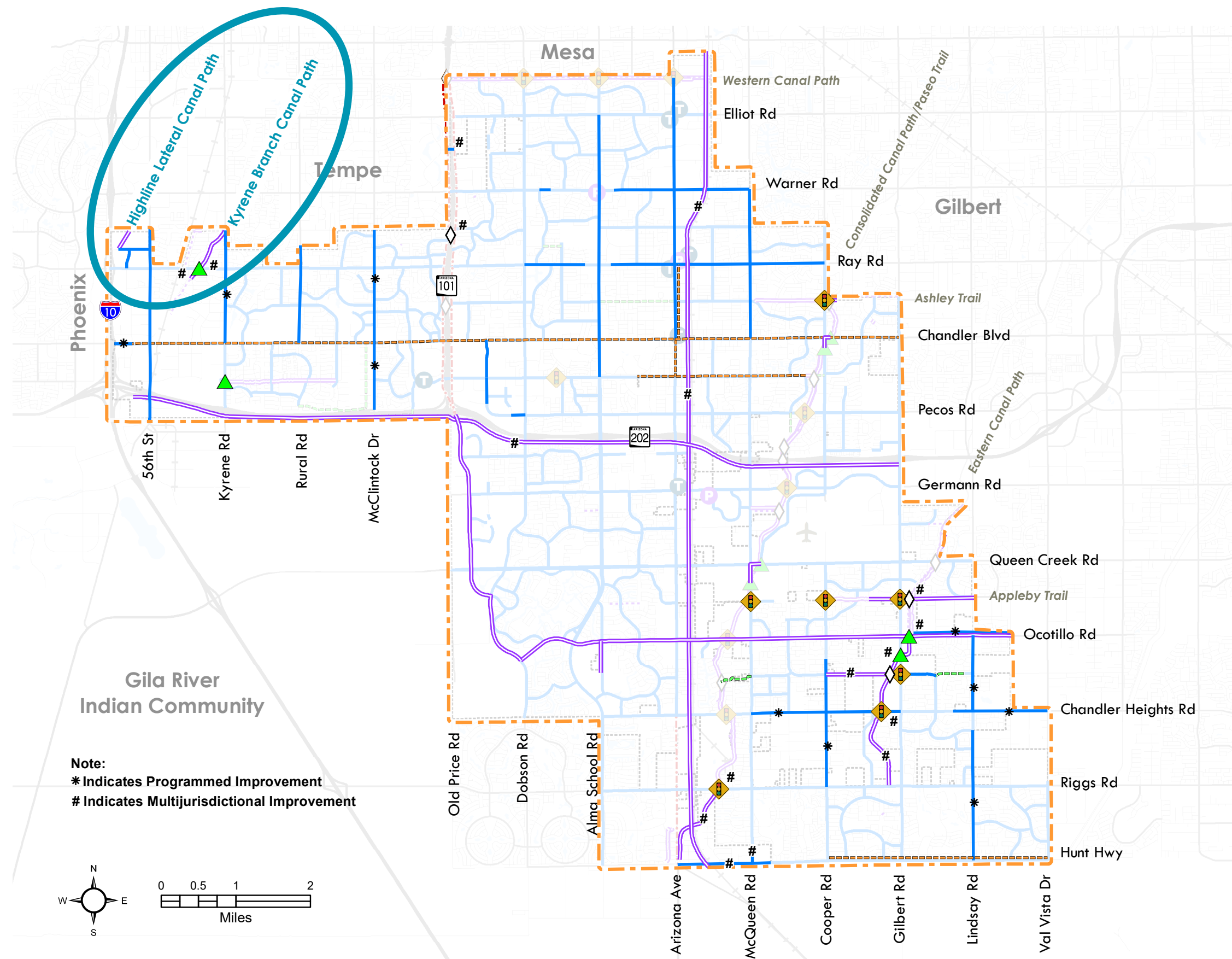
NOTES

- Note: improved and unimproved path surfaces shown on the map
- Some portions of some path segments shown deviate from the canal at locations where the canal goes underground and a continuous path is not feasible

