Sunset Road:
Interstate 10 (I-10) to River Road

Final Design Concept Report
Pima County Department of Transportation
Project Number: 4SRRIV

Prepared for:

PIMA COUNTY
TRANSPORTATION

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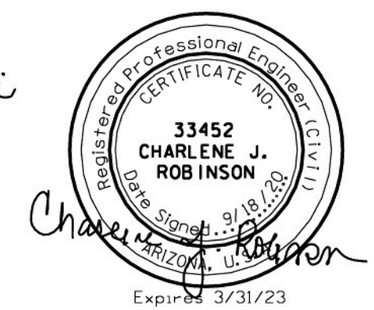

Pima County Department of Transportation

City of Tucson Department of Transportation

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List of Acronyms

AASHTO	American Association of State Highway Transportation Officials
ACC	Arizona Corporation Commission
ADA	Americans with Disabilities Act
ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
AZGFD	Arizona Game and Fish Department
AZPDES	Arizona Pollutant Discharge Elimination System
BE	Biological Evaluation
BDG	ADOT Bridge Design Guidelines
CAC	Community Advisory Committee
CB	Central Business
CCT	Correlated color temperature
CFR	Code of Federal Regulations
CIP	Cast-in-place
COAM	Change of Access Memorandum of Understanding
CWA	Clean Water Act
DCR	Design Concept Report
EA	Environmental Assessment
EBFR	Eastbound Frontage Road
EPA	US Environmental Protection Agency
ESR	Environmentally Sensitive Roadway
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
fps	Feet per second
FY	Fiscal year
GDBF	AASHTO, Guide for the Development of Bicycle Facilities
HCM	Highway Capacity Manual
HEC	Hydrologic Engineering Center
I-1	Industrial Zone
I-10	Interstate 10
ITS	Intelligent Transportation System
kV	Kilovolt
L	Length
LED	Light-emitting diode
LOS	Level of Service
LRFD	Load and Resistance Factor Design
M	Million
mA	Milliampere
mph	Miles per hour
MSE	Mechanically Stabilized Earth
MU	Multiple use
MUTCD	Manual on Uniform Traffic Control Devices
MW	Metro Water
NRCS	Natural Resources Conservation Service
OSC-CRHP	Office of Sustainability and Conservation's Cultural Resources and Historic Preservation Division
PAG	Pima Association of Governments
PDF	Property damage only
PISA	Preliminary Initial Site Assessment
PCDOT	Pima County Department of Transportation
PCN	Pre-Construction Notice
PCNRPR	Pima County Natural Resources, Parks and Recreation
PCRFCD	Pima County Regional Flood Control District
PCRWRD	Pima County Regional Wastewater and Reclamation Department
PMDM	Pavement Marking Design Manual
PRTSMP	Pima Regional Trail System Master Plan
psi	Pounds per square inch
RCBC	Reinforced concrete box culvert
RCP	Reinforced concrete pipe
RDG	ADOT Roadway Design Guidelines
RDM	Roadway Design Manual
RSDG	AASHTO, Roadside Design Guide
RTA	Regional Transportation Authority
SHPO	Arizona State Historic Preservation Office
SPT	Standard Penetration Test
SSA	Sole Source Aquifer
Sta	Station
SUE	Subsurface Utility Engineering
SWG	Southwest Gas
T_c	Time of concentration
TDOT	City of Tucson Department of Transportation
TEP	Tucson Electric Power
TGP	ADOT Traffic Guidelines and Processes
TI	Traffic Interchange
TIP	5-Year Regional Transportation Improvement Program
TW	Tucson Water
UPRR	Union Pacific Railroad
US	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USC	US Code
UST	Underground Storage Tank
vpd	Vehicles per day
WBFR	Westbound Frontage Road

EXECUTIVE SUMMARY

This Design Concept Report (DCR) describes the development, evaluation, and recommendation of improvements to Sunset Road from the Santa Cruz River bridge to River Road. The total length of the improvements along Sunset Road outside of the Interstate 10 (I-10) right-of-way is 0.65 miles plus the reconstruction of approximately 0.27 miles of River Road for a total of 0.92 miles. This project is located in unincorporated Pima County and the City of Tucson. Project location and vicinity maps are provided in Figure 1.

The goal of this project is to develop a transportation corridor in order to move ahead a long-term master plan for this segment of Sunset Road in accordance with the approved regional and local transportation plans and other recently completed or ongoing studies. This project will seek to optimize the traffic operations within the corridor for the projected design year 2045 traffic demand and to minimize or mitigate impacts the improvements may have on the surrounding community. Other documents prepared to support this DCR include the following:

- Final Traffic Report
- Initial Geotechnical Report
- Initial Pavement Design Report
- Preliminary Bridge Selection Reports
- Initial Arterial Street Lighting Report
- Initial Utility Report
- Drainage Overview

BACKGROUND

The Pima Association of Governments Regional Transportation Authority (RTA) 20-year multimodal plan included roadway improvements for Sunset Road from Silverbell Road to River Road. The improvements were divided into two phases: Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road (Segment I) and Sunset Road (Segment II) that included the southerly approach to the Sunset Road Traffic Interchange (TI) and the connection from the I-10 Westbound Frontage Road to River Road. Construction of the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road (Segment I) project was completed in 2017 at a cost of $15.75 million.

Arizona Department of Transportation (ADOT) completed a DCR and Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) in 2013 for improvements on I-10 from the Ina Road TI to the Ruthrauff Road TI, which included reconstruction of the I-10/Sunset Road TI. The DCR and EA/FONSI did not include improvements on Sunset Road for the southerly approach to the Sunset Road TI nor the connection from the I-10 Westbound Frontage Road to River Road.

ADOT's 5-year construction program shows a widening project on I-10 from Ina Road to Ruthrauff Road. ADOT anticipates beginning construction in fiscal year (FY) 2022.

ADOT and Pima County Department of Transportation (PCDOT) have considered the feasibility of including the southerly approach to the Sunset Road TI and the connection from the I-10 Westbound Frontage Road to River Road (Sunset Road: I-10 to River Road [Segment II]) with ADOT's upcoming I-10, Ina Road to Ruthrauff Road widening project. Therefore, PCDOT decided to move forward with the preparation of the Sunset Road: I-10 to River Road DCR and EA.

An Intergovernmental Agreement (IGA) between ADOT and Pima County will be required. The EA being prepared for Sunset Road: I-10 to River Road in conjunction with this DCR is planned for completion in the fall of 2020.

PROJECT DESCRIPTION

The project scope of work involves developing scoping and environmental documents for roadway and bridge improvements on Sunset Road for the south approach to the Sunset Road TI and the connection from the I-10 Westbound Frontage Road to River Road hereinafter referred to as the Sunset Road: I-10 to River Road project. For ease of discussion, this project considers this segment of Sunset Road to run north-south, with I-10 running east-west.

In general, improvements to Sunset Road under consideration with this project include the following:

- Sunset Road approach roadway south of the future I-10/Sunset Road TI including modifications to The Chuck Huckelberry Loop (The Loop).
- Connection to the future I-10/Sunset Road TI (per ADOT I-10 DCR: Ina Road TI to Ruthrauff Road TI).
- Sunset Road overpass structure spanning the Union Pacific Railroad (UPRR) right-of-way and a proposed access road and drainage channel located just north of the UPRR right-of-way.
- Sunset Road approach roadway north of the future I-10/Sunset Road TI (including two connections to The Loop; one on either side of Sunset Road located south of the Rillito Creek).
- New bridge spanning the Rillito Creek and The Loop (on either side of the Rillito Creek).
- Signalized intersection at Sunset Road and River Road including connections to The Loop on either side of Sunset Road. Accommodations for a traffic signal at the entrance to the Sunset Innovation Campus development south of I-10 and east of Sunset Road.
- Improvements to River Road.

The majority of the project is located within the City of Tucson with two relatively small portions being located within unincorporated Pima County. Sunset Road is to be a divided roadway with 6' wide shoulders, curb and sidewalks on both sides. Left-turn and right-turn lanes will be included at intersections.

1.0 INTRODUCTION

1.1 FORWARD

In 2006, Pima County voters approved the Pima Association of Governments (PAG) Regional Transportation Authority (RTA) Transportation Plan. Included in the plan is the construction of Sunset Road from Silverbell Road to River Road. The project to connect Sunset Road from Silverbell Road to River Road was split into two segments.

The first segment (Segment I) connected Silverbell Road to the existing Interstate 10 (I-10) Eastbound Frontage Road (EBFR). Segment I was completed in 2017 and consists of a three-lane roadway (two travel lanes and a two-way left-turn lane) and a 720' long bridge over the Santa Cruz River. The bridge has a shared-use path along the eastern side and a pedestrian walkway on the western side that ties into The Chuck Huckelberry Loop (The Loop).

The Pima County Department of Transportation (PCDOT), in coordination with the Arizona Department of Transportation (ADOT) and the City of Tucson Department of Transportation (TDOT), is now investigating the extension of Sunset Road from I-10 to River Road (Segment II).

Pima County anticipates this second segment will be constructed in conjunction with the reconstruction of the Sunset Road Traffic Interchange (TI) as part of ADOT's widening of I-10 from Ina Road to Ruthrauff Road. The new TI will cross over I-10. Segment II will extend Sunset Road from the I-10 Westbound Frontage Road (WBFR) to River Road as well as raise the roadway from the Santa Cruz River to the I-10 EBFR to meet the new TI. This segment includes constructing new bridges over Union Pacific Railroad (UPRR) and the Rillito Creek.

The estimate of probable cost for this project is approximately $38 million (M) in Fiscal Year (FY) 2022. The funding to support the Sunset Road: I-10 to River Road (Segment II) project is shown in Table 1.

Table 1 – Project Funding

Funding Source	FY 22	FY 26	Total	Remarks
City of Tucson	$5.0M		$5.0M	
Pima County	$5.0M		$5.0M	
RTA		$5.714M	$5.714M	RTA funding would need to be advanced to FY 2022 to construct the Sunset Road improvements with the ADOT I-10: Ina Road to Ruthrauff Road widening project.
TBD	$22.3M		$22.3M	
PLANNED TOTAL FUNDING (Design & Construction)	$32.3M	$5.714M	$38M	

For ease of discussion, this project considers the Segment II portion of Sunset Road to run north-south, with I-10 running east-west.

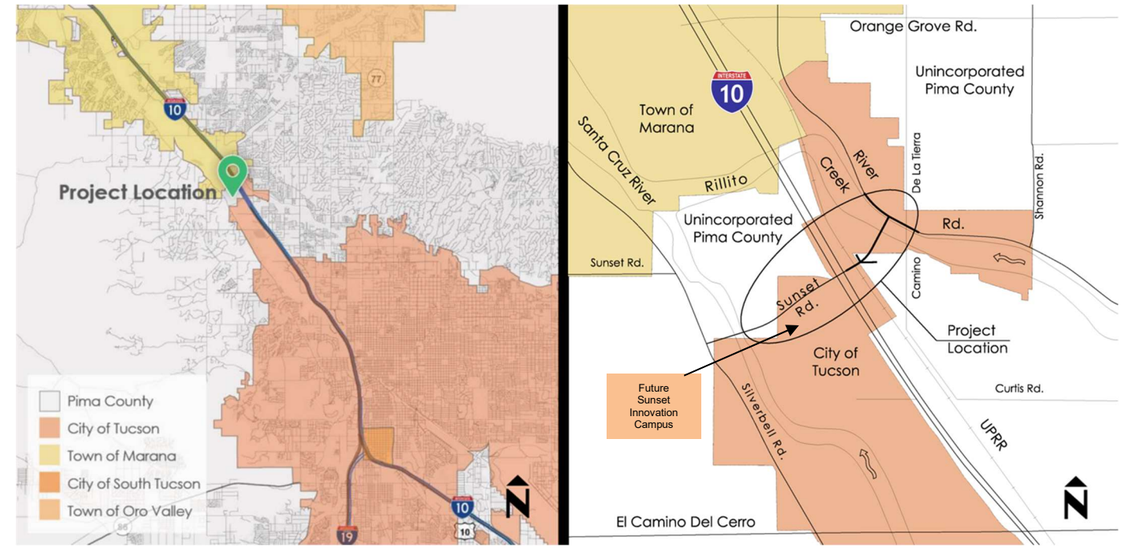

Figure 1 – Location & Vicinity Map

1.2 NEED FOR THE PROJECT

The improvements to Sunset Road and the I-10 TI are needed to:

- Connect Sunset Road and I-10 to River Road to provide continuous north-south multimodal access from Silverbell Road to River Road and improve regional mobility.
- Add capacity to support development along Sunset Road and in the area to accommodate future traffic projected for 2045.
- Improve safety by providing a grade-separated crossing (bridge) of the Rillito Creek in this area.

1.3 PROJECT DESCRIPTION

1.3.1 Project Type, Termini and Length

The Sunset Road study area encompasses Sunset Road from just north of the Sunset Road bridge over the Santa Cruz River and extends approximately 1,900' north to the EBFR, linking up to the reconstructed I-10/Sunset Road TI (to be built by ADOT). The corridor then continues from the WBFR approximately 1,500' to River Road crossing over the UPRR and the Rillito Creek.

The project will reconstruct Sunset Road south of I-10, placing the roadway on embankment as it links with the EBFR. It will include two new intersections along this stretch accommodating access to the proposed Sunset Innovation Campus development to the east. North of I-10, a new reach of Sunset Road will be constructed from the WBFR to a new T-intersection with River Road. This new stretch of Sunset Road will include bridge structures over the UPRR and the Rillito Creek.

This alignment of Sunset Road lies primarily within the City of Tucson, with reaches just north the Santa Cruz River bridge and just north of the UPRR falling within unincorporated Pima County.

1.3.2 Nominal Right-of-Way Width

Sunset Road will be constructed within a right-of-way width that will vary from 150' to over 250'.

Earthen embankments with 3H:1V fill slopes will be constructed south to the I-10/Sunset Road TI and north of the UPRR bridge. Water harvesting features will be included at the base of these embankments, a feature constructed with Segment I but in need of relocation south of I-10 and included north of the UPRR bridge. These features add to the needed right-of-way width. Some right-of-way may remain as Pima County Regional Flood Control District (PCRFCD) property with necessary easements as required.

1.3.3 Roadway Section

The proposed improvements involve constructing Sunset Road from south of I-10 to River Road as a new urban four-lane divided roadway with two 12' wide travel lanes, a raised curbed median that varies between 6' and 20' wide, 13' wide left- and right-turn lanes, 6' wide shoulders, curb and gutter, and sidewalk. The new roadway will include new bridges over the UPRR and Rillito Creek. Other proposed improvements include:

- Constructing new intersections at two entrances to the Sunset Innovation Campus.
- Tying Sunset Road into the new elevated EBFR and WBFR intersections at I-10. The design and reconstruction of the EBFR and WBFR intersections and bridge over I-10 will be completed by ADOT.
- Widening River Road to the south of the existing edge of pavement to accommodate a right-turn lane and modifying the 20' wide median to accommodate a left-turn lane on the eastbound approach to the proposed Sunset Road/River Road T-intersection. On the westbound approach to the intersection, the median will be modified to accommodate a left-turn lane.
- Constructing a 255' long 16'x14' RCBC Equipment Pass (ADOT SD 6.07 (Modified)) without the bottom concrete slab and supported on drilled shafts to protect the HOBAS fiberglass pipe paralleling the south side of the EBFR.
- Constructing a new access road north of the UPRR right-of-way that traverses under Sunset Road from Tres Nogales Road to just west of Sunset Road. This access road will provide access to the west side of Sunset Road for the purpose of a maintenance access for Tucson Electric Power (TEP) and access to the Pima County Natural Resources, Parks and Recreation (PCNRPR) relocated facility so that they are not land locked.
- Constructing 12' wide asphaltic concrete paths along both sides of Sunset Road to connect multi-modal users to The Loop and the El Corazon shared-use path system at the south project limits and to the shared-use paths along the south bank of the Rillito Creek to the north.
- Reconstructing the north bank path of the Rillito Creek to go under the new Rillito Creek bridge.
- Installing new street lighting along Sunset Road and a new traffic signal at the new Sunset Road/River Road T-intersection.

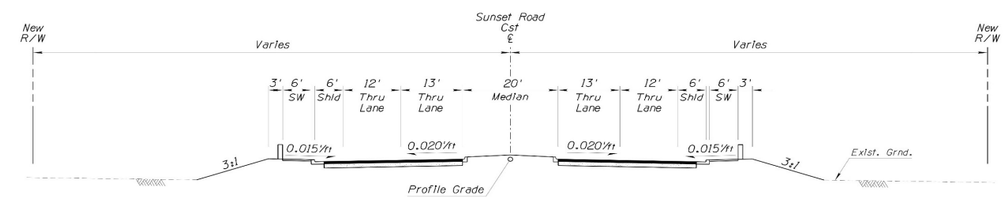

Figure 2 – Typical Section

1.3.4 Structures

Two new bridge structures will be required to accommodate the new Sunset Road from the WBFR to River Road. A bridge over UPRR and a bridge of the Rillito Creek.

UPRR has indicated that their right-of-way must be spanned in its entirety, with no pier allowed within it. As such, a two-span bridge will extend over the UPRR, with a second back span to accommodate a new access road and drainage channel north of the UPRR right-of-way.

A three-span bridge will extend over the Rillito Creek connecting to River Road.

1.3.5 Drainage

The proposed drainage facilities that are recommended for this project include onsite, offsite, and riverine design features. The onsite features necessary for this project include swales, channels, catch basins, and storm drains to collect and convey onsite flows to logical outfalls; bridge deck drains will collect and shed pavement runoff from the roadway.

Similarly, the offsite drainage features include roadside earthen channels, concrete channels, and culverts to capture and convey stormwater to the logical outfall. The river design features mainly consist of a three-span bridge with cylindrical piers and vertical abutments to adequately convey the Federal Emergency Management Agency (FEMA) and design discharges in the Rillito Creek while minimizing the local scour associated with a bridge. All drainage improvements/features are provided in the conceptual plans included as Appendix 3.

1.3.6 Utilities and Railroad Impact

Utility mapping was utilized from ADOT's I-10: Ina Road TI to Ruthrauff Road TI Design Concept Report (DCR) and Stage II (30%) Plans (Project No. 010 PM 247 H7583 01L), ADOT's I-10/Ruthrauff Road TI Improvements Project (Project No. 010 PM 252 H8480 01C), and PCDOT's Sunset Road: Silverbell Road to I-10 project (Project No. 4RTSUN) to identify existing utilities within the project limits.

The proposed roadway improvements will directly impact many of the utility facilities within the project limits. Following are a list of the utility facilities and potential impacts:

Communications

There are several communications facilities within the project limits.

- AT&T has a fiber-optic communication line that runs along the south side of River Road. This line is anticipated to conflict with the proposed traffic signal system at the Sunset Road/River Road T-intersection.
- CenturyLink has local copper cables and fiber-optic lines running along the EBFR, the north side of River Road, and along Tres Nogales Road that services residential properties. All these locations will require relocation or adjustments due to Sunset Road's elevated vertical profile, proposed signal improvements at the Sunset Road/River Road T-intersection, the proposed cul-de-sac on Tres Nogales Road, and access road near the UPRR right-of-way.
- Long-haul communications, including CenturyLink National, Sprint, and Verizon (MCI) have fiber-optic systems that are within the UPRR right-of-way and generally runs parallel to both sides of UPRR's tracks. It is anticipated that these facilities will not be impacted by the project improvements.
- Pima County has a fiber-optic system that runs along the south side of the EBFR for communication and monitoring between wastewater treatment plants. Vertical adjustment of access points such as handholes will be necessary due to Sunset Road's elevated vertical profile.
- PCDOT has an existing Intelligent Transportation System (ITS) infrastructure that is located on the west side of Sunset Road between Silverbell Road and approximately 960' south of the EBFR. The ITS infrastructure north of the Santa Cruz River bridge will need to be reconstructed as part of this project due to roadside grading impacts. The ITS infrastructure (conduit and pull boxes) will be extended to connect with the new traffic signal system at the Sunset Road/River Road intersection.

Electric

TEP has both overhead and underground services within the project limits.

- There is an underground service that runs from north of the Santa Cruz River bridge to an overhead 14-kilovolt (kV) distribution line located on steel poles along the west side of Sunset Road that goes to the EBFR. The overhead service is not anticipated to conflict with the proposed improvements; however, the underground service will require relocation due to the Sunset Road widening and the drainage improvements.
- Underground 14kV distribution feeder systems run along the EBFR and WBFR within ADOT right-of-way. Pad-mounted equipment and access vaults will need to be relocated due to the raising of the Sunset Road and frontage roads vertical profiles.
- Overhead distribution (14kV) run along Tres Nogales Road and East Sunset Road to provide service to residential properties and the PCNRPR maintenance yard. The raising of Sunset Road and roadside fill slopes will conflict with these services and require relocation or removal of abandoned facilities.
- An overhead 138kV transmission main runs through the Rillito Creek within an existing utility easement. This facility will not be impacted by the proposed improvements; however, a new maintenance road will be graded along the west side of the new Sunset Road alignment from the proposed access road. This will provide TEP access to their poles and overhead facilities along the south bank of the Rillito Creek.

Natural Gas

Southwest Gas (SWG) has 2" gas lines that serves properties along Tres Nogales Road and East Sunset Road and a 4" distribution main running along the north side of River Road within the project limits. The 2" service line along Tres Nogales Road is anticipated to require minor adjustments due to the proposed cul-de-sac and access road near the UPRR right-of-way. The distribution main is anticipated to be clear of any project disturbance.

Petroleum

Kinder Morgan has high pressure petroleum lines that are located within the UPRR right-of-way. These include one active 12" line and an abandoned 12" line west of the tracks and an abandoned 6" line east of the tracks. These facilities are not anticipated to be impacted by the proposed improvements.

Irrigation

Metro Water (MW) has a reclaimed water line that runs along the south side of River Road to service the PCNRPR athletic fields on the north side of River Road. The water line will fall within the fill section of the proposed improvements along River Road but is anticipated to remain in place. The water valves will need to be adjusted to finished grade at the Sunset Road/River Road intersection.

PCRFCD operates a 6" irrigation line that services the pecan orchard on the southwest corner of the Sunset Road and EBFR intersection. There will be approximately 30' of embankment over this pipe from the proposed Sunset Road improvements. Therefore, during final design it will need to be determined if this line can be protected in place or will

be required to be relocated to possibly traverse through the 16'x14' RCBC to avoid increased embankment loading on the pipe.

Potable Water

Tucson Water (TW) has 6" distribution lines that provide service to the properties along Tres Nogales Road and East Sunset Road which ties into a 16" water line that runs along Camino de la Tierra. These lines should remain in place with possibly only minor adjustments to the Tres Nogales Road water line near the proposed cul-de-sac and access road.

Sewer

The Pima County Regional Wastewater and Reclamation Department (PCRWRD) has multiple facilities within the project limits including:

- An interconnect sewer system that varies in size from 60" to 72" (HOBAS fiberglass pipe) that runs parallel to the south side of the EBFR. A 255' long reinforced concrete box culvert (RCBC) (16'x14') without the bottom concrete slab and supported on drilled shafts will be constructed to protect this sewer line in place and avoid increased embankment loading on the pipe. This box culvert will also connect the Loop trail system providing access under Sunset Road.
- An 8" sludge force main and rodding stations that are situated on the south side of the EBFR that would be protected in place.
- Local services along Tres Nogales Road and East Sunset Road that connect to the 24" sewer main running along Camino de la Tierra. These facilities are not anticipated to be disturbed by the project improvements.

All utilities within the project limits were sent a preliminary notification for this project to provide their latest facility maps, prior rights documentation, and any plans for betterments or expansions of facilities.

1.3.7 Signalization and Lighting

The proposed roadway improvements will include installing a new traffic signal and intersection lighting at the Sunset Road/River Road T-intersection. As part of ADOT's I-10: Ina Road to Ruthrauff Road Widening project, new traffic signals will be installed at the intersections of Sunset Road with the EBFR and WBFR. Lighting will be installed as determined by ADOT requirements at the TI and frontage roads.

New roadway lighting will be installed along the entire length of Sunset Road that will meet TDOT and PCDOT requirements.

Accommodations for a future traffic signal at the northern access point from Sunset Road to the Sunset Innovation Campus will include the necessary pull boxes and conduits.

1.3.8 Intersection Improvements

The new intersection of Sunset Road and River Road will include improvements to River Road to accommodate left and right turning traffic to and from Sunset Road.

Two intersections will be constructed at the driveways to the proposed Sunset Innovation Campus development off of Sunset Road, including left- and right-turn lanes. Two driveways that are proposed along the EBFR will be constructed as part of the Sunset Innovation Campus development.

1.3.9 Landscaping

The Sunset Road landscape concept recognizes the potential for providing an aesthetically pleasing view for motorists and adjacent residents, creating a vibrant natural landscape for Loop users, and enhancing habitat and corridors for wildlife. The project provides key connections (vehicular, bicyclist, and pedestrian) between I-10 and River Road, and between The Loop along the Rillito and Santa Cruz Rivers. The Sunset Road project lies east of the confluence of the Rillito Creek and the Santa Cruz River, at the northern end of The Loop, within a well-used portion of the trail system. Rillito Creek park trailhead parking and restroom facility is located just east of the Rillito Creek, on the west side of Camino de la Tierra; Nathan Crossing provides parking just north of the site. Other nearby connections to The Loop are the Dan Felix Memorial Park on the northeast corner of River Road and Camino de la Tierra, and the PCNRPR complex at the northwest corner. The proposed improvements for Sunset Road will provide a direct connection for The Loop users between the Rillito and Santa Cruz Rivers.

Planting

Landscape for the project will follow the PCDOT Environmentally Sensitive Roadway (ESR) Design Guidelines. The intent of the guidelines is to preserve the natural character of the area. This is accomplished by imitating the natural plant density and providing plant species that are appropriate for the new site conditions (introduced slopes, basins, etc.). Protected native plants will be preserved in place or mitigated in accordance with the ESR Design Guidelines.

The plant palette will consist of species that naturally occur in the project's vegetative communities. Native plant species identified on site during the plant inventory and relevé process will be supplemented with additional species commonly occurring in the respective plant communities. Supplementation will provide a more diverse and ecologically appropriate plant palette—due to prior disturbance of the project area, the existing species diversity and density is unnaturally low. Plant selection will consider the species appropriate given the modified drainage patterns and slope aspects of the project. Plant species will be included that benefit wildlife by providing cover and food. Trees will be located to provide habitat as well as shade for trail users. Planting will consist of container-grown plants. Disturbed site areas that will not be paved or otherwise stabilized will be reseeded with the seed mix outlined in the ESR project report.

Water Harvesting

Landscape design will incorporate passive water harvesting and limit the need for ongoing irrigation past establishment. Passive water harvesting techniques such as basins, berms, and check dams will be used where feasible throughout the project to enhance vegetation establishment and allow for infiltration of stormwater. The sandy soils present in the

project area should be conducive to infiltration. Care should be taken to slow the flow of water on the sides of the fill slopes. Berms and/or v-ditches could be implemented to enhance infiltration of rainfall and runoff. The base of the fill slopes may be an opportunity for water harvesting basins.

Planting and Water Harvesting Modifications – Segment I

The existing Segment I Sunset Road landscape, from the north end of the Santa Cruz River bridge to I-10, will be impacted due to the proposed I-10/Sunset Road TI improvements and access to the planned Sunset Innovation Campus at the southeast corner of Sunset Road and I-10. The majority of plant material and passive water harvesting features will be impacted by this proposed construction. The water harvesting channel along the east side of Sunset Road will be redeveloped within the new project constraints. Planting that is impacted will be mitigated per ESR Design Guidelines.

Irrigation

The irrigation system for the Sunset Road project is planned to be a fully automated drip irrigation system consistent with current Pima County and City of Tucson Standards. Two points of connection are proposed: one on the northeast side of the project to irrigate planting along River Road and The Loop on the north bank of the Rillito Creek and a second connection point on the south side of the project to irrigate the roadway fill slopes, planting at ground level within the right-of-way and project area along The Loop on the south bank of the Rillito Creek. No connection of the irrigation systems is proposed across the Rillito River bridge. The use of reclaimed water was investigated, but at this time is not available for use on this project.

Irrigation north of the Rillito Creek:

The City of Tucson currently maintains the landscape along River Road; however, there is no active irrigation system in this area. The irrigation system installed with the River Road: Thornydale Road to Shannon Road widening project completed in 2003 was disconnected some years back and has not been maintained. Irrigation boxes (purple lids) as well as a reclaimed water valve on the southwest side of River Road are visible (but not functioning) within the project limits. The irrigation system was fed from the MW Well site located at 3530 W. River Road (north of Pima Prickly Park). MW lines run from the well site to River Road, and along the south side of River Road to Dan Felix Park. Per MW, the water lines are owned by Pima County Parks and Recreation. MW maintains the well facility. The reclaimed designation is due to the well being the water source.

Per a conversation with Pima County maintenance staff, connection to the Lattimore well for irrigation of new plant material in conjunction with the Sunset Road project may be acceptable, but adequate water pressure is a concern. The well services Dan Felix Park, and it is estimated that 30 to 40 pounds per square inch (psi) is currently available. Should this connection be pursued, further investigation at the next phase of design would be required to ensure adequate pressure is available for proposed plantings.

As the City is maintaining the River Road landscape, and the majority of the project is within the City limits, it may make the most sense for a new point of connection to be made to the existing Tucson Water potable line (16") that runs along Camino de la Tierra. Potential tie-in could be north of River Road. This is the closest water line to the project site—there is no Tucson Water line along River Road. It is estimated that the water meter will be a 1" maximum size. Estimated static pressure is 69 to 76 psi, which is adequate. Electric for the controller is not currently available. A solar controller and valves with direct current latching solenoids are recommended.

Irrigation between I-10 and the Rillito Creek:

Point of connection for water and electric are proposed toward the west end of Tres Nogales Road. Water will be supplied from an existing Tucson Water 6" potable mainline located in Tres Nogales Road. It is estimated that the water meter will be a 1-1/2" maximum size. Estimated static pressure is 69 to 76 psi, which is adequate. Electric for the controller is available at this location.

Irrigation Modifications – Segment I

The proposed modifications to the Segment I Sunset Road (from the north end of the Santa Cruz River bridge to I-10) will impact the existing 2-wire irrigation system. The existing mainline runs along the west side of Sunset Road, near the project right-of-way. All irrigation valves are on the west side of the roadway. A non-pressurized submain crosses Sunset Road and feeds pressure regulators and lateral lines. Irrigation within the proposed area of disturbance will need to be capped prior to start of construction. Irrigation shall remain active to plants to be preserved in place. After construction, the irrigation system may require modifications from the original design to account for changes of grade (planting on new fill slopes). The irrigation controller, flow sensor, and master valve are unaffected as these are located at the northeast corner of the Silverbell Road/ Sunset Road intersection, outside of the proposed disturbance limit.

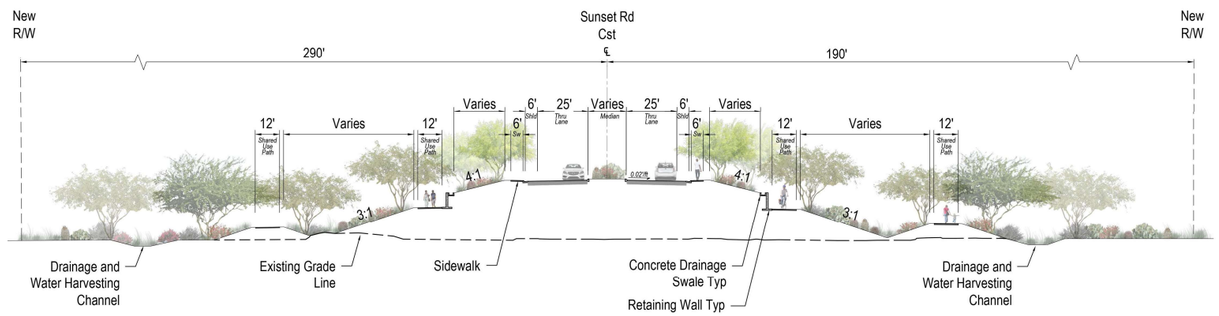

Figure 3 – Typical Landscape Cross Section

1.4 CHARACTERISTICS OF THE CORRIDOR

1.4.1 Surrounding Topography and Terrain

The Sunset Road: I-10 to River Road project is located in the northwest region of the Greater Tucson Basin. The Tucson Basin is surrounded by five main mountain ranges: Tortolita and Santa Catalina Mountains to the north, Rincon Mountains to the east, Tucson Mountains to the west, and Santa Rita Mountains to the south.

Topography is generally flat within the project area. The project area very gently slopes to the west and is located between the Rillito and Santa Cruz wash systems.

1.4.2 Existing Roadway

Sunset Road once extended from west of Silverbell Road to the WBFR, but the Sunset Road bridge over the Santa Cruz River collapsed during the flood of 1983 and the connection between Silverbell Road and I-10 was lost. In 2016, Sunset Road was reconstructed to run from Silverbell Road to the intersection of the EBFR at I-10 and included a new bridge over the Santa Cruz River. This section of Sunset Road terminates at the WBFR. The posted speed limit is 35 miles per hour (mph).

River Road is a four-lane divided, curbed roadway that is classified as an urban arterial. The lane widths are 12', shoulder widths are 8' and the raised median is 20' wide. The horizontal alignment consists of two horizontal curves with radii of 3,500' and 1,400' from west to east. The vertical alignment generally follows the existing rolling terrain with at-grade drainage crossings. This section of River Road falls within Pima County's jurisdiction.

The EBFR and WBFR (Casa Grande Highway) are curbed one-way roadways that provide access to ramps that connect to the I-10 mainline. The EBFR approach to Sunset Road includes an exclusive left-turn lane, one through lane and a shared through/right-turn lane. The roadway width from face of curb to face of curb is approximately 49'. The WBFR approach to Sunset Road includes two lanes: a shared left-turn/through lane and a through lane. The roadway width from face of curb to face of curb is approximately 40'. The lane widths are 12' and the shoulder widths are generally 8'. Both roadways have curb/curb and gutter, horizontal alignments that are generally tangent and vertical alignments that are generally flat. Both roadways have concrete pavement sections and a posted speed limit of 45 mph. As part of ADOT's I-10/Ruthrauff Road TI reconstruction, a temporary signal has been installed at the intersection of Sunset Road with the EBFR. The intersection of Sunset Road with the WBFR continues to be stop-controlled for the northbound and westbound approaches.

The Loop shared-use path runs parallel to the EBFR and crosses Sunset Road approximately 260' south of the EBFR. This crossing is currently controlled with signage that requires bicyclists/pedestrians using the shared-use path to yield to motorists on Sunset Road.

There are no geometric deficiencies in the existing Sunset Road and River Road alignments within the project limits.

1.4.3 Existing Right-of-Way

Within the project limits, the existing right-of-way width along Sunset Road varies between 150' and 270'. Approaching the EBFR, the existing right-of-way width is 200' (75' west of Sunset Road and 125' east of Sunset Road). River Road has an existing right-of-way width of 150'.

1.4.4 Drainage Characteristics

The drainage characteristics in the vicinity of the proposed project can be separated into four areas of interest: south of I-10, north of I-10, the Rillito Creek, and River Road. Traversing south to north, each segment has different characteristics.

In general, the area south of I-10 drains overland to the Santa Cruz River via swales, catch basins and culverts. This pattern will be maintained via new infrastructure that allows for the widening of Sunset Road south of I-10.

North of I-10, the drainage patterns can be described as shallow distributary flow, with runoff generally from east to northwest, parallel to the UPRR right-of-way and with several outfalls to the Rillito Creek.

The Rillito Creek within the project limits is an improved trapezoidal channel with an earthen bottom, soil cement bank protection, and vehicular maintenance access ramps. The portion of the channel where the new Sunset Road bridge will be constructed is "competent", with the 100-year regulatory discharge contained within the channel banks.

The portion of River Road within the project limits is a divided four-lane arterial street with catch basins and storm drain that was constructed in early 2000. Runoff within the River Road right-of-way in this area is conveyed to the Rillito Creek via storm drain and culverts.

1.4.5 Existing Structures

Existing structures in the vicinity of the proposed roadway are primarily drainage features, culverts, and catch basins, completed during the first phase of the project south of I-10.

1.4.6 Existing Vegetation and Landscaping

The project site is within the Arizona Upland subdivision of the Sonoran Desertscrub biotic community. Characteristic species found within the Arizona Upland subdivision include foothill paloverde (Parkinsonia microphylla), blue palo verde (Parkinsonia florida), ironwood (Olneya tesota), velvet mesquite (Prosopis velutina), catclaw acacia (Senegalia greggii), whitethorn acacia (Vachellia constricta), creosote (Larrea tridentata), white bursage (Ambrosia dumosa), triangle-leaf Bursage (Ambrosia deltoidea), fairyduster (Calliandra eriophylla), saguaro (Carnegiea gigantea), cholla species (Cylindropuntia sp.), and prickly pear species (Opuntia sp.).

Vegetation within the project area is heavily disturbed and not representative of the Sonoran Desertscrub biotic community (plant density and species diversity are low). The majority of the project site southwest of the Rillito Creek, owned by the PCRFCD, has been cleared and a large portion is used as a maintenance yard. Small pockets of native

vegetation exist between parcels in the residential neighborhood to the south of the project site, and there is some remnant vegetation within the PCNRPR maintenance yard. Dominant species on site (outside of the banks of the Rillito Creek) include creosote, triangle-leaf bursage, brittlebush (Encelia farinosa), fourwing saltbush (Atriplex canescens), desert senna (Senna covessii), and white bursage.

Mapped riparian habitat within the project limits occurs within the soil-cement protected banks of the Rillito Creek. IRA-Xeroriparian D habitat is mapped on the northern portion of the wash, the southern portion is mapped as IRA-H. Within the project limits, these mapped areas are similar in vegetation densities and species. The mapped riparian habitat is highly disturbed (including recent sediment removal for flood control purposes), and not consistent with PCRFCD Descriptions of Habitat Class. Hydroriparian habitat is associated with perennial watercourses. Indicator species of hydroriparian habitat such as cottonwood and willow are absent, as are the native plant species associated with Xeroriparian D habitat.

The project site between I-10 and the Rillito supports native vegetation, although it is heavily disturbed. Creosote, triangle-leaf bursage and palo verde are the dominant species.

The main flow channel of the Rillito. Invasive Johnson Grass is the dominant plant.

Invasive species are common within the riverbanks. Pictured in the background is Tamarix (*Tamarisk sp.*) and Mexican palo verde (*Parkinsonia aculeata*). Giant reed (*Arundo donax*) and Johnson Grass (*Sorghum halepense*) are also shown. Burrobrush (*Ambrosia monogyra*) is the dominant native shrub.

1.4.7 Biological Resources

The project occurs at an approximate elevation of 2,224' above mean sea level, and the surrounding landscape is flat, except for where the Rillito Creek crosses through the construction footprint. Within the study area, the Rillito Creek is ephemeral and only flows during precipitation events. The Rillito Creek flows northwest and joins the Santa Cruz River approximately one mile downstream from the study area.

The Arizona Game and Fish Department (AZGFD) Arizona Online Environmental Review Tool identified a number of special status species (Species of Greatest Conservation Need) documented within three miles of the study area; however, the project is not anticipated to impact any of those species. The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation Official Species List identified six threatened or endangered species; the Biological Evaluation (BE) excluded them from further evaluation because the project is not anticipated to impact any of the following species:

Table 2 – USFWS-identified Threatened or Endangered Species

Common Name	Scientific Name	Status
Jaguar	Panthera onca	Endangered
Sonoran pronghorn	Antilocapra americana sonoriensis	Experimental population
California least tern	Sterna antillarum browni	Endangered
Yellow-billed cuckoo	Coccyzus americanus	Threatened
Northern Mexican gartersnake	Thamnophis eques megalops	Threatened
Sonoyta mud turtle	Kinosternon sonoriense longifemorale	Endangered

1.4.8 Archaeological and Historic Resources

Pima County would issue an adverse effect recommendation for the south approach of the project. Two archaeological sites (AZ AA:12:11[ASM] and Rillito Fan Site, AZ AA:12:788[ASM]) were discovered during cultural resource surveys in 2012 and 2013. Data recovery for these sites occurred with the Segment I Sunset Road: Silverbell Road to I-10 project.

SWCA Environmental Consultants (SWCA) completed an archaeological records search and geomorphological assessment for the project. Previous archaeological research was compiled for the study area and a surrounding 0.5-mile radius. Most of the 32-acre study area had been subjected to previous archaeological research. Twenty previously recorded archaeological sites and two historic-age features have been recorded in the file search radius.

A number of the single-family houses on Tres Nogales Road are of historic age. Based on preliminary design for the project, one of these houses might need to be acquired and demolished. Cultural consultation would continue for Segment II pending identification of the lead federal agency. If the project is combined with the ADOT I-10/Sunset Road TI reconstruction, Section 106 consultation would likely occur through ADOT.

An 8.5-acre Pima County-owned parcel of land within the study area had been subject to relatively limited previous investigation. The Pima County Office of Sustainability and Conservation's Cultural Resources and Historic Preservation Division (OSC-CRHP) determined that this area had the potential to include terrace deposits containing buried cultural resources and requested that a geomorphological investigation be undertaken for the project in this area.

1.4.9 Visual Resources

The Sunset Road project is in northwest Tucson, just south of the confluence of the Rillito and Santa Cruz rivers. The project is not within an ADOT or Pima County designated scenic corridor. The area is highly modified from natural conditions.

Outlying views are of the Tortolita Mountains to the northwest, Santa Catalina Mountains to the northeast, and Tucson Mountains to the west. The Rillito Creek, which would be spanned by a new four-lane bridge as part of this project, has soil-cement banks and has recently had sediment removed for flood control purposes, leaving it relatively unvegetated. The most dominant visual elements within the river are non-native and invasive tamarisk trees, which are proposed for removal in conjunction with the project.

North of the Rillito Creek, the land slopes gradually upward. Pima Prickly Park and Dan Felix Memorial Park lie just northeast of River Road. South of the Rillito Creek, the land is relatively flat between the river and the UPRR tracks that flank the north edge of I-10. This area is highly disturbed. In addition to a PCNRPR maintenance facility, the area has mounds of previously dumped soil, and a large part of the area lacks established native vegetation.

The Loop shared-use path follows along both sides of the Rillito Creek, and users can access the path system from River Road or Camino de la Tierra. Overhead power lines run down the Rillito Creek, crossing The Loop and transitioning to the west upper bank within the study area.

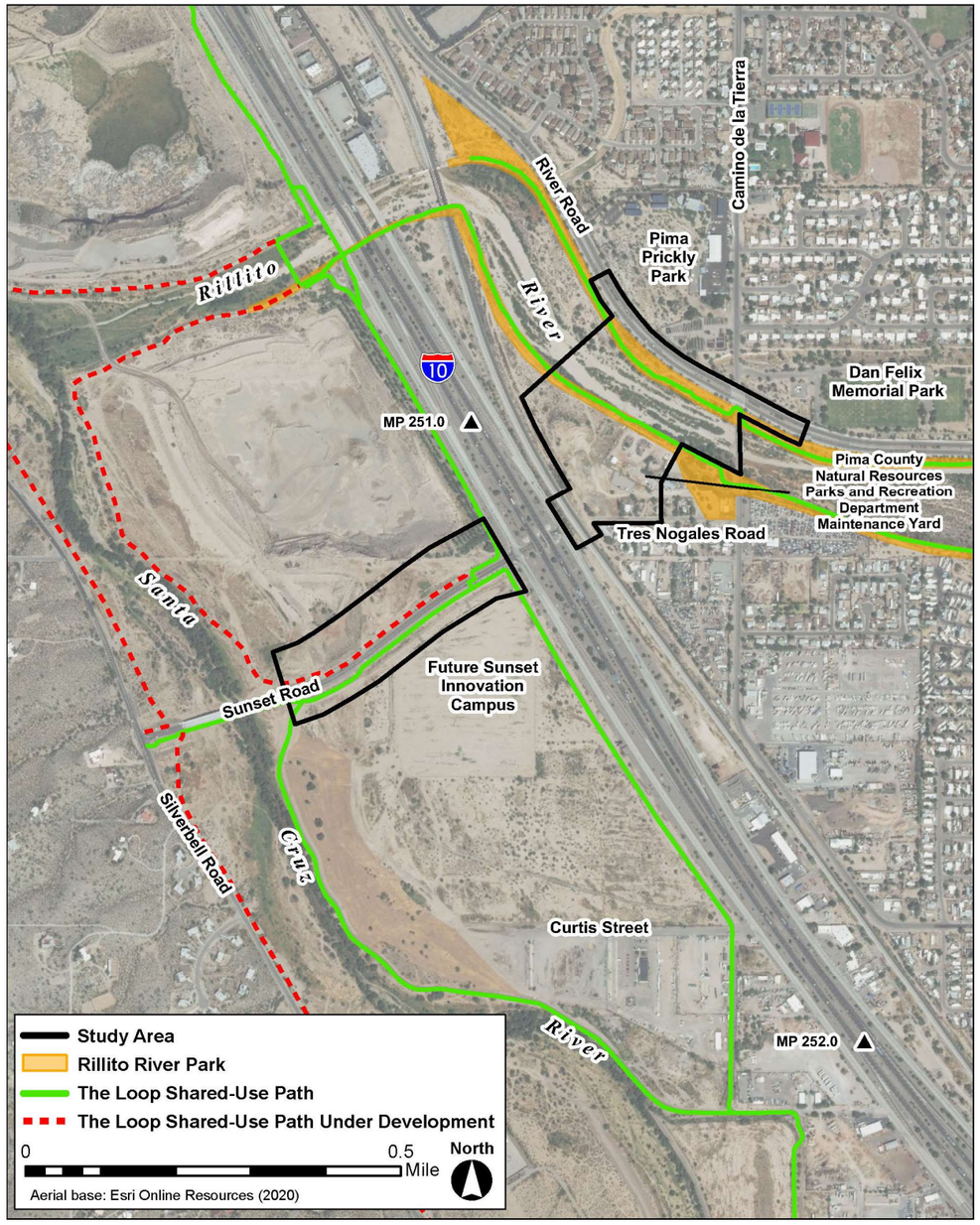

Figure 4 – Existing Land Use

1.4.10 Existing Land Use

The south end of the study area abuts the recently constructed Sunset Road bridge over the Santa Cruz River and extends northeast to the I-10 EBFR. Within the study area south of I-10, mining operations occur west of Sunset Road, and the area east of Sunset Road is currently undeveloped. North of I-10, the study area crosses the UPRR line and Pima County-owned land. A PCNRPR maintenance yard is currently located in this area. Farther east are single-family residences along Tres Nogales Road. The Rillito Creek crosses through the study area. On each side of the Rillito Creek within the study area are Rillito Creek Park and segments of The Loop. Just outside the study area is the Dan Felix Memorial Park north and east of River Road and Camino de la Tierra, and Pima Prickly Park north and west of River Road and Camino de la Tierra (Figure 4).

1.4.11 Future Land Use

No pending development proposals have been identified within the study area; however, Pima County has long-range plans for development of a regional park on county-owned property south of I-10 that is currently used for sand and gravel mining.

In general, the adjacent land uses, including residential land use east and north of the proposed Sunset Road alignment, are expected to remain in their current uses. A notable portion of the study area falls within the 100-year floodplain, limiting future development.

1.4.12 Current Zoning

Zoning within the study area falls under the jurisdiction of the City of Tucson for the area within the city limits and the jurisdiction of Pima County for unincorporated areas. The areas south of I-10 are zoned by the City of Tucson as Industrial (I-1) and Commercial (C-2), while the Pima County areas are zoned as Rural Residential (GR-1) and General Business (CB-2). North of I-10, the residential area off of Tres Nogales Road is zoned by Pima County as Multiple Use (MU). The other areas are zoned by the City of Tucson as Suburban Homestead (SH) and MU. No state or public lands occur adjacent to the study area.

1.4.13 Proposed Developments

Several projects/developments are proposed within the study area and vicinity:

- The Sunset Innovation Campus - a 100-acre site at the southeast corner of I-10 and Sunset Road that will be targeted as a primary employment site for new, high-wage industries.
- The Loop Shared-Use Path - new segments of path are planned or under development within the study area.
- Pima County Regional Park - the long-range plan for development of a regional park on county-owned sand and gravel mining areas south of I-10.

1.4.14 Potentially Affected Community Facilities

There are no social services, including police, fire, or hospitals, in the vicinity of the study area. The nearest law enforcement facility is six miles south (Tucson Police Department Miracle Mile station), a fire station is a mile southwest (Northwest Fire District, El Camino del Cerro), and the closest hospital is three miles northeast (Northwest Medical Center, Orange Grove Road/La Cholla Boulevard). The nearest school is 0.5 mile east of I-10 (Green Fields Country Day School, Camino de la Tierra).

1.4.15 Public Lands within the Project Area

The study area is within the corporate limits of the City of Tucson and unincorporated Pima County. Land within the study area is owned by Pima County, ADOT, the UPRR, and private parties. The project would connect to the ADOT right-of-way for I-10 and the City of Tucson right-of-way for River Road.

1.4.16 Tribal Lands

No tribal lands are within or adjacent to the study area. The nearest Native American community is the Pascua Yaqui Tribe, almost 10 miles to the south.

1.4.17 Intergovernmental Agreements

It is anticipated that intergovernmental agreements will be prepared to define construction and maintenance roles and responsibilities with the proposed improvements. Such agreements will likely involve ADOT, Pima County, City of Tucson, and the RTA.

2.0 CRASH AND TRAFFIC ANALYSIS

2.1 CRASH ANALYSIS

The crash history on Sunset Road and River Road was reviewed to identify potential safety issues. ADOT provided crash data for the most recent five-year period, from September 2014 to September 2019 for Sunset Road and April 2014 to April 2019 for River Road. The crash data evaluated for River Road correspond to the segment of River Road from Joiner Road (about ¾ mile west of the proposed Sunset Road/River Road intersection) to Camino de la Tierra (about 600' east of the future intersection). During these periods, no fatal crashes were reported. Table 3 summarizes the reported crashes by severity according to the following: fatal, incapacitating injury, non-incapacitating injury, and property damage only (PDO) crashes. Table 4 organizes the data by collision type.

Table 3 - Crashes by Injury Severity

Injury Severity	Sunset Road at EBFR	Sunset Road at WBFR	River Road between Joiner Road and Camino de la Tierra
Fatal	-	-	-
Class 4 (Incapacitating)	1	-	3
Bodily (Non- incapacitating) Injury	4	2	3
PDO*	1	4	11
Total Crashes	6	6	17
Severity Index**	2.5	1.3	2.0

**PDO – property damage only*
*** Severity index was calculated based on crash severity parameters developed by the National Safety Council. The Severity index was calculated using the formula provided by Pima County. Index = [5.8(fatality & Class 4 Injury) + 2(Class 2 & 3 Bodily Injury) + Property Damage]/(Total No. of Crashes)*

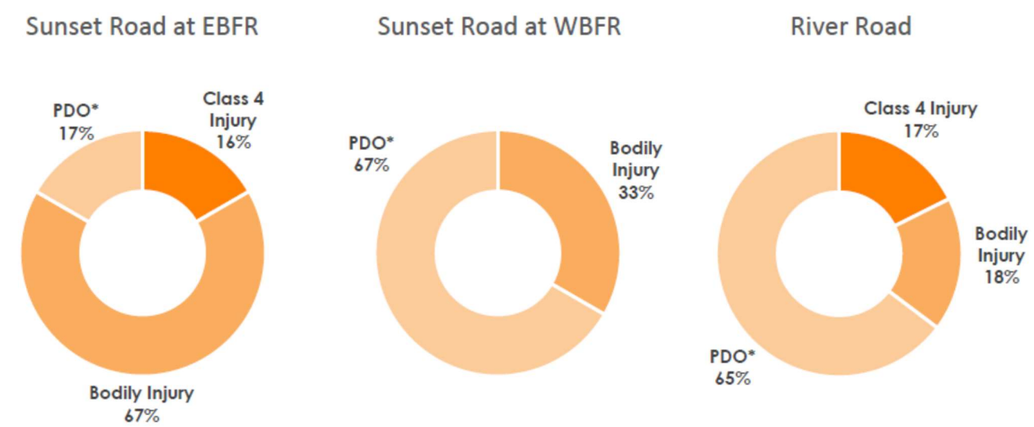

Figure 5 – Crashes

Table 4 – Crashes by Collision Type

Crash Type	Sunset Road at EBFR Intersection		Sunset Road at WBFR Intersection		River Road from Joiner Road to Shannon Road	
	Number	% of Total	Number	% of Total	Number	% of Total
Single Vehicle	-	-	1	17%	9	53%
Rear End	-	-	1	17%	1	6%
Turning	-	-	1	17%	2	12%
Angle	5	83%	2	33%	4	23%
Sideswipe	-	-	1	17%	-	-
Miscellaneous	-	-	-	-	-	-
Fixed Object	-	-	-	-	-	-
Backing	-	-	-	-	-	-
Head On	-	-	-	-	-	-
Other	1	17%	-	-	1	6%
Animal	-	-	-	-	-	-
Total Crashes	6		6		17	

2.2 EXISTING TRAFFIC CONDITIONS

Sunset Road, between Silverbell Road and the EBFR, is a three-lane urban collector roadway that is approximately 3,000' long. The daily traffic volume on the segment for 2019 existing conditions was 5,700 vehicles per day (vpd). The posted speed limit is 35 mph. The existing intersections at the I-10/Sunset Road TI operate at acceptable levels of service (LOS D or better) during the weekday AM and PM peak hours. A review of five-year crash data from September 2014 through September 2019 did not reveal any patterns or trends in the area indicating a safety issue requiring mitigation.

Extending Sunset Road from I-10 to River Road will require reconstruction of the tight diamond TI with Sunset Road crossing over I-10, allowing the roadway to cross over the adjacent UPRR mainline. The extension will also impact the existing regional shared-use path, The Loop, and River Road on the north/east side. River Road is a four-lane urban principal arterial with a posted speed of 45 mph.

2.3 FUTURE TRAFFIC CONDITIONS

The extension of Sunset Road from Silverbell Road to River Road is included in the RTA plan with the intent to provide needed access across I-10, improve regional mobility, and support development in the area. The PAG regional travel demand model estimates that traffic demand on Sunset Road by 2045 will increase to 16,000 vpd from Silverbell Road to the Santa Cruz River, 22,000 vpd from the Santa Cruz River to I-10, and will be 18,000 vpd on the new connection that will be constructed between I-10 and River Road. Much of the increase in traffic demand is expected to come from new development in the area, such as the Sunset Innovation Campus, being developed by Pima County on property located east of Sunset Road between the Santa Cruz River and the I-10 EBFR.

For comparison, traffic demand on the adjacent/parallel roadways to Sunset Road providing access to I-10 was analyzed with and without the Sunset Road extension. Under the No-Build scenario, there would be no traffic projected for Sunset Road north of I-10 and north–south trips that would have been accommodated on the extension of Sunset Road from I-10 to River Road would be shifted to El Camino del Cerro/Ruthrauff Road and Orange Grove Road resulting in additional traffic demand on these roadways. Table 5 summarizes the 2045 traffic demand projections on Ruthrauff Road and Orange Grove Road under the No-Build and Build scenarios.

Table 5 – 2045 Traffic Demand on Parallel Roadways

Parallel Roadway	No-Build Volume (vpd)	Build Volume (vpd)	Demand Difference with Sunset Road Extension (vpd)
Ruthrauff Road	50,200	46,000	-4,200 (-8.3%)
Orange Grove Road	55,000	45,000	-10,000 (-18.2%)

Truck data for 2045 was also provided by the PAG travel demand model. The model is projecting 4% of trucks on the extension of Sunset Road from I-10 to River Road. The recommended truck distribution is 3% medium trucks and 1% heavy trucks.

2.4 OPERATIONAL ANALYSIS

Based on the analysis of existing and future traffic conditions, the following recommendations should be considered:

Sunset Road from I-10 to River Road

- Extend Sunset Road from I-10 to River Road, requiring a four-lane roadway section. The recommended cross-section includes 12' wide travel lanes, a raised median, 6' wide paved shoulders/bicycle lanes, and 6' wide concrete sidewalk facilities on both sides. The raised median should be a minimum of 6' wide, widening to a minimum of 18' to accommodate left-turn lanes at intersections.
- Install a traffic signal and intersection street lighting at the new Sunset Road/River Road intersection.
- Provide Americans with Disabilities Act (ADA) compliant connections on Sunset Road to the shared-use path located on the southern embankment of the Rillito Creek.
- Provide a posted speed limit of 35 mph on Sunset Road.
- Maintain a design speed of 50 mph and a posted speed limit of 45 mph on River Road.
- Provide access to PCNRPR maintenance yard.

Sunset Road South of I-10

- Widen the existing three-lane section to a four-lane divided section with raised median and 6' wide paved shoulders for approximately 900' south of the I-10 frontage road and construct intersections at the planned driveways to the Sunset Innovation Campus development.
- Install conduit and pull boxes for a future traffic signal at the main campus driveway.
- Provide the lane configurations for each study intersection, as illustrated in Appendix 3, proposed Sunset Road layout and turn-lane storage lengths as provided in Table 6. Capacity analysis results indicate that the proposed improvements will provide sufficient capacity to serve the projected 2045 transportation demand.
- Construct right-turn lanes at the planned Sunset Innovation Campus driveways on Sunset Road. The right-turn lanes along the I-10 EBFR can be installed in conjunction with development.

Table 6 – Recommended Storage Lengths (feet)

Intersection	Eastbound		Westbound		Northbound		Southbound	
	EB LT	EB RT	WB LT	WB RT	NB LT	NB RT	SB LT	SB RT
Sunset Road/ Silverbell Road	250	-	-	200	-	-	475	-
Sunset Road/ South Driveway	-	-	110	110	-	110	200	-
Sunset Road/ Main Driveway	-	-	110	250	-	110	200	-
Sunset Road/ EBFR	-	400	-	-	200	365	-	-
Sunset Road/ WBFR	-	-	-	335	-	-	150	415
Sunset Road/ River Road	-	270	520	-	450	-	-	-
Driveway 1/ EBFR	-	150	-	-	-	110	-	-
Driveway 2/ EBFR	-	150	-	-	-	110	-	-

**Sunset Road is designated as northbound/southbound.*

3.0 DESIGN STANDARDS AND CRITERIA

3.1 DESIGN REFERENCES AND STANDARD

The design elements for Sunset Road and associated roadways will be in conformance with the following standards and guidelines:

Pima County:

- *Roadway Design Manual* (RDM*)*, 2013 (updated October 2016)
- *Drainage and Channel Design Standards for Local Drainage*, 1984
- Pima County/City of Tucson *Pavement Marking Design Manual* (PMDM)
- *Street Lighting and ITS Conduit Design Manual*
- Pima County/City of Tucson *Signing Manual*
- *Environmentally Sensitive Roadway Design Guidelines*
- *Community Participation and Mitigation Ordinance*
- *Floodplain and Erosion Hazard Management Ordinance*
- Pima County/City of Tucson *Standard Details for Arizona Land Boundary Surveys*
- *Hydrology Manual for Engineering Design and Flood Plain Management,* 1979
- *Roadway and Development Street Standards Manual (Draft)*, 2020
- *Pima Regional Trail System Master Plan* (PRTSMP), 2012

Other documents used to establish criteria:

- PAG Standard Specifications for Public Improvements, current edition
- PAG Standard Details for Public Improvements, current edition
- TDOT *Traffic Signal Design Manual*, 2003
- The American Association of State Highway Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets* (Green Book), 2018
- AASHTO, *Roadside Design Guide* (RSDG), 2011
- AASHTO, *Guide for the Development of Bicycle Facilities* (GDBF), 4th Edition, 2012
- AASHTO, *Standard Specifications for Highway Bridges*, 1996, and revisions 1997 - 1999,
- AASHTO, *Load and Resistance Factor Design (LRFD) Bridge Design Specifications*, 8th Edition
- Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 Edition (With Arizona Supplement included) and revisions
- FHWA, *Hydraulic Design of Energy Dissipaters for Culverts and Channels*, 1983
- FHWA, *Urban Drainage Design Manual, Hydrologic Engineering Center-22 (HEC-22)*, 2001
- FHWA, *Evaluating Scour at Bridges*, *HEC-18*
- Transportation Research Board *Highway Capacity Manual* (HCM)
- ADOT *Materials Preliminary Engineering and Design Manual*
- ADOT *Bridge Design Guidelines* (BDG)
- ADOT *Roadway Design Guidelines* (RDG), 2012
- ADOT Standard Drawings (current revisions and updates)

- ADOT *Traffic Guidelines and Processes* (TGP), current edition
- BNSF Railway & Union Pacific Railroad, *Guidelines for Railroad Grade Separation Projects, Rev 2016*
- Golder & Associates *Initial Geotechnical Report: Sunset Rd: I-10 to River Road, Golder & Associates,* August 2020.
- Golder & Associates *Initial Pavement Design Report: Sunset Rd: I-10 to River Road, Golder & Associates,* August 2020
- Other supplemental ADOT design guidelines and policies

A summary of the design criteria is presented in Table 7.

Table 7 – Design Criteria

Description	Desirable Criteria Value	Criteria Source
Design Year	2045 (Base Year 2019)	
Pavement Structural Section	20-year Design Life	RDM Section 3.13
Roadway Classification	Urban Arterial	
Level of Service (LOS)	D or Better	RDM Section 3.15
Average Daily Traffic (ADT)	PAG Model w/ Local Adjustments	
Design Speed (Recommended Posted Speed)		
Sunset Road	40 mph (35 mph)	
River Road	50 mph (45 mph)	
Horizontal Alignment		
Control Location	Roadway Centerline	
Stopping Sight Distance	305'	RDM Table 2-3 AASHTO Green Book Table 3.1
Minimum Curve Radius (Without Superelevation)	762' (See Note 1)	AASHTO Green Book Table 3.13
Minimum Horizontal Curve Length	500'	RDM Pg. 2-3
Maximum Angle Break	1° 08'	RDM Pg. 2-3
Maximum Superelevation	0.04 ft/ft (See Note 2)	RDM Pg. 2-3
Vertical Alignment		
Control Location	Roadway Centerline	
Maximum Gradient	3% (Flat Terrain); 4% Near Sunset TI	RDM Section 2.4
Minimum Gradient	0.50%	RDM Section 2.4
Vertical Grade Break	4%	RDM Section 2.4
Vertical Curve Length	3 x Design Speed (Min.)	RDM Section 2.4
Vertical Clearance		
Over Railroad	23'-6" (See Note 3)	ADOT BDG Section 2
Over I-10 Mainline	16'-6"	ADOT BDG Section 2
Sign Structures	18'-6" Min.	ADOT BDG Section 2
Cross-Sectional Elements		
Lane Widths		
Through Lanes	12' (See Note 4)	RDM Table 2-1 ADOT RDG Figure 306.4A
Right Turn	13'	RDM Table 2-1
Left Turn	13' (w/ Median Curb)	RDM Table 2-1
Paved Shoulder	6'	RDM Table 2-1
Raised Median Width	Varies: 22' Std., 20' Min. (See Note 5)	RDM Table 2-2
Pavement Cross Slope	-2% (Normal Crown)	RDM Table 2-2
Sidewalk Width	5'; 6' Adjacent to Curb	RDM Pg. 2-6
Clear Zone Width	16' (See Note 6)	AASHTO RSDG, Table 3-1
Side Slopes		
Within Clear Zone	4:1 Cut & Fill (Min.)	RDM Table 2-2
Outside Clear Zone	4:1 Cut & Fill (Std.) 3:1 Cut & Fill (Min.) or Retaining Wall	RDM Table 2-2
Intersections and Driveways		
Design Vehicle	Right & Left Turns: WB-62 WB-67 w/in ADOT Right-of-way Dual Left-Turn: WB-62 (Outside Left) (WB-67 used) SU-30 (Inside Left) U-turn: Passenger Car	RDM Section 2.5
Bay Taper Rate or Length	Left-Turn Lane: 100' (Single Lane) 175' (Dual Lanes) Right-Turn Lane: 15:1 Taper 90' (ADOT)	PMDM Sheet No. 4-6.1 (40 - 45 mph) PMDM Sheet No. 4-7 (35 mph or More) ADOT TGP 430
Minimum Storage Length	110' (S = 40 mph or Less) 150' (S = 45 mph or more) (See Notes 7 & 8)	PMDM Sheet Nos. 4-6.1 & 4-7
Lane Addition	$WS^2/60$ – 40 mph or Less (See Note 8)	PMDM Sheet No. 4-1
Lane Drop	$WS^2/60$ – 40 mph or Less (See Note 8)	PMDM Sheet No. 4-1
Maximum Grade	6%	RDM Section 2.5
Maximum Grade Break	8%	RDM Section 2.4

Description	Desirable Criteria Value	Criteria Source
Intersections and Driveways (cont'd)		
Curb Radii	35' Min. Arterial/Arterial 30' Min. Arterial/Collector 25' Min. Arterial/Driveway 75' Min. ADOT TI	RDM Section 2.5 ADOT RDG Figure 505.1B
Intersection Sight Distance	ISD = $1.47V_{major}t_g$	RDM Appendix 2-C AASHTO Green Book Chapter 9
Skew	20° Max.	RDM Section 2.5
Curb & Barrier		
Vertical Curb	PAG Type 1 ADOT Type G	PAG Std Dtl. 209 ADOT Std. Dwg. C-05.10
Curb & Gutter	PAG Type 1(G) ADOT Type G	PAG Std Dtl. 209 ADOT Std. Dwg. C-05.10
Combination Pedestrian/Traffic Barrier	ADOT SD 1.12	ADOT SD 1.12
Shared-use Paths		
Design Speed	15 mph	PRTSMP Pg. 55 RDM Section 2.6 AASHTO GDBF Pg. 5-12
Horizontal Alignment		
Control Location	Path Centerline	
Minimum Radius	40'	AASHTO GDBF Table 5-2
Vertical Alignment		
Control Location	Path Centerline	
Maximum Gradient	5% (See Note 9)	AASHTO GDBF Pg. 5-16
Minimum Gradient	0.50%	AASHTO GDBF Pg. 5-17
Vertical Clearance		
Under Roadway	12' Min.	PRTSMP Pg. 55
Cross Sectional Elements		
Cross Slope	2% Max.	AASHTO GDBF Pg. 5-15
Path Width	12'	PRTSMP Pg. 55
Shoulder Width	2' & 4' unpaved (See Note 10), 6' Adjacent to Bridge Abutments	PRTSMP Pg. 55
Intersections		
Intersection Sight Distance	Varies Depending on Design	Refer to AASHTO GDBF Section 5.3

Notes:
1. Per AASHTO Green Book, Method 2 for 40 mph design speed.
2. Assumes 0.04 ft/ft max for urban condition. There are no superelevated curves on Sunset Rd. Design matches existing superelevated curves along River Rd.
3. ADOT minimum is 23'-6" through entire UPRR right-of-way width; 23'-4" required by UPRR.
4. 12' per PCDOT request to match ADOT typical section.
5. 20' minimum used along Sunset Rd. Existing raised median along River Rd. is 20'. Dimension measured from edge of pavement to edge of pavement.
6. Based on 40 mph design speed and ADT over 6,000.
7. Actual storage lengths based on findings in Traffic Report.
8. W=Lane Width; S=Posted Speed. 40:1 lane shift taper used per ADOT RDG Fig. 505.3.
9. Maximum grade allowed by ADA.
10. Minimum 2' wide graded shoulder; 3'-5' wide graded shoulder ideal (AASHTO GDBF Pg. 5-5).

Drainage Design Criteria

The design criteria for the Sunset Road project is in accordance with Pima County's RDM Manual, Revised 2016; Reference 3 and the District's Policies. The three categories of drainage design and analysis are: Onsite Drainage, Offsite Drainage, and River Hydraulics. The specific criteria for each are provided in the tables below.

Table 8 – Onsite Drainage Design Criteria

Design Element	Criteria
Design Storm	10-year (for both roadside ditch and storm drain system)
Spread Criteria	1-lane pavement width to be left clear in each direction
Minimum T_c	5-minute
Minimum Storm Drain Size	18" for laterals, 24" for trunk lines
Pipe Material	Reinforced concrete pipe (RCP) unless otherwise approved by the County Engineer
Design Velocity	Minimum 3 feet per second (fps) at full flow
Pressure Flow Design	HGL 1' minimum below inlet
Catch Basin Capture Ratios	Per Table 2-9 in RDM

T_c = time of concentration

Table 9 – Offsite Drainage Design Criteria

Design Element	Criteria
Design Storm	100-year (for roadside channels and culverts) under roadway preferred
Minimum T_c	5-minute
Minimum Culvert Size	24" diameter for pipe culverts & 6' x 5' (span x height) box culvert
Culvert Material	Reinforced concrete
Design Velocity	Meet or exceed existing condition upstream sediment transport capacity

T_c = time of concentration

Table 10 – Rillito Creek River Design Criteria

Design Element	Criteria
Design Storm	100-year design flow rate – PCRFCD provided
Minimum Freeboard	100-year 3', 500-year 1'
Scour Analysis	100-year design storm with debris loading
Debris Loading	2 x pier diameter to a maximum of 4' additional width for debris

3.2 CROSS SECTION ELEMENTS

Sunset Road's typical section, presented in Figure 2, is a four-lane divided, curbed roadway with two 12' wide travel lanes and a 6' wide shoulder in each direction, and a raised median. Left- and right-turn lanes will be constructed at the entrances to the Sunset Innovation Campus and at the I-10/Sunset Road TI. The clear zone width is 16'. A maximum cut and fill slope of 3H:1V is used outside of the clear zone.

River Road will be widened to the south of the existing edge of pavement to accommodate a 13' wide right-turn lane and the 20' wide median modified to accommodate a 14' wide left-turn lane on the eastbound approach to the proposed Sunset Road/River Road T-intersection. The width of the new pavement section ranges from about 1' to 10'. On the westbound approach to the intersection, the 20' wide median will be modified to accommodate a 14' wide left-turn lane. The existing pavement section on westbound River Road in the vicinity of the new westbound left-turn lane and intersection will be milled to a 2" depth and replaced with 2" of asphaltic concrete pavement.

Along both sides of Sunset Road, 12' wide asphaltic concrete shared-use paths will be constructed, respectively, to connect multi-modal users to The Loop system on both ends of the project and the El Corazon system at the south project limits.

A new 20' wide access road that begins at Tres Nogales Road and terminates just west of Sunset Road will have an inverted crown with vertical curb on each side of the road. The roadway was designed with an inverted crown to aid in the conveyance of offsite drainage under the new bridge.

An *Initial Geotechnical Report* and *Initial Pavement Design Report* has been prepared as part of the project development. A pavement design analysis was performed to develop the pavement structural sections shown in the Segment II DCR Level 15% plans in Appendix 3 and summarized in the Initial Pavement Design Report.

3.3 ROADWAY GEOMETRICS

The proposed improvements will meet all the criteria identified in Table 7 – Design Criteria, except as follows:

- The horizontal curve length on Sunset Road located north of the UPRR bridge. The length of curve was shortened to less than 500' in order to keep the curve off the proposed UPRR bridge for ease of construction.
- The horizontal curve radius on the access road north of the UPRR right-of-way. The 35' radius in the roadway alignment was designed to get around the north UPRR bridge abutment. An AutoTurn analysis was performed to determine if a WB-62 design vehicle could maneuver through the curve. The results indicate that a WB-62 can maneuver through the curve with minor tracking into the opposite lane.

4.0 MAJOR DESIGN FEATURES

4.1 INTRODUCTION

This section describes the design controls and features for the Recommended Alternative. Appendix 3 contains the preliminary plan sheets for the Recommended Alternative. The major design features associated with the Sunset Road project are as follows:

- Construct a new roadway with two travel lanes and a paved shoulder in each direction and left- and right-turn lanes from north of the Santa Cruz River bridge to River Road. A raised median will be constructed that begins approximately 725' north of the Santa Cruz River bridge and terminates at River Road.
- Construct Sunset Road over the I-10 mainline and tie into the elevated I-10 EBFR and WBFR. New traffic signals will be installed as part of the ADOT I-10: Ina Road to Ruthrauff Road widening project.
- Construct 12' wide asphaltic concrete shared-use paths on both sides of Sunset Road to connect the Rillito Creek south bank shared-use path to the new and elevated Sunset Road.
- Reconstruct the existing 12' wide shared-use path along the north bank of the Rillito Creek to run under the new Sunset Road bridge over the Rillito Creek to provide the required vertical clearance under the bridge. The existing path connection from the north bank path to River Road will be realigned to connect to the new Sunset Road/River Road T-intersection.
- Construct 12' wide asphaltic concrete shared-use paths along each side of Sunset Road to connect The Loop along the EBFR to the El Corazon paths near the Santa Cruz River bridge.
- Construct a 16'x14' RCBC without the bottom concrete slab (equipment pass) to protect the PCRWRD interconnect sewer line (60" and 72" HOBAS Pipe) in place and connect the shared-use paths on both sides of Sunset Road.
- A new signalized T-intersection at River Road.
- A new four-leg intersection at the Sunset Innovation Campus main (northern) entrance. This intersection also accommodates future dual left-turn lanes onto the campus on the southbound approach to the intersection.
- A new T-intersection at the southern entrance of the Sunset Innovation Campus.
- A new 255' long two-span bridge over the UPRR right-of-way and proposed access road/drainage channel.
- A new 390' long three-span bridge over the Rillito Creek.
- A new 20' wide access road north of the UPRR right-of-way that traverses under Sunset Road from Tres Nogales Road to just west of Sunset Road.
- ADA compliant curb access ramps and sidewalk.
- A water harvesting channel on the east side of Sunset Road running from I-10 southerly towards the Santa Cruz River.
- Construct cross culverts.
- An onsite pavement storm drain system.

4.2 HORIZONTAL AND VERTICAL ALIGNMENTS

The Sunset Road horizontal alignment (south to north) contains three horizontal curves with radii of 1,550', 3,700' and 800' and three tangent sections ranging from about 465' to 984'. The first curve with a 1,550' radius starts about 1,100' north of the Sunset Road/Silverbell Road intersection and is 575' long. The second curve with a 3,700' radius starts about 870' south of the EBFR and is about 516' long. The third curve with an 800' radius starts about 290' north of the WBFR and is about 440' long. Sunset Road is designed to accommodate a 2% normal crown based on a 40-mph design speed.

The Sunset Road vertical alignment contains two crest vertical curves of lengths 300' (south of TI) and 600' (on UPRR bridge). There are three sag vertical curves of lengths 300' north of the Santa Cruz River bridge, at the Sunset Innovation Campus main entrance, and between the UPRR and Rillito Creek bridges. The longitudinal grades range from about 0.5% to about 4%. The proposed vertical alignment satisfies sight distance requirements for the 40-mph design speed.

The existing River Road horizontal alignment will be maintained and meets the requirements for a 50-mph design speed. Within the project limits, this alignment (west to east) contains one horizontal curve with a radius of 1,640'. The curve with a 1,640' radius is about 966' long and starts about 890' west of the proposed Sunset Road/River Road T-intersection. The existing cross slope is superelevated at 3.5% and will be maintained. The existing horizontal curves and superelevation of River Road meet a 50-mph design speed per AASHTO requirements.

River Road will be widened to the south to accommodate a 13' wide right-turn lane for the eastbound to southbound movement onto Sunset Road. The width of the new pavement section ranges from about 1' to 10'. The existing vertical alignment on River Road will be maintained except for about 800' in the eastbound direction that will need to be raised to accommodate the tie-in of the new Sunset Road/River Road T-intersection. This is necessary due to the superelevated condition of River Road. The new eastbound vertical alignment at 24' right of the River Road centerline contains one crest vertical curve with a length of 135' (near the Sunset Road/River Road intersection) and one sag vertical curve with a length of 200' (east of the Sunset Road/River Road intersection). The longitudinal grades range from about 0.25% to 1.66%. The vertical alignment satisfies the sight distance requirements for the 50-mph design speed.

There is a total of six new shared-use paths on the project. Two of the shared-use paths are located south of I-10, along each side of Sunset Road. They connect The Loop pathway located along the south side of the EBFR to the existing paths located just north of the Sunset Road bridge over the Santa Cruz River. There are two new shared-use paths that connect the existing south bank path along the Rillito Creek to the new elevated Sunset Road alignment on each side of Sunset Road. The existing north bank path along the Rillito Creek will be reconstructed to run under the new Sunset Road bridge over the Rillito Creek to provide the required vertical clearance under the bridge. The existing path connection from the north bank path to River Road will be realigned to connect to the new Sunset Road/River Road intersection. The shared-use path curve radii range from 40' to 1,647'.

The length of the shared-use path curves varies from 22' to 288'. The paths south of I-10 generally follow the toe of the fill slopes from The Loop connection to the main Sunset Innovation Campus intersection and then is situated about 5' from the new Sunset Road edge of pavement between the main Sunset Innovation Campus entrance to the existing path connections near the Santa Cruz River bridge. The new paths north of I-10 near the Rillito Creek south bank are oriented parallel to Sunset Road and switchback to provide enough path length to meet maximum ADA path grades. All shared-use path horizontal alignments meet a 15-mph design speed.

The new shared-use path vertical grades range from 0.5% to 5%. The two path connections at The Loop, south of I-10, tie into existing grades of 7%. There are several vertical curves that range from 40' to 300' in length. The cross slope of all new shared-use paths will be 1.5%. All shared-use path vertical alignments meet a minimum of 15-mph design speed.

The new access road horizontal alignment contains one horizontal curve with a radius of 35' and four tangent sections that range from 90' to 266' in length. The 35' radius curve is required to get around the north UPRR bridge abutment. The vertical alignment consists of a single tangent grade of 0.5% for the entire length of the alignment which drops to the west. The proposed curve does not meet minimum local road requirements but was determined to be feasible based on the use of turning templates utilizing a WB-62 design vehicle

4.3 RIGHT-OF-WAY

New right-of-way will be required from PCRFCD south of I-10 to accommodate the fill slopes and drainage channels for Sunset Road as it approaches the EBFR at the new I-10/Sunset Road TI. A new aerial easement will be required from UPRR for the proposed bridge over the railroad. New right-of-way and easements will be required from PCRFCD and two private landowners north of the UPRR right-of-way to accommodate the roadway, fill slopes, and drainage channels for Sunset Road up to River Road. Pima County has met with the owners of the private parcels and will continue coordination for acquisition. The timing of the acquisitions is yet to be determined. Preliminary Right-Of-Way Plans are attached in Appendix 4.

4.4 ACCESS CONTROL

4.4.1 Change of Access Memorandum

The *Final Change of Access Memorandum of Understanding Sunset Road TI* (COAM), dated August 2012, was prepared by Kittelson & Associates, Inc. for ADOT as part of the I-10: Ina Road TI to Ruthrauff Road TI DCR phase. The report was approved by PDOT and TDOT in August 2012 and ADOT in September 2012. The key recommendations in the report for Sunset Road is as follows:

- Reconstruct Sunset Road to be elevated over I-10 and UPRR.
- Construct Sunset Road between Silverbell Road and I-10 to include at least one travel lane in each direction.
- Construct Sunset Road between I-10 and River Road to include at least two travel lanes in each direction.
- The existing diamond TI configuration that provides access to and from the I-10 mainline (two on-ramps and two off-ramps) will be maintained for the proposed TI configuration. Therefore, access to and from the I-10 mainline is unchanged.
- To comply with ADOT access control requirements contained in their manual Access Control Model for Crossroads on Controlled Access Highways (Draft), dated December 2006, once Sunset Road is reestablished between Silverbell Road and the I-10 EBFR, the report states the following:
    - *Westbound left-turn movement should be prohibited within 1,320' downstream from the radius return of the EBFR and Sunset Road intersection* (Kittelson, 2012, p. 29).

- *The first right-in right-out only access point in the westbound direction should be located at least 750 feet from the radius return of the EBFR and Sunset Road intersection* (Kittelson, p. 29) .
- *The last right-in right-out only access point in the eastbound direction should be located at least 990 feet upstream of the start of the right-turn lane taper at the EBFR and Sunset Road intersection* (Kittelson, p. 29).

- To comply with ADOT access control requirements, it is recommended that no access points be provided to Sunset Road between the WBFR and River Road since the distance is short.

4.4.2 Access Control for the Proposed Sunset Road Alignment

Access control along Sunset Road will respect ADOT's full access control policies in the vicinity of the frontage roads.

Between Silverbell Road and I-10, the main access point onto the Sunset Innovation Campus will be a four-legged signalized intersection that will accommodate all traffic movements. It is approximately 900' from the radius return of the EBFR. This falls within the limits of 1,320' downstream of the EBFR radius return for westbound left-turn movements identified in the COAM referencing ADOT's 2006 Draft *Access Control Model for Crossroads on Controlled Access Highways*.

The ADOT *Access Control Model for Crossroads on Controlled Access Highways* was never finalized and is no longer available as a reference; therefore, other resources were used to determine the requirements for the location of a full median opening and signalized intersection. The ADOT TGP 1060 states *in an urban area the median openings between intersections can be no closer than 660 feet of an improved public street or another median opening.* The ADOT RDG, Section 506 Access Control states that *Full access control shall extend along the crossroad a minimum of 660 ft beyond the end of exit ramp radius return. From entrance ramps, full access control shall extend along the crossroad a minimum of 330 ft beyond the radius return.* The median opening for the future signalized intersection at the Sunset Innovation Campus falls outside of the limits specified in the TGP and RDG.

For a signalized intersection, Section 506 Access Control of the RDG states that *The nearest signalized intersection should be located at least 2640 ft from any ramp intersection unless existing conditions dictate otherwise, or unless an operational analysis can justify a closer proximity.* Since the signalized four-legged intersection for the Sunset Innovation Campus is approximately 900' from the Sunset Road/EBFR intersection, an operational analysis was performed. The 2045 operational analysis for the Sunset Road improvements indicates that all intersections along the corridor will perform at a LOS D or better with the proposed signalized Sunset Road/Sunset Innovation Campus intersection.

No vehicular access will occur north of I-10 until Sunset Road intersects with River Road as stipulated in the COAM.

4.5 EARTHWORK

The proposed vertical alignment will result in primarily large fill sections from the northern intersection serving the Sunset Innovation Campus to the EBFR and from the northern UPRR bridge abutment to the Southern Rillito Creek bridge abutment. A maximum cut and fill slope of 3H:1V is used outside of the clear zone. Based on the proposed vertical alignment, the preliminary earthwork for the bridge, drainage and roadway construction is anticipated to be approximately 230,000 cubic yards of embankment. Final earthwork factors and slope recommendations will be developed as part of the geotechnical investigations. The site preparation for the roadway should be as outlined in the final geotechnical engineering report for this project.

4.6 DRAINAGE

4.6.1 Proposed Cross Drainage Improvements

The proposed offsite drainage facilities collect and/or direct stormwater before reaching the proposed Sunset Road alignment. All proposed facilities are designed to maintain the existing drainage patterns in the vicinity of the project.

North of I-10

The offsite drainage north of I-10 is comprised of an open channel system consisting of a culvert, earthen channel, and concrete lined channel. The system begins at the southeast end of the proposed shared-use path and is routed south towards the Sunset Road bridge over the UPRR. The channel continues under the Sunset Road bridge to the west side of Sunset Road where it changes direction to the northwest and terminates at an existing culvert discharging into the Rillito Creek near the end of the shared-use path. This open channel system collects sheet flow from the north and redistributes the sheet flow along the west side of Sunset Road closely matching the existing condition.

South of I-10

The south portion of Sunset Road will be curbed for approximately 800' beginning at the I-10 EBFR and will be uncurbed for the remaining improvements to the south. A new roadside earthen channel and a driveway culvert under the Sunset Innovation Campus main entrance, proposed along the east side of Sunset Road and the shared-use path, will convey both onsite and offsite runoff. This configuration virtually replaces the existing channel due to the widening of Sunset Road. The existing drainage swale and catch basins along the west side of the uncurbed portion of Sunset Road will be reconstructed further to the west to accommodate the widening of Sunset Road and runoff will be directed to the south as currently conveyed.

4.6.2 Pavement Drainage

The onsite drainage facilities for this project include curb catch basins, bridge deck drains, and roadside ditches with catch basins to collect the stormwater exiting the roadway. Catch basins will be placed to collect runoff within the limits of the curbed section on Sunset Road in accordance with maximum depth of flow and spread criteria. Bridge deck drains will be used to convey pavement drainage on the bridge over the Rillito Creek. A roadside swale and catch basins will be constructed to the west of the Sunset Road uncurbed paved section south of I-10 to convey runoff from the roadway to the south to the Santa Cruz River. This swale will replace the existing one and allow for the widening of Sunset Road as part of this project.

This project also requires improvements within the River Road right-of-way to accommodate traffic to and from the new Rillito Creek bridge. These improvements will require the relocation and replacement of existing catch basins and storm drain to maintain the current drainage design in the River Road right-of-way.

4.6.3 FEMA Floodplains

The proposed alignment of Sunset Road crosses the Rillito Creek and a new three-span bridge is recommended for the crossing. The location of the proposed bridge includes existing soil cement bank protection and paved shared-use paths on both sides of the river. Several iterations of bridge configurations were evaluated to identify the preferred three-span bridge configuration, including the bridge abutments and revised shared-use path geometry. Additional design elements include the tie-in to River Road immediately north of the bridge and the re-alignment of the shared-use path along the north bank to provide adequate vertical clearance while maintaining ADA compliance for the path.

The Rillito Creek is a FEMA regulated watercourse with established 100-year water surface elevations. A "No Rise" design requirement is in place for this project—the proposed improvements cannot result in an increase in the 100-year water surface elevations or significant impacts to the 100-year floodway for the Rillito Creek. To satisfy this requirement, a preliminary hydraulic model was developed for proposed conditions within the Rillito Creek to demonstrate the "No Rise" criterion can be satisfied for the proposed bridge design. In addition, the 500-year floodplain limits were analyzed to ensure they do not impact "Critical Facilities" as required by the City of Tucson.

The proposed Sunset Road bridge would cross Rillito Creek floodway and its floodplain. No other drainages would be impacted as a result of the project. Current river topography must be updated for final design to account for significant changes in the terrain within the project area. The project is not expected to substantially modify the topography of the floodplain by placement or removal of materials within the floodplain; however, the updated topography requirement implies there is a high probability that a Conditional Letter of Map Revision (CLOMR) and ultimately a Letter of Map Revision (LOMR) will be required for final design. It is anticipated that no new properties will be subject to additional flood hazard. The final designer will need to coordinate with the PCRFCD and the City of Tucson.

Preliminary scour calculations for the new bridge were also provided in accordance with Pima County directives so that the proposed bridge piers and abutments will be designed to adequate depth. The proposed bridge will result in minimal disturbance to the existing Rillito Creek floodplain.

4.6.4 Section 401, 404 and 408 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into Waters of the United States (US) (Waters), which are regulated by the United States Army Corps of Engineers (USACE). Under Section 401 of the CWA, a 404 permit cannot be authorized unless the state or authorized tribe issues a Section 401 water quality certification verifying compliance with existing water quality requirements or waives the certification requirement.

Within the survey area one drainage, the Rillito Creek, has been preliminarily identified as potential Waters. The Rillito Creek flows from southeast to northwest and joins the Santa Cruz River approximately 0.8 mile downstream from the northwest edge of the survey area. The USACE issued a preliminary jurisdictional delineation of the project study area on March 16, 2020.