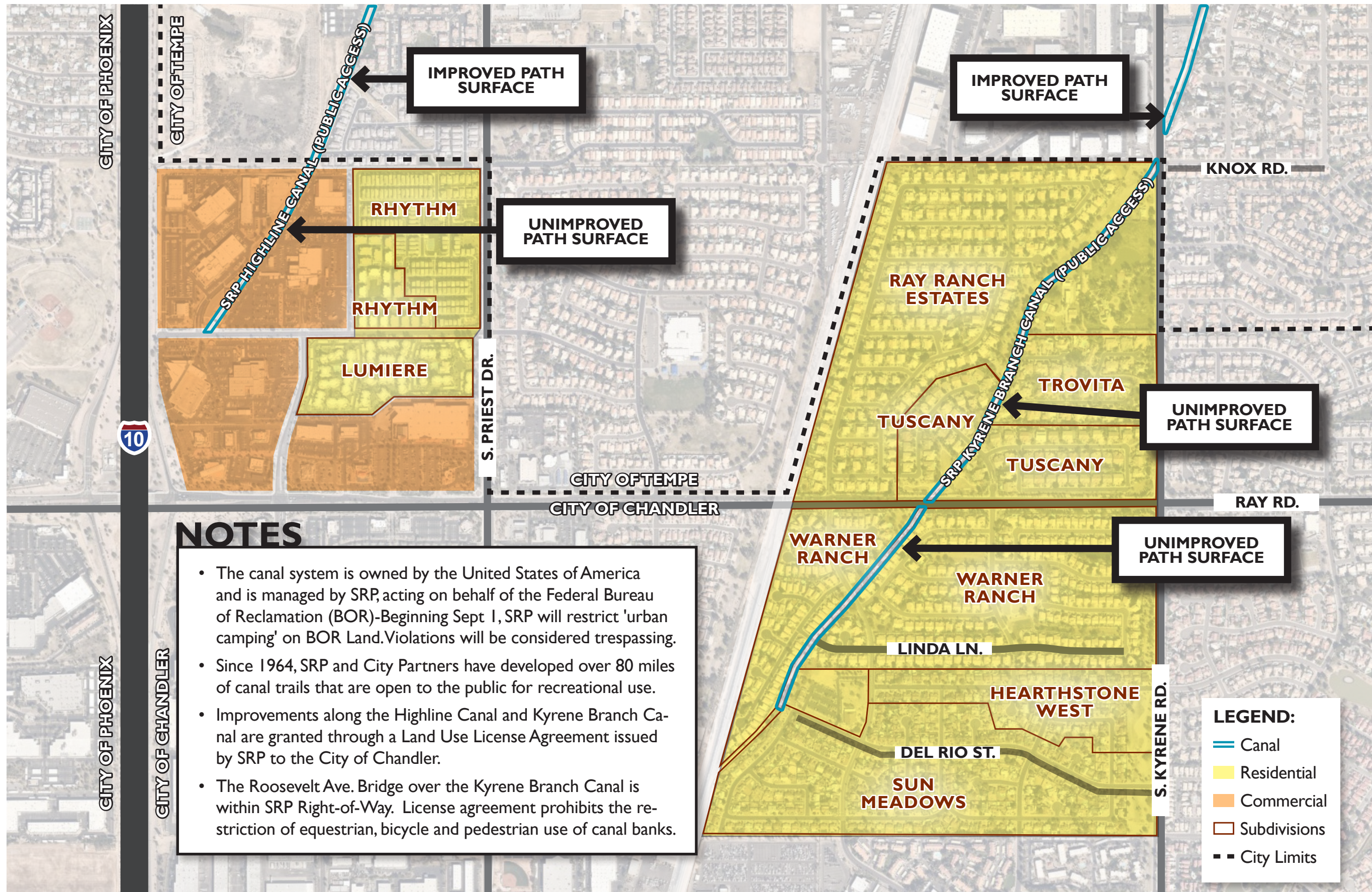
**City of Chandler
Transportation Master Plan
2019 Update
Bicycle/Pedestrian Recommendations
2020-2040**

Legend

-  Study Area
-  City Limits
-  Airport
-  Railroad
-  State Highway
-  Major Street
-  Local Street
- Bicycle Facilities**
-  Bike Lane
-  On-Street Separated/Buffered Bike Lane
-  Bike Route
-  Shared Use Path – Paved
-  Shared Use Path – Unpaved
-  Paved Shoulder
-  Park and Ride Facility with Enhanced Bicycle Parking
-  Transit Facility with Enhanced Bicycle Parking
-  Shared Use Path Signalized Crossing (if warranted)
-  Crossing Signage Improvement
-  Overpass/Underpass



Note:
* Indicates Programmed Improvement
Indicates Multijurisdictional Improvement

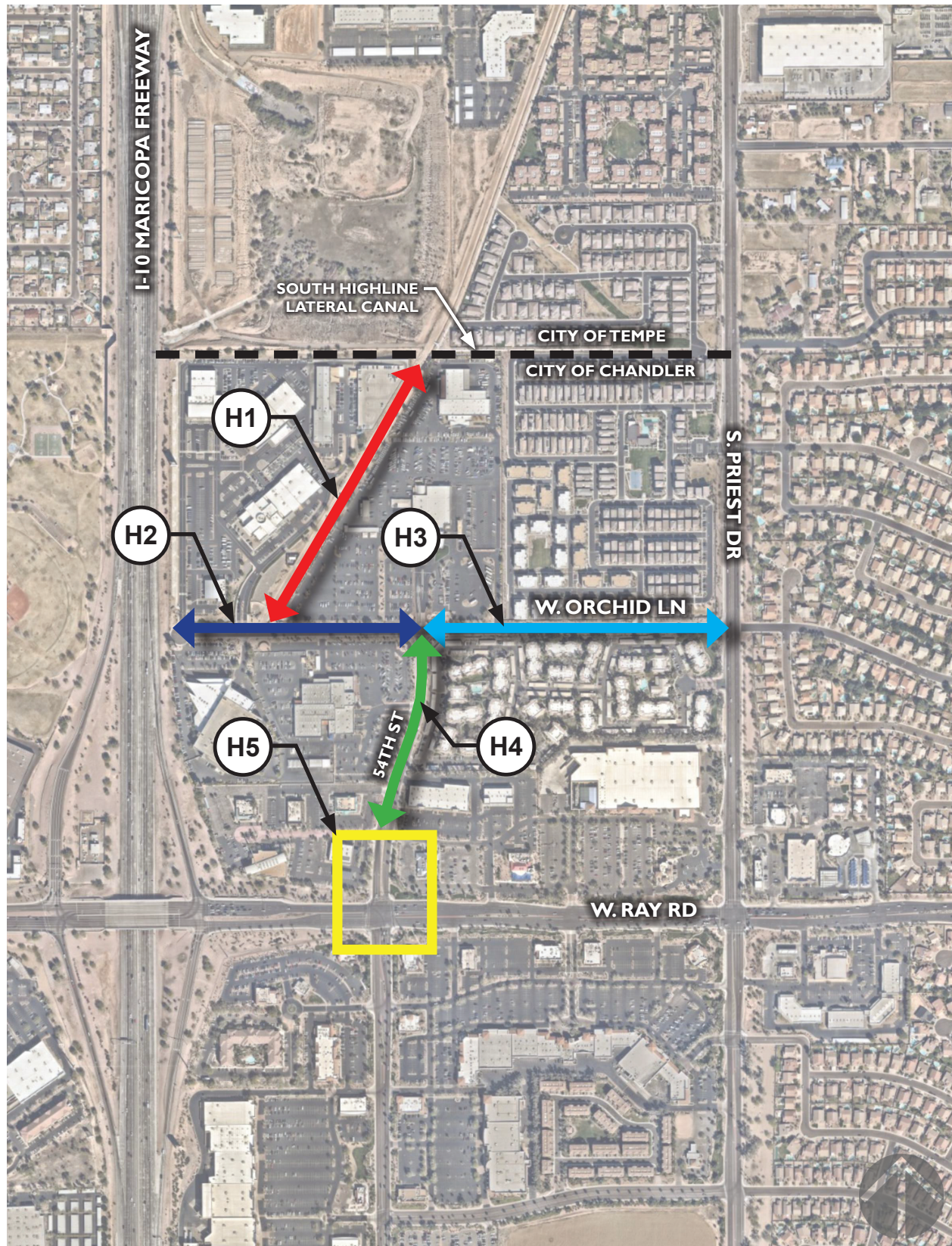


PROJECT PURPOSE AND OBJECTIVES

- Improve existing trails for **aesthetics, accessibility, and safety** to reduce the risk for severe or fatal pedestrian and bicycle accidents
- Connect to the Regional Trail System and **increase active transportation opportunities** in Chandler