The project would require work within the jurisdictional limits of the Rillito Creek and, therefore, would require compliance with Section 404 and Section 401. The project design will be evaluated to determine temporary and permanent impacts to Waters and the appropriate permitting requirements. The soil cement banks of the Rillito Creek were constructed with USACE funding. Because banks of the river would need to be modified to accommodate the river bridge and to relocate The Loop shared-use path, a Section 408 permit would also be required for the project.

4.7 STRUCTURES

4.7.1 Bridge Structures

Rillito Creek

The northern abutment location and the structure depth were established based upon the need to maintain approximately 12' of vertical clearance between the shared-use paths associated with The Loop along the Rillito Creek and the bottom of the bridge girders. In addition, abutments were located to provide a minimum of 6' of horizontal clearance between abutment face and edge of path. The three-span configuration was based upon the maximum structural depth leading to a Type V modified AASHTO girder and the need to span the Waters of the US and the live river flow in the Rillito Creek as well as provide a 3' and 1' minimum freeboard for the 100-year and 500-year event, respectively. Standard girder lengths were able to be achieved with a length of 128'-1" for spans 1 and 3, and a length of 129'-5" for span 2 for a total length of approximately 390'. The bridge cross section was established to accommodate:

- Clear roadway width of 31'-0" on both the northbound and southbound side
- A 6' wide median
- 6'-8 ½" wide sidewalk
- 1'-2" wide combination pedestrian-traffic bridge railing on the outside edges
- 2% cross slope

The bridge will drain into scuppers placed appropriately along each span.

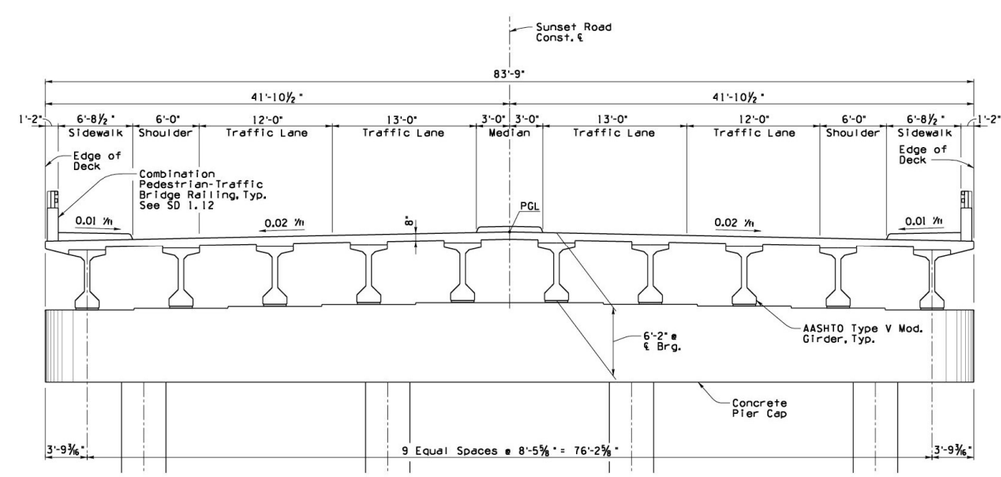

Figure 6 – Rillito Creek Bridge Cross Section

UPRR

Sunset Road will cross the UPRR and adjoining access road/drainageway on a 255'-0" long structure. The structure length was established to span the UPRR right-of-way and provide room for an access road/drainageway north of the UPRR right-of-way. UPRR has stated that they will require their entire right-of-way be clear of any piers or obstructions. To minimize impacting railroad operations, only prefabricated superstructure alternatives have been developed. An additional alternative that includes a pier in the UPRR right-of-way has been developed and is included in the Preliminary Bridge Selection report to evaluate the cost savings if UPRR provides a variance to the right-of-way being clear of obstructions.

The southern abutment location and the structure depth were established based upon the clearance requirements of the railroad.

The recommended alternative calls for span 1 to be 206'-0" to clear the UPRR right-of-way and span 2 to be 44'-6" to span the access road and drainage channel. For span 1, the superstructure consists of 15 girder lines of built-up Steel Plate Girders (86" deep) spaced at 7'-10-1/2" with 3'-9" overhangs, resulting in an out-to-out deck width of 117'-9" except in the vicinity of the south abutment due to the roadway flare. Here the deck width widens to approximately 177'-3", with an overhang width that varies to approximately 30' requiring a cast-in-place beam deck framing system. The deck is 8" thick resulting in an overall depth of 8'-0". For span 2 the superstructure consists of 15 girder lines of WF 24x117 rolled steel beams spaced at 7'-10-1/2" with 3'-9" overhangs, resulting in an out-to-out deck width of 117'-9". The deck is 8" thick, and the overall structure depth is 2'-10".

The bridge cross section shown in Figure 7 was established to accommodate:

- Clear roadway width of 31'-0" on the northbound side
- Clear roadway width of 56'-0" on the southbound side
- 15'-0" wide median
- 6'-8 ½" wide sidewalk
- 1'-2" wide combination pedestrian-traffic bridge railing on the outside edges
- 2% cross slope
- 23'-6" minimum vertical clearance over the top of rail in the UPRR right-of-way

The bridge will drain into appropriately spaced catch basins with runoff discharged off of UPRR right-of-way.

4.7.2 Retaining Wall Structures

New retaining walls in varying length and height will be required as identified on the plans in Appendix 3 and summarized below. No separate retaining wall report has been prepared at this time. The total area of the walls is approximately 19,750 square feet. The retaining wall types that could be considered for this project are CIP concrete cantilevered walls on spread footings and mechanically stabilized earth (MSE) walls. Retaining walls will be designed in accordance with the latest AASHTO LRFD Bridge Design Specifications – Customary US Units, 1995 ADOT Retaining Wall Policy, Memorandum No. 95-02 and ADOT Bridge Design Guidelines.

Walls Along Sunset

Station (Sta) 104+42 to 105+25 Left (attached to UPRR Bridge north abutment); Length (L)=80'; Wall angled 45 degrees from roadway. Required to contain fill to make room for an access road and offsite drainage.

Sta 104+42 to 106+70 Right (attached to UPRR Bridge north abutment); L=225'; Runs parallel to Sunset Road at back of sidewalk. Required to contain roadway fill to make room for offsite drainage and Tres Nogales Road cul-de-sac.

Sta 110+69 to 111+25 Left (attached to Rillito Bridge south abutment); L=80'; Wall angled 45 degrees from roadway. Required to contain fill from encroaching onto Rillito south bank shared-use path.

Sta 110+69 to 111+25 Right (attached to Rillito Bridge south abutment); L=80'; Wall angled 45 degrees from roadway. Required to contain fill from encroaching onto Rillito south bank shared-use path.

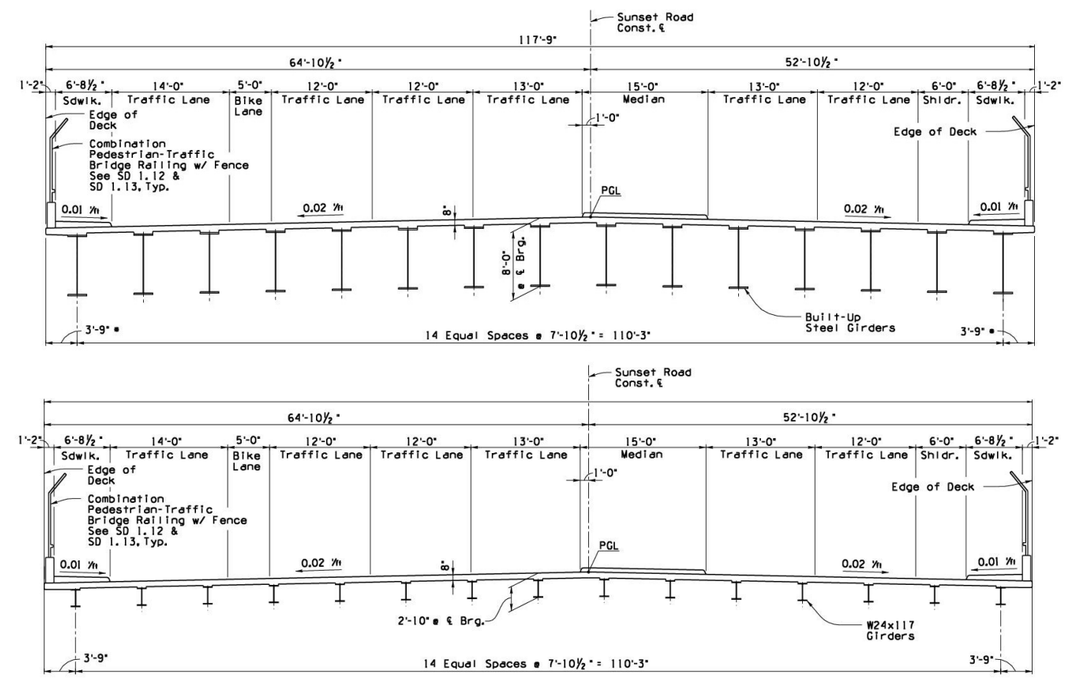

Figure 7 – UPRR Bridge Cross Section

Walls Along Eastbound Frontage Road

Sta 1930+29 to 1931+84 Right; A retaining wall will be needed along the south side of the EBFR, west of Sunset Road, to maintain access to existing utilities and prevent the frontage road embankment from encroaching onto The Loop path; L=200'; Runs parallel to EBFR.

Sta 1933+79 to 1935+75 Right; A retaining wall will be needed along the south side of the EBFR, east of Sunset Road to maintain access to existing utilities; L=200'; Runs parallel to EBFR.

Walls Along Shared-Use Paths

Left Shared Use Path: Retaining walls needed at various locations along the switchback of the shared-use path to contain fill slopes. L= 230' for left path walls.

Right Shared Use Path: Retaining walls needed at various locations along the switchback of the shared-use path to contain fill slopes and to make room for vehicle access around the existing maintenance building. L= 335' for right path walls.

4.7.3 Reinforced Concrete Box Culvert

A 255' long 16'x14' RCBC Equipment Pass (ADOT SD 6.07 (Modified)) without the bottom concrete slab and supported on drilled shafts will be constructed to protect the HOBAS fiberglass pipe (60" to 72") in place and avoid increased embankment loading on the pipe. This box culvert will also connect The Loop trail system providing access under Sunset Road. The final design should take into consider lighting and security.

4.8 TRAFFIC

4.8.1 Signing and Pavement Marking

Signing

Existing signing along the Sunset Road and River Road sections impacted by the proposed improvements will be removed and salvaged. New ground-mounted signs (regulatory, warning, markers and guide) will be installed along Sunset Road and River Road. Overhead guide signs will be installed on two new tubular sign structures on the northbound and southbound approaches to I-10.

Pavement Marking

Sunset Road will be striped to include two through lanes in each direction except where it transitions to tie into Sunset Road's three lane section (one through lane in each direction and a two-way left-turn lane) at the south end of the project limits.

There will be two entrances at the Sunset Innovation Campus. The south entrance will be an unsignalized T-intersection that will be striped to include exclusive right- and left-turn lanes from Sunset Road onto the campus and a right- and left-turn lane from the campus onto Sunset Road. A stop bar will be striped across only the westbound approach leg. The main entrance will be a future signalized four-legged intersection. The northbound approach will be striped to include an exclusive right-turn lane onto the campus and a westbound left-turn lane for the future Pima County Regional Park. The southbound approach is designed to accommodate dual left-turn lanes from Sunset Road onto the campus; however, in the interim only one left-turn lane will be striped for use. The westbound approach will have a shared left-turn/through lane and an exclusive right-turn lane and the eastbound approach will have one lane to accommodate all movements. A stop bar and crosswalk will be striped across all the approach legs, except the northbound approach which will have only a striped stop bar.

At the intersection of Sunset Road with the EBFR and WBFR, the approaches will include an exclusive right- and left-turn lane, stop bars, and crosswalks.

At the Sunset Road/River Road T-intersection, the through lanes on Sunset Road transition into exclusive right- and left-turn lanes. River Road has two through lanes in both directions. The eastbound approach will include an exclusive right- and left-turn lane (for U-turns only) and the westbound approach will include one left-turn lane. A stop bar and crosswalk will be striped across all the approach legs, except the westbound approach which will have only a striped stop bar.

The 12' wide paths would be striped with a yellow centerline (dashed or double yellow as applicable) and white edge stripes.

Pavement markings and signing will conform to Pima County/City of Tucson requirements and the latest MUTCD with supplements and revisions. The posted speed limit on Sunset Road will be 35 mph and 45 mph on River Road.

4.8.2 Lighting, Signals and Intelligent Transportation System

The proposed roadway lighting design concept for Sunset Road will meet TDOT standards. This lighting concept utilizes the T 445 Type 2B street light poles with a mounting height of 35' and 20' span mast arms in a staggered lighting configuration where possible. All fixtures will be 95-Watt light-emitting diode (LED) Autobahn ATBM or equivalent luminaires with full-cutoff Type III distribution and a 3000K correlated color temperature (CCT). A new load center will be provided for lighting along Sunset Road outside of ADOT's right-of-way that will be paid for and maintained by the City of Tucson. The lighting concept should be further evaluated during final design to verify the lighting design criteria. The roadway lighting concept is presented on the roadway plans in Appendix 3.

The proposed Sunset Road/River Road intersection will utilize intersection lighting that conform to TDOT's traffic signal standards. TDOT traffic signal poles with a street light mast arm will be installed and include an LED luminaire (Autobahn ATB2-60BLEDE85_MVOLT with a 7-Pin Photocontrol receptacle, 850mA driver 3000K CCT unless otherwise directed by TDOT) with full-cutoff Type III distribution. The traffic signal and intersection lighting will be powered by a metered service pedestal connection that will be paid for and maintained by the City of Tucson.

All proposed lighting fixtures will adhere to the Pima County Outdoor Lighting Code (and its associated zone requirements), as well as City of Tucson requirements and dark-sky compliance.

The ITS infrastructure (conduit and pull boxes) will be extended from south of I-10 to connect with the new traffic signal system at the Sunset Road/River Road intersection.

The ADOT Freeway Management System that conflicts with the UPRR bridge south abutment will require relocation and coordination with ADOT Traffic Division on requirements.

4.9 UTILITY AND RAILROAD COORDINATION

4.9.1 Utility Coordination

Existing overhead and underground utilities within the proposed Sunset Road project limits will be impacted by the roadway improvements. In addition, coordination with companies for future utilities has been initiated to service the proposed Sunset Innovation Campus development on the southeast corner of the Sunset Road and EBFR intersection.

Multiple communication companies have facilities within the project limits. CenturyLink's fiber-optic system that runs parallel to the EBFR will be under significantly more embankment due to the Sunset Road profile being elevated to traverse over the I-10 mainline. Access features including manholes and pedestals, will need to be adjusted to grade or relocated. North of I-10, CenturyLink is a tenant on TEP overhead poles that will require adjustment due to the embankment conflicts.

Long-haul communication and petroleum lines that run parallel to the railroad tracks within the UPRR right-of-way should not be disturbed as a part of this project. Verification of the actual location of these facilities may be necessary during the final design phase.

AT&T and CenturyLink fiber-optic facilities running along River Road may be impacted with the installation of the new traffic signal at the proposed Sunset Road/River Road T-intersection. Pima County's (SCADA) communication system will require adjustment at the intersection of Sunset Road and the EBFR due to the raising of their profiles.

On the south side of I-10, TEP's distribution system that runs on the west side of Sunset Road will require relocation for the underground portion of the system just north of the Santa Cruz River bridge due to grading conflicts with the proposed roadway. In accordance with an agreement between Pima County and TEP (Contract Number CT-PW-18*121, effective date 11/21/2017), Pima County will be responsible for these relocation costs for up to 10 years. The portion of the system that transitions to overhead and connects with the EBFR feeder system should remain in place; however, it is proposed to construct a small retaining wall around the pole near Station 95+15 (Left) to prevent the new fill slope from encroaching onto the pole. The guy wire will need to be adjusted to grade for the new fill limits. The final designer will need to coordinate this retaining wall placement with TEP. The feeder system along the EBFR has a vault and pad mounted equipment just to the west of the intersection which will require relocation due to roadside embankment conflicts. This relocation cost will be the responsibility of TEP.

On the north side of I-10, TEP has an underground feeder system along the WBFR that will conflict with the new UPRR bridge. The TEP overhead transmission line traversing through the Rillito Creek is to remain in place since minimum vertical clearances are being met to the lowest conductor. The UPRR bridge has an extra span to accommodate an access road under Sunset Road to get from the east to the west side of Sunset Road. A maintenance road will be graded along the west side of the new Sunset Road alignment from the proposed access road to provide access to this transmission system. This maintenance roadway will be within a newly provided easement to gain access to the system as shown in the DCR Level 15% Plans in Appendix 3.

The additional embankment over PCRWRD's interconnect sewer system (HOBAS fiberglass pipe) would be approximately 30' in the ultimate condition at its current location. To avoid further deflection in the HOBAS fiberglass pipe, a 16'x14' RCBC (equipment pass) without the bottom concrete slab will be constructed to protect this sewer line in place and provide a connection for the shared-use paths on both sides of Sunset Road.

The PCRFCD operated 6" irrigation line that runs parallel to the south side of the EBFR and services the pecan orchard just west of the project is to remain in service after the proposed improvements. This line was repaired and extended in a sleeve to the west during the first phase of Sunset Road. There will be approximately 30' of embankment over this pipe from the proposed Sunset Road improvements. Therefore, during final design it will need to be determined if this line can be protected in place or will be required to be relocated to possibly traverse through the 16'x14' RCBC to avoid increased embankment loading on the pipe.

SWG, TW and MW also have facilities within the project limits where minor impacts are anticipated. These areas include along Tres Nogales Road and at the proposed Sunset Road/River Road T-intersection.

As part of this planning phase, utility companies were contacted to determine how the proposed Sunset Innovation Campus development would be serviced. TW plans to connect from an existing water main that stubs out just north of the I-10/Ruthrauff TI. This new line would traverse west along the WBFR, cross under I-10 through a sleeve just east of the proposed ADOT I-10/Sunset Road TI improvements, then traverse south along the west side of Sunset Road to connect to the existing water system along Silverbell Road. This proposed water line extension is reflected on the roadway plans in the DCR Level 15% Plans in Appendix 3. The development would be serviced from this new extension. Specific information regarding the water main including design and construction requirements will be determined during the final design phase. The proposed location of gas, power, sewer and telecom services for service to the proposed Sunset Innovation Campus development are shown in the DCR Level 15% Plans in Appendix 3 as well as on the drawings for the Future (Proposed) Utility Services for Sunset Innovation Campus in Appendix 7. Sleeves will be installed across Sunset Road for the future installation of utilities to the Sunset Innovation Campus. The cost for installing the sleeves under Sunset Road are included in the cost for the Utility Relocation Work under Table 12 – Estimate of Probable Cost: Santa Cruz River Bridge to I-10 EBFR. This item also includes costs for re-establishing the irrigation line that services the pecan orchards, the sewer force main that runs along the EBFR and the SCADA communication system that runs within the same corridor as the force main. Further evaluation will be required during final design for these facilities due to the additional overburden.

A subsurface utility engineering (SUE) investigation, including potholing is recommended between the 30% and 60% final design phases to verify locations of all utilities and initiate relocation design if necessary.

With the exception of the agreement between TEP and Pima County (Contract Number CT-PW-18*121, effective date 11/21/2017) for the relocations along Sunset Road stated previously, prior rights documentation has been requested from the other utility companies and to date no documentation has been provided.

4.9.2 UPRR Coordination

A new bridge structure will be required to span over the UPRR. This will be a new crossing and will require a considerable amount of coordination with UPRR. The entire coordination process can take up to a year or longer. Coordination

efforts between Pima County and UPRR are underway. On June 12, 2020, Pima County submitted for UPRR's review the Initial DCR with 15% Plans, *Draft Drainage Overview*, *Preliminary Bridge Selection Report for the Sunset Road Bridge over UPRR, Preliminary Geotechnical Report,* and a letter from Pima County requesting a variance for the horizontal clearance to include a pier within UPRR's right-of-way. The submittal package also included documentation of an existing easement within UPRR's right-of-way for Sunset Road. Following are the major milestones that need to be accomplished as well as their durations as the project progresses:

- During final design, both the Stage III (60%) and Stage IV (95%) project plans shall be reviewed and approved by UPRR and each approval can take up to sixty (60) days.
- Right-of-way appraisals are needed for the proposed aerial easement and any required temporary construction easements (TCE). An exhibit of the proposed aerial easement was prepared showing a width of 100' on each side of the new UPRR bridge for a total width of 200' within the UPRR right-of-way. TCEs will be needed from UPRR to construct the south abutment, girder erection and pier. The railroad requires forty-five (45) days for the appraisals. Additionally, review and approval by the agency (either Pima County and/or ADOT) will require an additional forty-five (45) days.
- A Construction and Maintenance agreement will be required which will take three to six (3-6) months for UPRR to approve.
- A hearing will be required with the Arizona Corporation Commission (ACC) to approve the new bridge crossing of the railroad. A timeline of five to six (5-6) months is required for the ACC railroad crossing approval process. This process is outlined in the ACC Railroad Crossing Approval Process flowchart included in Appendix 6.
- The Contractor will need to apply for an at-grade crossing agreement with UPRR to cross the tracks during construction. It will take about three (3) months for the agreement to be issued.

4.10 GEOTECHNICAL AND PAVEMENT DESIGN

4.10.1 New Bridge Structures

The foundation types for the UPRR and Rillito Creek bridges will likely be drilled shafts; however, spread footings may be feasible at the UPRR bridge. One of the challenges with using shallow foundations at the UPRR bridge is that overexcavation beneath the proposed footing would be required, and this excavation could impact existing utilities in the UPRR right-of-way.

The Rillito Creek bridge piers will be designed for approximately 25' of scour. The pier and abutment shafts will also be designed using partially buoyant conditions to model the transient groundwater present more realistically during periods of storms and channel flow. This results in a more economical deep foundation design compared to assuming the groundwater level is at the design flood water surface elevation.

4.10.2 Retaining Walls and Noise Barriers

Both CIP concrete retaining walls and MSE retaining walls are feasible on this project. The approach walls on the north side of the UPRR tracks are anticipated to be over 40' tall. MSE walls are expected to be more economical for this height range, and they are more tolerable of settlement as well. For wingwalls of the Rillito Creek Bridge and small walls associated with the shared-use path, CIP walls will likely be more cost effective.

4.10.3 Drilled Shaft Construction

Caving soil conditions are expected in the Rillito Creek drilled shafts, and potentially at the UPRR bridge as well. This can result in concrete overruns or may require the use of polymer slurry drilling fluid to keep the hole open which adds to the project cost. A demonstration shaft program for this project, or in conjunction with the ultimate ADOT widening project, would be useful to document these conditions and the equipment and methods necessary to construct the project, which would in turn help ensure more accurate bids for the foundations and mitigate the risk of claims by the foundation contractor.

4.10.4 Subsurface Conditions

Granular, alluvial soil was encountered throughout the project area. The standard penetration test (SPT) N-Values indicate that loose material is present at the surface and overexcavation and recompaction beneath embankment, walls, and shallow foundations will be required. Even with this overexcavation, there will likely be significant settlement beneath embankment loading. Medium dense to very dense sand and gravel layers at depth will make good bearing strata for drilled shaft foundations.

Lab testing and other indices from the field investigation indicate that potentially hydro-collapsible soils are present in the top roughly 20'. The recommended approach to mitigating them is to overexcavate and recompact several feet, but this will not address the collapse potential in the range of 5' to 20'. However, minimizing the potential for ponding of surface water adjacent to structures and embankments and reducing permeability of onsite soils through compaction or by other means will greatly reduce this risk by preventing water from reaching these deposits.

4.10.5 Pavement Structural Sections

The majority of the project will be constructed on imported fill, so the project team designed pavement sections using the same R-Value (25) that is being used for the Ruthrauff Road TI project, which also has a great deal of borrow. The planned rigid and flexible pavement sections for the anticipated traffic loading and a 20-year design life are shown in Table 11.

Table 11 – Pavement Structural Sections

Roadway Segment	Thickness of Plain Jointed PCCP (in)	Thickness of Asphaltic Concrete (AC, in.)	Thickness of Aggregate Base (AB, in.)
Sunset Road PCCP Sections	9	-	4
Sunset Road West (South) of EBFR	-	5.5	8
Sunset Road East (North) of WBFR	-	5	9
River Road	-	5.5	10

4.11 CONSTRUCTION PHASING AND TRAFFIC CONTROL

The construction of Sunset Road from south of I-10 to the EBFR will be linked to ADOT's I-10 mainline widening from Ina Road to Ruthrauff Road, which will improve the existing lanes on Sunset Road to connect to the proposed mainline widening. Pima County will need to widen Sunset Road accordingly when their project occurs. The Sunset Road TI calls for I-10 to be lowered and pass under Sunset Road. This will require the closure of Sunset Road south of I-10 as the mainline is lowered and the new TI constructed.

North of I-10, Sunset Road from the WBFR to River Road is being built on new right-of-way and can occur with or separate from the I-10 widening effort. Traffic control plans to accommodate the Sunset Road and River Road intersection should be able to accommodate continuing through traffic along River Road, albeit with lane restrictions.

Construction staging for the portion of work south of I-10 has been identified and included in the environmental clearance effort to be west of Sunset Road, north of the Santa Cruz River.

Construction staging for the work north of I-10 has been identified and included in the environmental clearance effort to be west of the new Sunset Road alignment, north of the UPRR right-of-way.

4.12 WILDLIFE CONNECTIVITY

ADOT, AZGFD, FHWA and representatives from other agencies have completed a Wildlife Linkages Assessment to address important wildlife movement corridors in Arizona. The AZGFD Arizona Environmental Online Review Tool included a standard response regarding local or regional needs of wildlife movement, connectivity, access to habitat needs, and design of various roadway features, such as culverts and bridges.

The project is not located within the Potential Linkage Zones identified in the Arizona Wildlife Linkages Assessment (Arizona Wildlife Linkage Workgroup 2006).

The Rillito River is identified by Pima County as a Wildlife Movement Area that links to Tanque Verde Wash upstream and the Santa Cruz River downstream. This Wildlife Movement Area is likely used by a variety of mammals common to the surrounding desert and mountain habitats.

4.13 TRANSIT AND PARK-AND-RIDE LOTS

The nearest Park-and-Ride lot to the project area is at Ruthrauff Road and I-10. It is currently closed due to the reconstruction of the TI at that location. At this time, it has not been scheduled to reopen. Sun Tran does have another Park-and-Ride lot at Kain Road and Ruthrauff Road that is not impacted by the TI construction.

The nearest Sun Tran service is along Route 17, which loops along Kain, Curtis, and Davis Roads just north of Ruthrauff Road. No Sun Tran service is currently planned along Sunset Road.

4.14 ALTERNATE TRANSPORTATION MODES

Along both sides of Sunset Road, 12' wide asphaltic concrete shared-use paths will be constructed, respectively, to connect multi-modal users to The Loop system on both ends of the project and the El Corazon system at the south project limits.

4.15 DESIGN EXCEPTIONS

The project will include the following design exceptions:

- The horizontal curve length on Sunset Road just north of the UPRR bridge does not meet the minimum 500' curve length. The curve length is 440'. The horizontal curve was shortened to keep the point of curvature off the proposed UPRR bridge in order to facilitate ease of the bridge construction.
- The horizontal curve radius on the access road north of the UPRR right-of-way. The 35' radius in the roadway alignment was designed to get around the north UPRR bridge abutment. An AutoTurn analysis was performed to determine if a WB-62 could maneuver through the curve. The results indicate that a WB-62 can maneuver through the curve with minor tracking into the opposite lane.
- The 20' wide raised median does not meet Pima County's requirement for a standard 22' wide raised median.

4.16 PROPOSED MAINTENANCE RESPONSIBILITIES

Sunset Road between the Santa Cruz River and River Road passes through unincorporated Pima County and the City of Tucson, and crosses ADOT and UPRR right-of-way. The maintenance responsibilities will be divided between Pima County and the City of Tucson. Appendix 5 illustrates these proposed responsibilities which reflect that Pima County will maintain Sunset Road from Silverbell Road to River Road including the shared-use paths and retaining walls outside of ADOT's right-of-way. The City of Tucson will maintain the traffic signals along the corridor, including those within ADOT right-of-way, all street lighting outside of ADOT's right-of-way and that portion of River Road that is within the project limits.

5.0 SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

5.1 AIR QUALITY

The study area is located within the Tucson Maintenance Area for carbon monoxide and is outside the limits of the Rillito Non-Attainment Area for Particulate Matter (dust). Metropolitan planning organizations are required by the Clean Air Act to ensure that all transportation projects are in conformity with the approved air quality State Implementation Plan. This project is in PAG's 5-Year Regional Transportation Improvement Program (TIP) 2020–2024 (approved May 23, 2019) as TIP No. 10.18. The TIP conforms to the State Implementation Plan and, therefore, the project is in conformity with air quality standards. The Sunset Road: I-10 to River Road EA, planned for completion in the fall of 2020, includes a qualitative air quality analysis that evaluates potential transportation-related emissions.

The proposed project would have temporary local impacts to particulate levels during construction. These impacts would be reduced by PCDOT standard specifications for dust suppression during construction. The project would be expected to improve long-term air quality by decreasing congestion at nearby I-10 interchanges on Orange Grove Road and Ruthrauff Road.

5.2 BIOLOGICAL RESOURCES

A relevé survey, a protected native plant survey, and a BE are being prepared for the study area.

The site vegetation is highly disturbed, with low plant density and diversity. Protected native plants would be preserved in place or mitigated in accordance with the ESR Design Guidelines. Though a plan showing the proposed impact to mapped riparian areas will be submitted to the PCRFCD, no mitigation will be proposed because the area within the project site is heavily disturbed and not consistent with PCRFCD habitat class descriptions. No city Watercourse Amenities, Safety, and Habitat ordinance requirements apply to the project.

The proposed plant palette would consist of species native to the Tucson Basin that naturally occur in the project's vegetative communities and that are appropriate for the proposed site conditions. In particular, plant selection would consider the modified drainage patterns and slope aspects of the project.

The planting plans would be in accordance with ESR Design Guidelines. Landscape design would incorporate passive water harvesting, limiting the need for ongoing irrigation past establishment and maintenance. Disturbed site areas that would not be paved or otherwise stabilized would be reseeded with the seed mix outlined in the ESR project report.

Reviews of the AZGFD Arizona Online Environmental Review Tool and the USFWS list of endangered, threatened, and candidate species for the study area were included in the BE. The BE determined that there would be no effect on threatened or endangered species as a result of the proposed project.

5.3 COMMUNITY RESOURCE IMPACT

No social services, including police, fire, or hospitals are in the vicinity of the study area, as previously noted. No impacts to community resources or social services are expected. Construction would not impact emergency vehicle access to facilities or bus service to schools.

5.4 HAZARDOUS MATERIALS

A Preliminary Initial Site Assessment (PISA) is being prepared for the project to determine whether regulated or hazardous materials are present.

The investigation consists of a regulatory records search, site reconnaissance by an environmental professional, and a historical aerial photograph review. The preliminary results are summarized below.

A search of federal, state, and local environmental databases was conducted for the study area and adjacent properties. The results are summarized in a November 22, 2019, Allands report (Allands 2019). The records search identified one former underground storage tank (UST) within the study area—Sunset Farms. This UST was installed in 1984 and removed in 1994. No leaking UST has been identified, and no further action is recommended. The Shannon Road – El Camino del Cerro Water Quality Assurance Remediation groundwater contamination plume is located about a third of a mile southeast of the study area. Remediation through the Arizona Department of Environmental Quality (ADEQ) is ongoing.

A site visit was conducted on December 5, 2019, by Engineering and Environmental Consultants, Inc. A petroleum pipeline parallels the railroad line along the north side of I-10. Thirty-nine samples were collected and analyzed for asbestos, and 19 samples were collected and analyzed for lead. No asbestos was detected in any of the samples collected, and no asbestos-containing materials were identified within the study area. No lead-based paint or lead-containing paint materials were identified within the study area.

Periodic historical aerials from 1997 through 2017 were reviewed for the study area. No issues of concern were identified from this review.

A review of adjacent properties was also conducted as part of the PISA. A recommendation was made to exercise caution before subsurface excavation/digging occurs near the UPRR due to the presence of the petroleum pipeline. No other environmental conditions indicated the presence of hazardous materials or petroleum products on adjacent properties that have impacted the study area.

Asbestos and lead-based paint surveys would be conducted for any structures scheduled for demolition in the study area, as recommended in the June 2019 PISA.

5.5 HISTORIC / CULTURAL RESOURCES

The archaeological records collected for the project identified 20 previously recorded archaeological sites within the 0.5-mile radius of the study area. Two of these sites, AZ AA:12:11(ASM) and AZ AA:12:788(ASM) (apparently now consolidated by the ASM Archaeological Records Office under the number AZ AA:12:788[ASM]) are within the current study area, north of I-10. These two sites have been extensively investigated and excavated. Two historic-age features have also been recorded in the file search radius: The Saguaro–Tucson 115kV transmission line west of the Santa Cruz River and a building foundation of indeterminate, presumed historic, age. The Saguaro–Tucson 115kV transmission line is considered an in-use historic-age structure. Other in-use historic structures, such as the Southern Pacific (now Union Pacific) Railroad grade, are within the search radius but have not been locally recorded as sites.

For the 8.5-acre parcel of land within the study area that had been subject to relatively limited previous investigation, geomorphological fieldwork was subsequently completed at the request of the OSC-CRHP. The OSC-CRHP determined that this parcel had the potential to contain buried cultural resources based on available geomorphological information and identified this as the "Treatment Area." The results of this investigation are being documented in an archaeological records search and geomorphological assessment report.

The geomorphological fieldwork of the Treatment Area assessed the potential for subsurface cultural resources. The results documented recent terrace deposits with very low potential for containing subsurface prehistoric cultural deposits.

An isolated occurrence consisting of a single ceramic sherd was discovered redeposited in relatively recent deposits. No archaeological sites were recorded, and there were no indications that sites would be likely in the Treatment Area. No site identification testing was conducted, and no additional archaeological work is recommended for the Treatment Area based on these results.

5.6 NEIGHBORHOOD IMPACT

The Tres Nogales residential neighborhood occurs northeast of the study area. It includes single-family homes west of Camino de la Tierra and south of the Rillito Creek. Several properties along Tres Nogales Road extend into the study area. It is anticipated that some acquisition of private property would be required in the Tres Nogales Road neighborhood, and access to the neighborhood may be reconfigured as a result of the project. There may be some temporary closures of roadways, but long-term impacts are not anticipated.

5.7 TRAFFIC NOISE ANALYSIS

A noise analysis is required for the project because the Sunset Road extension adds a new transportation facility and is being built in conjunction with capacity improvements to I-10, and, therefore, is categorized as a Type I project, as defined by 23 Code of Federal Regulations (CFR) 772.5. The traffic noise levels under the existing conditions will be established by conducting onsite ambient noise measurements. The FHWA's Traffic Noise Model (version 2.5) will be used to predict noise levels for the future No-Build and Build conditions. Noise monitoring will be conducted at a minimum of two sites. Noise barriers will be evaluated using the ADOT Noise Abatement Requirements dated May 4, 2017. The noisiest conditions will be modeled for No-Build and Build conditions for the project design year of 2045. Noise-sensitive receivers will be identified and evaluated for traffic noise impacts within the study area. The noise mitigation analysis will be summarized in a noise report.

5.8 VISUAL / AESTHETIC RESOURCES

The project will result in the modification, addition, and removal of elements from the view-shed. These have been listed and their impacts discussed in the Sunset Road Visual Assessment Report. Possible mitigation considerations have also been discussed in the report.

Residents living to the east of the new roadway will have the most modification to views. Prior to construction, views to the west are of the railway and interstate, open space (mainly disturbed), and the Pima County facilities. Post construction, views will be of the roadway side slopes (fill slopes will be approximately 20' tall) and MSE retaining walls proposed by a new cul-de-sac off of West Tres Nogales Road.

Views of The Loop users will be affected by the addition of the bridge over the Rillito Creek, and the tie-in of the roadway to River Road.

As there is no existing Sunset Road, motorists will be less affected. The view north of motorists travelling along Camino de la Tierra will change with the addition of the bridge, and motorists on River Road will have minor modification of views due to the proposed roadway tie-in.

Measures to mitigate visual impacts of project elements and to maintain and enhance the area's scenic quality will be incorporated in the roadway and landscape design.

- The proposed structure additions are consistent with recent transportation enhancements along the interstate corridor. A public art component will be integrated with the bridge design, as in Segment I. Design of bridge elements and incorporation of artwork will take into account The Loop users (and their relatively close-up views of the bridge) as well as Sunset Road users.
- The prominent roadway side slopes will be a maximum of 3H:1V, allowing for revegetation and soil stabilization via seeding in addition to nursery plant material. The intent is for the slopes to appear naturally vegetated after establishment. Proposed retaining walls along portions of the roadway will be designed (color and architectural treatment) to visually blend with the adjacent fill slopes.
- Water harvesting basins will be integrated with planting where feasible to provide supplemental water to nursery plants.
- The native plant palette will enhance the natural appeal of the corridor and provide resources (food and habitat) for wildlife.

5.9 DRAINAGE AND CLEAN WATER ACT

The Rillito Creek is an ephemeral drainage within the study area that runs from southeast to northwest and discharges into the Santa Cruz River approximately one mile downstream from the study area. The proposed Sunset Road bridge would cross the Rillito Creek. No other drainages would be impacted as a result of the project.

The study area is within a 100-year floodplain delineated FEMA Flood Insurance Rate Maps 04019C1660L and 04019C1666L (Figure Y). The project would not substantially modify the topography of the floodplain by placement or removal of materials within the floodplain. The 100-year floodplain falls within the City of Tucson jurisdictional limits and within unincorporated Pima County. Coordination has been initiated with the city and county floodplain managers.

A Preliminary Jurisdictional Delineation (USACE File No. SPL-2019-00569 KWG) for the project was approved by the USACE on March 16, 2020. Within the study area one drainage, the Rillito Creek, has been preliminarily identified as potential Waters. The extent of Waters was mapped in anticipation of the potential need to obtain a CWA Section 404 permit to construct the project and to enable project designers to avoid impacts to Waters to the maximum extent practicable. A Pre-Construction Notification (PCN) may be submitted to the USACE to operate under a Nationwide 14 Permit, depending on the extent of project impacts. The PCN would include Section 401 Water Quality Certification.

The soil cement banks of the Rillito Creek were constructed with USACE funding. Because banks of the river would be modified to accommodate the river bridge and to relocate The Loop shared-use path, a Section 408 permit would also be required for the project. Through Section 408, the USACE would determine if the proposed alteration would be injurious to the public interest or would impair the usefulness of the existing soil cement banks.

Because more than one acre of land would be disturbed during project construction, a CWA Section 402 Arizona Pollutant Discharge Elimination System (AZPDES) permit application and associated Stormwater Pollution Prevention

Plan will be prepared. A Notice of Intent and a Notice of Termination will be submitted to ADEQ to work under the AZPDES Construction General Permit (AZG2013-001) at the appropriate times.

5.10 SOCIAL AND ECONOMIC CONSIDERATIONS

The socioeconomic analysis evaluates the social and economic impacts of the proposed project on the local and surrounding population. It examines how a proposed project could affect the area's overall social and economic character, the well-being of current and future residents of the affected community, and the future cohesion of the community once the project has been implemented.

Residential land use within the study area is limited to a few parcels along Tres Nogales Road. Residential developments are also east of the study area between I-10 and Rillito Creek, and north and east of Pima Prickly Park (north of River Road). The EA investigates the demographics (e.g., population, projected population growth, employment sectors, income) of these resident populations and those of the larger City of Tucson and Pima County.

The project is expected to require property acquisition from one or more private landowners for parcels along Tres Nogales Road within the study area. At least one residential displacement may be required as well. The Sunset Road: I-10 to River Road EA describes the potential need for land acquisition and displacements and evaluates the social and economic impacts on the affected community. Land acquisition and residential displacement along Tres Nogales Road as a result of the project could negatively affect neighborhood continuity.

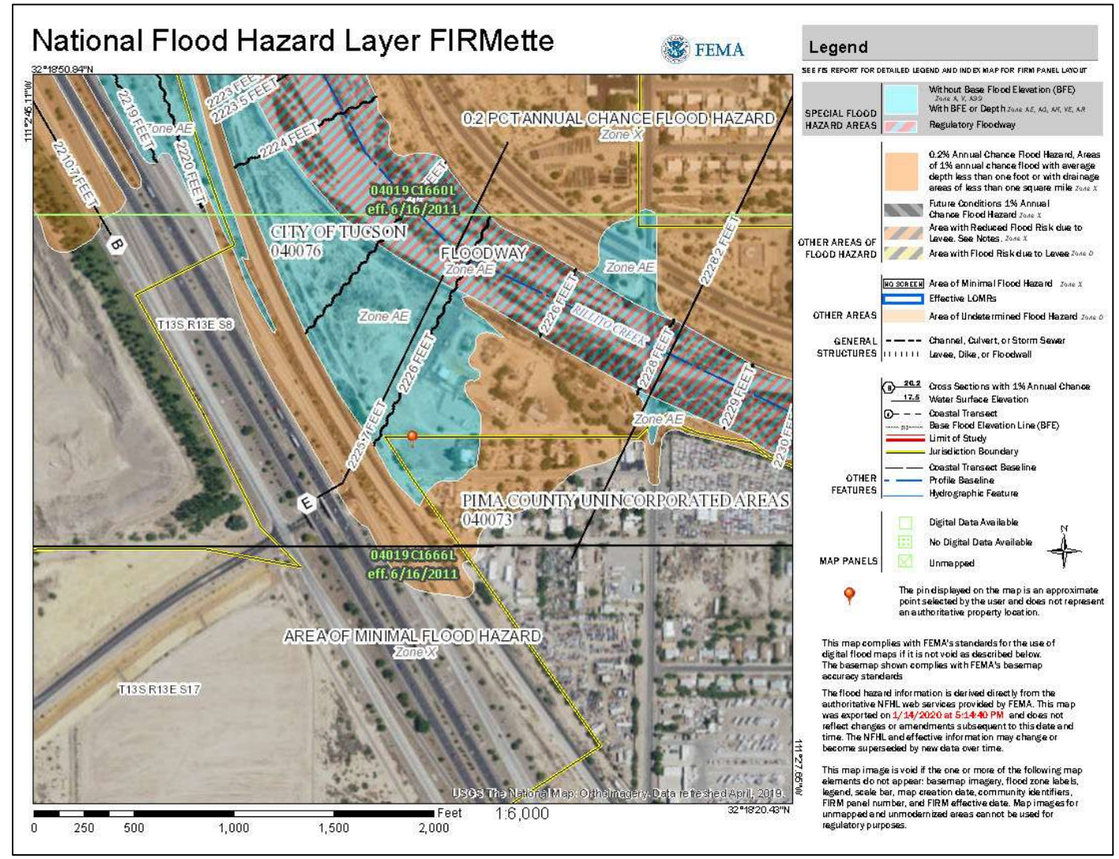

Figure 8 – FEMA-designated floodplain

5.11 TITLE VI AND ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964 (Title VI) ensures that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, and national origin. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Environmental Justice [EJ]), directs that programs, policies, and activities not have disproportionately high and adverse human health and environmental effects on minority and low-income populations.

As part of the ongoing EA for this project, demographic characteristics are being collected from the US Census Bureau for the residential populations that could potentially be directly or indirectly affected by the project to determine if the

project would have disproportionately high and adverse human health and environmental effects on protected minority and low-income populations.

5.12 SECTION 4(f) RESOURCES

Section 4(f) of the US Department of Transportation Act of 1966, as amended, states that the Department of Transportation "may approve a transportation program or project … requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use" (49 US Code [USC] 303[c]). On April 16, 2019, ADOT assumed the responsibility for various environmental regulations from the FHWA through a Memorandum of Understanding in accordance with 23 USC 327.