- Maintain the **historic public active recreation use** of the canal alignment
- Evaluate key crossing opportunities to provide **safety & connectivity**
- Aligns with the City's partnerships and commitments to maintain **safe and beautiful public access** along the rights-of-way SRP grants to the City

PROJECT SCHEDULE

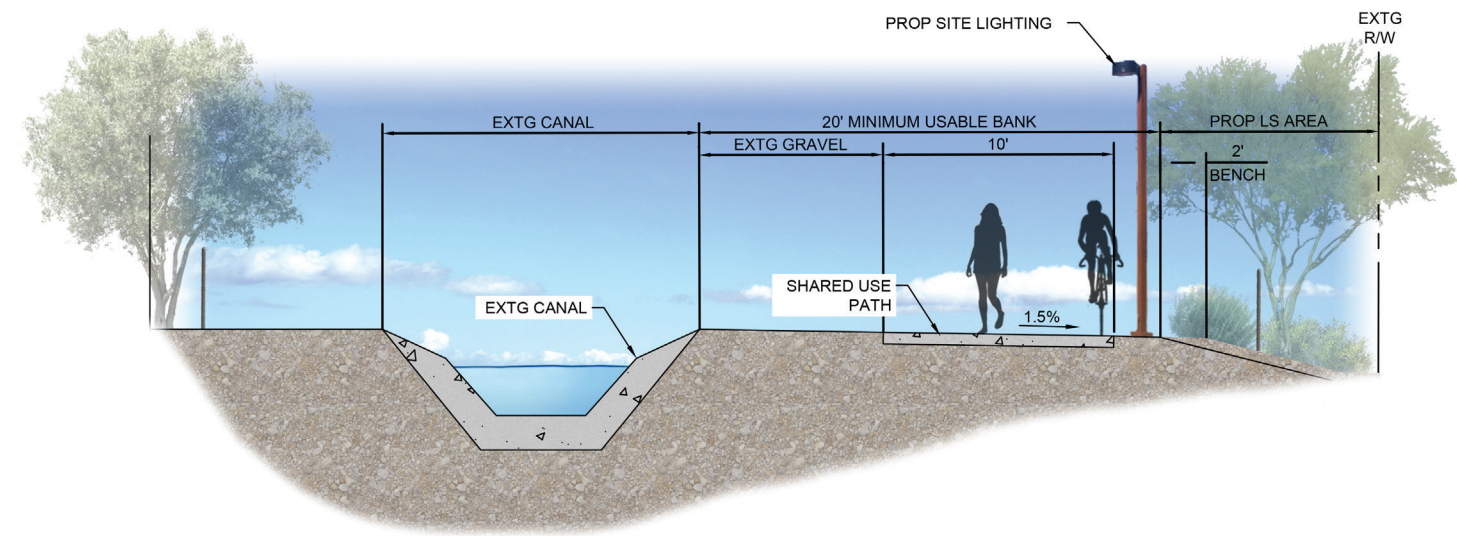
- Preliminary Planning Study Through MAG Design Assistance - Underway
 - 📄 **Deliverable:** Project Assessment Report and Preliminary (15%) Plans (anticipated fall 2022)
- Final Design - Beginning in 2023
 - 📄 **Deliverable:** Final Project Plans, Specifications, and Cost Estimate
- Construction - Beginning in 2024-2025
 - ✅ **Deliverable:** Completed Construction of Highline Canal and Kyrene Branch Canal Shared Use Pathways



KEY MAP LEGEND

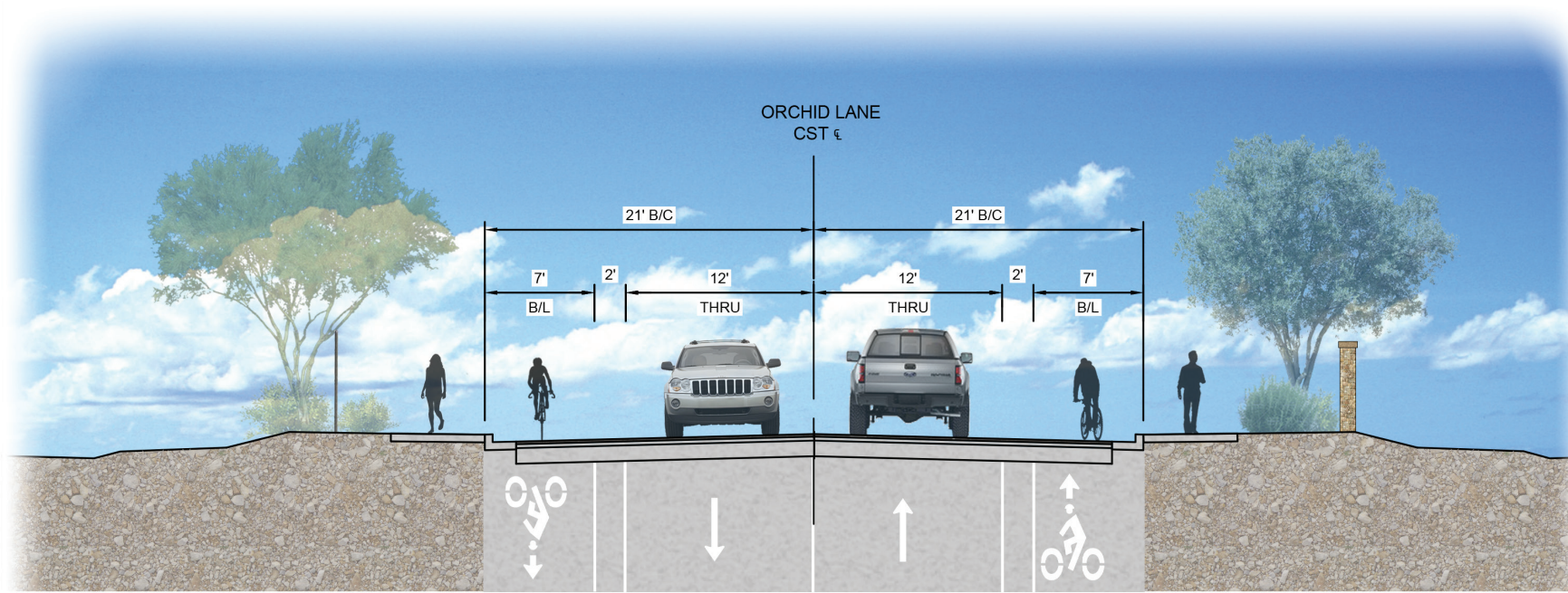
- H1** HIGHLINE CANAL SHARED USE PATH PROJECT
- H2** CUL-DE-SAC TO 54TH ST BIKE LANE ALTERNATIVES
*SEETYPICAL SECTION EXHIBITS NEXT SHEET