A "use" of a Section 4(f) resource, as defined in 23 CFR 774, occurs: (1) when land is permanently incorporated into a transportation facility, (2) when there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purposes, or (3) when there is a constructive use of the Section 4(f) resource. A constructive use of a Section 4(f) resource occurs when the transportation project does not incorporate land from a Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. For example, a constructive use can occur when:

- The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a resource protected by Section 4(f).
- The proximity of the proposed project substantially impairs aesthetic features or attributes of a resource protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the resource (an example of such an effect would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building or substantially detracts from the setting of a park or historic site that derives its value in substantial part due to its setting).
- The project results in a restriction of access that substantially diminishes the utility of a significant publicly owned park, recreation area, or historic site.

Rillito Creek Park and The Loop (existing and planned segments) are within the study area. Pima Prickly Park and Dan Felix Memorial Park are north and northeast of the study area. Because these parks and trails are publicly owned and are open to the public, they are protected under Section 4(f).

Cultural resources eligible for listing or listed in the National Register of Historic Places under Criterion A, B, or C, and those listed under D that warrant protection in place (those structures that cannot be removed and studied elsewhere, such as a cemetery), may be afforded protection under Section 4(f). No cultural resources have been identified to date within the study area that would qualify for protection under Section 4(f).

If the US Department of Transportation has a major federal action in this project, such as providing funding, compliance with Section 4(f) would be required. The EA being undertaken in conjunction with this DCR is evaluating the potential impact, both positive and negative, on resources that would potentially be protected under Section 4(f). The EA is planned for completion in the fall of 2020.

5.13 WATER RESOURCES

The Rillito Creek, a large ephemeral drainage, bisects the study area. The proposed Sunset Road bridge would cross over the Rillito Creek and have piers in the drainage bed. The Rillito Creek runs during times of heavy rain and drains into the Santa Cruz River approximately one mile downstream. There are no other drainages or surface water bodies within the study area.

5.14 SOLE SOURCE AQUIFERS

The US Environmental Protection Agency (EPA) Sole Source Aquifer (SSA) program was established under Section 1424(e) of the US Safe Drinking Water Act. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects.

The study area is within the Upper Santa Cruz and Avra Basin Aquifer, which has been designated by the EPA as an SSA. To have this designation, an SSA must supply more than 50% of a community's drinking water. The SSA program allows for EPA environmental review of any projects with federal financial assistance to determine whether they have the potential to contaminate a sole source aquifer.

No impacts to the aquifer are expected due to the scope of the project. Notification of the project will be provided to the EPA, Region 9, for its review and evaluation. If the EPA evaluation concludes that the project does not have significant potential to contaminate the SSA, the project can proceed as planned. If there is potential for contamination, the project should be modified to reduce or eliminate the risk, or federal financial support could be withdrawn.

5.15 PRIME AND UNIQUE FARMLANDS

If federal funding or assistance is involved, the project would be subject to the Farmland Protection Policy Act (FPPA) The majority of the study area on the north and south sides of I-10 is composed of Comoro sandy loam or Grabe loam, both classified by the Natural Resources Conservation Service (NRCS) as prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season. Unique farmland has been designated by NRCS following Rillito Creek in the study area. The land to be acquired for the project would be exempt from the FPPA because it falls within an Urbanized Area as shown on the 2010 Census—Urbanized Area Reference Map: Tucson, Arizona.

6.0 PUBLIC INVOLVEMENT

This section includes a summary of public involvement activities being conducted during the project development phase.

6.1 PUBLIC PARTICIPATION PLAN

The public participation planning took advantage of multiple previous public presentations and meetings held in conjunction with ADOT planning for I-10 (Ina Road to Ruthrauff Road) improvements and the RTA's Silverbell Road (Ina Road to Grant Road) improvements. Both of these projects included presentations on the concept of a Sunset Road extension between Silverbell Road and River Road. In addition, a public open house was held for Segment I of the Sunset Road project (Silverbell Road to I-10) during the preliminary design stage. Public outreach was also initiated for the current Sunset Road project (I-10 to River Road, Segment II) in March 2020, as noted in the following section.

6.2 PUBLIC MEETINGS

The PCDOT was planning to hold the first public open house for the project on March 31, 2020; however, due to the COVID-19 global pandemic, the in-person open house was cancelled. The meeting was announced through local media press release, project website, public notice in Arizona Daily Star and Daily Territorial newspapers, and mailings to approximately 480 addresses in the project vicinity.

In lieu of the open house, agency representatives and members of the public were invited to review project materials on the Pima County website and provide comments. Project materials were posted on March 31, 2020. Nearly 200 page reviews were recorded on the Pima County project website between April 1 and April 29, 2020.

The extension of Sunset Road from I-10 to River Road is the second phase of the Sunset Road extension. Two public open house meetings were held for the first phase of this project: an initial public open house on June 9, 2014, and a second open house on October 30, 2014.

Due to the close relationship between the proposed project and planned I-10 improvements between Ina Road and Ruthrauff Road, the Sunset Road extension has been presented and discussed at the following I-10 meetings (ADOT 2012):

- I-10 Ina Road to Ruthrauff Road Scoping Meeting – November 18, 2009
- I-10 Ina Road to Ruthrauff Road Public Property Owner Briefings #1 – October 4, 2010 (two meeting held on this date, one in Marana and one in Tucson)
- I-10 Ina Road to Ruthrauff Road Public Property Owner Briefings #2 – November 8, 2010
- I-10 Ina Road to Ruthrauff Road Public Information Meeting – March 10, 2011
- I-10 Ina Road to Ruthrauff Road Public Hearing – June 21, 2012

In addition, the Sunset Road extension was presented in conjunction with the following meetings held during planning for Silverbell Road (Kittelson 2011):

- Silverbell Road, Ina Road to Grant Road Initial Public Open House – August 12 and 19, 2009
- Silverbell Road, Ina Road to Grant Road Interim Public Open House – June 7 and 9, 2010
- Silverbell Road, Ina Road to Grant Road Final Public Open House – October 19 and 21, 2010

6.3 CITIZEN ADVISORY COMMITTEE

The Pima County Board of Supervisors issued a waiver of Ordinance 10.56.110, Establishment of a Community Advisory Committee (CAC), on January 3, 2013, at the recommendation of PCDOT (see Appendix 1 for a copy of this waiver). The waiver was justified due to the extensive previous public involvement noted above through the I-10 and Silverbell Road projects. The public strongly supported the Sunset Road extension and timing to have the improvements in place prior to the ADOT reconstruction of I-10. In addition, the waiver notes that the majority of the study area is owned by the PCRFCD and that there are limited alignment options due to floodplain and CalPortland operations.

6.4 COMMUNITY COMMENTS

Scoping letters dated February 5, 2020, describing the project and soliciting input were sent to private landowners holding property within the study area. Project information was also posted on the Pima County website. In response, Pima County received letters or emails from three landowners, with the following questions identified:

1. Will Sunset Road have a future connection to Tres Nogales Road?
2. How will the project affect the privately owned parcels along Tres Nogales Road within the project study area?
3. What private property will need to be acquired?

7.0 AGENCY COORDINATION

This section describes the agency coordination that has occurred, and the continuing actions needed.

A project kickoff meeting was held on October 16, 2019. Attendees included representatives from ADOT, PAG RTA, Pima County, the City of Tucson, and project consultants. The project was described, the project-related roles and responsibilities were generally outlined, and the history of past connected projects and environmental documents was discussed.

An environmental coordination meeting was held on January 6, 2020. Attendees included representatives from Pima County (Department of Transportation, Flood Control District, Project Management Office, and Cultural Resources), the City of Tucson, the AZGFD, and project consultants. Meeting discussions focused on environmental topics and related technical issues, the required environmental documents and submittal sequence, and the approval process.

Scoping letters were mailed on February 5, 2020, to agencies and nongovernmental organizations to provide information and solicit input on the project. The comments and recommendations received are summarized on the next page:

Comments:

- The project will benefit commercial operations and protect commercial development potential by improving traffic congestion.

- Extending Sunset Road from I-10 to River Road would benefit residents living west of I-10 by providing improved access to jobs, shopping, and other amenities east of I-10.

Recommendations:

- Provide access to the Tres Rios major recreation area from Orange Grove Road, Sunset Road (from River Road), Silverbell Road, and I-10.
- Consider flooding potential in plans to relocate the PCNRPR maintenance yard.
- Ensure that PCRFCD's requirements for The Loop, floodplain management, and property rights are fully considered.
- Consider potential impacts to federally listed species protected under the Endangered Species Act, and migratory birds protected under the Migratory Bird Treaty Act.
- Ensure invasive plant species are not spread downstream.
- Consider the incorporation of bat-roosting and breeding structures.
- Ensure project lighting is Dark Sky–compliant, and bird- and bat-friendly.
- Enhance riparian habitat.

7.1 FEDERAL AGENCY COORDINATION

- USACE – Pima County met with the USACE on February 4, 2020, to determine the approach for the Preliminary Jurisdictional Delineation and the subsequent CWA permit. The Preliminary Jurisdictional Delineation was submitted February 25, 2020, and approved March 16, 2020.
- USFWS – The USFWS Information for Planning and Consultation system was accessed November 21, 2019 (Consultation Code: 02EAAZ00-2020-SLI-0146) for an Official Species List.
- FEMA – The project team will consult with FEMA regarding floodplain impacts and the need for any floodplain map revisions.

7.2 STATE AGENCY COORDINATION

- ADOT – Pima County and ADOT have held multiple meetings on the project, and coordination is ongoing.
- AZGFD – The AZGFD was invited to the environmental coordination meeting, and Kristin Terpening of the AZGFD attended. Pima County has used the AZGFD Arizona Online Environmental Review Tool to access records for protected species. A scoping letter was sent to the AZGFD on February 5, 2020, and a response was received March 5, 2020.

Arizona State Historic Preservation Office (SHPO) – Coordination was initiated with SHPO on October 29, 2013, with submittal of the cultural Phase I testing and data recovery plan. Continued coordination reported the results of Phase I and developed the planning for Phase II of data recovery. With the start of the Sunset Road Segment II project, an Archaeological Records Search and Geomorphological Assessment for Sunset Road Extension Segment II (I-10 to River Road) was initiated by SWCA at the direction of Pima County OSC-CRHP. Continuing consultation with SHPO is pending determination of the lead federal agency.

7.3 COUNTY AGENCY COORDINATION

- PCRFCD – The district received an agency scoping letter for the project and commented by letter on March 25, 2020. The project team includes a district representative who attends project progress meetings to facilitate ongoing coordination on drainage and floodplain issues.
- Pima County OSC-CRHP – The division has provided the project support for cultural resources documentation, consultation, and data recovery. The design team will continue to work closely with OSC-CRHP to avoid sites and mitigate impacts, as needed.
- PCNRPR – During the initial progress and coordination meetings for the project, PCDOT and the PCNRPR have collaborated on the elements associated with the River Park system at the Rillito Creek and the future relocation of the PCNRPR maintenance yard.

7.4 LOCAL GOVERNMENTS COORDINATION

- PAG's RTA – Project funding needs and scheduling have been coordinated on multiple occasions.
- City of Tucson –The city participated in the project kickoff meeting on October 16, 2019, and the environmental coordination meeting on January 6, 2020. The city is represented on the project team and attends regular progress meetings.
- City of Tucson Engineering Department – A scoping letter was sent to the City of Tucson Engineering Department regarding the proposed work in the 100-year floodplain. No response has been received regarding floodplain considerations.

7.5 CONTINUING COORDINATION

As project development continues, additional coordination will occur with the agencies noted above and with additional agencies, as warranted, including the USACE (Section 404 Permit), the ADEQ (Section 401 Water Quality Certification; CWA Section 402 permitting), the Arizona Department of Agriculture (Native Plant Salvage), and the Pima County Department of Environmental Quality (Fugitive Dust Activity permit).

References

- ADOT. 2012. Final Environmental Assessment - Interstate 10, Ina Road Traffic Interchange (TI) to Ruthrauff Road TI.
- Allands. 2019. Corridor Study. Sunset Road from Interstate 10 to River Road, Tucson, Arizona, Database Report File No. 2091-11-041D. November 22.
- Kittelson. 2011. Design Concept Report, Silverbell Road, Ina Road to Grant Road.

8.0 ALTERNATIVES

Two Alternatives were evaluated as part of this most recent planning study: the "Build" and "No Build". Other alternative alignments for Sunset Road were evaluated by PCDOT prior to the commencement of the planning and design process in 2013. The evaluation process is documented on the project website.

The "No Build" option represented the case where the proposed project is not constructed. There are various costs associated with this option including ongoing maintenance costs due to drainage deficiencies, costs related to safety and reduction of mobility of goods and people and intangible costs associated with emergency vehicle response times. Increasing congestion will also lead to complaints by the public and complaints to elected officials. The "No Build" Option does not meet the need and purpose of the project.

The "Build" option, as defined in this document and shown on the plans in Appendix 3, would meet the need and purpose of the project. It would improve regional mobility, add capacity to support development in the surrounding area to address 2045 traffic demand, and improve safety by providing a grade-separated crossing (bridge) of the Rillito Creek.

9.0 ESTIMATE OF PROBABLE COST

The project costs shown in the following tables are based on the preliminary design performed to date and will be refined as more detailed plans are prepared. The roadway segments included in the two probable costs were defined in the scope of services.

For a breakdown of the construction cost see the Cost Estimate under Appendix 2.

9.1 SANTA CRUZ RIVER BRIDGE TO I-10 EBFR

Table 12 – Estimate of Probable Cost:
Santa Cruz River Bridge to I-10 EBFR

Task	Cost
Construction Cost	$6,382,231
Construction Engineering / Admin / Survey	$989,246
Public Art	$63,822
Engineering Design	$638,223
Engineering Design (Internal Labor)	$63,822
*Utility Relocation (due to prior rights)	$595,000
Right-of-Way	$175,420
Total	**$8,907,764**

*Does not include costs for future utility service to the Sunset Innovation Campus

9.2 I-10 WBFR TO RIVER ROAD

Table 13 – Estimate of Probable Cost:
I-10 WBFR to River Road

Task	Cost
Construction Cost	$21,468,003
Construction Engineering / Admin / Survey	$3,327,540
Public Art	$214,680
Engineering Design	$2,146,800
Engineering Design (Internal Labor)	$214,680
Utility Relocation (due to prior rights)	$500,000
UPRR Coordination / Flagmen	$482,000
UPRR Aerial Easement and Temporary Construction Easements	$50,000
Right-of-Way	$634,760
Total	**$29,038,463**

10.0 RECOMMENDATIONS AND CONCLUSIONS

The PCDOT is moving forward with plans to reconstruct Sunset Road in coordination with the City of Tucson and ADOT from just north of the bridge over the Santa Cruz River to River Road along existing and new alignments as part of the RTA plan approved by voters to meet future traffic needs. The alignment of the roadway has been established and the following recommendations should be implemented for this project:

- Construct Sunset Road with two travel lanes and paved shoulders in each direction with right- and left-turn lanes at the Sunset Innovation Campus and the I-10 frontage roads. A raised median will be constructed that begins approximately 725' north of the Santa Cruz River bridge and terminates at River Road.
- Construct a new 255' long two-span bridge over the UPRR right-of-way and proposed access road/drainage channel.
- Construct a new 390' long three-span bridge over the Rillito Creek.
- Construct all onsite and offsite drainage features
- Incorporate water harvesting techniques along the channel capturing overland flow east of Sunset Road between the Rillito Creek and the UPRR.
- Construct a new traffic signal with appropriate street lighting at the Sunset Road/River Road intersection.
- Reconstruct River Road to accommodate the new T-intersection with Sunset Road.
- Reconstruct the existing 12' wide shared-use path along the north bank of the Rillito Creek to run under the new Sunset Road bridge over the Rillito Creek to provide the required vertical clearance under the bridge. The existing path connection from the north bank path to River Road will be realigned to connect to the new Sunset Road/River Road intersection.

- Construct 12' wide asphaltic concrete shared-use paths on both sides of Sunset Road to connect the Rillito Creek south bank shared-use path to the new and elevated Sunset Road.
- Construct 12' wide asphaltic concrete shared-use paths along each side of Sunset Road to connect The Loop along the EBFR to the El Corazon paths near the Santa Cruz River bridge.
- Construct a 16'x14' RCBC (equipment pass) without the bottom concrete slab to protect the PCRWRD interconnect sewer line (60" and 72" HOBAS Pipe) in place and connect the shared-use paths on both sides of Sunset Road.
- Install conduit and pull boxes for a future traffic signal at the main driveway to the Sunset Innovation Campus.
- Install conduit and pull boxes for the future ITS.
- Connect to the proposed signalized intersections of the I-10 frontage roads.
- Work closely with the appropriate agencies in the vicinity of the Rillito Creek to address CWA permitting requirements.

APPENDIX 1 — CAC WAIVER

APPENDIX 2 — COST ESTIMATE

APPENDIX 3 — PLANS AND CROSS SECTIONS

APPENDIX 4 — PRELIMINARY RIGHT-OF-WAY PLANS

APPENDIX 5 — PROPOSED MAINTENANCE RESPONSIBILITIES

APPENDIX 6 — ARIZONA CORPORATION COMMISSION (ACC) RAILROAD (RR) CROSSING APPROVAL PROCESS

APPENDIX 7 — FUTURE PROPOSED UTILITY SERVICES FOR SUNSET INNOVATION CAMPUS

APPENDIX 1—CAC WAIVER

0087

MEMORANDUM

Department of Transportation

DATE: January 3, 2013

TO: C.H. Huckelberry, County Administrator

FROM: Priscilla S. Cornelio, P.E., Director

SUBJECT: **Request for Waiver from Pima County Ordinance 10.56.110**

As the Department of Transportation is preparing to move forward with the Sunset Road project from Silverbell Road to River Road, we are asking for your concurrence to request the Board of Supervisors (BOS) to exempt this project from Ordinance 10.56.110, Establishment of Community Advisory Committee.

Although this project has not yet officially been started, the basic location, configuration and approximate timing for implementation has been shared at the various public meetings and community outreach affronts associated with the I-10 project from Ina Road to Ruthrauff, as well as the Silverbell project from Grant Road to Ina Road. In the majority of these meetings, the inquiries and comments regarding the future Sunset Road project were favorable and the majority of the residents and citizens expressed a desire to see the project move forward as quickly as possible.

In addition, the constraints surrounding this project, most notably the location of the I-10 interchange, floodway limits, water surface elevation, gravel pit operations between Silverbell and I-10, plus overall project costs; severely restrict the number of alternatives and configuration possibilities that can be explored. As a result, the opportunity to adjust the design based on public comments and input is greatly limited.

Based on these two factors, we are recommending that the BOS exempt the project from the requirements of forming a Community Advisory Committee (CAC). We still plan to incorporate community outreach and input via open house forums, newsletters, project website, etc., as appropriate, and neighborhood meetings as requested. In addition, we will also develop an Environmental Assessment and Mitigation Report (EAMR) that will be presented to the BOS for final approval. We believe that this approach will still provide ample opportunity to share project information with the public as well as solicit any comments and feedback.

We appreciate your consideration of this request and if you need any further information, please let me know.

PSC:RE:sap

Concur:

John M. Bernal, Deputy County Administrator – Public Works — 1/3/13 Date

Approved / Not Approved

C.H. Huckelberry, County Administrator — 1/3/13 Date

APPENDIX 2—COST ESTIMATE (10 pages)

15% SUBMITTAL

ESTIMATE OF PROBABLE COST
FOR
SUNSET ROAD
INTERSTATE 10 TO RIVER ROAD

SUBMITTED TO:

PIMA COUNTY
TRANSPORTATION

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
201 NORTH STONE AVENUE
TUCSON, AZ 85701

PCDOT PROJECT NUMBER 4SRRIV

SUBMITTED BY:

CONSOR

CONSOR ENGINEERING
1430 EAST FORT LOWELL ROAD, SUITE 200
TUCSON, AZ 85719

September 16, 2020

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

I-10 WB Frontage Road to River Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
2010001	CLEARING AND GRUBBING	L.S.	$30,000	1	$30,000
2010004	PRESERVATION FENCING	L.F.	$7	1,500	$10,500
2010010	CLEARING AND GRUBBING (NOXIOUS AND INVASIVE SPECIES CONTROL ALLOWANCE)	USD	$1	20,000	$20,000
2020001	REMOVAL OF STRUCTURES & OBSTRUCTIONS	L.S.	$18,000	1	$18,000
2020029	REMOVAL OF BITUMINOUS PAVEMENT	S.Y.	$4	8,176	$32,704
2020040	REMOVAL OF PIPE	L.F.	$22	424	$9,328
2020051	REMOVE (SOIL CEMENT BANK PROTECTION)	C.Y.	$100	1,391	$139,100
2020159	REMOVE (CATCH BASINS)	EACH	$600	5	$3,000
2030300	ROADWAY EXCAVATION	C.Y.	$12	1,000	$12,000
2030401	DRAINAGE EXCAVATION (OFFSITE)	C.Y.	$15	1,849	$27,735
2030901	BORROW	C.Y.	$12	165,000	$1,980,000
2050003	ROADWAY GRADING (GRAVEL ACCESS ROAD FOR TEP)	S.Y.	$4	1,040	$4,160
3030003	AGGREGATE BASE	C.Y.	$40	4,077	$163,080
4040111	TACK COAT	TON	$700	4	$2,800
4060001	ASPHALTIC CONCRETE (NO. 1)	TON	$95	1,981	$188,195
4060002	ASPHALTIC CONCRETE (NO. 2)	TON	$95	1,436	$136,420
4060003	ASPHALTIC CONCRETE (NO. 3)	TON	$95	609	$57,855
5011012	PIPE, REINFORCED CONCRETE, CLASS III, 18"	L.F.	$120	242	$29,040
5011023	PIPE, REINFORCED CONCRETE, CLASS III, 24"	L.F.	$125	864	$108,000

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

I-10 WB Frontage Road to River Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
5014024	FLARED END SECTION, 24" (C-13.20 OR C-13.25) (PIPE CULVERT)	EACH	$1,180	2	$2,360
5030070	CONCRETE PIPE COLLAR	EACH	$740	5	$3,700
5030605	CONCRETE CATCH BASIN (PAG SD 308 W/16' WING)	EACH	$12,650	4	$50,600
5030606	CONCRETE CATCH BASIN (PAG SD 308 W/4' WING)	EACH	$5,200	4	$20,800
5030607	CONCRETE CATCH BASIN (PAG SD 308 SUMP ONLY)	EACH	$2,850	3	$8,550
5050013	MANHOLE (C-18.10) (RIVER RD)	EACH	$15,000	1	$15,000
6010002	STRUCTURE CONCRETE (CLASS S) (F'C=3,000)	C.Y.	$340	4	$1,360
6010200	RETAINING WALL	S.F.	$50	12,710	$635,500
6010716	CONCRETE PIPE CONNECTION	EACH	$3,400	2	$6,800
6011133	COMBINATION PEDESTRIAN-TRAFFIC BARRIER	L.F.	$300	746	$223,800
6050001	REINFORCING STEEL	LB.	$1	178	$178
6060048	BRIDGE SIGN STRUCTURE (TUBULAR) (SD 9.20) (TYPE 4F)	EACH	$180,000	1	$180,000
6060079	FOUNDATION FOR BRIDGE SIGN STRUCTURE (TUBULAR) (SD 9.20) (TYPE 4F)	EACH	$16,000	2	$32,000
608XXXX	SIGNING	L.S.	$36,000	1	$36,000
708XXXX	PAVEMENT MARKING	L.S.	$24,000	1	$24,000
731XXXX	TRAFFIC SIGNAL AT RIVER ROAD INTERSECTION	L.S.	$155,000	1	$155,000
732XXXX	ITS INSTALLATION	L.S.	$27,000	1	$27,000
736XXXX	LIGHTING	L.S.	$245,000	1	$245,000
8080111	MISCELLANEOUS LANDSCAPE WORK ALLOWANCE	USD	$1	40,000	$40,000

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

I-10 WB Frontage Road to River Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
8100001	AZPDES/NPDES (ORIGINAL) (2% OF CONSTRUCTION ESTIMATE)	L.S.	$331,450	1	$331,450
810XXXX	LANDSCAPING / IRRIGATION (4% OF CONSTRUCTION ESTIMATE)	L.S.	$211,906	1	$211,906
9050005	GUARD RAIL, W-BEAM, SINGLE FACE (MASH)	L.F.	$50	88	$4,400
9050025	GUARD RAIL TERMINAL (MASH)	EACH	$5,000	1	$5,000
9080001	CONCRETE CURB (STD. DTL. 209) (TYPE 1)	L.F.	$40	3,574	$142,960
9080051	CONCRETE CURB AND GUTTER (STD. DTL. 209) (TYPE 1G)	L.F.	$35	3,250	$113,750
9080090	CONCRETE CURB TERMINAL SECTION (STD. DTL. 212)	EACH	$100	4	$400
9080201	CONCRETE SIDEWALK (STD. DTL. 200)	S.F.	$10	14,020	$140,200
9080280	CURB ACCESS RAMP, STD. DTL. 207 (TYPE 1)	EACH	$3,000	2	$6,000
9080282	CURB ACCESS RAMP, STD. DTL. 207 (TYPE 3)	EACH	$3,000	4	$12,000
9080300	CONCRETE SIDEWALK RAMP, TYPE F (C-05.30)	EACH	$3,000	1	$3,000
9090021	SURVEY MONUMENT, FRAME AND COVER	EACH	$600	8	$4,800
9130001	RIPRAP (DUMPED)	C.Y.	$150	148	$22,200
9200401	SOIL CEMENT BANK PROTECTION	C.Y.	$165	3,609	$595,485
9201006	CONCRETE CHANNEL LINING (6")	S.Y.	$85	171	$14,535
9201017	CONCRETE CHANNEL LINING (12")	S.Y.	$170	373	$63,410
9330002	HANDRAIL (STD. DTL. 105)	L.F.	$60	2,049	$122,940
9330017	VEHICULAR GATE (TRES NOGALES RD)	EACH	$2,500	1	$2,500

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

I-10 WB Frontage Road to River Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
9999901	LUMP SUM STRUCTURE - UPRR BRIDGE	L.S.	$6,014,203	1	$6,014,203
9999902	LUMP SUM STRUCTURE - RILLITO CREEK BRIDGE	L.S.	$4,413,235	1	$4,413,235
	SUBTOTAL				**$16,903,939**
	CONTINGENCIES AND OTHER COSTS			15%	$2,535,591
	MAINTENANCE AND PROTECTION OF TRAFFIC			2%	$338,079
	MOBILIZATION			10%	$1,690,394
	CONSTRUCTION COST SUBTOTAL				**$21,468,003**
	CONSTRUCTION ENGINEERING / ADMIN / SURVEY			15.5%	$3,327,540
	PUBLIC ART			1%	$214,680
	ENGINEERING DESIGN			10%	$2,146,800
	ENGINEERING DESIGN (INTERNAL LABOR)			1%	$214,680
	UTILITY RELOCATION WORK				$500,000
	UPRR COORDINATION / FLAGMEN				$482,000
	UPRR AERIAL EASEMENT AND TEMPORARY CONSTRUCTION EASEMENTS				$50,000
	RIGHT-OF-WAY				$634,760
	TOTAL PROJECT COST				**$29,038,463**

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

Santa Cruz River Bridge to I-10 EB Frontage Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
2010001	CLEARING AND GRUBBING	L.S.	$20,000	1	$20,000
2010004	PRESERVATION FENCING	L.F.	$7	4,000	$28,000
2010010	CLEARING AND GRUBBING (NOXIOUS AND INVASIVE SPECIES CONTROL ALLOWANCE)	USD	$1	10,000	$10,000
2020001	REMOVAL OF STRUCTURES & OBSTRUCTIONS	L.S.	$12,000	1	$12,000
2020029	REMOVAL OF BITUMINOUS PAVEMENT	S.Y.	$4	7,384	$29,536
2020040	REMOVAL OF PIPE	L.F.	$22	2,004	$44,088
2020159	REMOVE (CATCH BASINS)	EACH	$600	11	$6,600
2030300	ROADWAY EXCAVATION	C.Y.	$12	4,000	$48,000
2030401	DRAINAGE EXCAVATION (OFFSITE)	C.Y.	$15	2,727	$40,905
2030901	BORROW	C.Y.	$12	65,000	$780,000
3030003	AGGREGATE BASE	C.Y.	$40	2,183	$87,320
4010001	PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	$65	6,830	$443,950
4040111	TACK COAT	TON	$700	1	$700
4060001	ASPHALTIC CONCRETE (NO. 1)	TON	$95	1,039	$98,705

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

Santa Cruz River Bridge to I-10 EB Frontage Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
4060002	ASPHALTIC CONCRETE (NO. 2)	TON	$95	854	$81,130
4060003	ASPHALTIC CONCRETE (NO. 3)	TON	$95	471	$44,745
5011013	PIPE, REINFORCED CONCRETE, CLASS III, 18"	L.F.	$120	283	$33,960
5011023	PIPE, REINFORCED CONCRETE, CLASS III, 24"	L.F.	$125	732	$91,500
5011032	PIPE, REINFORCED CONCRETE, CLASS II, 30"	L.F.	$175	196	$34,300
5011063	PIPE, REINFORCED CONCRETE, CLASS III, 60"	L.F.	$200	1,300	$260,000
5014024	FLARED END SECTION, 24" (C-13.20 OR C-13.25) (PIPE CULVERT)	EACH	$1,180	2	$2,360
5030070	CONCRETE PIPE COLLAR	EACH	$740	1	$740
5030190	RECONSTRUCT CATCH BASIN (PAG SD 309 - TYPE 4, SINGLE EF-1 GRATE)	EACH	$10,000	3	$30,000
5030605	CONCRETE CATCH BASIN (PAG SD 308 W/16' WING)	EACH	$12,650	7	$88,550
5030608	CONCRETE CATCH BASIN (PAG SD 309 - TYPE 4, SINGLE EF-1 GRATE)	EACH	$3,400	5	$17,000
5050002	MANHOLE (C-18.10) (NO.1) (FOR PIPES OVER 36")	EACH	$8,500	4	$34,000
6010002	STRUCTURE CONCRETE (CLASS S) (F'C=3,000)	C.Y.	$340	14	$4,760
6010200	RETAINING WALL	S.F.	$50	7,040	$352,000

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

Santa Cruz River Bridge to I-10 EB Frontage Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
6011133	COMBINATION PEDESTRIAN-TRAFFIC BARRIER	L.F.	$300	884	$265,200
6018102	REINFORCED CONCRETE BOX CULVERT (SD 6.07 MODIFIED - 16'X14' EQUIPMENT PASS)	L.F.	$3,602	255	$918,510
6050001	REINFORCING STEEL	LB.	$1	1,095	$1,095
6060048	BRIDGE SIGN STRUCTURE (TUBULAR) (SD 9.20) (TYPE 4F)	EACH	$180,000	1	$180,000
6060079	FOUNDATION FOR BRIDGE SIGN STRUCTURE (TUBULAR) (SD 9.20) (TYPE 4F)	EACH	$16,000	2	$32,000
608XXXX	SIGNING	L.S.	$24,000	1	$24,000
708XXXX	PAVEMENT MARKING	L.S.	$16,000	1	$16,000
731XXXX	TRAFFIC SIGNAL AT SUNSET CAMPUS INTERSECTION (PULL BOXES AND CONDUIT)	L.S.	$12,000	1	$12,000
732XXXX	ITS INSTALLATION	L.S.	$18,000	1	$18,000
736XXXX	LIGHTING	L.S.	$185,000	1	$185,000
8080111	MISCELLANEOUS LANDSCAPE WORK ALLOWANCE	USD	$1	35,000	$35,000
8100001	AZPDES/NPDES (ORIGINAL) (2% OF CONSTRUCTION ESTIMATE)	L.S.	$98,537	1	$98,537
810XXXX	LANDSCAPING / IRRIGATION (4% OF CONSTRUCTION ESTIMATE)	L.S.	$154,167	1	$154,167
9050005	GUARD RAIL, W-BEAM, SINGLE FACE (MASH)	L.F.	$50	50	$2,500
9050025	GUARD RAIL TERMINAL (MASH)	EACH	$5,000	1	$5,000

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

Santa Cruz River Bridge to I-10 EB Frontage Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
9050036	GUARD RAIL, ANCHOR ASSEMBLY (MASH)	EACH	$1,200	1	$1,200
9080001	CONCRETE CURB (STD. DTL. 209) (TYPE 1)	L.F.	$40	826	$33,040
9080031	CONCRETE CURB (C-05.10) (TYPE G)	L.F.	$40	1,600	$64,000
9080081	CONCRETE CURB AND GUTTER (C-05.10) (TYPE G)	L.F.	$35	1,700	$59,500
9080090	CONCRETE CURB TERMINAL SECTION (STD. DTL. 212)	EACH	$100	6	$600
9080204	CONCRETE SIDEWALK (C-05.20)	S.F.	$10	8,860	$88,600
9080292	CONCRETE LANDING WITH DETECTABLE WARNING STRIP	EACH	$1,000	6	$6,000
9080294	CONCRETE SIDEWALK RAMP, TYPE A (C-05.30)	EACH	$4,000	2	$8,000
9080298	CONCRETE SIDEWALK RAMP, TYPE E (C-05.30)	EACH	$3,000	2	$6,000
9080300	CONCRETE SIDEWALK RAMP, TYPE F (C-05.30)	EACH	$3,000	2	$6,000
9080402	CONCRETE HEADER (STD. DTL. 213)	L.F.	$35	80	$2,800
9090021	SURVEY MONUMENT, FRAME AND COVER	EACH	$600	2	$1,200
9130001	RIPRAP (DUMPED)	C.Y.	$150	84	$12,600

15% Submittal

Estimate of Probable Cost

Sunset Road: I-10 to River Road

PCDOT Project No. 4SRRIV

Santa Cruz River Bridge to I-10 EB Frontage Road

September 16, 2020

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
9130005	RIPRAP (GABIONS)	C.Y.	$200	70	$14,000
9330002	HANDRAIL (STD. DTL. 105)	L.F.	$60	833	$49,980
	SUBTOTAL				**$5,025,378**
	CONTINGENCIES AND OTHER COSTS			15%	$753,807
	MAINTENANCE AND PROTECTION OF TRAFFIC			2%	$100,508
	MOBILIZATION			10%	$502,538
	CONSTRUCTION COST SUBTOTAL				**$6,382,231**

	CONSTRUCTION ENGINEERING / ADMIN / SURVEY			15.5%	$989,246
	PUBLIC ART			1%	$63,822
	ENGINEERING DESIGN			10%	$638,223
	ENGINEERING DESIGN (INTERNAL LABOR)			1%	$63,822
	UTILITY RELOCATION WORK				$595,000
	RIGHT-OF-WAY				$175,420
	TOTAL PROJECT COST				**$8,907,764**

APPENDIX 3—PLANS AND CROSS SECTIONS (78 pages)

SUNSET ROAD

INTERSTATE 10 TO RIVER ROAD

PIMA COUNTY
TRANSPORTATION

PROJECT NUMBER
4SRRIV

FINAL 15% CROSS SECTIONS

SEPTEMBER 2020

REC. DWGS. DATA	REC. DWG. DATE	1 OF 28

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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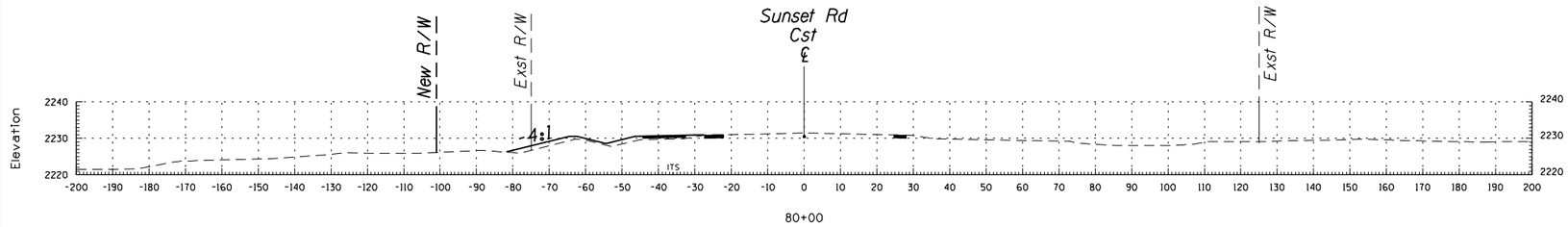

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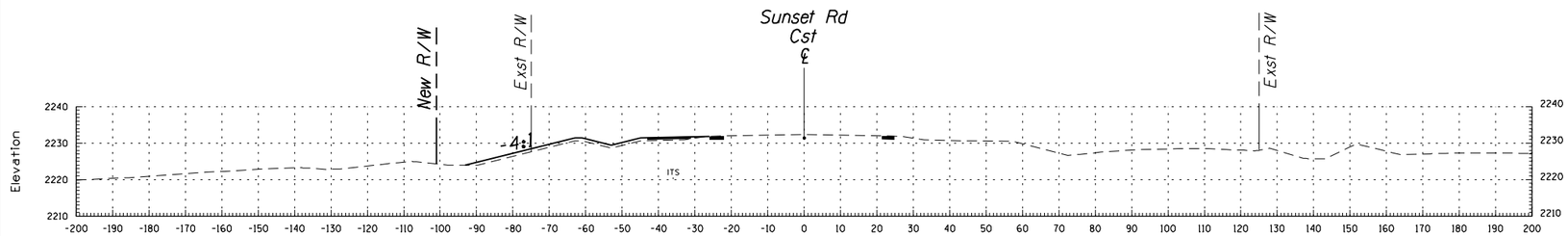

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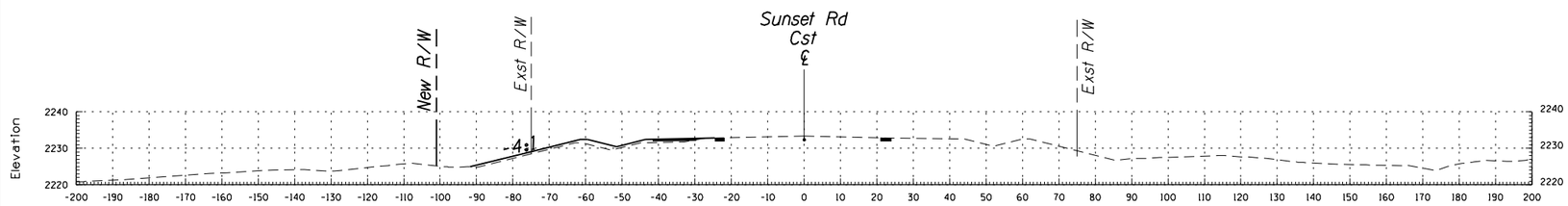

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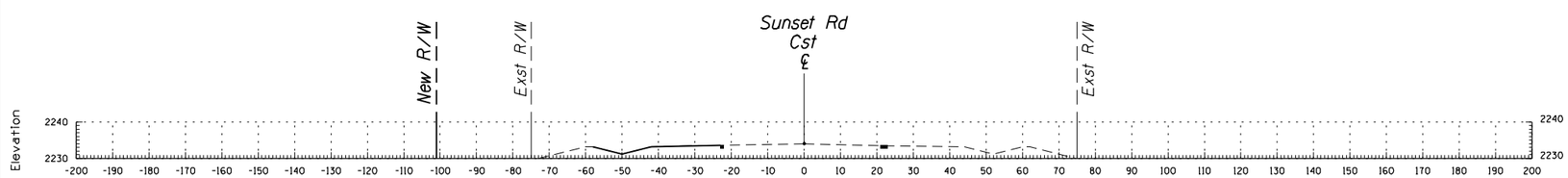

78+62

SUNSET ROAD
CROSS SECTION SHEET
STA 78+62 TO STA 80+00

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:59:03 AM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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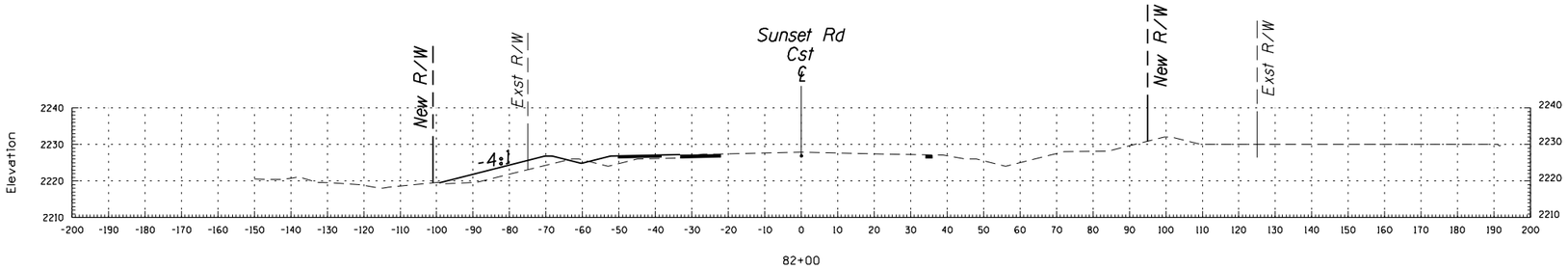

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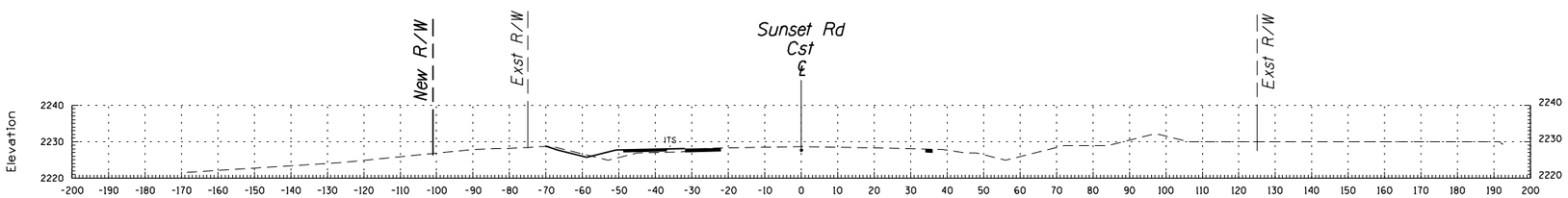

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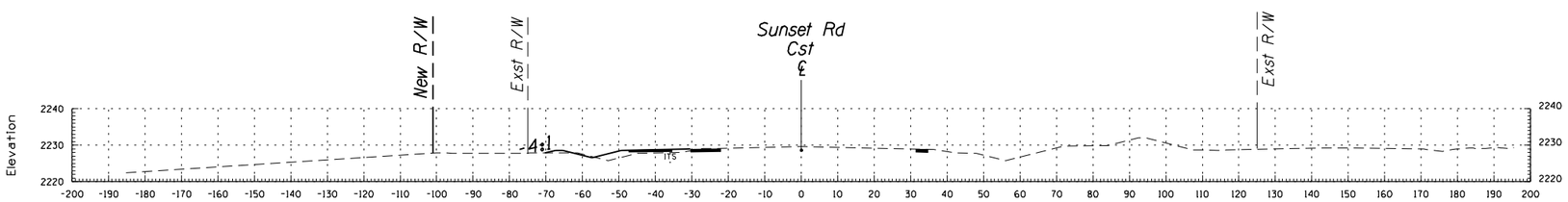

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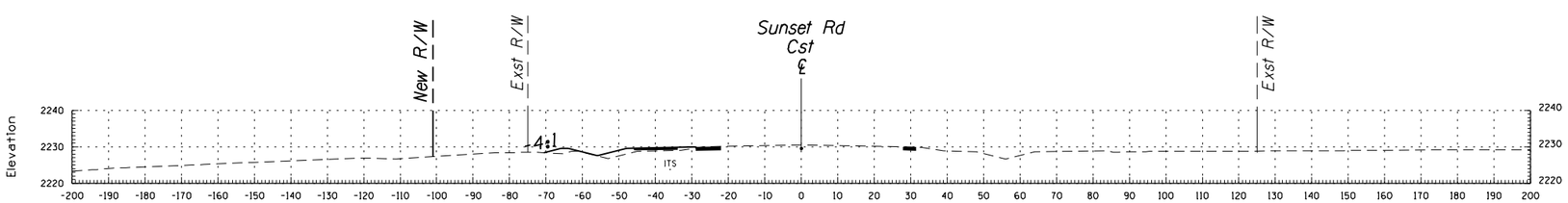

80+50

SUNSET ROAD
CROSS SECTION SHEET
STA 80+50 TO STA 82+00

SHEET 3 OF 28

DATE-
LOCATION-
REVISIONS-
FINISHED PLANS-
SURVEY NO.