- H3** 54TH ST TO PRIEST DR BIKE LANE
- H4** ORCHID LN TO 500' SOUTH BIKE LANE
- H5** 54TH ST & RAY RD INTERSECTION
*SEE INTERSECTION EXHIBIT NEXT SHEET



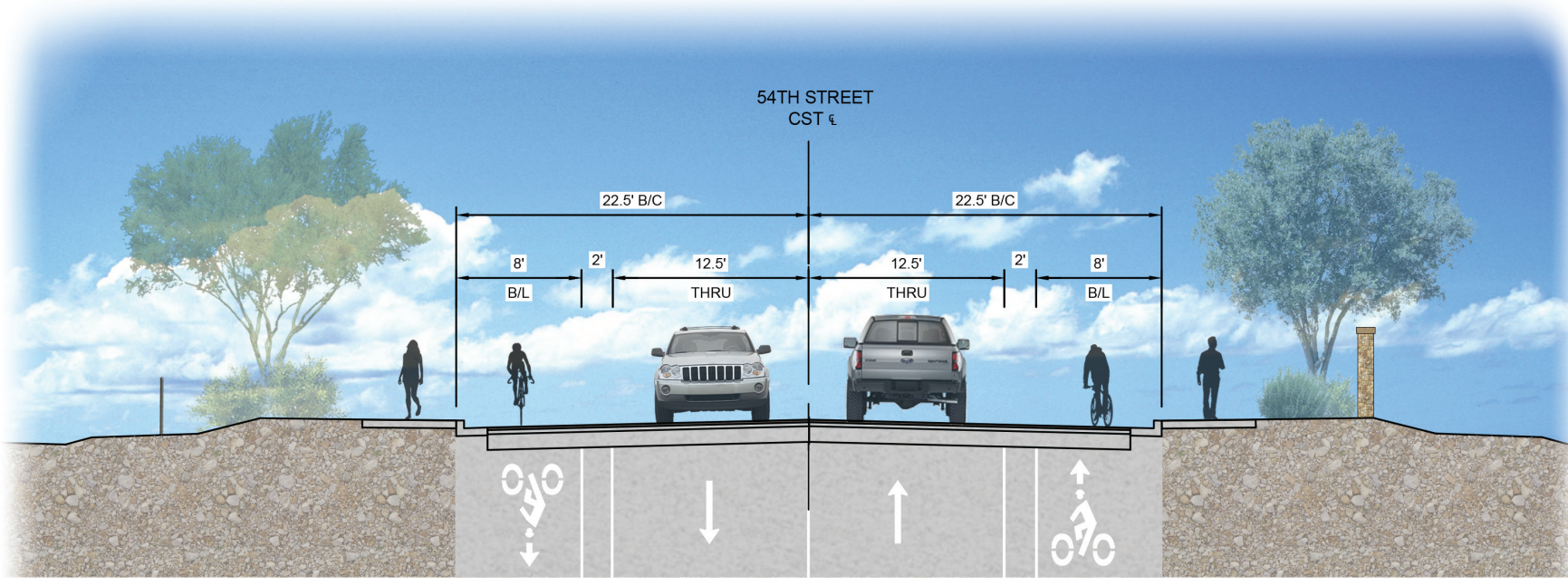
- H1** HIGHLINE CANAL SHARED USE PATH PROJECT
TYPICAL SECTION (LOOKING NORTH)

NOTE: ALL PROPOSED IMPROVEMENTS ARE WITHIN PUBLICLY OWNED PROPERTIES THAT ARE CURRENTLY OPEN TO THE PUBLIC, INCLUDING PEDESTRIANS & BICYCLISTS.



H2 CUL-DE-SAC TO 54TH ST BIKE LANE

H3 54TH ST TO PRIEST DR BIKE LANE



H4 ORCHID LN TO 500' SOUTH BIKE LANE



SIGNAGE AND WAYFINDING OPTIONS



CUSTOM WAYFINDING (HIGHLINE)

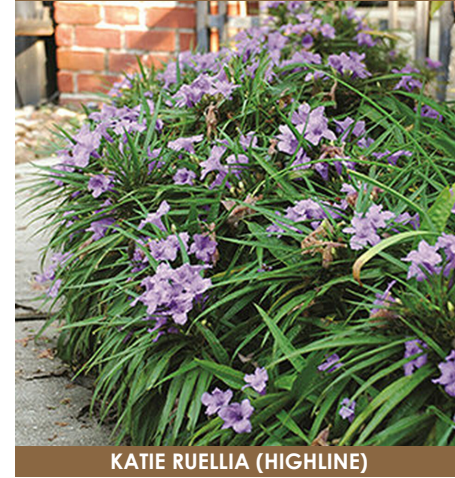


SAFETY



PRIVATE PROPERTY - NO TRESPASSING

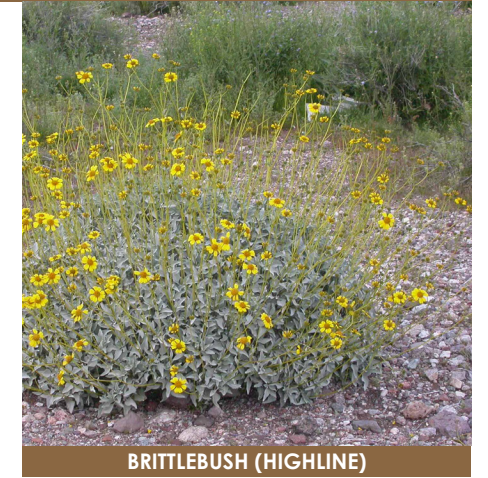
LANDSCAPE



KATIE RUELLIA (HIGHLINE)



GOPHER PLANT (HIGHLINE)



BRITTLEBUSH (HIGHLINE)

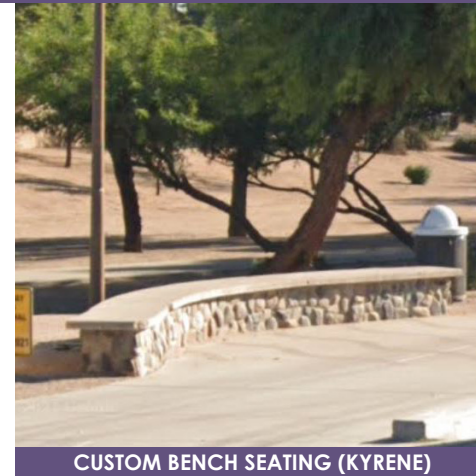


VALLEY PATH WAYFINDING (KYRENE)

SITE FURNISHINGS



TRASH RECEPTACLE



CUSTOM BENCH SEATING (KYRENE)



PRE-FABRICATED BENCH SEATING (KYRENE)

LIGHTING



PROPOSED PATH LIGHTING (HIGHLINE)



PROPOSED PATH LIGHTING (KYRENE)

Appendix D: Public Input Summary

Kyrene Branch Canal Shared Use Path and Highline Canal Shared Use Path

Open House Comment Card Recap

Chandler Sunset Library (Monsoon Room), 4930 W Ray Rd, Chandler
Monday, August 22, 2022 ~ 5:30pm – 6:30pm

Approximately 35 participants signed in at the meeting and were invited to fill out comment cards to provide additional information to the project team. Thirteen comment cards were received with comments. The following summarizes the comment cards received:

Were the displays and staff informative? If not, what further information would you like?	What comments/suggestions would you like to provide the project team related to the project?
A legend of the location of intersections would be helpful.	Support this project especially the crosswalks since kids use canal to get to/from school & the track/cross country team.
	Please keep the paved dimensions same at Tempe. Runners run on the dirt and cyclists on the pavement.
Confusing as to where the crosswalks will be.	Traffic would increase in our gated community (Tuscany). It would affect traffic along Roosevelt w/ speeding bikes. It will also increase homeless people to our neighborhood. <ul style="list-style-type: none"> • We are concerned about the cost to homeowners if any damage to the neighborhood. • Traffic congestion w/ crosswalk added. • Concrete – added heat + soil erosion.
Yes. Info on how dual-use can be safer.	Mixed use can be dangerous. Please consider 50% or 33% of the width to be ridged, undulated, or other to discourage excessive speeding by cyclists. I walk on the Kyrene Branch 1-2x per day usually at ~5:30am and 10pm. No longer can use the paved section between Kyrene & Warner because cyclists speed down, often without lights, and I have been scared off the path too often. Please don't ruin the gravel section too.
	Kyrene canal crossing at Ray should be straight across – easier for bikes. [provided sketch showing Ray crossing at diagonal to accommodate path]

Were the displays and staff informative? If not, what further information would you like?	What comments/suggestions would you like to provide the project team related to the project?
Yes.	<p>This seems environmentally <u>un</u>friendly, invasive to our Tuscany neighborhood, and not well thought through.</p> <p>My concerns –</p> <ul style="list-style-type: none"> • Please no more concrete, too hot already and unattractive. • We don't want another light to sit at and Ray is WAY too busy to cross w/out a light. • How will our GATED neighborhood be protected? I'd like to feel safe walking my dog at night – this will bring in more people than just our surrounding neighbors. • Why can't the path be used as is anyway – the gravel is fine for most bikes, walkers and runners.
Specific timelines on when alternative designs will be considered.	While it is understood that the canal path is NOT privately owned – it is US government owned – it is WITHIN a private gated community and we would respectfully like consideration of alternative design to avoid pavement in Tuscany.
Yes, excellent.	We support the project and are excited that canal path will help mitigate safety, lighting and dust! We look forward to the completion of the project.
Yes. Would like to see info on drainage, lighting, landscaping.	Concern over safety at crosswalk & (safety) ease of entering to existing backyards. Drainage changes due to concrete. Lighting affecting our quality of sleep. Damage to existing trees.
	Kyrene canal crossing at Ray should be straight across – easier for bikes. [provided sketch showing Ray crossing at diagonal to accommodate path]
Yes. Great turnout – encouraged by public participation!	<ul style="list-style-type: none"> • Wayfinding – trail names, street names, maps depicting trail system. • Pedestrian/bicyclist amenities – seating, shade, drinking fountains.
Would have appreciated hearing from key players and their role in project.	<p>Cancel Kyrene Path Project. We oppose this project for multiple reasons.</p> <p>This would have helped with Q&A to make sure our concerns are heard by all, instead of individual meeting with city representatives. Lack of consistency.</p>

<p>Were the displays and staff informative? If not, what further information would you like?</p>	<p>What comments/suggestions would you like to provide the project team related to the project?</p>
<p>It would be nice if there was detail at what exactly the crossing signals were at Ray Road? Were they a standard signal, HAWK, or rapid flashing beacons?</p> <p>It would be nice if there was detail shown as to what improvements of widening would be made to the sidewalk between the Knox Rd crossing and where the path connects back up with the Kyrene canal (area K1 in the Project Area Map)</p>	<ul style="list-style-type: none"> • In conjunction with this consider, creating a bike route at the south end of the Kyrene Canal project to get to Nozomi Pool. (Linda to McKemy to Erie to Roosevelt) • Consider improvement to the Gila Ditch running north from Nozomi toward the south end of the Kyrene Canal project. • On the Kyrene project, it would be nice if the sidewalk were widened between the Knox Rd signal and where the path rejoins the Kyrene Canal to the south (area K1 in the Project Area Map) • It would be nice if the City of Chandler participated in the Knox road alignment pedestrian crossing of the I-10. It would connect Chandler residents on the east side of I-10 to a great park in the city of Phoenix, on the west side of I-10. • Please make sure the Knox/Kyrene signal is responsive to pedestrian crossers, and crossing delays are not optimized exclusively for vehicle traffic delay.