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:00:30 AM

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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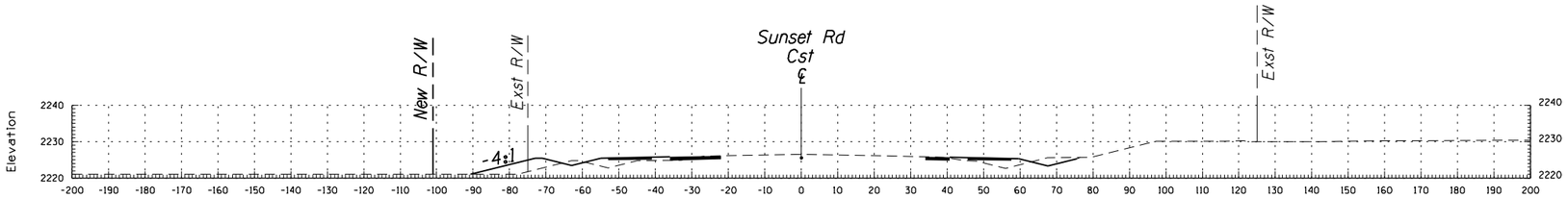

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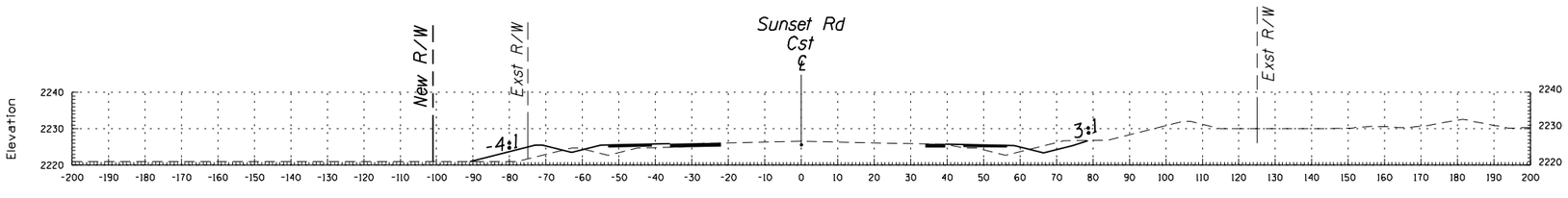

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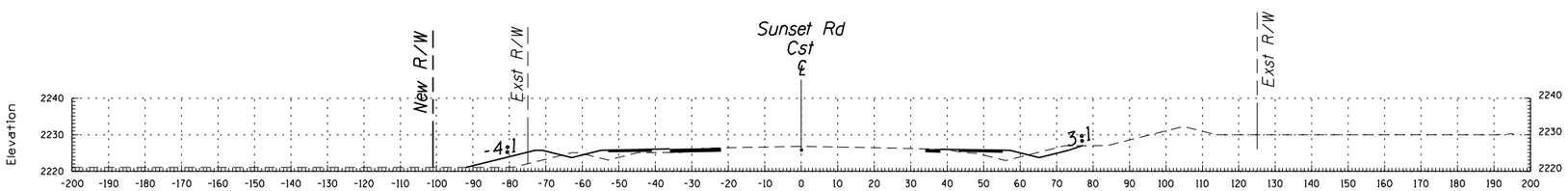

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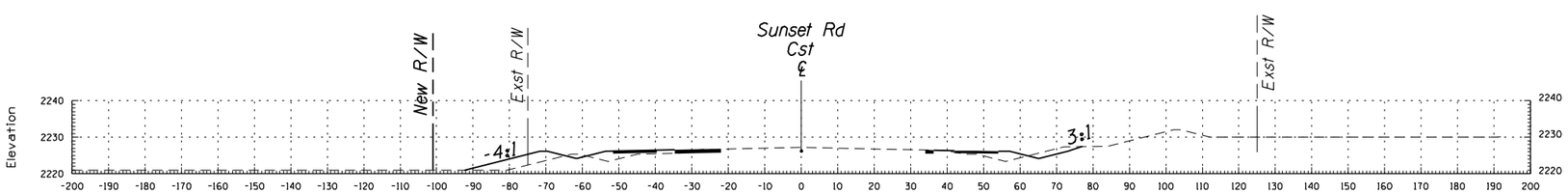

82+50

SUNSET ROAD
CROSS SECTION SHEET
STA 82+50 TO STA 84+00

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:01:11 AM

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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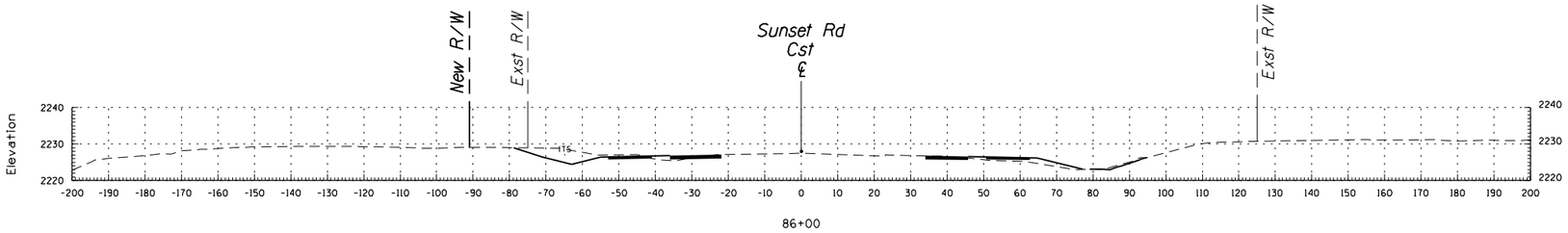

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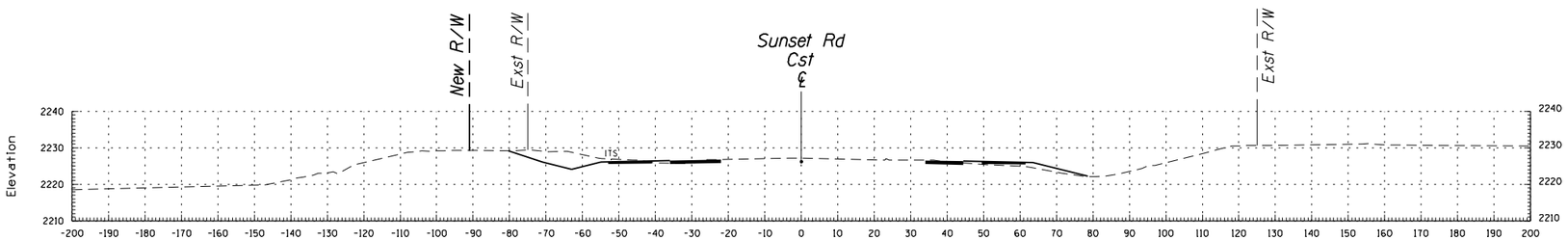

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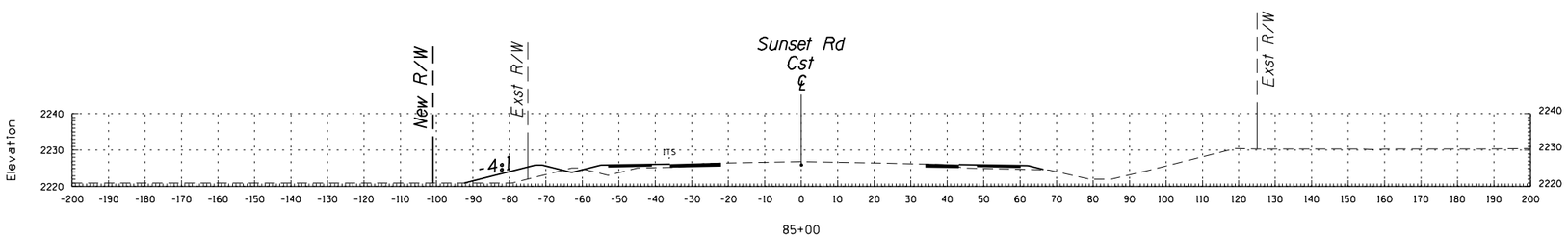
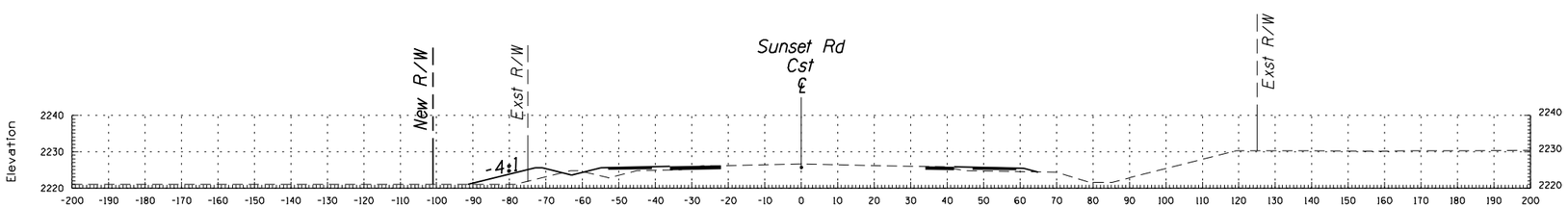


85+00



84+50

SUNSET ROAD
CROSS SECTION SHEET
STA 84+50 TO STA 86+00

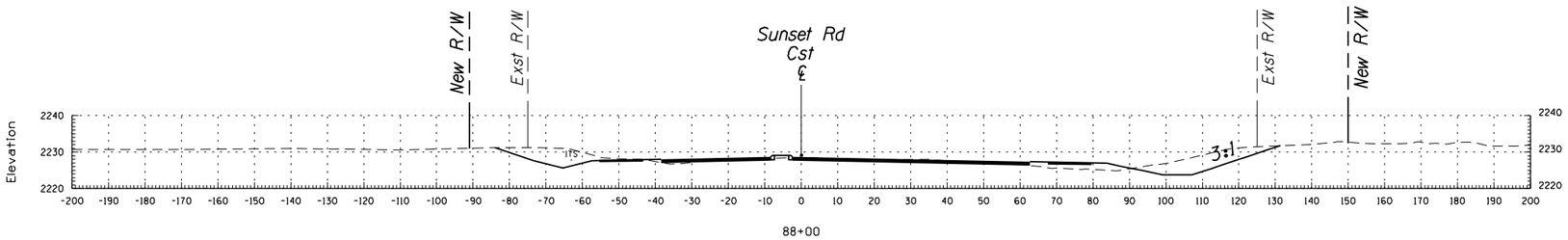
SHEET 5 OF 28

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

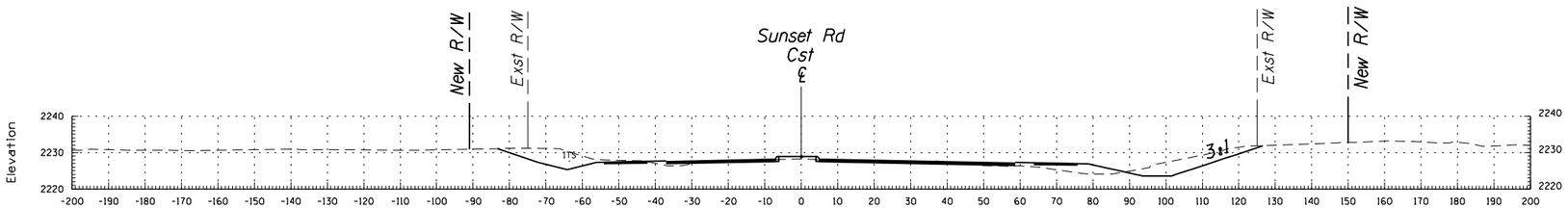
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:01:45 AM

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

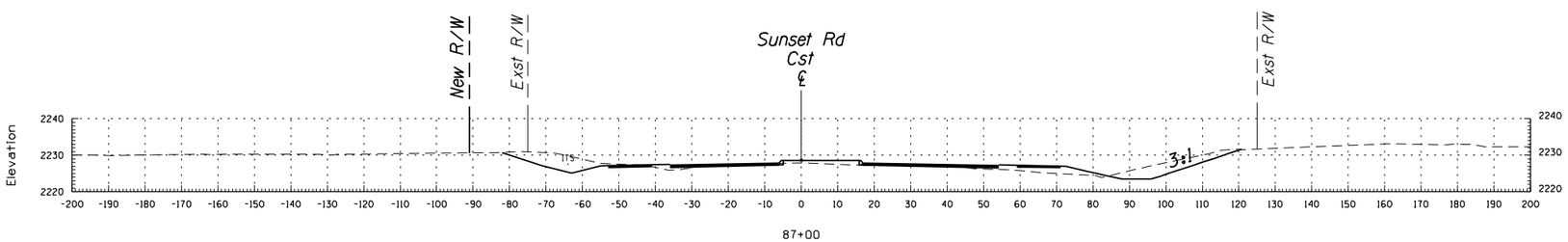
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



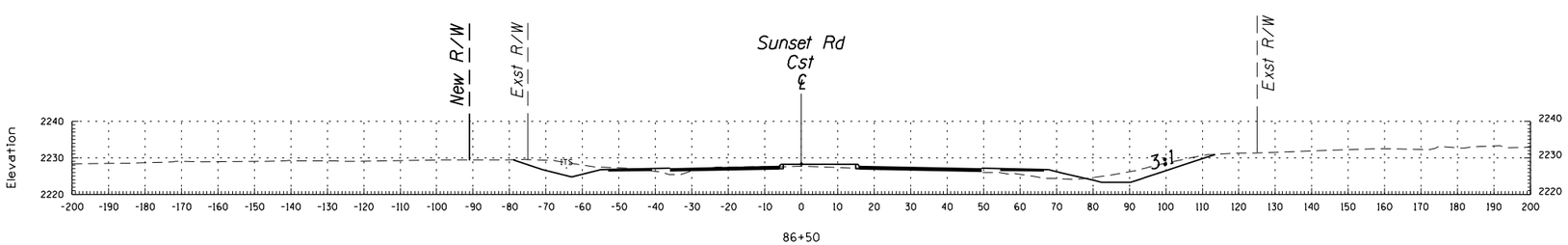
88+00



87+50



87+00



86+50

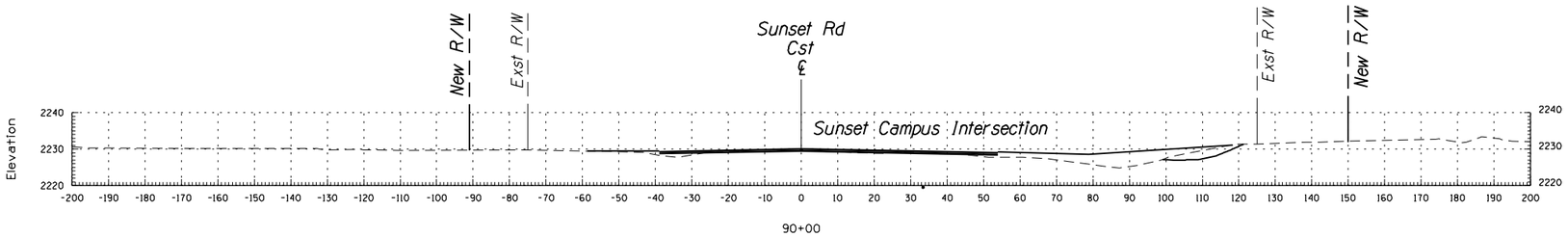
SUNSET ROAD
CROSS SECTION SHEET
STA 86+50 TO STA 88+00

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

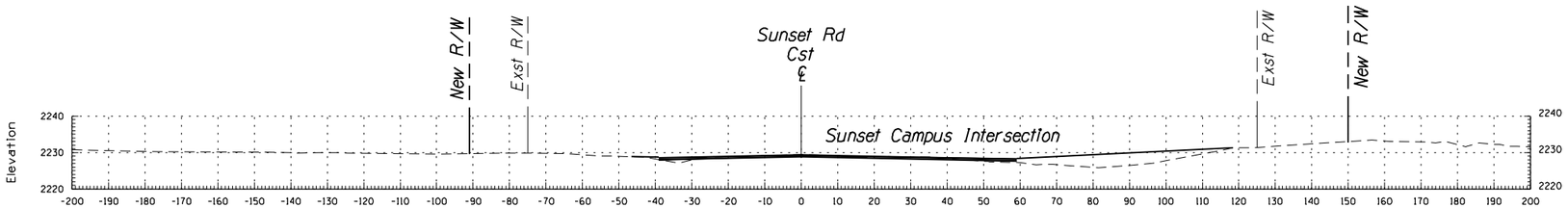
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:02:18 AM

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

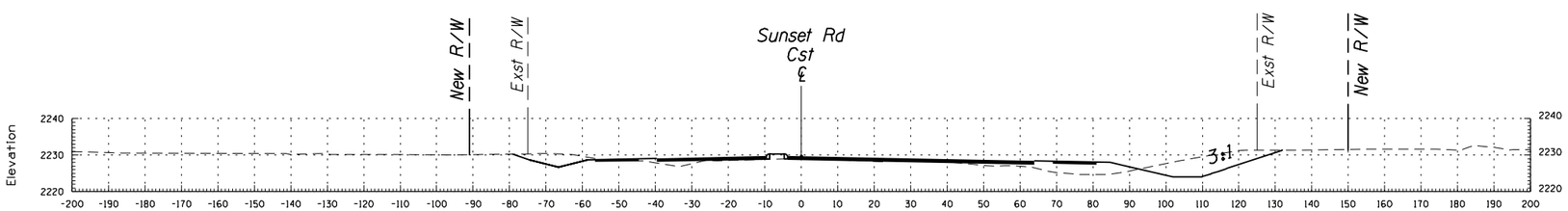
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



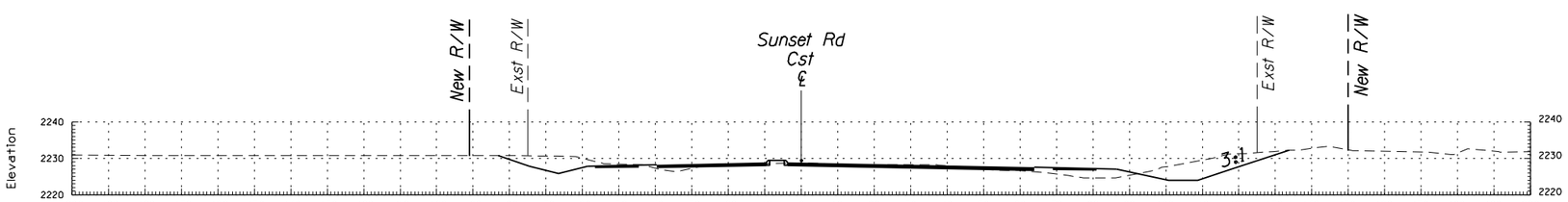
90+00



89+50



89+00



88+50

SUNSET ROAD
CROSS SECTION SHEET
STA 88+50 TO STA 90+00

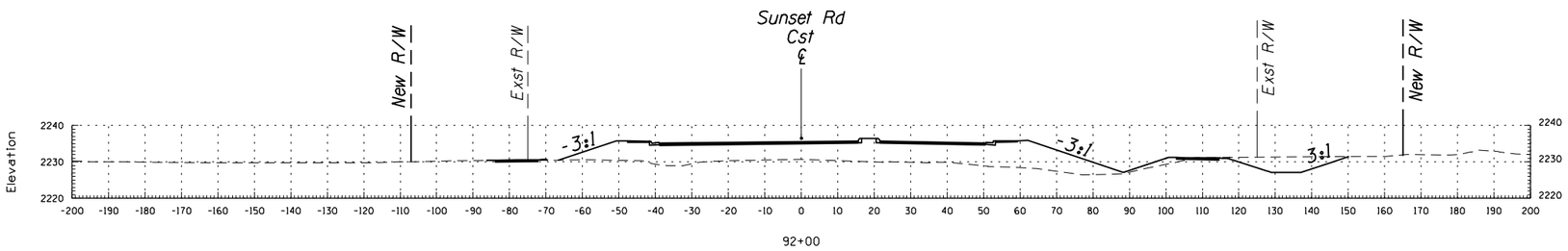
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SHEET 7 OF 28

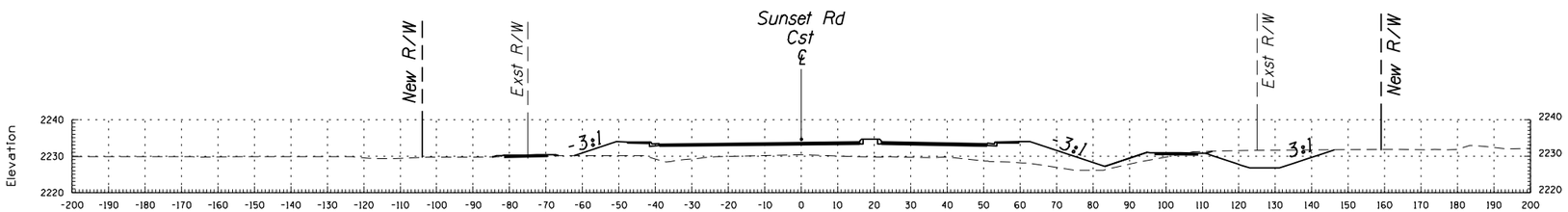
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:03:43 AM

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

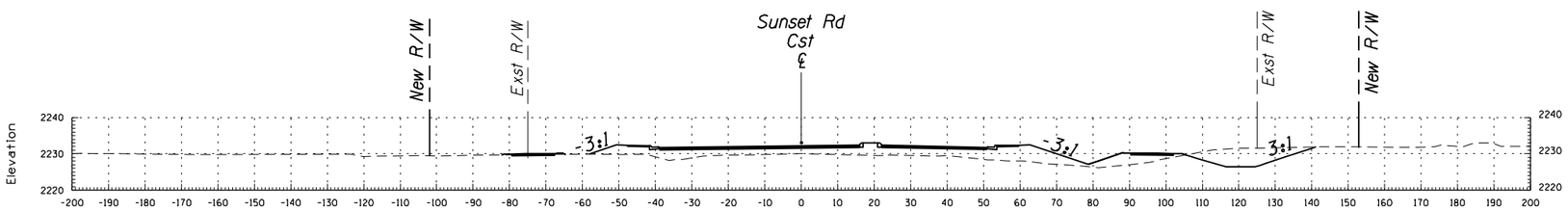
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



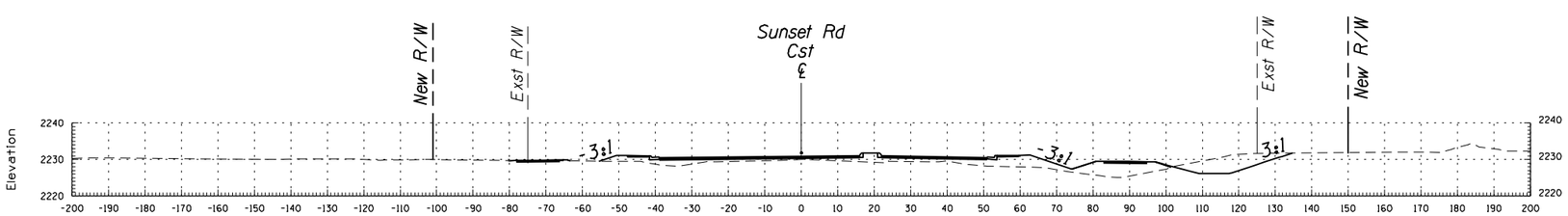
92+00



91+50



91+00



90+50

SUNSET ROAD
CROSS SECTION SHEET
STA 90+50 TO STA 92+00

SHEET 8 OF 28

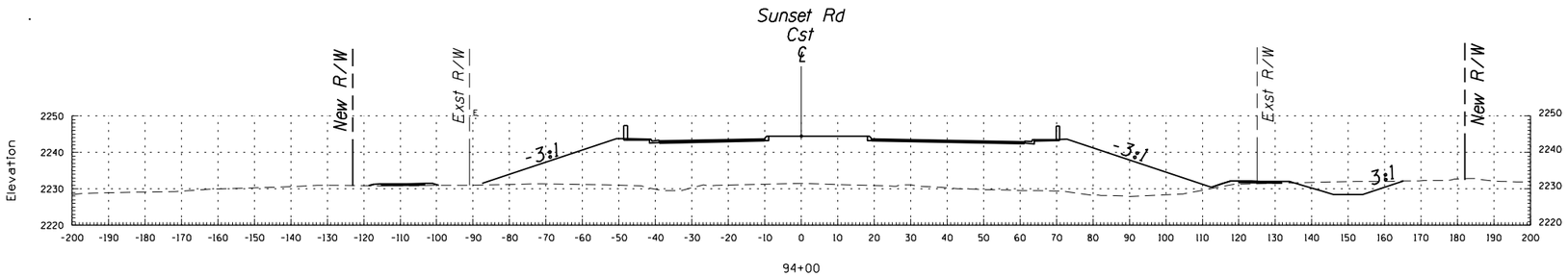
SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-
SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:06:05 AM

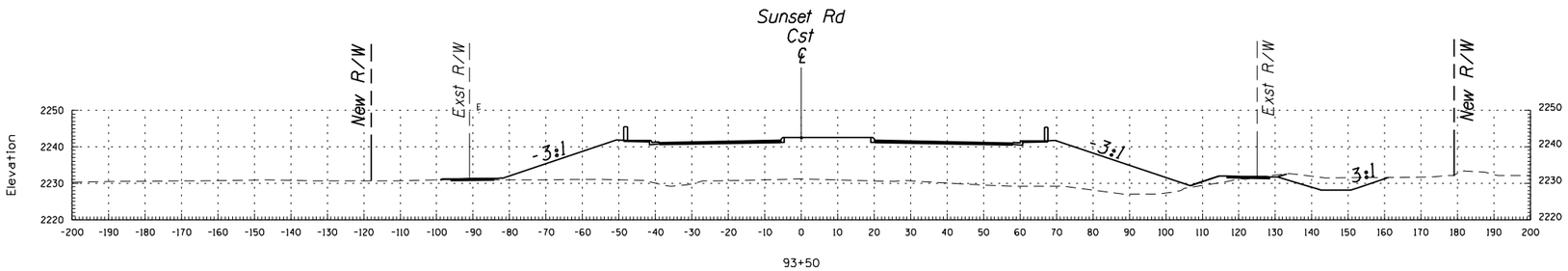
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

11:06:05 AM C:\PROJECTS\606T6874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS07.DGN

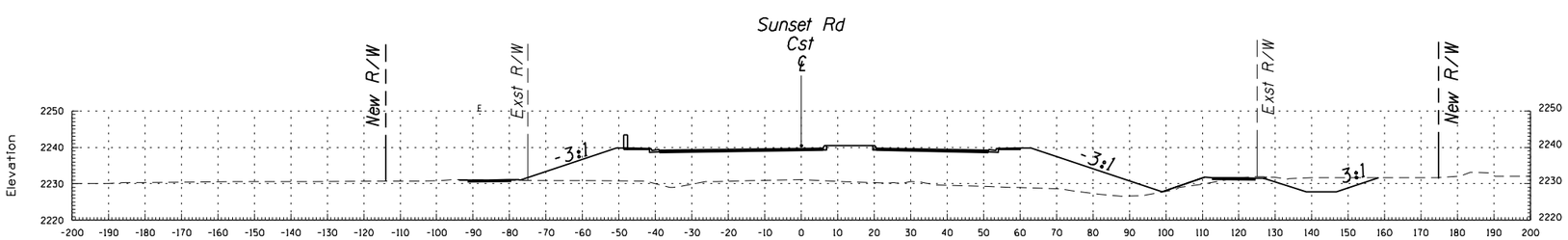
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



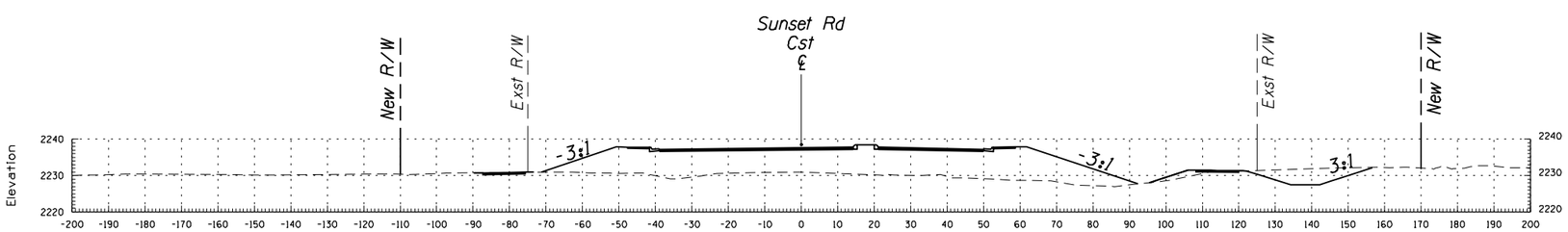
94+00



93+50



93+00



92+50

SUNSET ROAD
CROSS SECTION SHEET
STA 92+50 TO STA 94+00

SHEET 9 OF 28

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

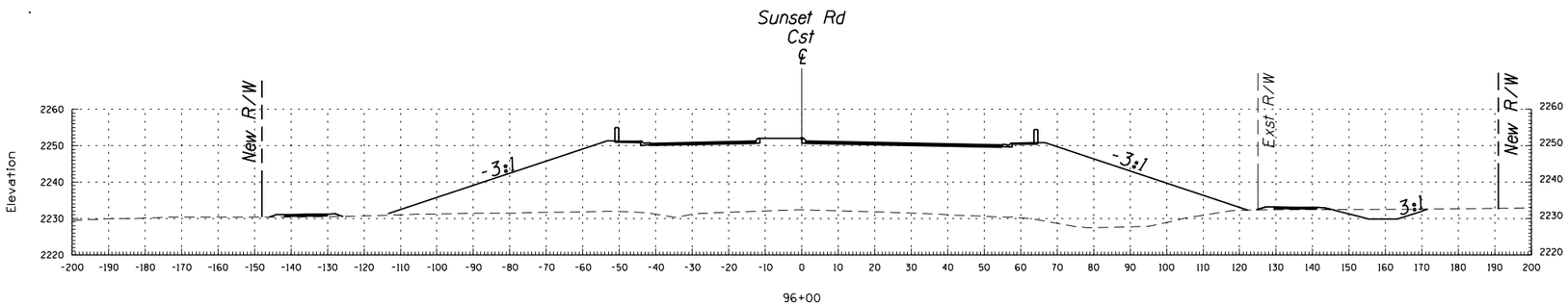
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY: KershnerM
Date Plotted: 9/8/2020
Time Plotted: 9:27:46 AM

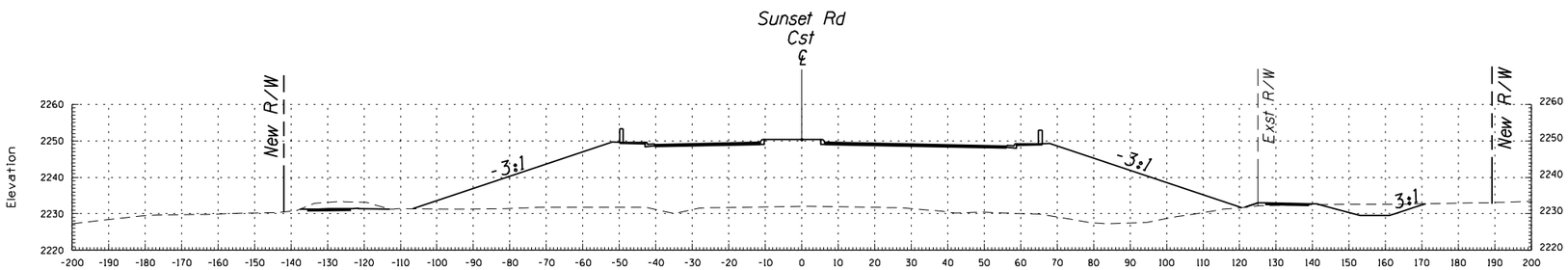
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

9:27:46 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS08.DGN

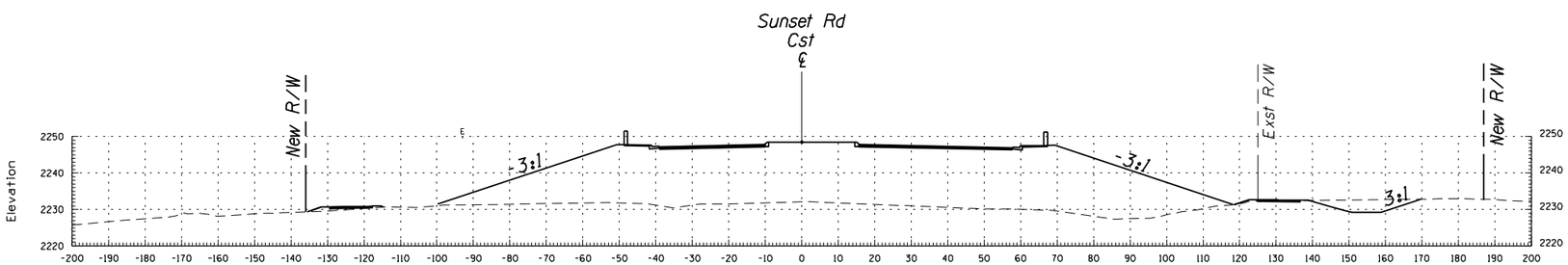
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



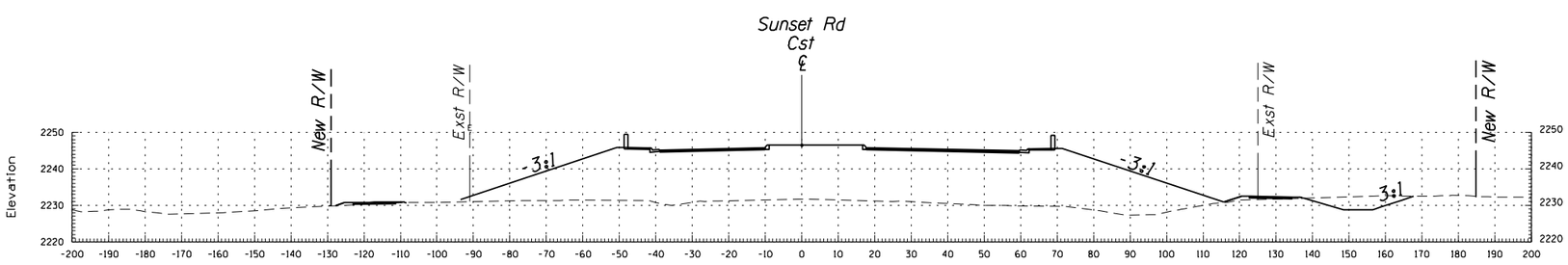
96+00



95+50



95+00



94+50

SUNSET ROAD
CROSS SECTION SHEET
STA 94+50 TO STA 96+00

SHEET 10 OF 28

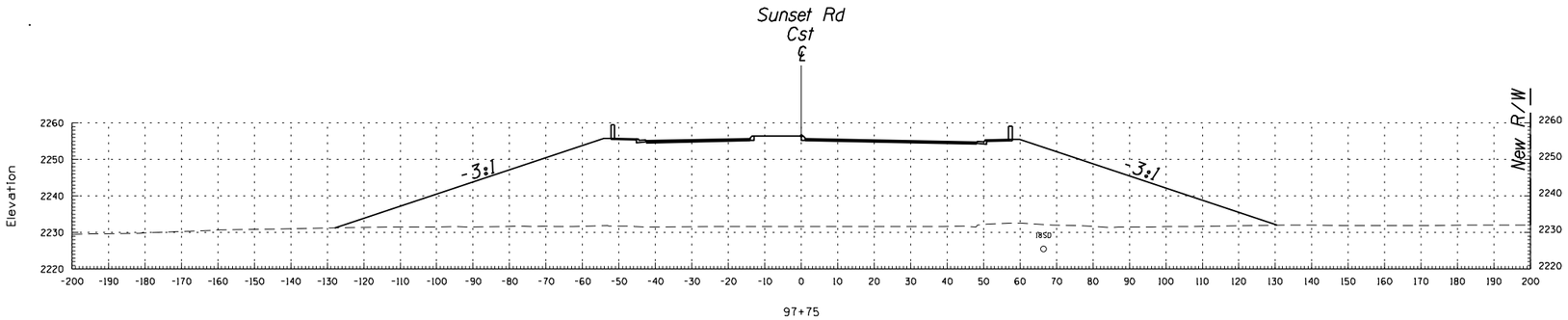
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

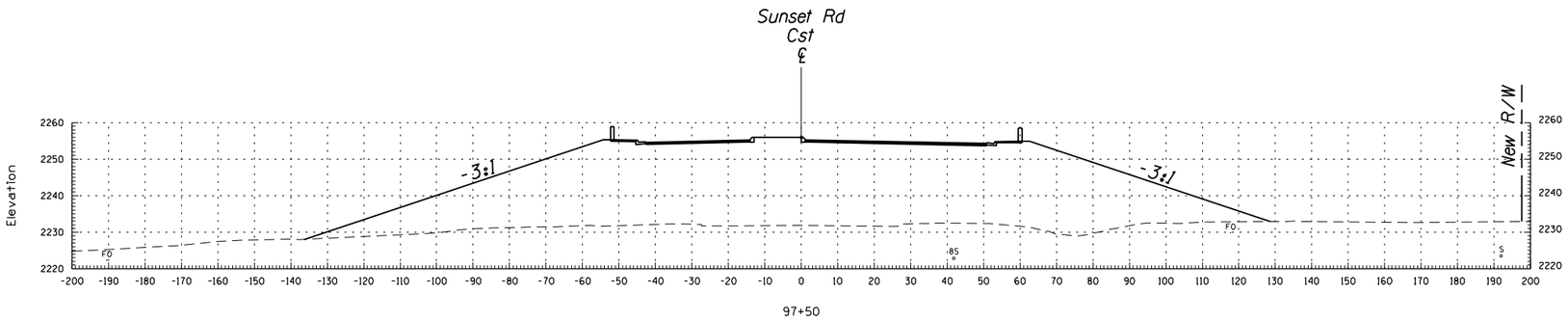
PLOTTED BY: KershnerM
Date Plotted: 9/8/2020
Time Plotted: 9:28:21 AM
SURVEY NO.

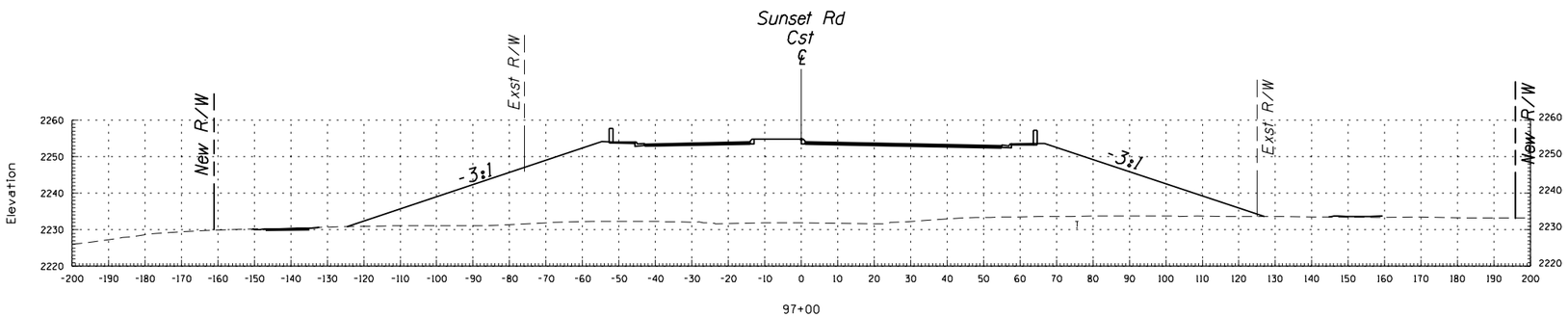
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

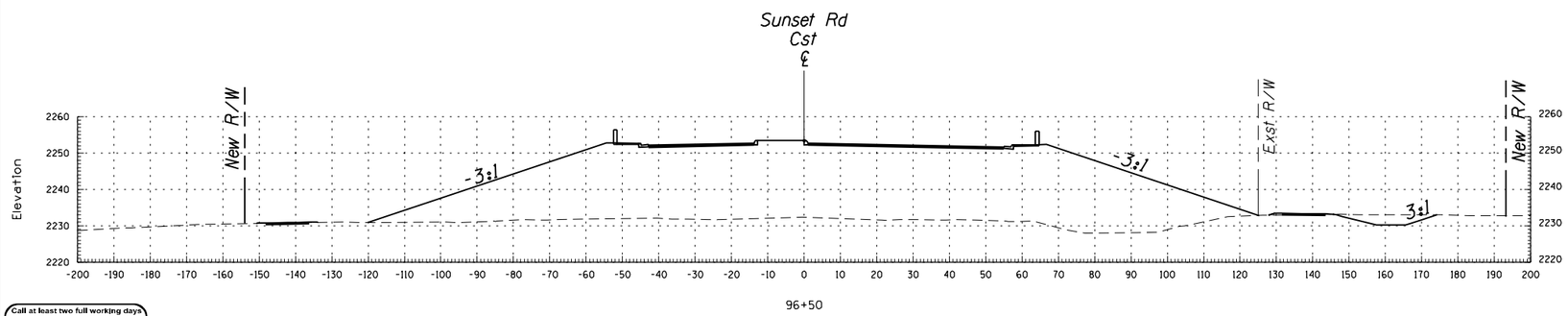
9:28:21 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS09.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				









SUNSET ROAD
CROSS SECTION SHEET
STA 96+50 TO STA 97+75

SHEET 11 OF 28

DATE:- | LOCATION:- | REVISIONS:- | FINISHED PLANS:- | SURVEY NO.

PLOTTED BY: KershnerM
Date Plotted: 9/8/2020
Time Plotted: 9:28:48 AM

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
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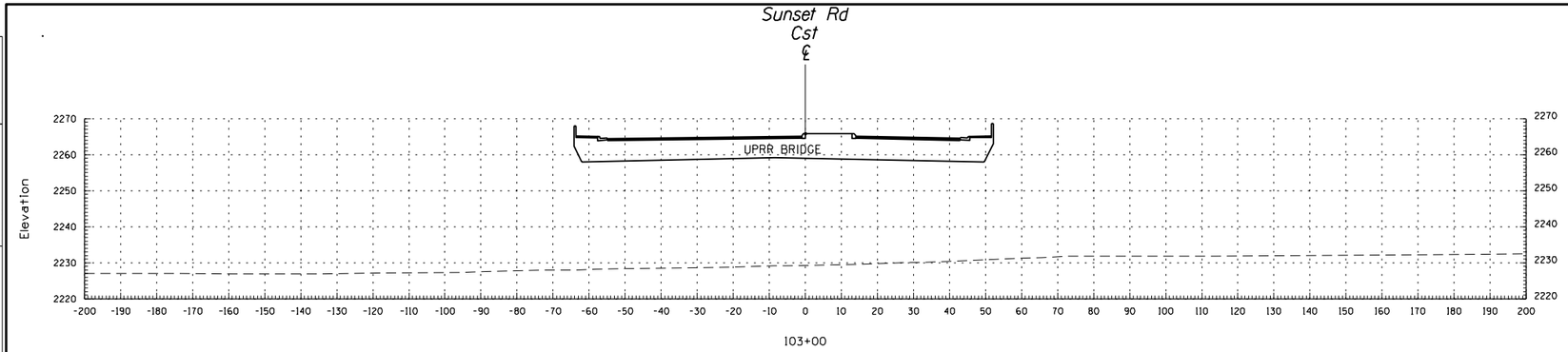
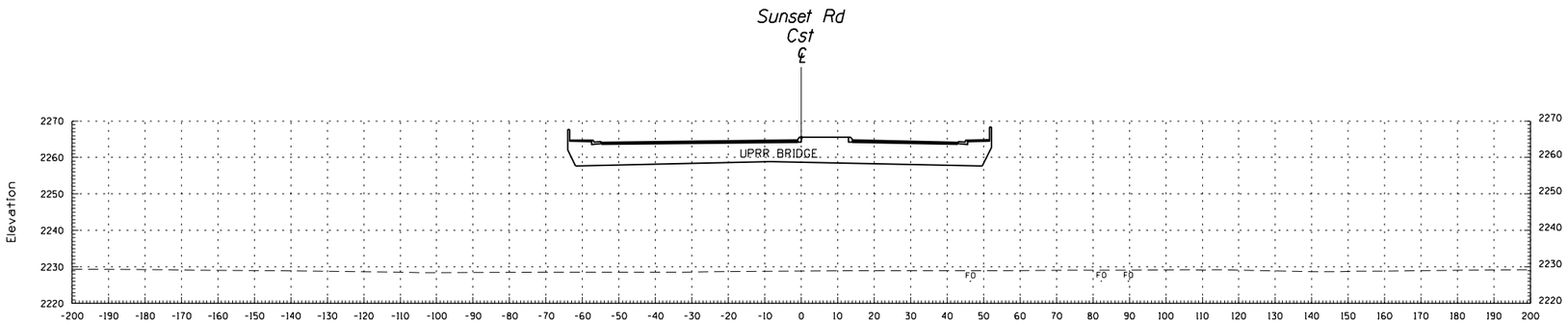
In Maricopa County: (602)263-1100

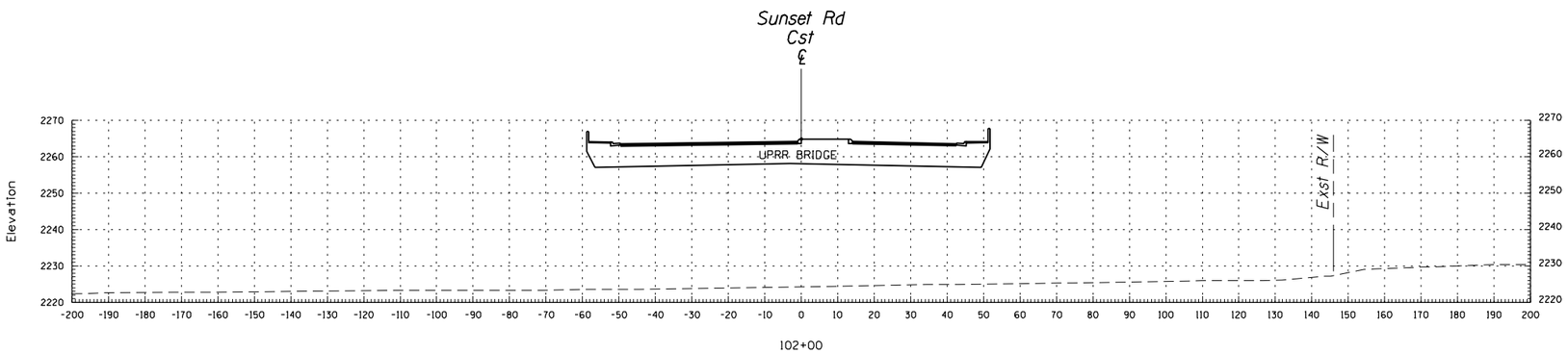
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



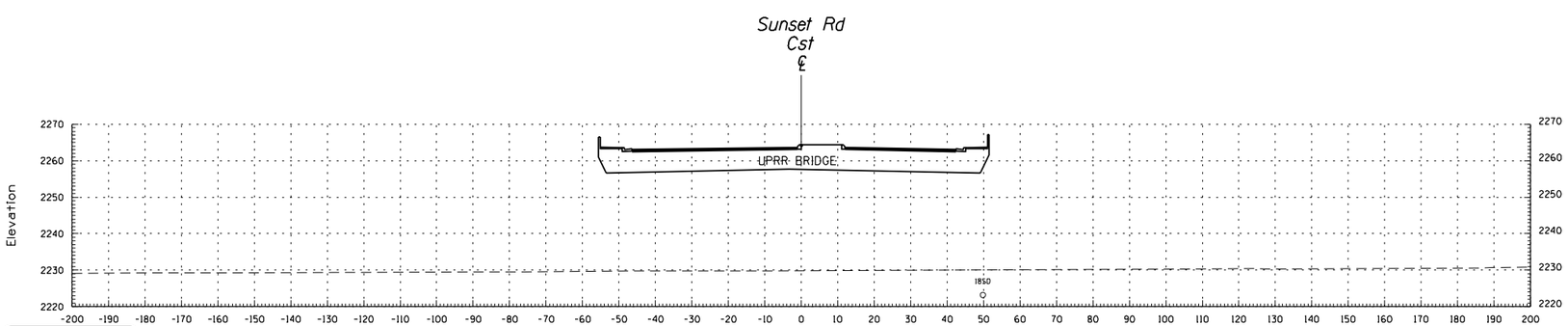
103+00



102+50



102+00



101+70

SUNSET ROAD
CROSS SECTION SHEET
STA 101+70 TO STA 103+00

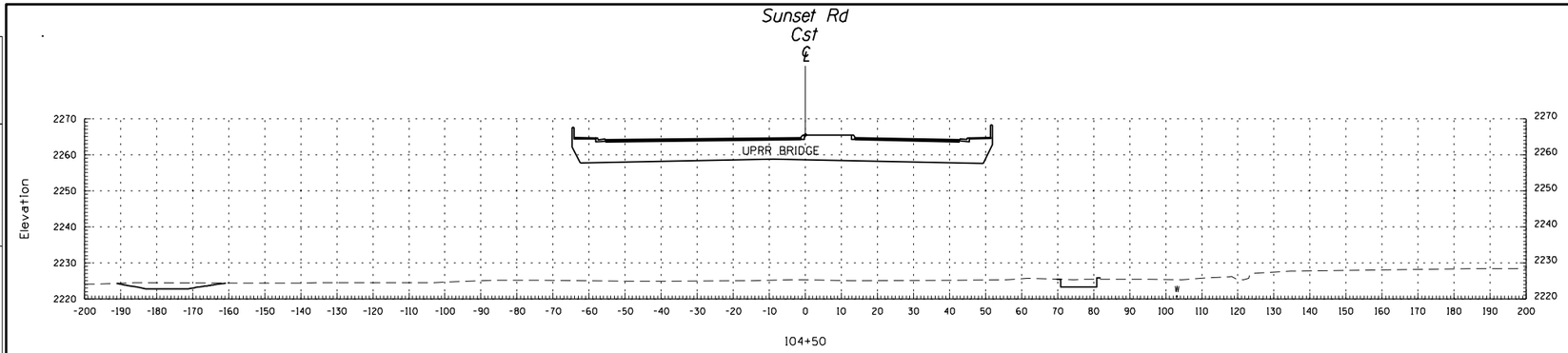
SHEET 12 OF 28

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

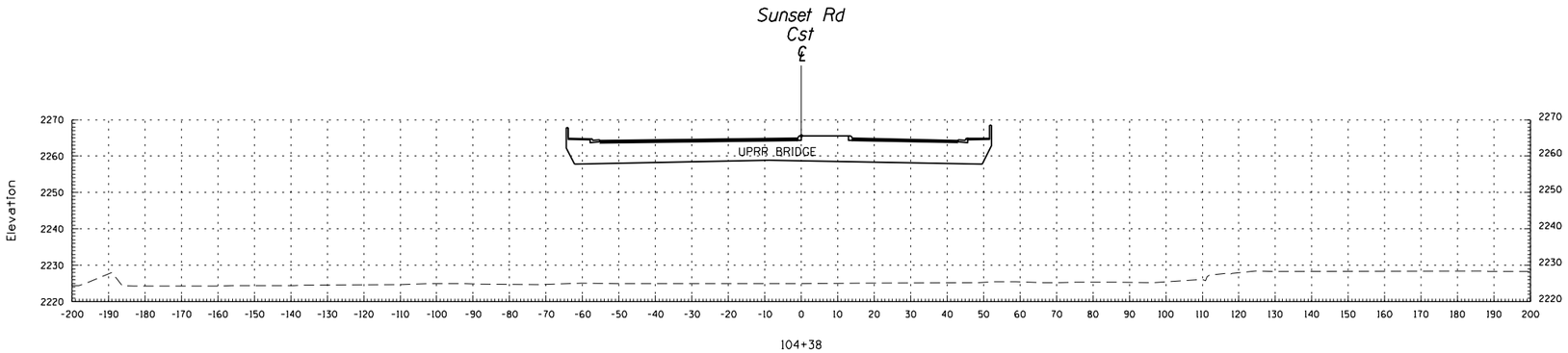
PLOTTED BY: Kershner-M
Date Plotted: 7/23/2020
Time Plotted: 11:09:13 AM

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

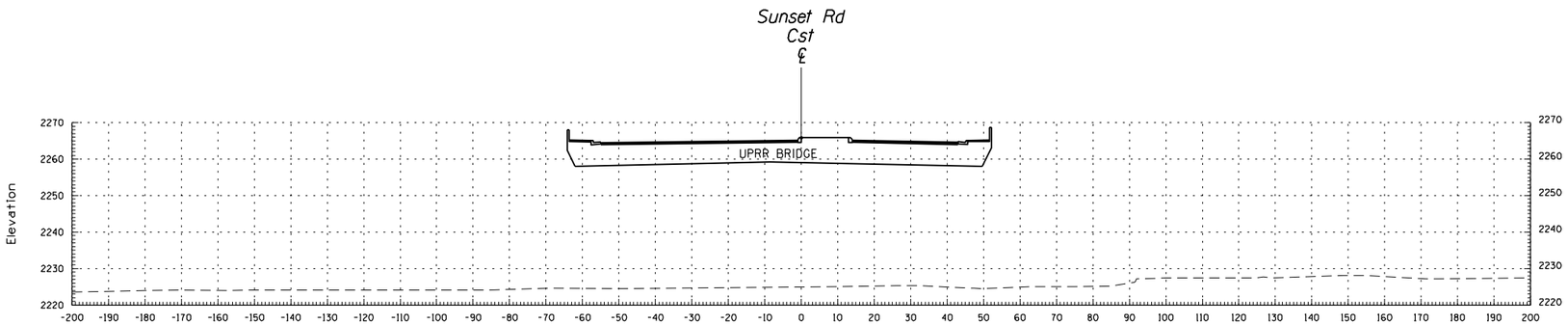
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



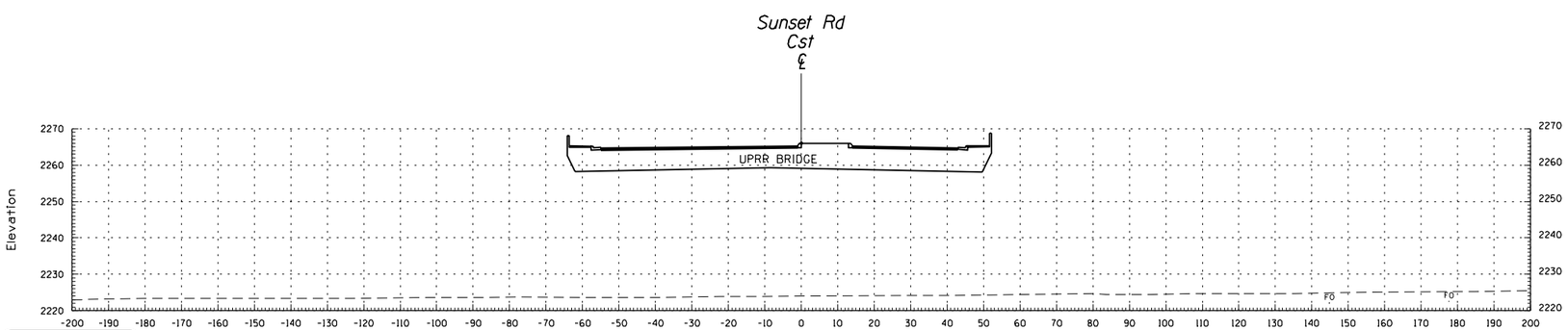
104+50



104+38



104+00



103+50

SUNSET ROAD
CROSS SECTION SHEET
STA 103+50 TO STA 104+50

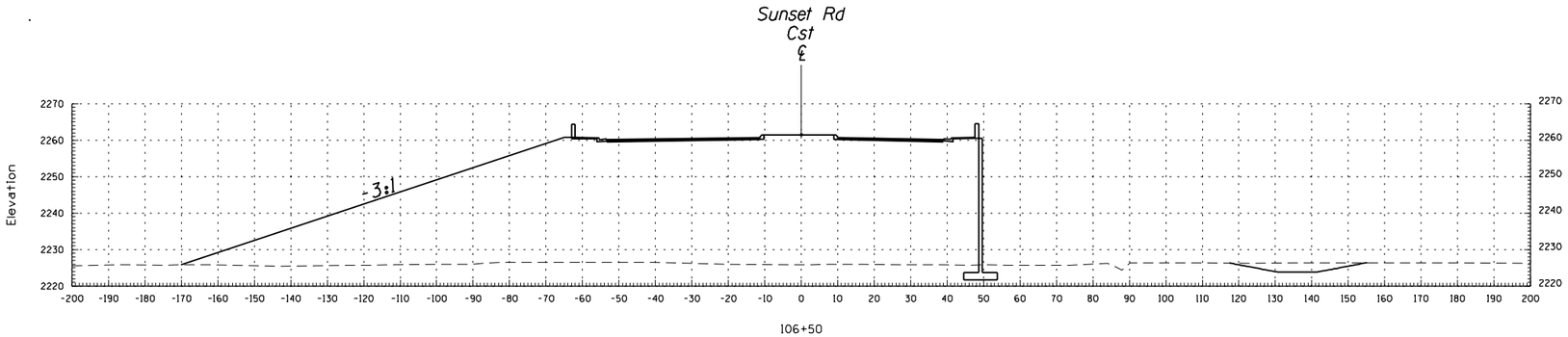
SHEET 13 OF 28

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

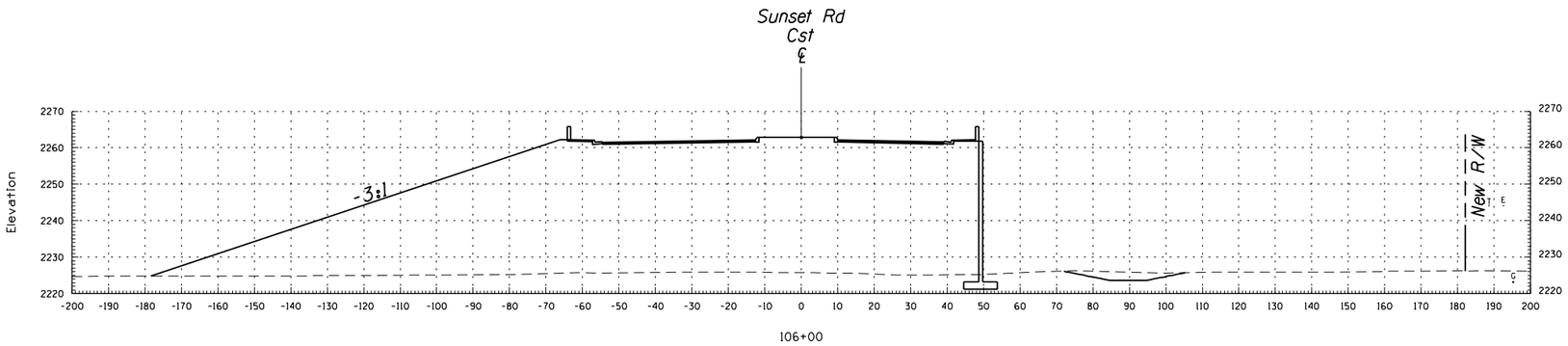
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:10:09 AM

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

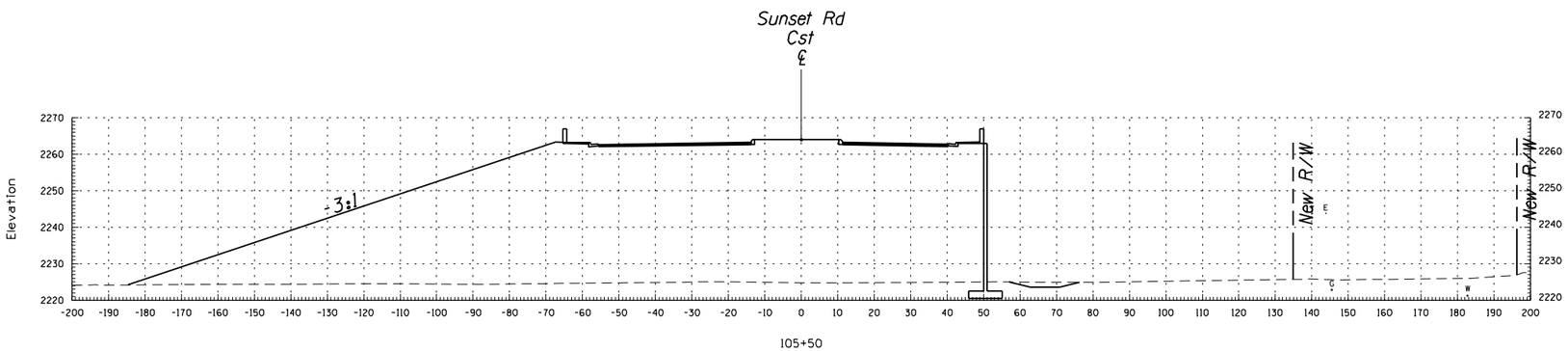
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



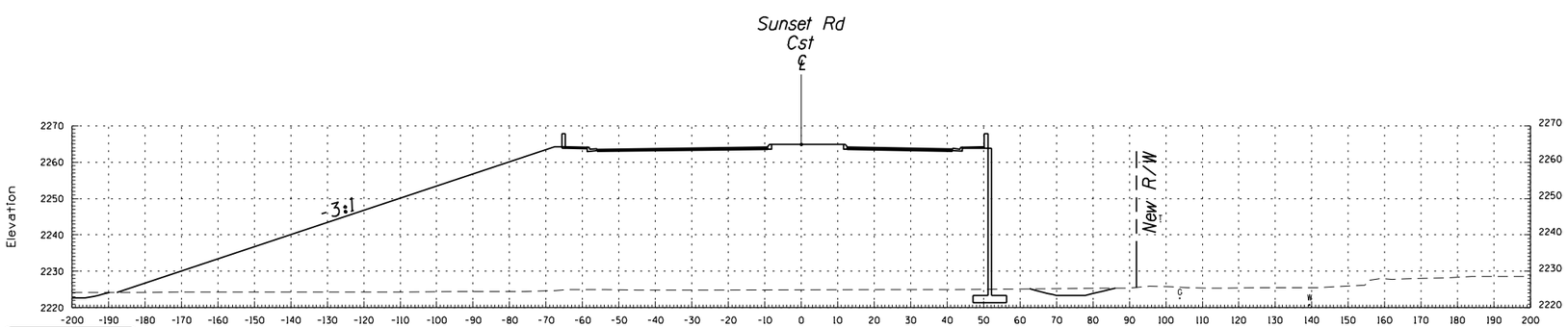
106+50



106+00



105+50



105+00

SUNSET ROAD
CROSS SECTION SHEET
STA 105+00 TO STA 106+50

SHEET 14 OF 28

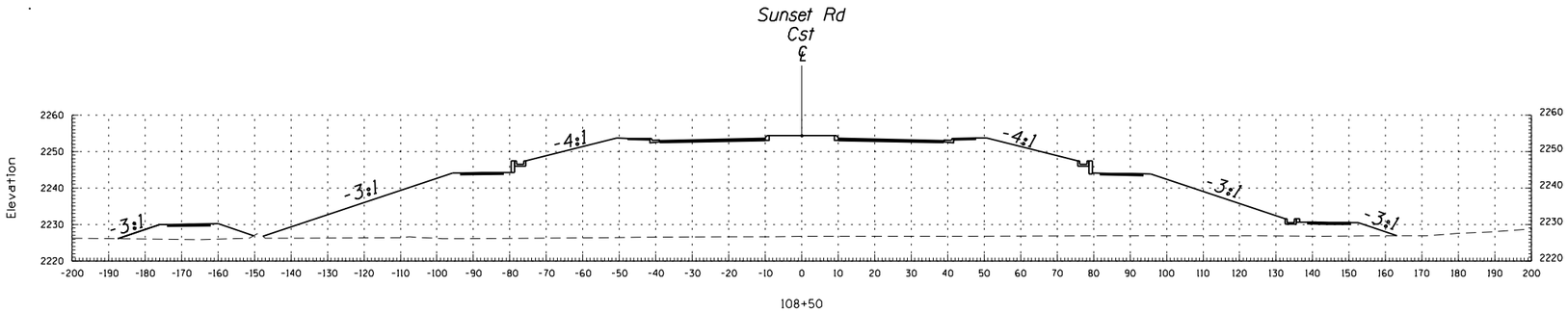
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

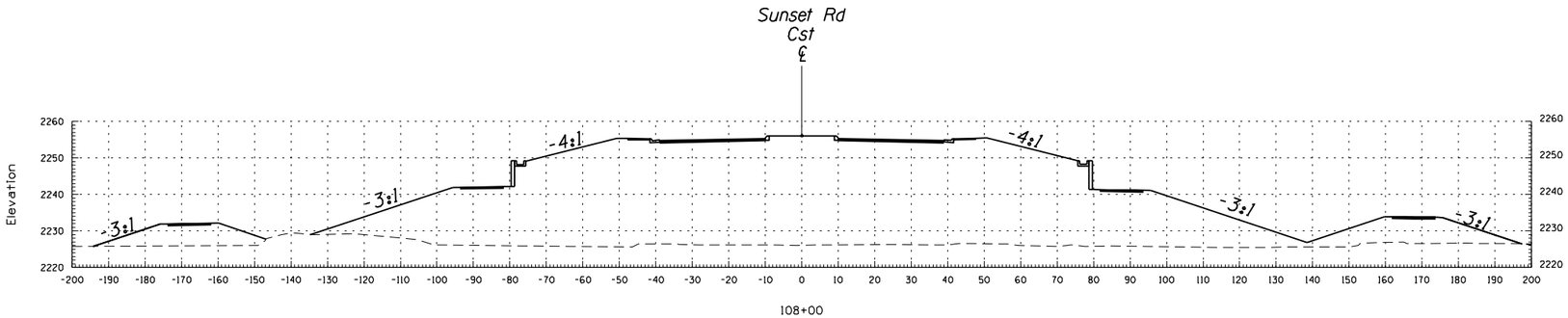
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:11:02 AM

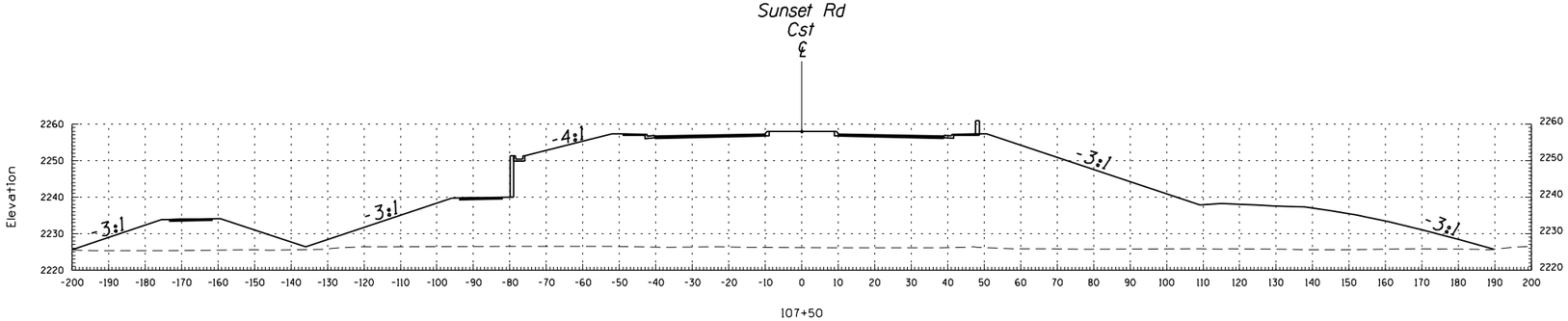
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

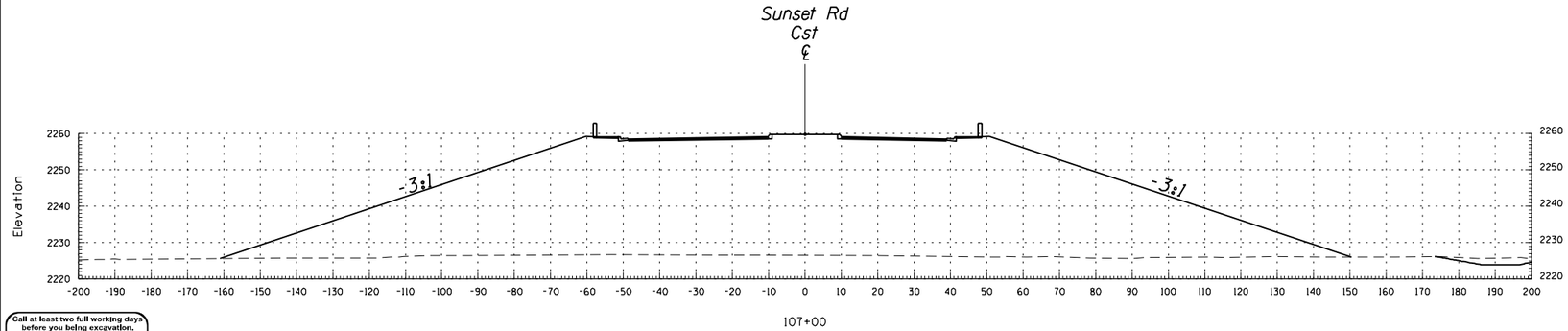
11:11:02 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS13.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				









SUNSET ROAD
CROSS SECTION SHEET
STA 107+00 TO STA 108+50

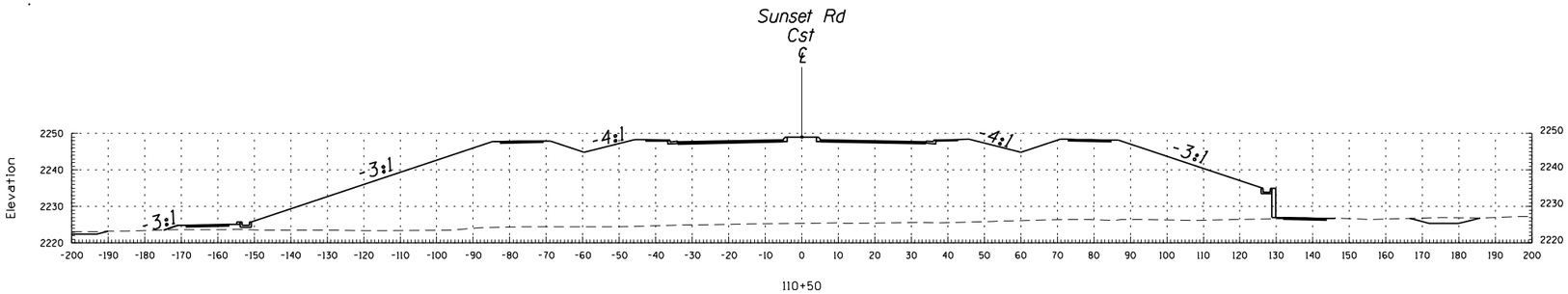
SHEET 15 OF 28

Call at least two full working days before you bring excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

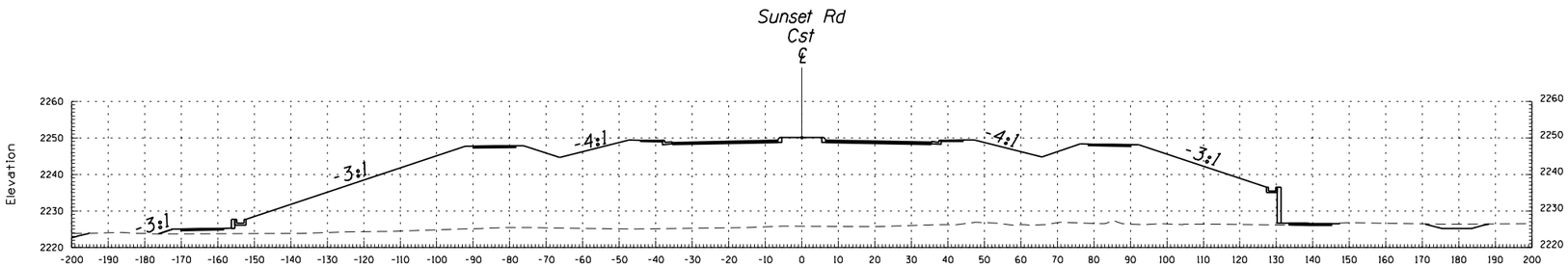
PLOTTED BY: Kershner M
Date Plotted: 7/23/2020
Time Plotted: 11:11:37 AM

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

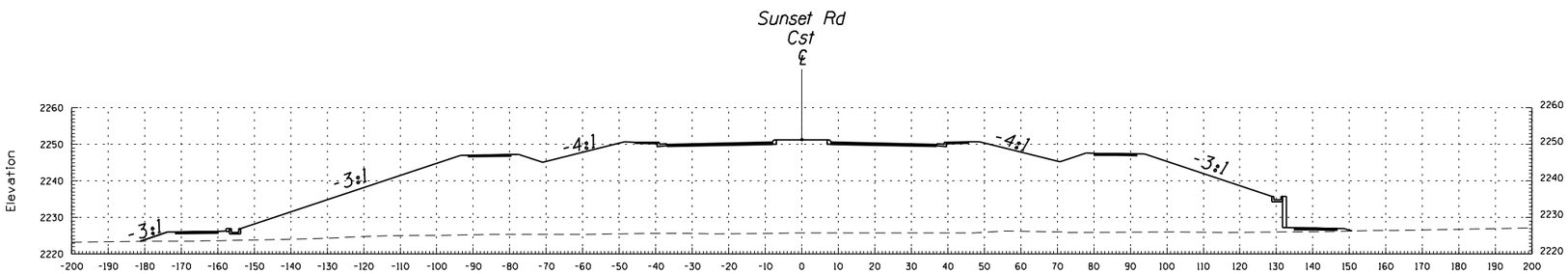
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



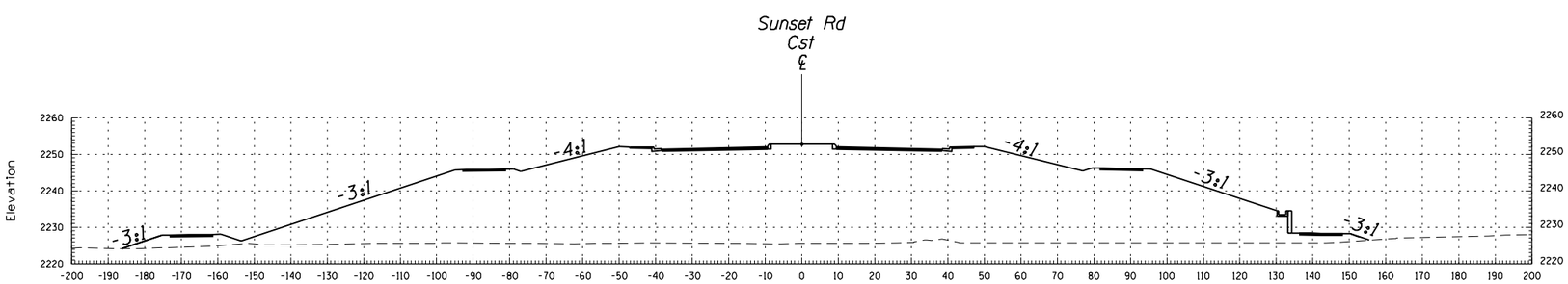
110+50



110+00



109+50



109+00

SUNSET ROAD
CROSS SECTION SHEET
STA 109+00 TO STA 110+50

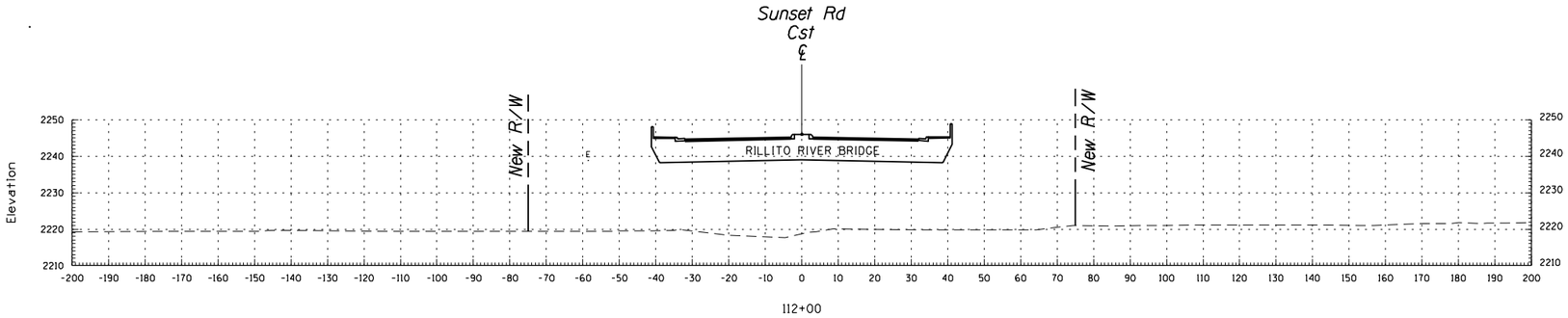
SHEET 16 OF 28

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

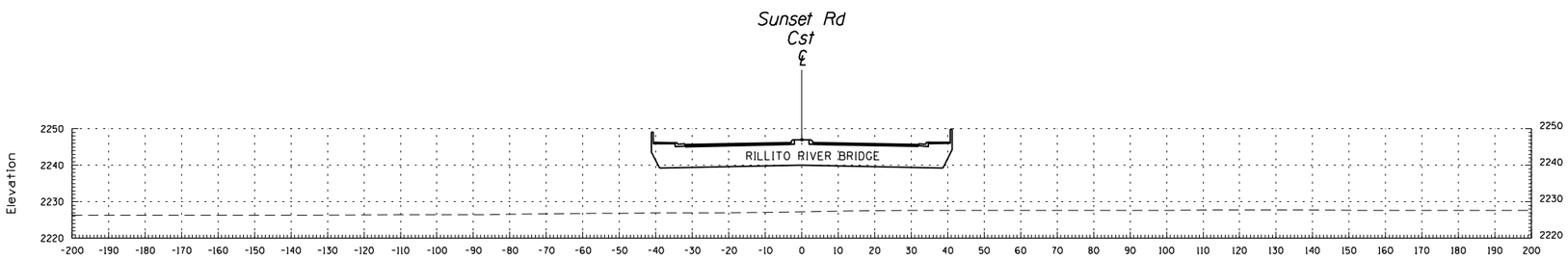
PLOTTED BY: Kershner-M
Date Plotted: 7/23/2020
Time Plotted: 11:12:43 AM
SURVEY NO.

Call at least two full working days before you being excavation.
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

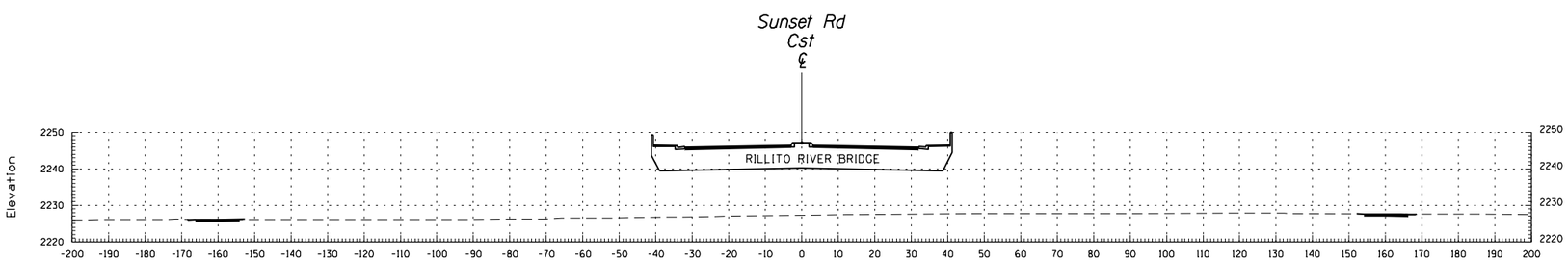
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



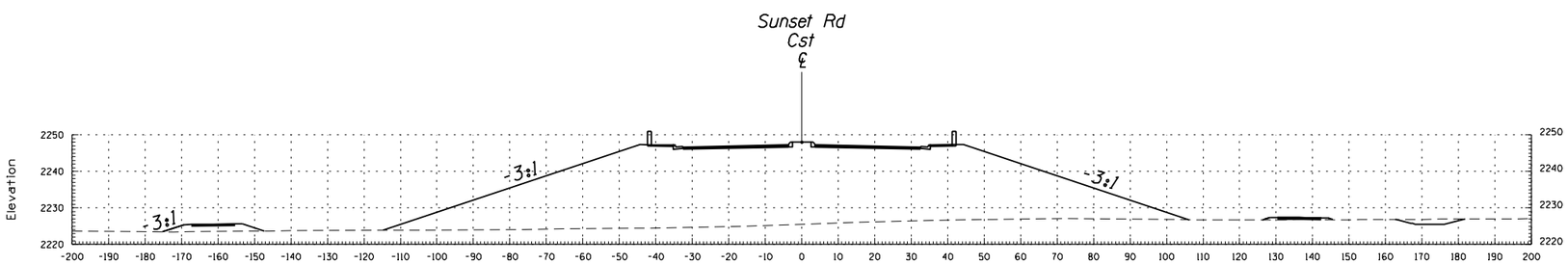
112+00



111+50



111+35



111+00

SUNSET ROAD
CROSS SECTION SHEET
STA 111+00 TO STA 112+00

SHEET 17 OF 28

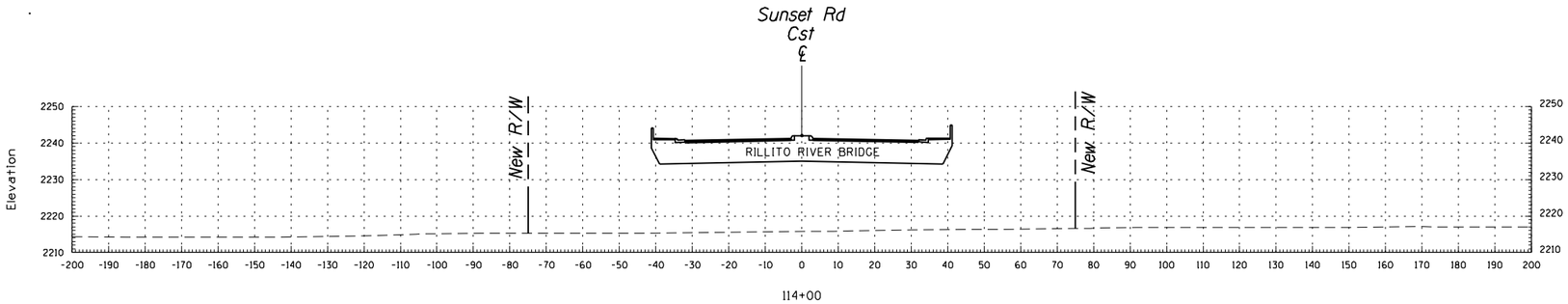
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 11:13:35 AM

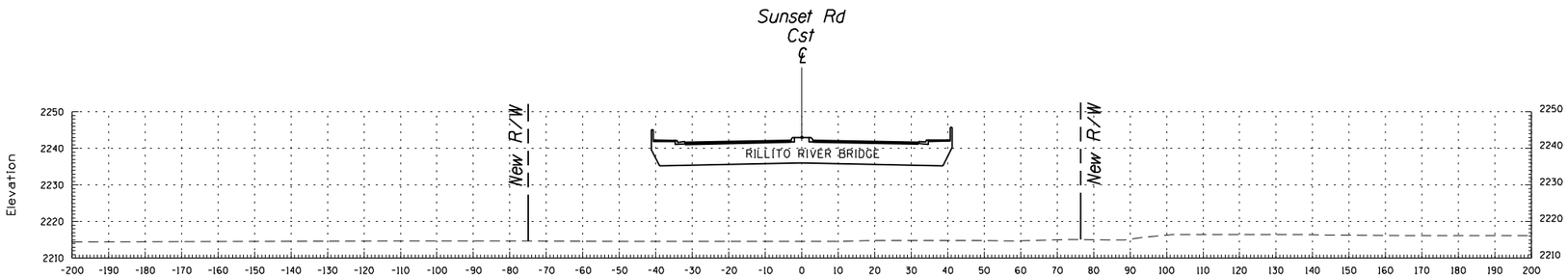
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

11:13:35 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS16.DGN

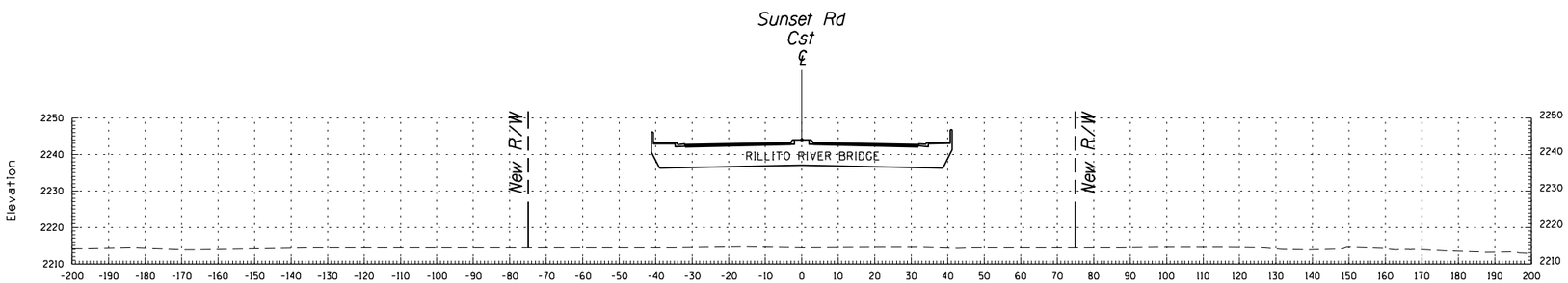
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



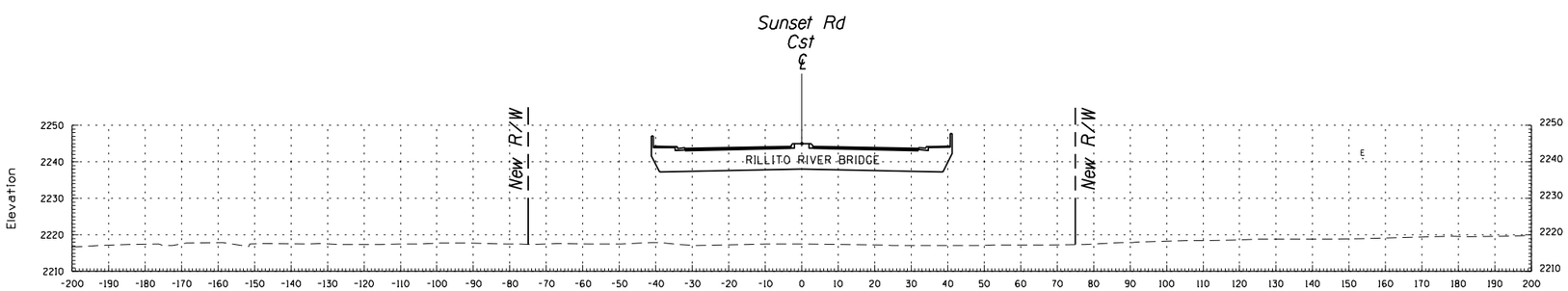
114+00



113+50



113+00



112+50

SUNSET ROAD
CROSS SECTION SHEET
STA 112+50 TO STA 114+00

SHEET 18 OF 28

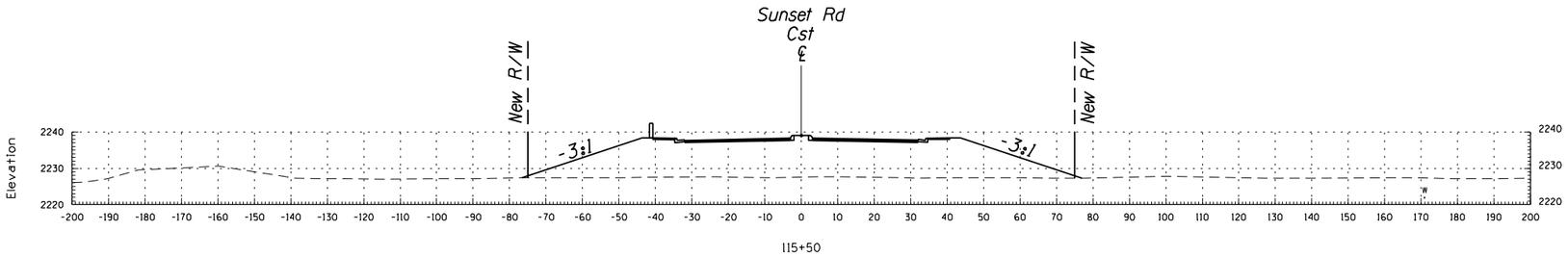
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:47:07 AM

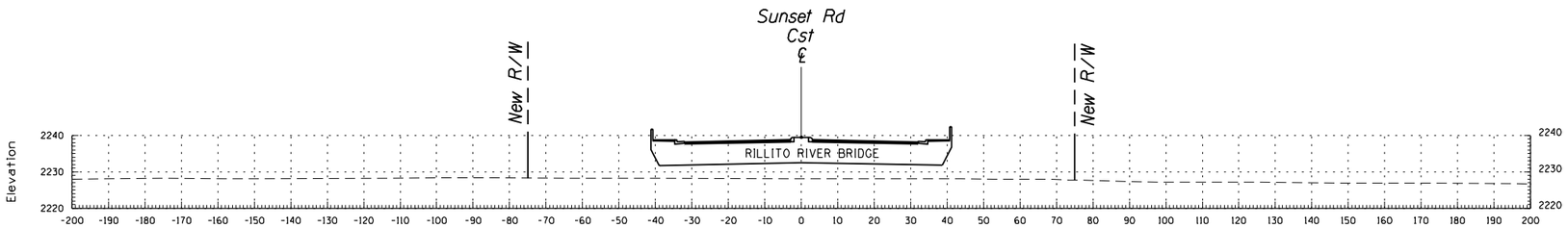
SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-
SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-

10:47:07 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS17.DGN

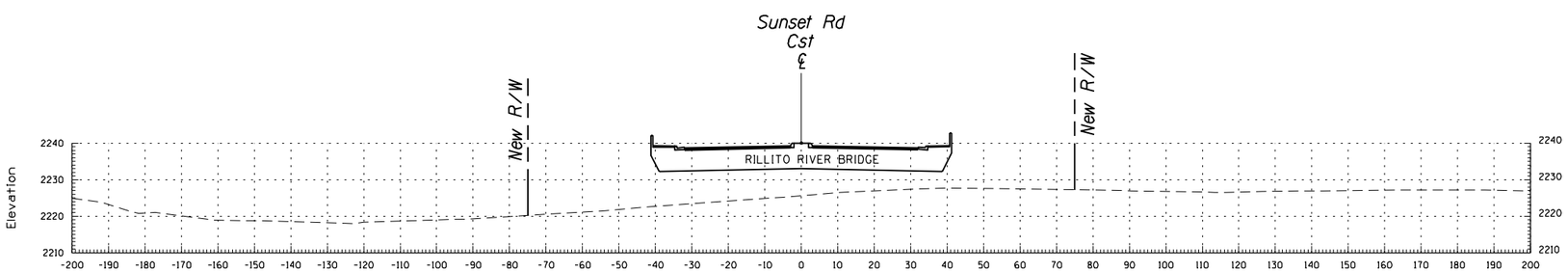
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



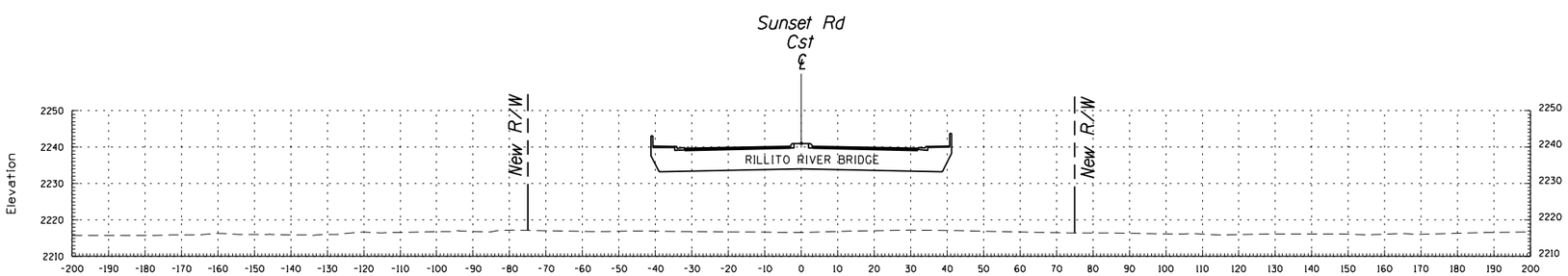
115+50



115+25



115+00



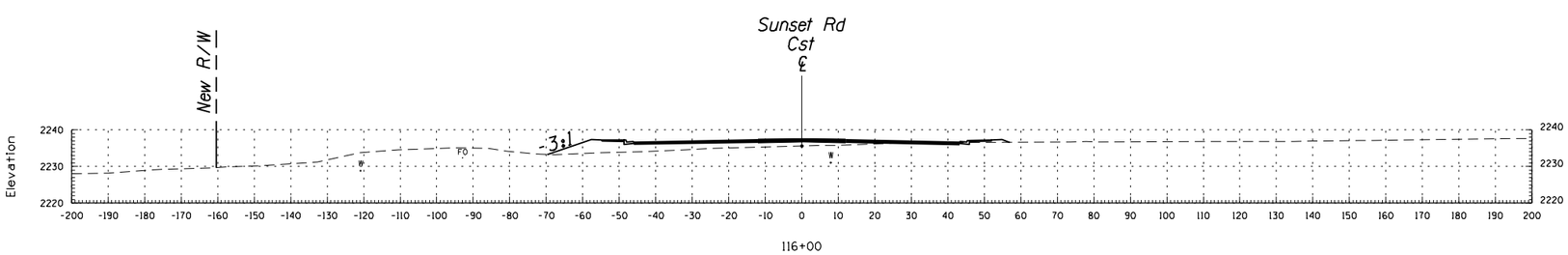
114+50

SUNSET ROAD
CROSS SECTION SHEET
STA 114+50 TO STA 115+50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:47:37 AM
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-
10:47:37 AM C:\PROJECTS\6061G874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS18.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



SUNSET ROAD
CROSS SECTION SHEET
STA 116+00

SHEET 20 OF 28

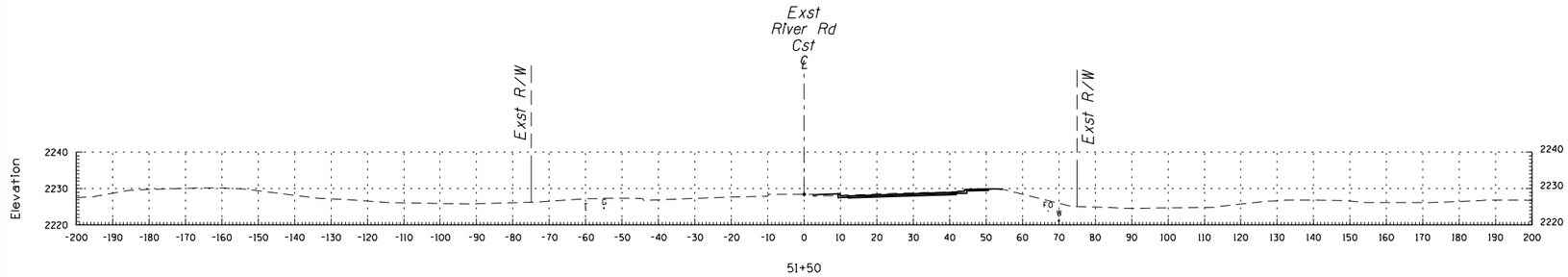
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

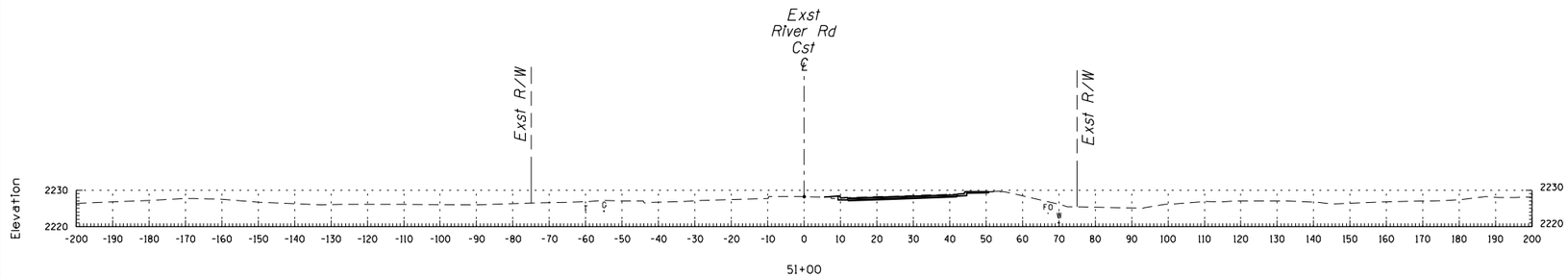
PLOTTED BY: Kershner M
Date Plotted: 7/23/2020
Time Plotted: 10:48:30 AM

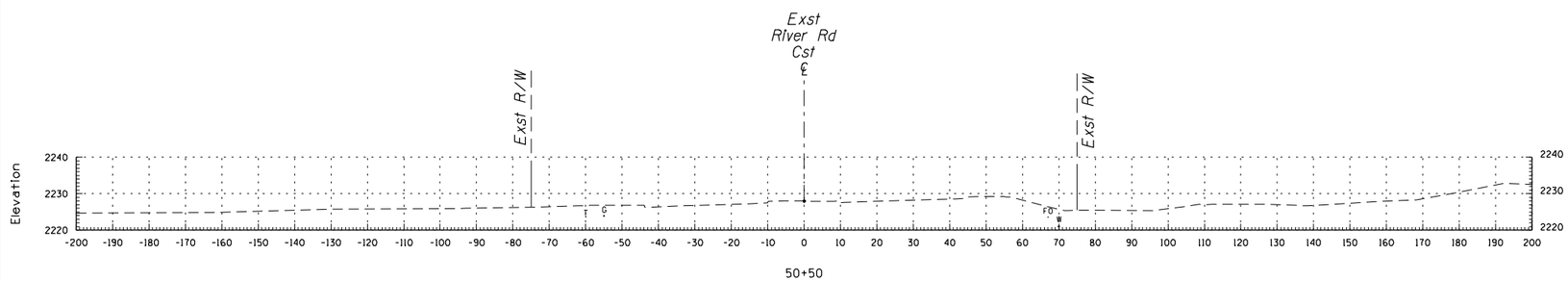
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

10:48:30 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS19.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				







RIVER ROAD
CROSS SECTION SHEET
STA 50+50 TO STA 51+50

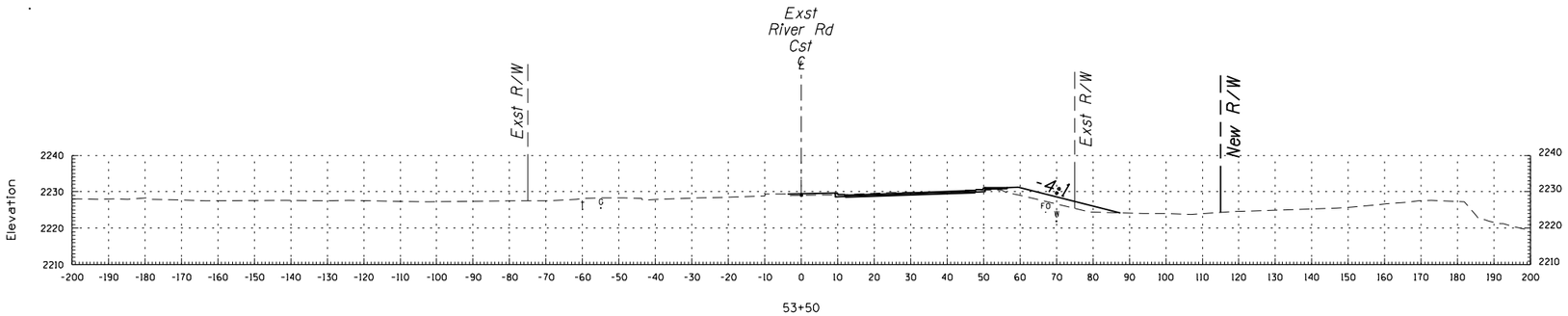
SHEET 21 OF 28

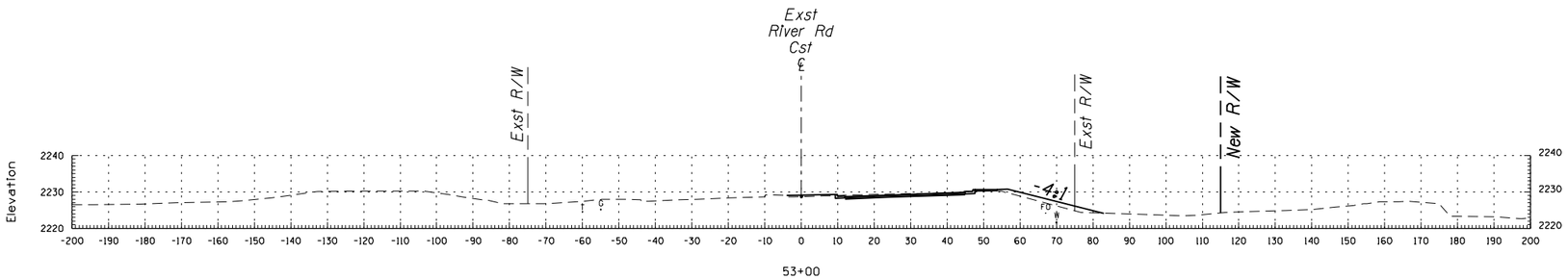
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

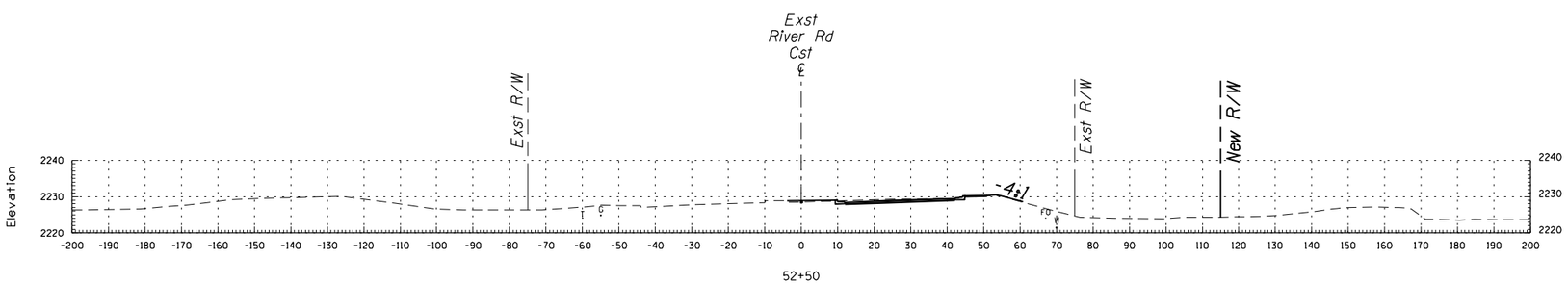
PLOTTED BY: Kershner M
Date Plotted: 7/23/2020
Time Plotted: 10:49:11 AM

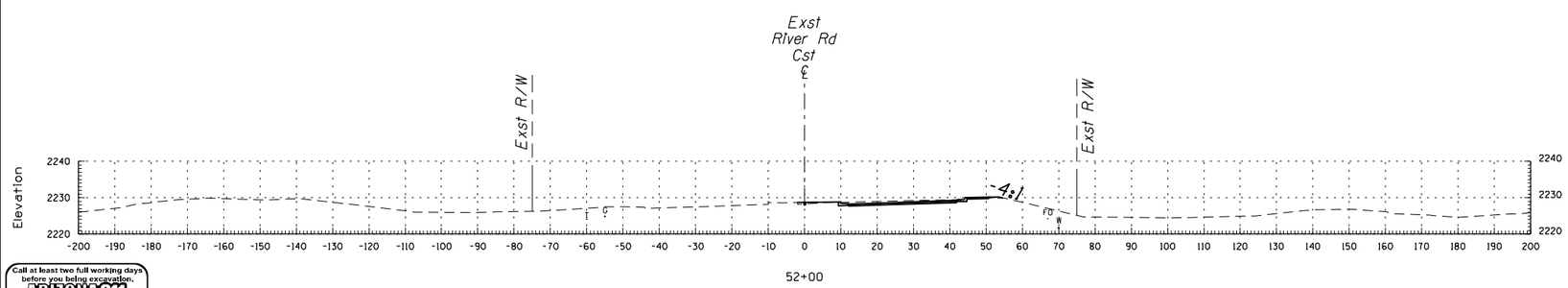
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				









RIVER ROAD
CROSS SECTION SHEET
STA 52+00 TO STA 53+50

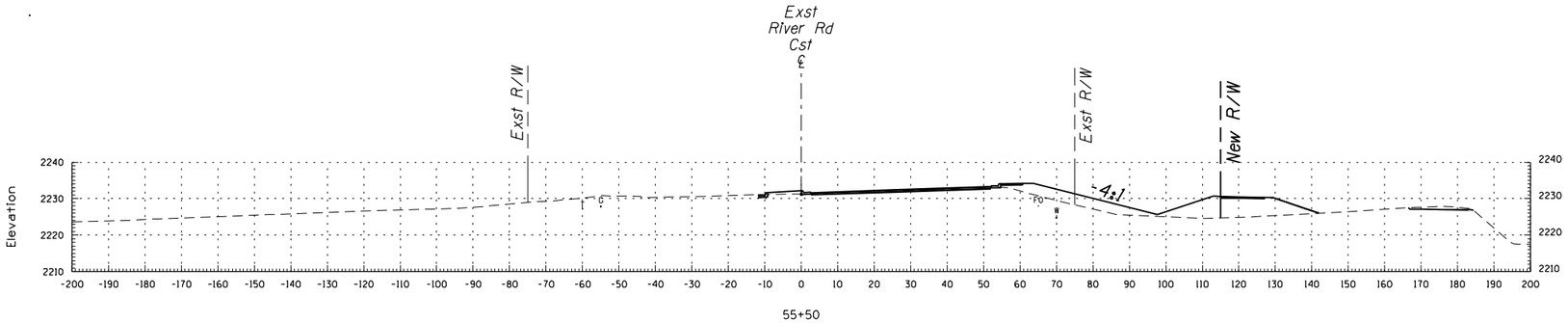
SHEET 22 OF 28

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

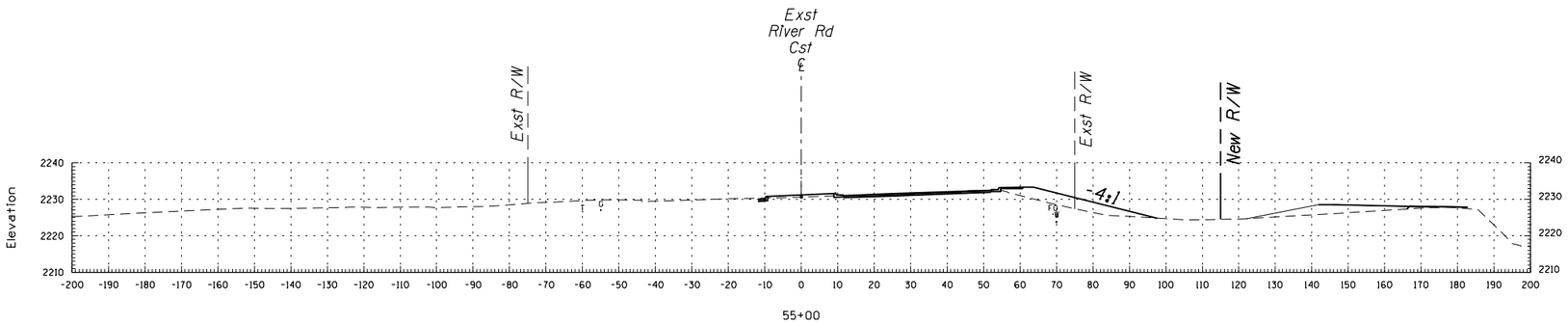
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:50:08 AM

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

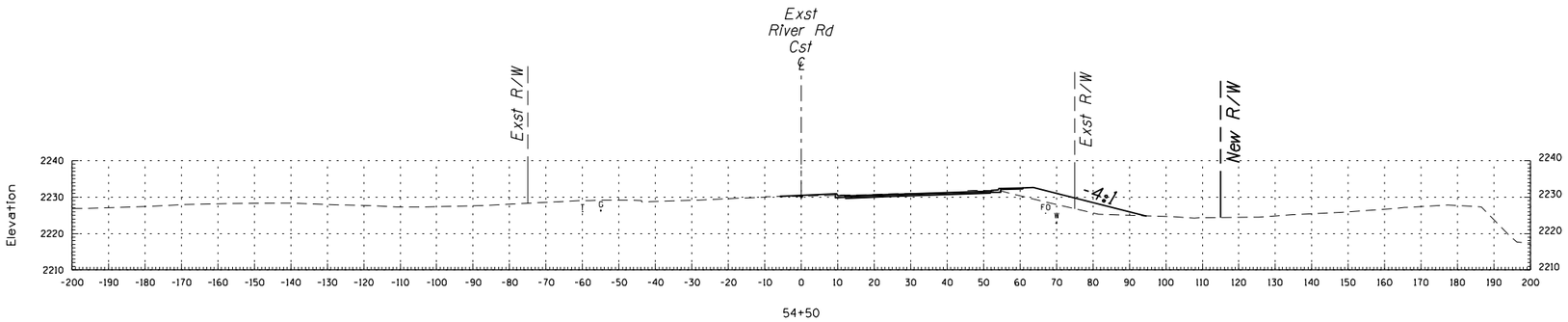
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



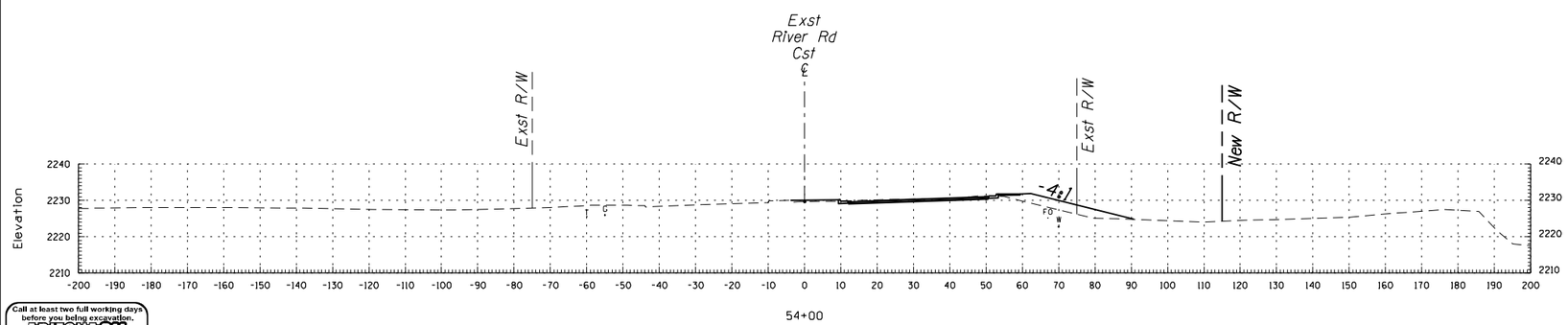
55+50



55+00



54+50



54+00

RIVER ROAD
CROSS SECTION SHEET
STA 54+00 TO STA 55+50

SHEET 23 OF 28

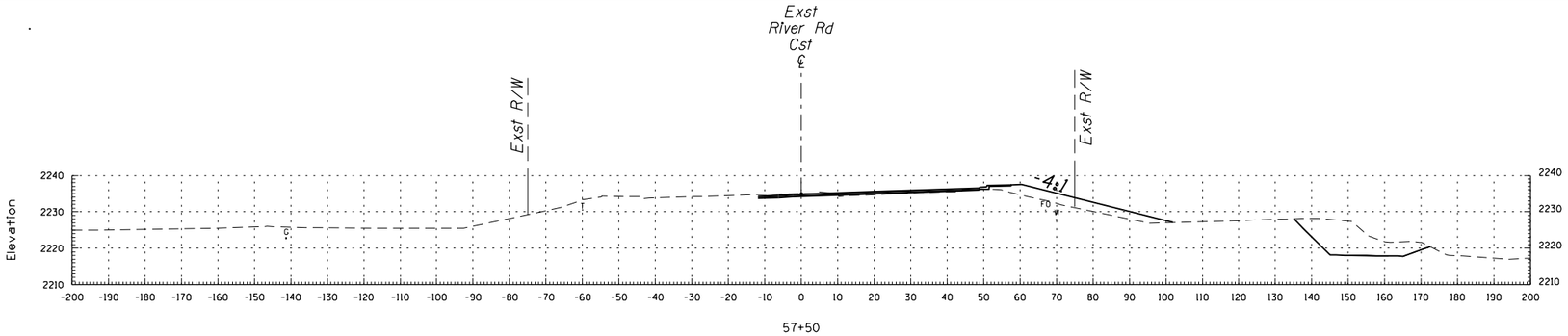
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:50:42 AM

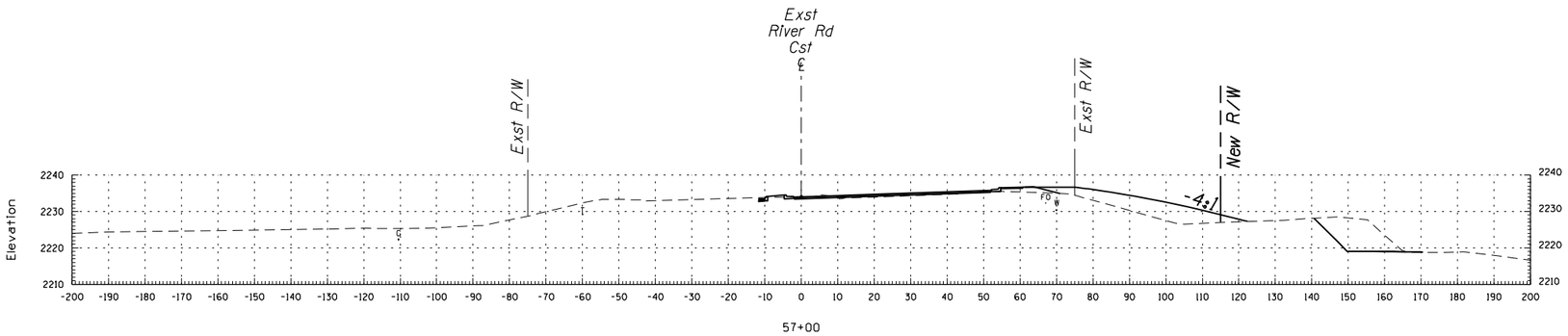
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

10:50:42 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS22.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



57+50



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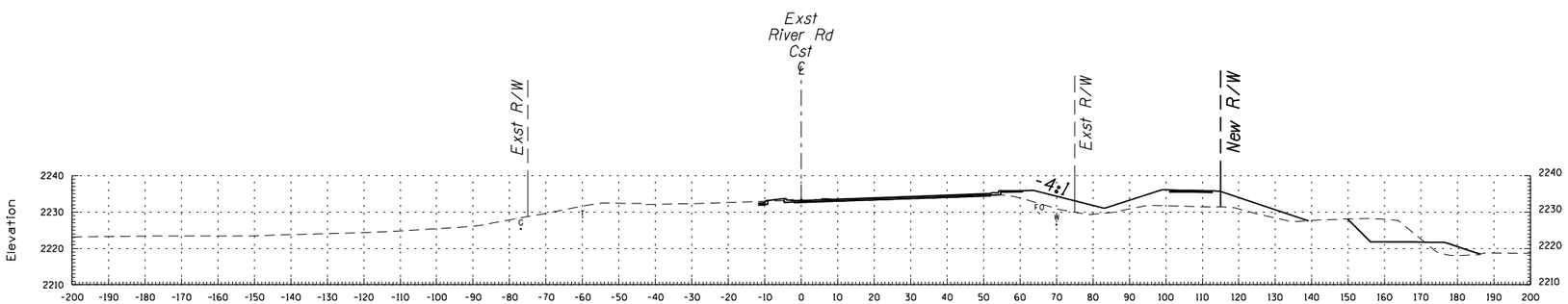
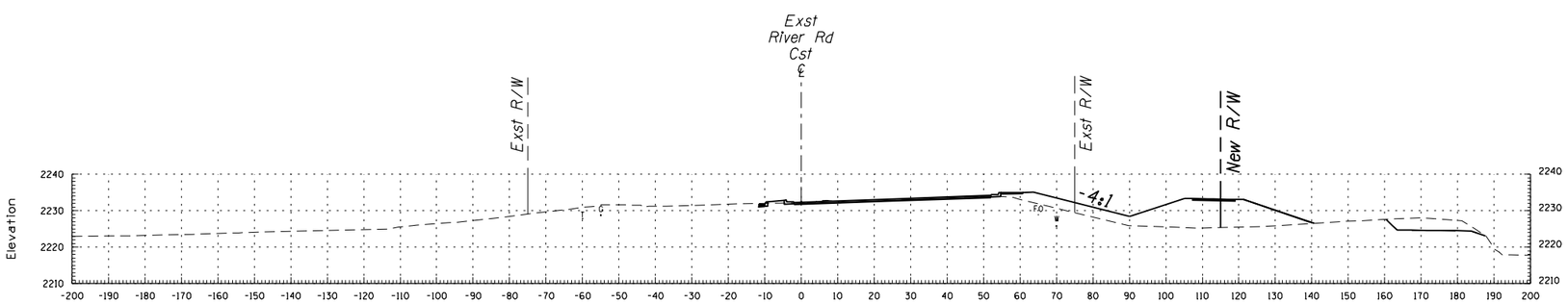


56+50



56+00

RIVER ROAD
CROSS SECTION SHEET
STA 56+00 TO STA 57+50

SHEET 24 OF 28

DATE:- | LOCATION:- | REVISIONS:- | FINISHED PLANS:- | SURVEY NO.

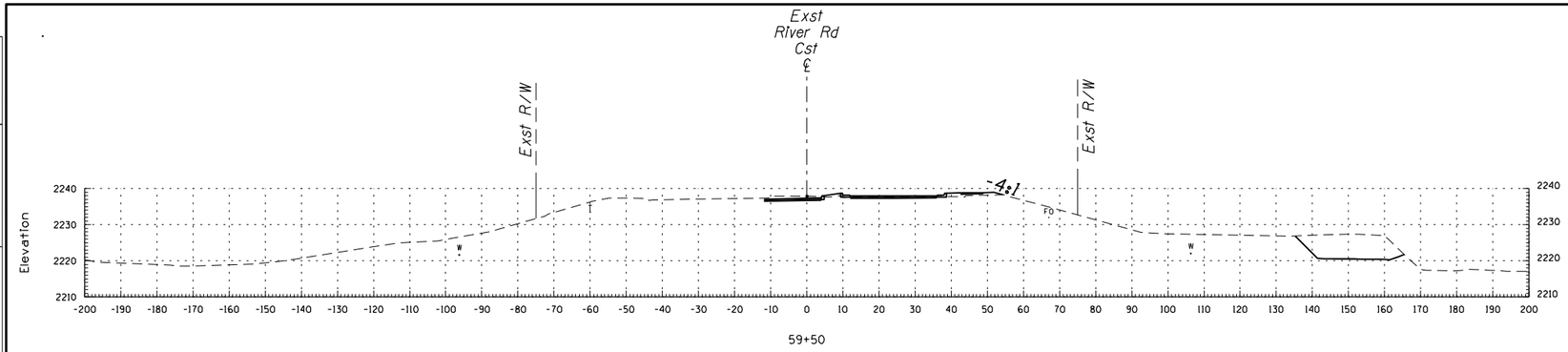
DATE:- | LOCATION:- | REVISIONS:- | FINISHED PLANS:- | SURVEY NO.

PLOTTED BY: Kershner M
Date Plotted: 7/23/2020
Time Plotted: 10:51:15 AM

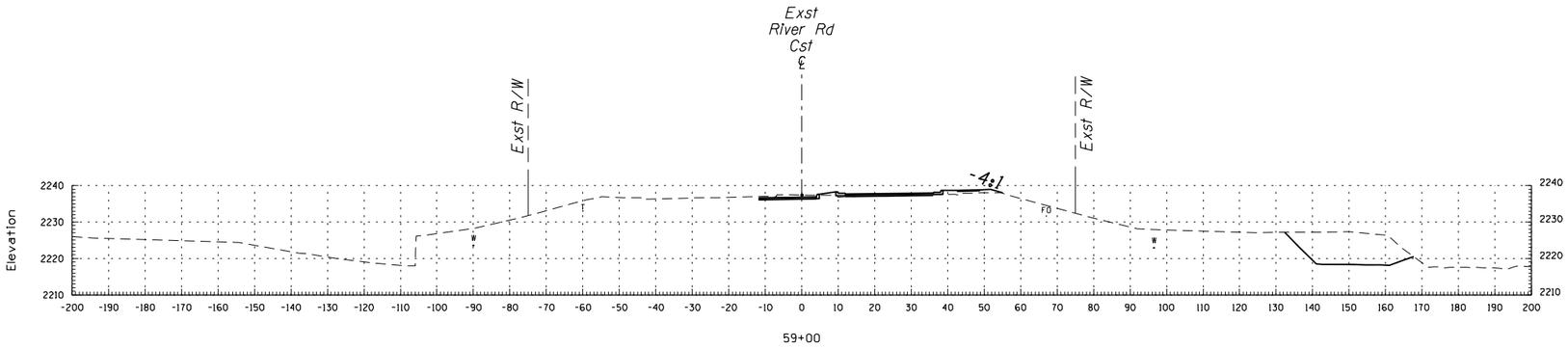
Call at least two full working days before you bring excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

10:51:15 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS23.DGN

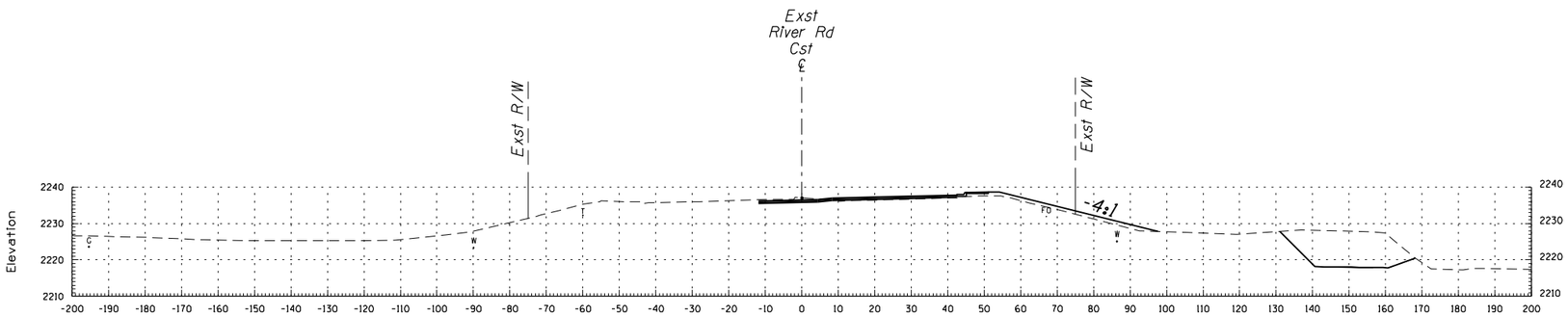
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



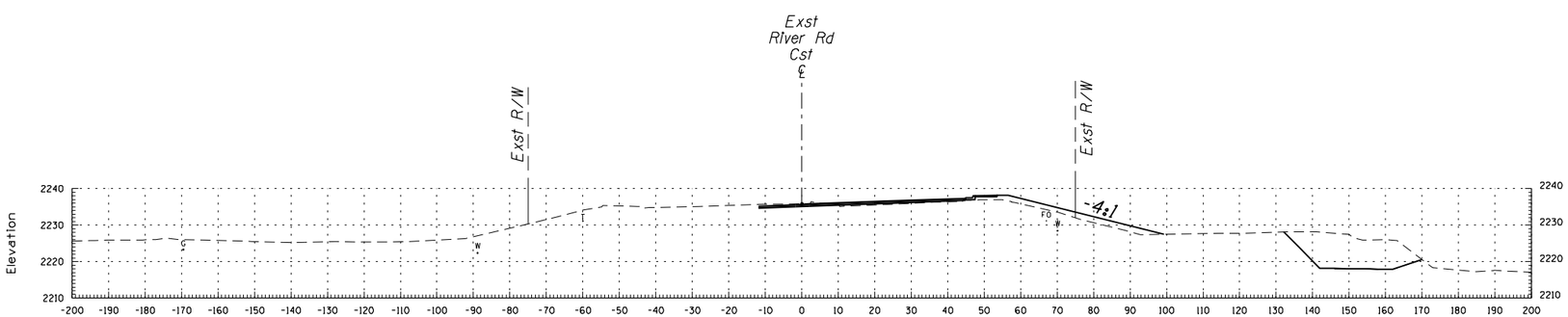
59+50



59+00



58+50



58+00

RIVER ROAD
CROSS SECTION SHEET
STA 58+00 TO STA 59+50

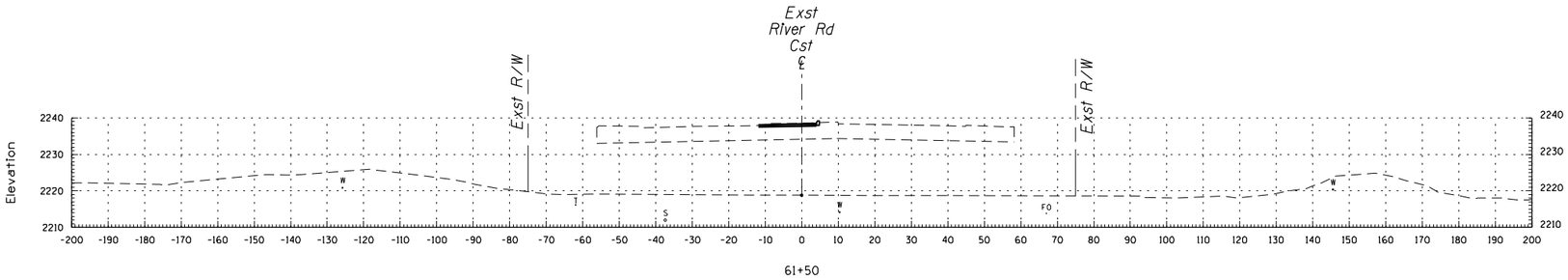
SHEET 25 OF 28

LOCATION- | DATE- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

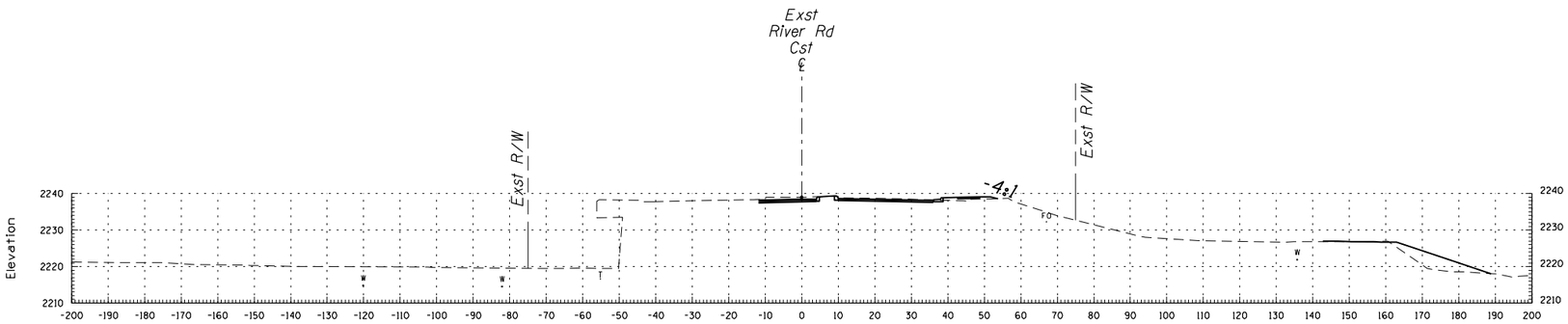
PLOTTED BY: Kershner-M
Date Plotted: 7/23/2020
Time Plotted: 10:51:47 AM

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

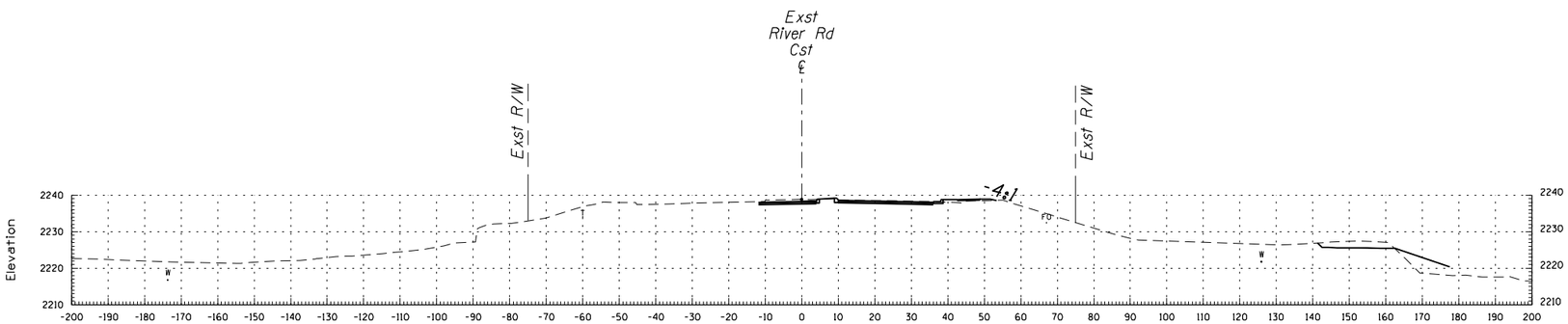
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



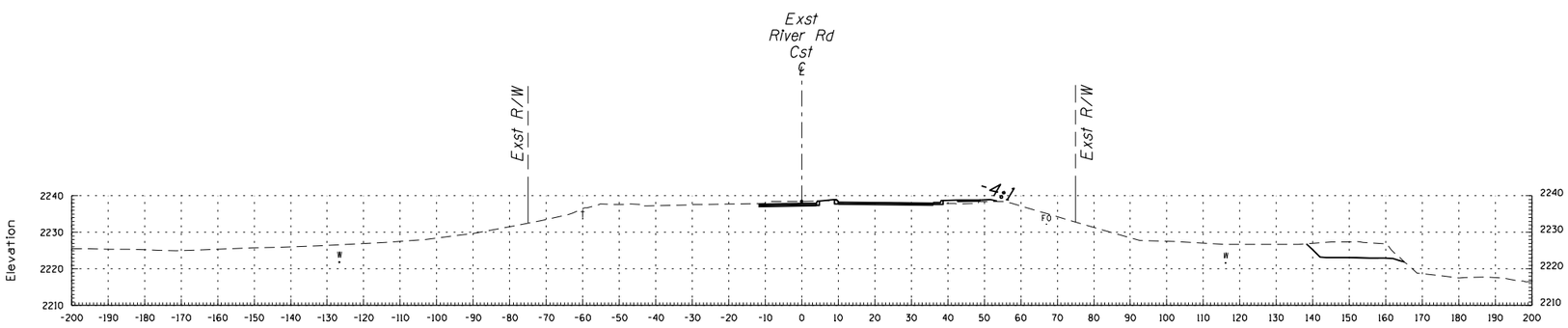
61+50



61+00



60+50



60+00

RIVER ROAD
CROSS SECTION SHEET
STA 60+00 TO STA 61+50

SHEET 26 OF 28

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

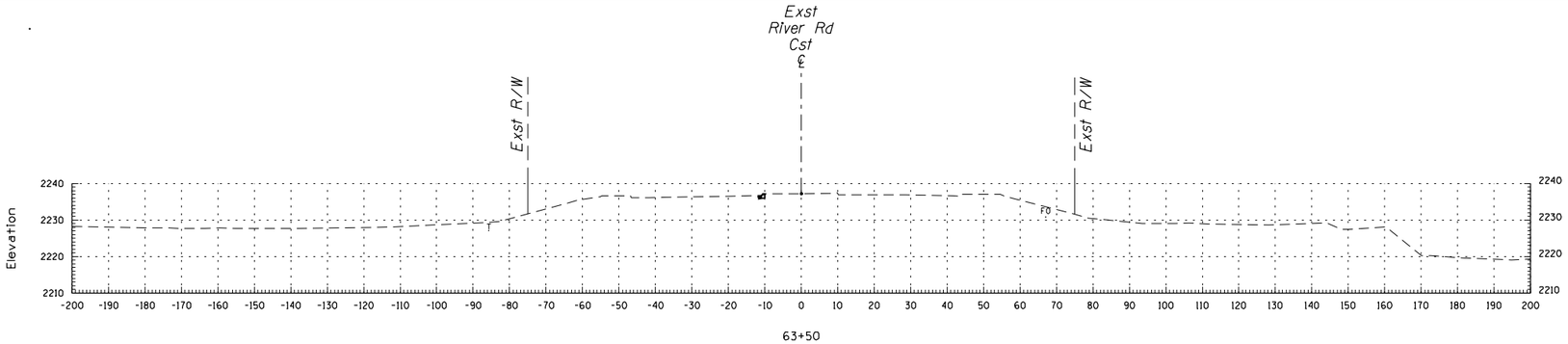
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

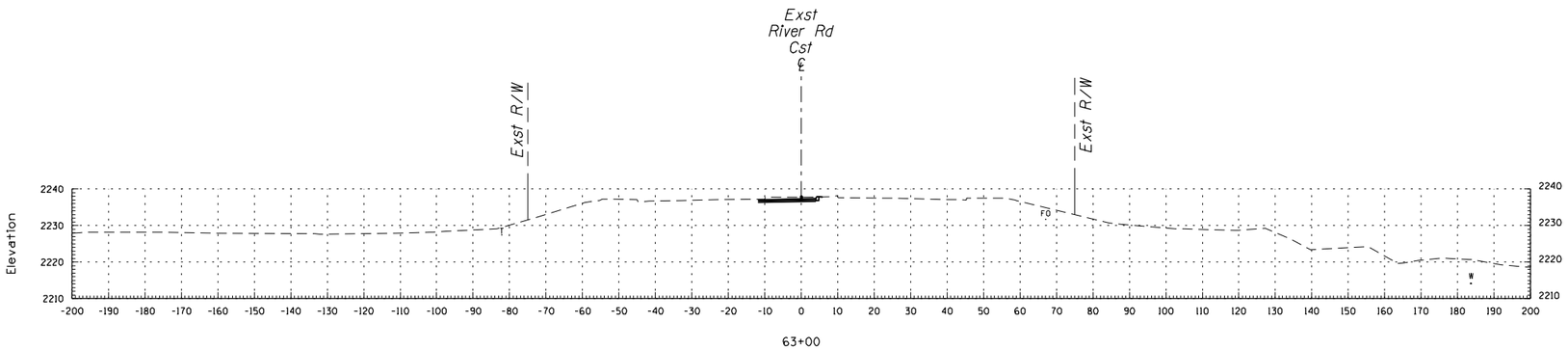
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:52:13 AM

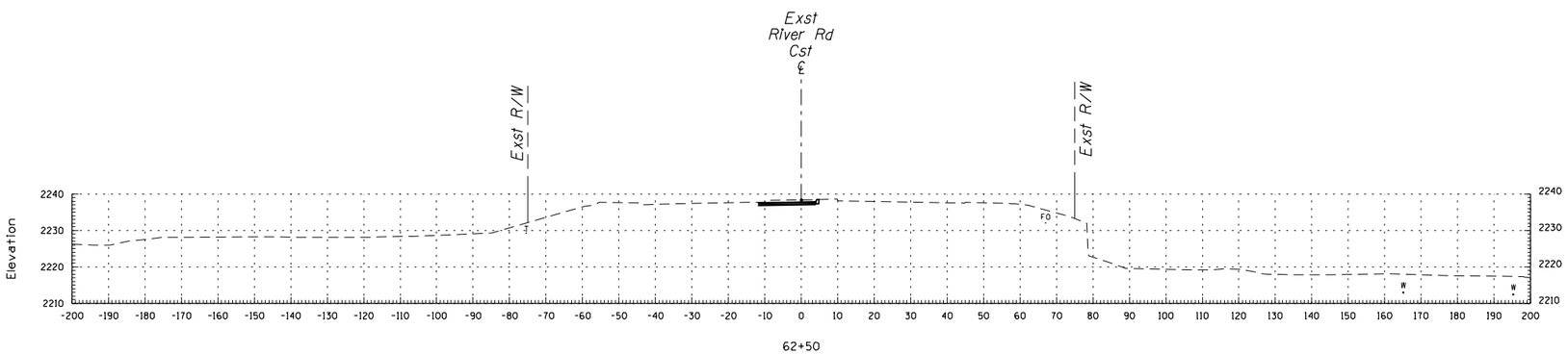
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

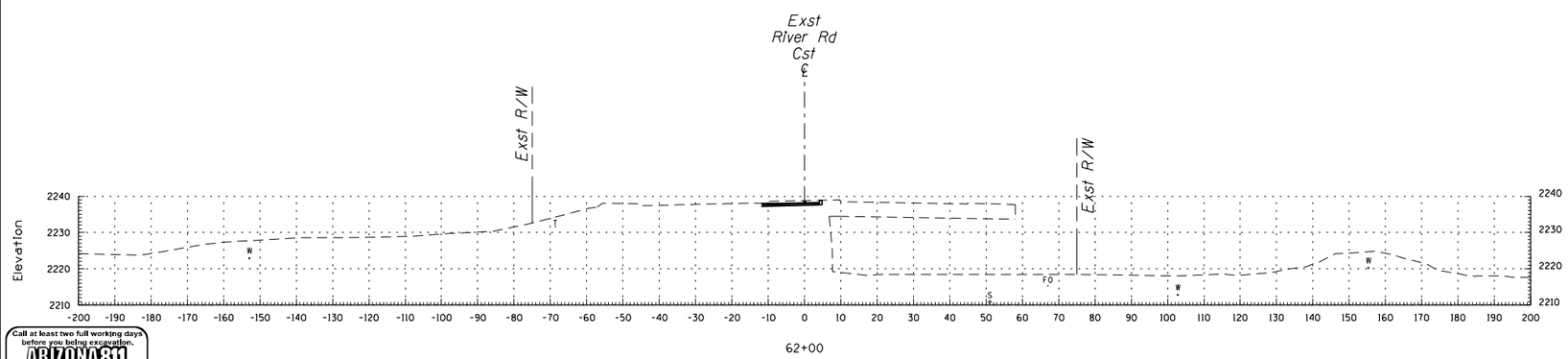
10:52:13 AM C:\PROJECTS\606T6874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS25.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				









RIVER ROAD
CROSS SECTION SHEET
STA 62+00 TO STA 63+50

SHEET 27 OF 28

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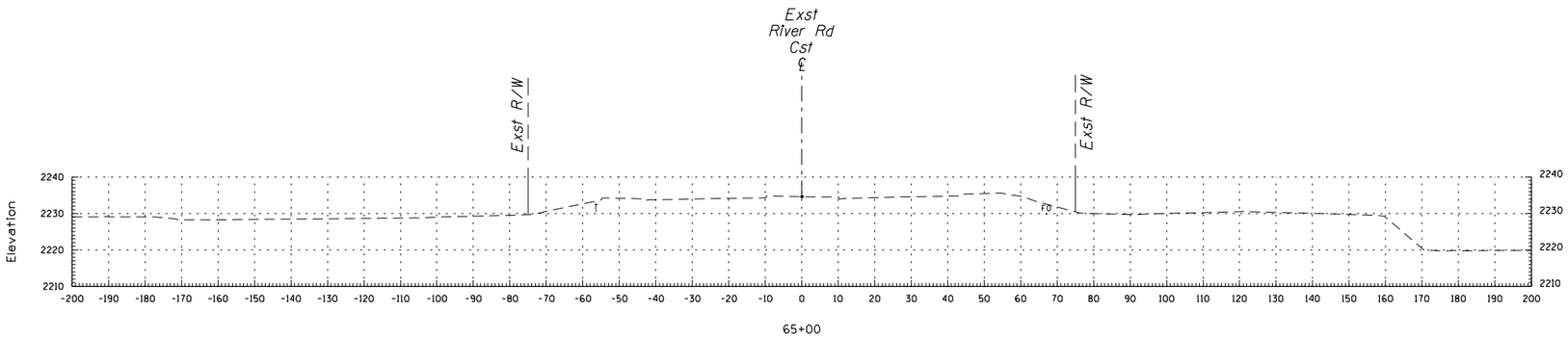
In Maricopa County: (602)263-1100

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

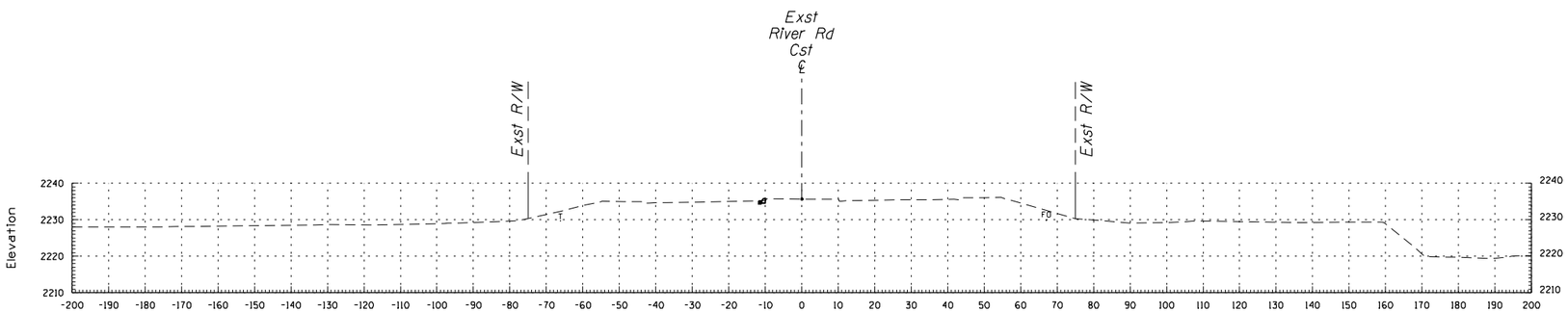
PLOTTED BY: KershnerM
Date Plotted: 7/23/2020
Time Plotted: 10:52:41 AM

10:52:41 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS26.DGN

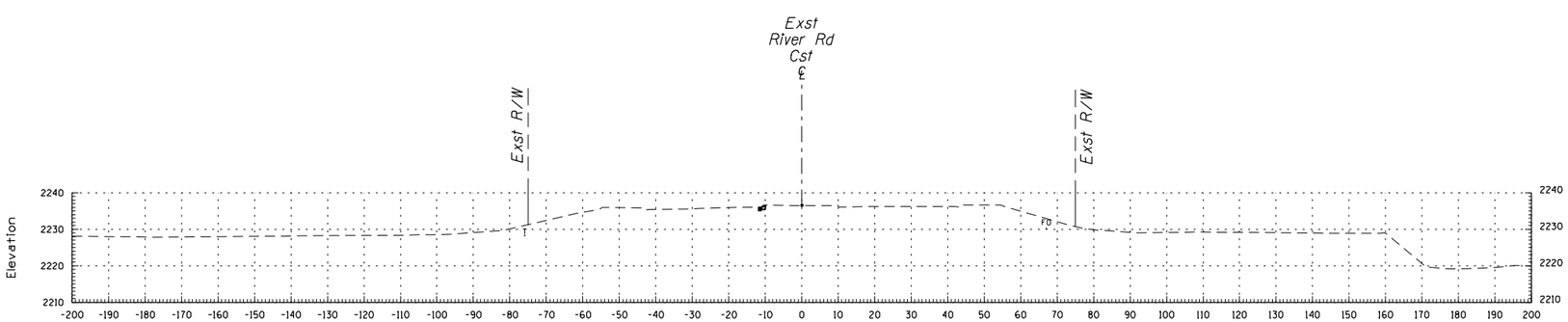
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



65+00



64+50



64+00

RIVER ROAD
CROSS SECTION SHEET
STA 64+00 TO STA 65+00

SHEET 28 OF 28

SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-

SURVEY NO.	FINISHED PLANS-	REVISIONS-	LOCATION-	DATE-

PLOTTED BY: Kershner-M
Date Plotted: 7/23/2020
Time Plotted: 10:53:07 AM

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10:53:07 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_XS27.DGN

SUNSET ROAD
INTERSTATE 10 TO RIVER ROAD

PIMA COUNTY
TRANSPORTATION

GENERAL DESCRIPTION OF PROJECT

CONSTRUCTION OF 0.92 MILES OF NEW ROADWAY INCLUDING BRIDGES OVER UNION PACIFIC RAILROAD (UPRR) AND RILLITO CREEK.

PROJECT NUMBER
4SRRIV

PIMA COUNTY BOARD OF SUPERVISORS

RAMÓN VALADEZ, CHAIR, DISTRICT 2

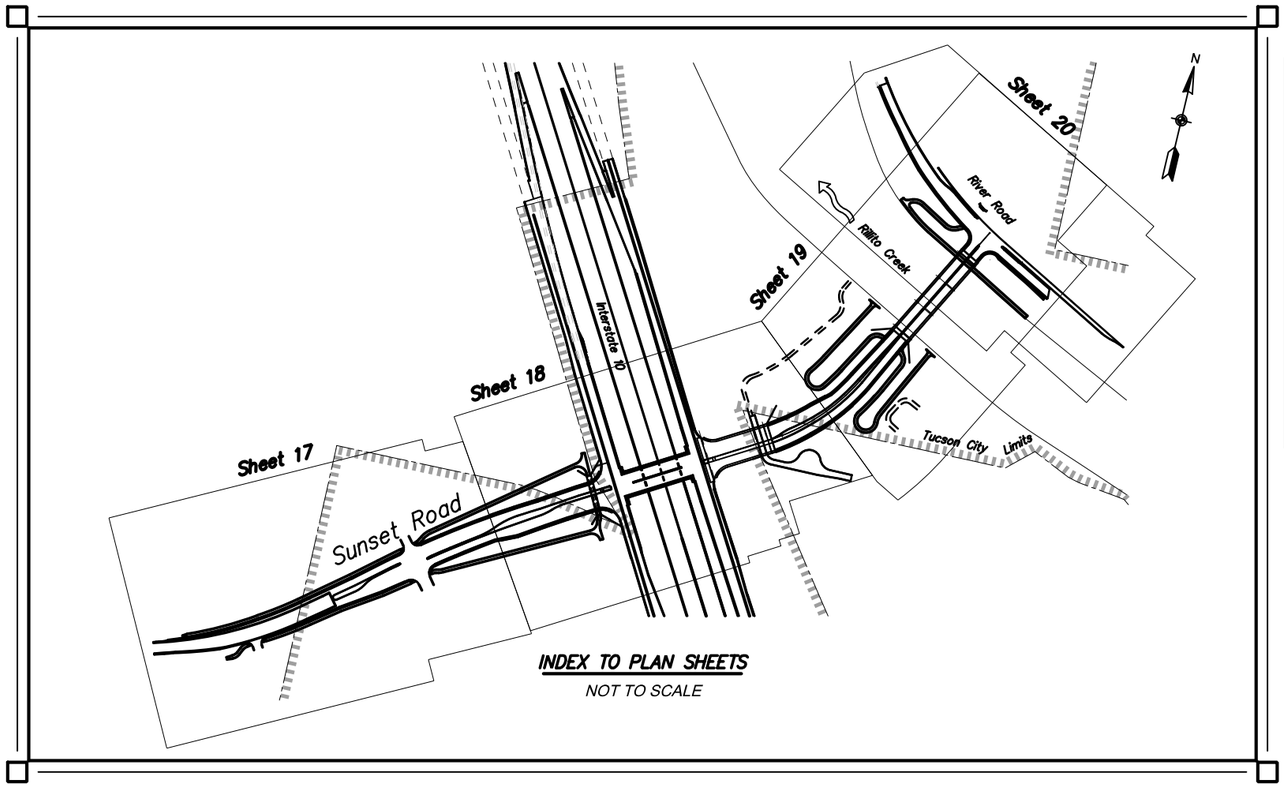
ALLY MILLER, DISTRICT 1 SHARON BRONSON, DISTRICT 3

BETTY VILLEGAS, DISTRICT 5 STEVE CHRISTY, DISTRICT 4

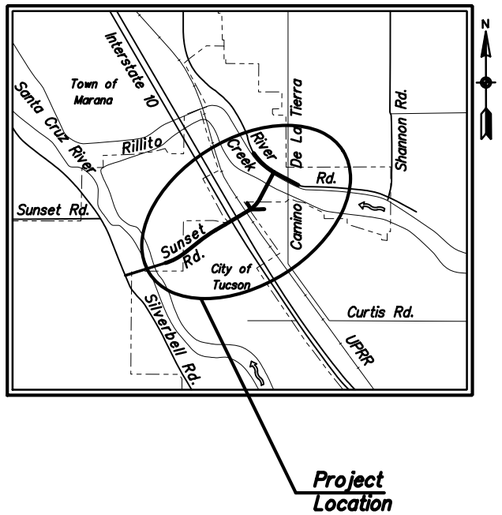
THIS PROJECT IS LOCATED WITHIN SUPERVISOR DISTRICT 1

SHEET INDEX

SHT NO.	SHT TYPE	DESCRIPTION
1	CS01	COVER SHEET
2	GN01	DESIGN DATA SHEET
3	TYP01	PAVEMENT STRUCTURAL SECTIONS SHEET
4-8	TYP02-TYP06	TYPICAL SECTIONS SHEETS
9	SB01	BARRIER SUMMARY SHEET
10-11	CGS01-CGS02	CURB, CURB & GUTTER & SIDEWALK SUMMARY SHEETS
12-17	HC01-HC06	HORIZONTAL CONTROL SHEETS
18-21	PL01-PL04	ROADWAY PLAN SHEETS
22-32	PR01-PR11	PROFILE SHEETS
33-36	DR01-DR04	OFFSITE COLLECTOR CHANNEL
37-39	CD01-CD03	CD PLAN & PROFILE SHEETS
40-41	DT01-DT02	TYPICAL SECTIONS, CHANNELS & SOIL CEMENT
42	PM01	PAVEMENT MARKING GENERAL NOTES SHEET
43-46	PM02-PM05	PAVEMENT MARKING SHEETS
47-48	S01-S02	UPRR BRIDGE SHEETS
49-50	S03-S04	RILLITO CREEK BRIDGE SHEETS



INDEX TO PLAN SHEETS
NOT TO SCALE



Location Map
NOT TO SCALE

Sections 8, 17, 18
T-13-S, R-13-E
G&SRM
Pima County, Arizona

Pima County Department of Transportation
201 N. Stone Ave. 4th floor Tucson, Arizona 85701
Phone Number: 724-6410
Ana M. Olivares, P.E. Director

Call at least two full working days before you begin excavation.
ARIZONA 811
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In Maricopa County: (602) 263-1100

CONSOR
1430 E. Fort Lowell Rd., Suite 200, Tucson, AZ 85719 (520) 320-0156

No.	Revisions	Engineer	Date
No.	As Built	Engineer	Date

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

Reviewed by	Engineer	Date
Mgr. Trans Engr.		
Mgr. Traffic Engr.		
Mgr. Field Engr.		
Mgr. WWM		
TDOT Mgr.		

Approved: _____20__
Director

Project No. 4SRRIV
Sheet No. CS01 of CS01 Page No. 1 of 50

W:\Jobs\2019\1923_Sunset_2\1923_Working\1923_00_FC1.dgn 7/29/2020 5:20:22 PM

Sunset Road - I-10 to River Rd - Project No. 4SRRIV

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

LENGTH OF PROJECT

Sunset Rd Sta 78+62.13 to 97+90.00
Net Length = 1,927.87' (0.37 Mile)

Sunset Rd Sta 101+70.00 to 116+60.35
Net Length = 1,490.35' (0.28 Mile)

River Rd Sta 50+66.49 to 64+84.11
Net Length = 1,417.62' (0.27 Mile)

Gross Length = 4,835.84' (0.92 Mile)

DESIGN DATA

	AADT 2019	AADT 2045
Sunset Road (South of I-10):	5,700	22,000
Sunset Road (North of I-10):	N/A	18,000
River Road:	18,600	22,000

MIDPOINT OF PROJECT

Central Zone
State Plane Coordinates

X = 970,400
Y = 477,300

DESIGN SPEEDS

Sunset Road	= 40 MPH
River Road	= 50 MPH
Shared Use Paths	= 15 MPH

GENERAL NOTES

1. Construction shall conform to the Pima County Association of Governments (PAG) Standard Specifications and Details for Construction, 2012 Edition, except as modified by the Special Provisions or where noted on the plans. In addition, the construction shall conform to the Arizona Department of Transportation (ADOT) May 2012 Construction Drawings (C-series) and the ADOT June 2012 Bridge Group, Structure Detail Drawings (SD-series) plus current revisions to either series.
2. Average daily traffic volume data series per location. Refer to the Final Traffic Engineering Report, Sunset Road, I-10 to River Road dated April 2020.
3. Construction zone traffic control shall conform to the requirements of the "Manual on Uniform Traffic Control Devices" 2009 Edition, the project plans and the Special Provisions. Most elements of work will be included in a lump sum payment item. However, see Traffic Control Plans, bid schedule and Special Provisions for specific information.
4. Utility locations shown on plans were compiled based on the best information available to the department. Utility locations are not intended to be exact or complete. Prior to commencing construction, the contractor shall verify the location of all utilities with the appropriate organizations. Contact "Blue Stake" at 1-800-782-5348 two full working days prior to beginning construction (Saturdays and Sundays are not considered working days).
5. Right-of-way encroachments shall be removed only by order of Pima County, unless otherwise noted.
6. Removal of all cacti and native plants shall be in accordance with the provisions of the "Arizona Native Plant Law" A.R.S., Chapter 7.
7. Contractor shall comply with all applicable Occupational Safety and Health Administration regulations, in particular, shoring of trenches and excavations.
8. Contractor shall adjust all water meters, valve boxes, storm drain manholes, and sewer manholes and cleanouts to finished grade. This work shall be considered incidental to the other items of work, except when the bidding schedule contains specific items on a unit basis.
9. The design speed for Sunset Road is 40 mph. The posted speed limit is 35 mph. The design speed for River Road is 50 mph. The posted speed limit is 45 mph.
10. Design vehicle is WB-62 for the project with the exception of U-turns; which were calculated using a standard passenger vehicle.
11. The basis of bearing for this project is a grid bearing of N 55°56'26" E between PCDOT control points L03 and G09.
12. The basis of elevation for this project is based on ADOT benchmark Q291 having an elevation of 2232.25 feet, NAVD 88 DATEM. Benchmark is a benchmark disk set in concrete stamped "Q291 1951".
13. The basis of coordinates for this project is based on existing survey control points provided by ADOT. The published grid to ground factor for PCDOT "J07 is 1.00016. To convert project coordinates to Arizona State Plane Zone 2, divide by 1.00016
14. Basis of Stationing along Sunset Rd is based on PCDOT Project Number 4RTSUN. Stations increase from south to north. Stations for River Road are based on asbuilt I-2000-046. Stations increase from west to east.
15. All stationing shown on the plans and profiles is along the construction centerline, unless otherwise noted
16. The contractor shall install all permanent pavement markings and all permanent traffic control devices.
17. Soils information will be made available to prospective bidders in the Geotechnical Report. Soils information so provided shall be for information purposes only, and is not to be considered a part of the contract documents. This information was developed as accurately as possible by the methods used. Pima County accepts no responsibility for any conditions encountered which vary from the information provided.
18. The pavement structural sections are from the Initial Pavement Design Report dated August 2020.
19. Existing topographic conditions shown on the plan and profile sheets reflect conditions as of December 15, 2019.
20. The contractor shall maintain access to all driveways, alleys, and mailboxes during construction. The contractor will not restrict emergency vehicles, U.S. postal delivery, solid waste collections, and/or access to the adjacent properties, except as approved by the Engineer.
21. It shall be the constractor's responsibility to furnish, haul, and apply all water required for compaction, and for the control of dust from construction activity. The cost of water is to be incidental to those items of work using or requiring water.
22. The contractor shall be responsible for the care, maintenance, repair or replacement of existing improvements in the work area; which have been removed or damaged during the course of construction. All repair, replacement, or cleanup shall be done to the satisfaction of the owner.
23. Omissions or conflicts between various elements of the drawings, notes and details shall be brought to the attention of the Engineer and resolved before proceeding with the work.
24. Any revisions made to these plans must be approved by Pima County DOT prior to construction.
25. A copy of these plans shall be kept in an easily accessible location on the site at all times during construction.
26. Any excess excavated material shall become the property of the contractor, and shall be removed from the project site by the contractor at no additional cost to the Pima County DOT.

Call at least two full working days before you begin excavation.
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Sheet GN01 of GN01

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

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AECOM
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DESIGN DATA SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

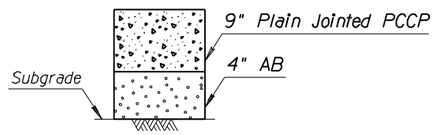
TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 2 OF 50

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

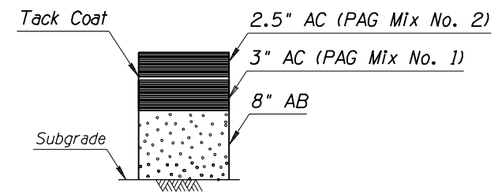
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Total Thickness = 13"

PAVEMENT STRUCTURAL SECTION NO. 1

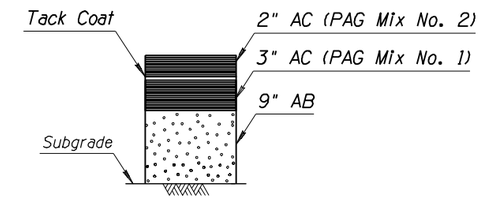
Sunset Road PCCP Sections



Total Thickness = 13.5"

PAVEMENT STRUCTURAL SECTION NO. 2

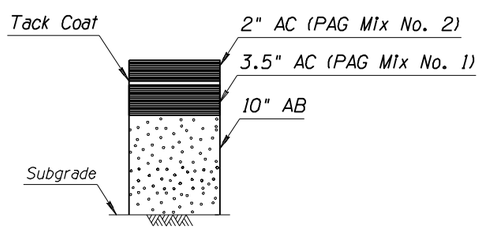
Sunset Road West (South) of EB I-10 Frontage Road



Total Thickness = 14"

PAVEMENT STRUCTURAL SECTION NO. 3

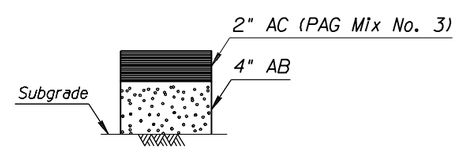
Sunset Road East (North) of WB I-10 Frontage Road to River Road



Total Thickness = 15.5"

PAVEMENT STRUCTURAL SECTION NO. 4

River Road



Total Thickness = 6"

PAVEMENT STRUCTURAL SECTION NO. 5

Shared Use Paths and Access Road

Sheet TYP01 of TYP06

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PAVEMENT STRUCTURAL SECTIONS

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 3 OF 50

TRACS NO. ·

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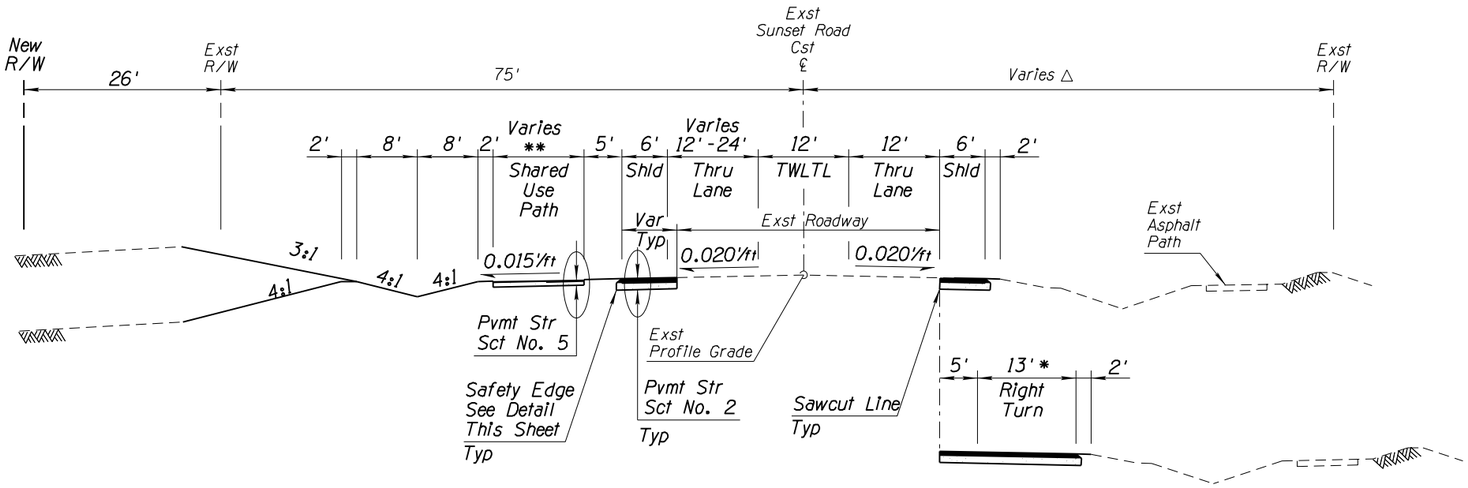
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



● Sta 79+91.99 to Sta 83+00.00

△ 75' Sta 78+62.13 to Sta 79+01.50
125' Sta 79+01.50 to Sta 83+00.00

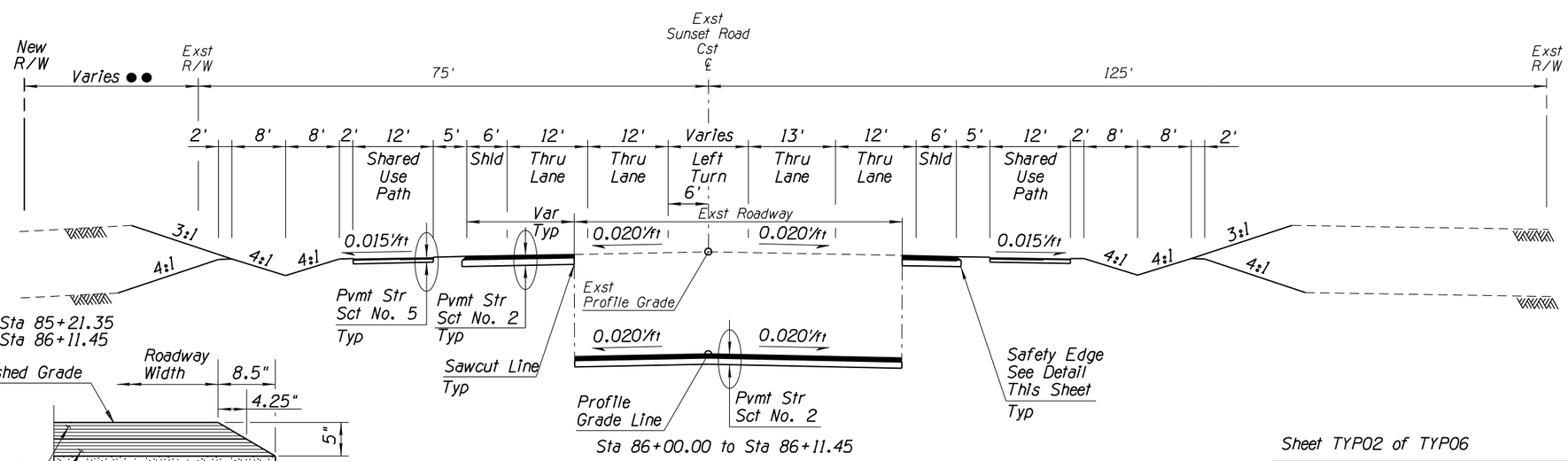
* Varies 1' to 13' Sta 79+36.53 to Sta 81+16.24

** Varies 8' to 12' Sta 79+81.27 to Sta 80+00.78
12' Sta 80+00.78 to Sta 83+00.00

Sta 79+36.53 to Sta 82+18.96

TYPICAL SECTION
SUNSET ROAD

Sta 78+62.13 to Sta 83+00.00

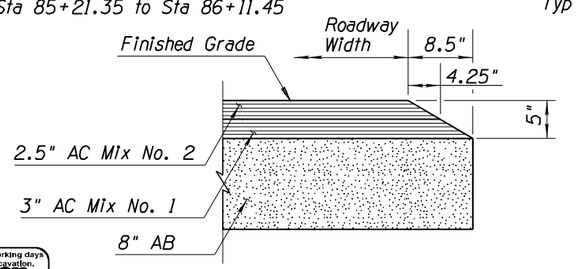


●● 26' Sta 83+00.00 to Sta 85+21.35
16' Sta 85+21.35 to Sta 86+11.45

Sta 86+00.00 to Sta 86+11.45

TYPICAL SECTION
SUNSET ROAD

Sta 83+00.00 to Sta 86+11.45



SAFETY EDGE DETAIL FOR SUNSET ROAD

NTS

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Sheet TYP02 of TYP06

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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TYPICAL SECTIONS

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 4 OF 50

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:03:29 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_TY01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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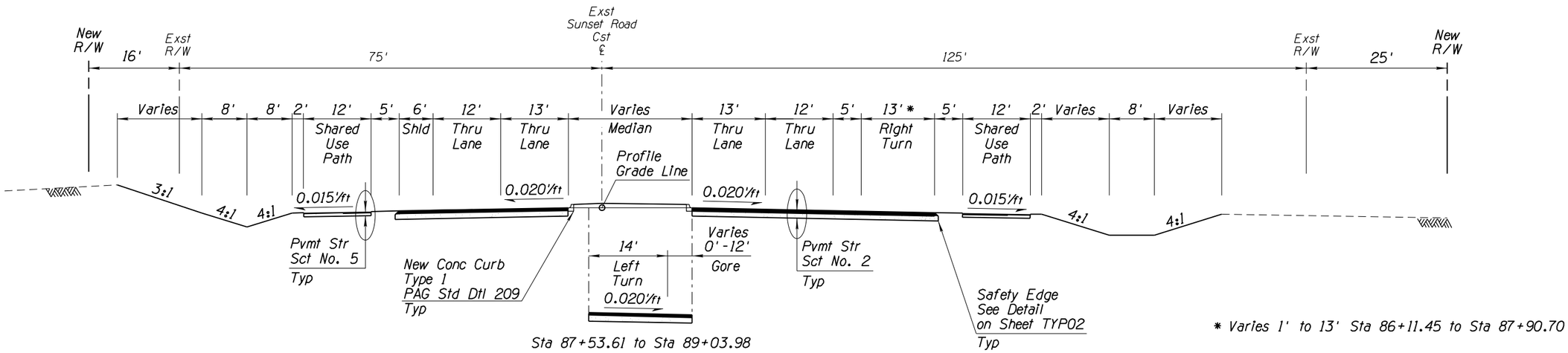
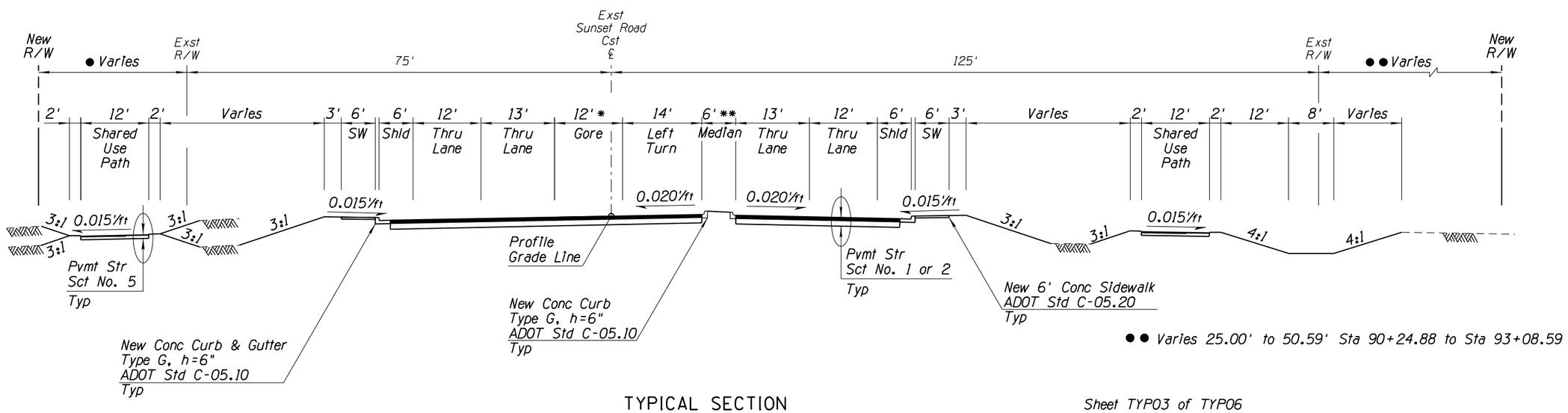


* Varies 1' to 13' Sta 86+11.45 to Sta 87+90.70

TYPICAL SECTION
SUNSET ROAD

Sta 86+11.45 to Sta 89+03.98

Sta 89+03.98 to Sta 90+24.88
Sunset Campus Intersection Exception



●● Varies 25.00' to 50.59' Sta 90+24.88 to Sta 93+08.59

* Varies 12' to 0' Sta 92+29.03 to Sta 93+08.59

● Varies 26.00' to 39.29' Sta 90+24.88 to Sta 93+08.59

TYPICAL SECTION
SUNSET ROAD

Sta 90+24.88 to Sta 93+08.59

** Varies 6' to 16.89' Sta 92+29.17 to Sta 93+08.59

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NOTES:
1. See Curb, Curb & Gutter & Sidewalk Summary Sheets for Limits.

Sheet TYP03 of TYP06

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

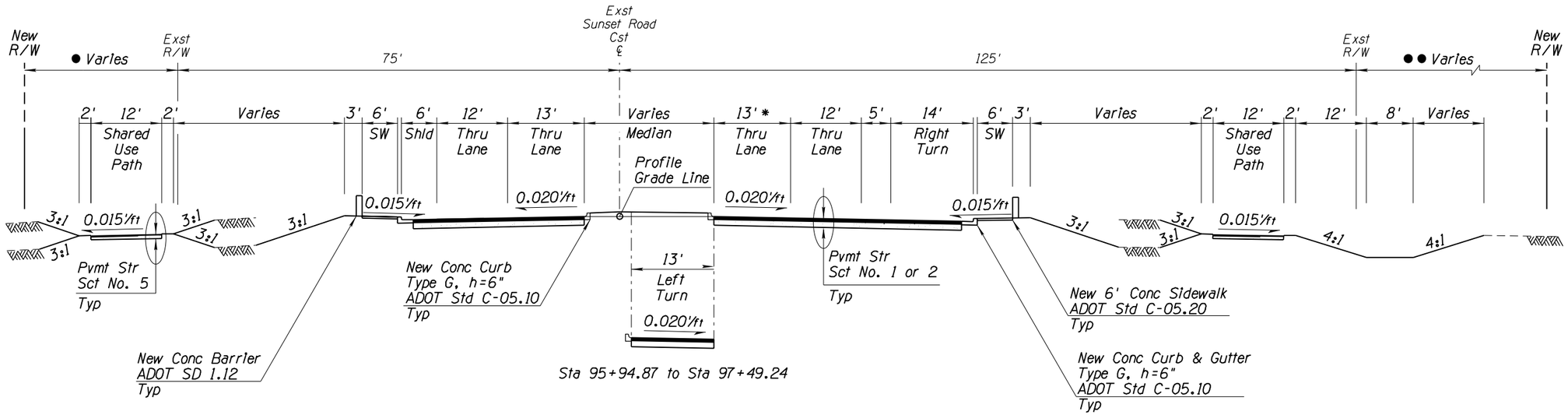
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 5 OF 50

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:03:57 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_TY02.DGN

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



TYPICAL SECTION
SUNSET ROAD

Sta 93+08.59 to Sta 97+49.24

● Varies 39.29' to 54.46' Sta 93+08.59 to Sta 94+51.03
Varies 89.00' to 92.36' Sta 95+49.91 to Sta 97+38.68

●● Varies 50.59' to 72.74' Sta 93+08.56 to Sta 97+42.16

* 12' Sta 95+94.87 to Sta 97+49.24

Sta 97+49.24 to Sta 102+19.19
I-10 Frontage Road Intersections and I-10 Bridge Exception
ADOT Jurisdiction, Not Part of This Project

Sta 101+73.84 to Sta 104+56.24
UPRR Bridge Exception
See Bridge Sheets for Typical Section

NOTES:

1. See Barrier Summary Sheet for Concrete Barrier Limits.

2. See Curb, Curb & Gutter & Sidewalk Summary Sheets for Limits.

Sheet TYP04 of TYP06

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 6 OF 50

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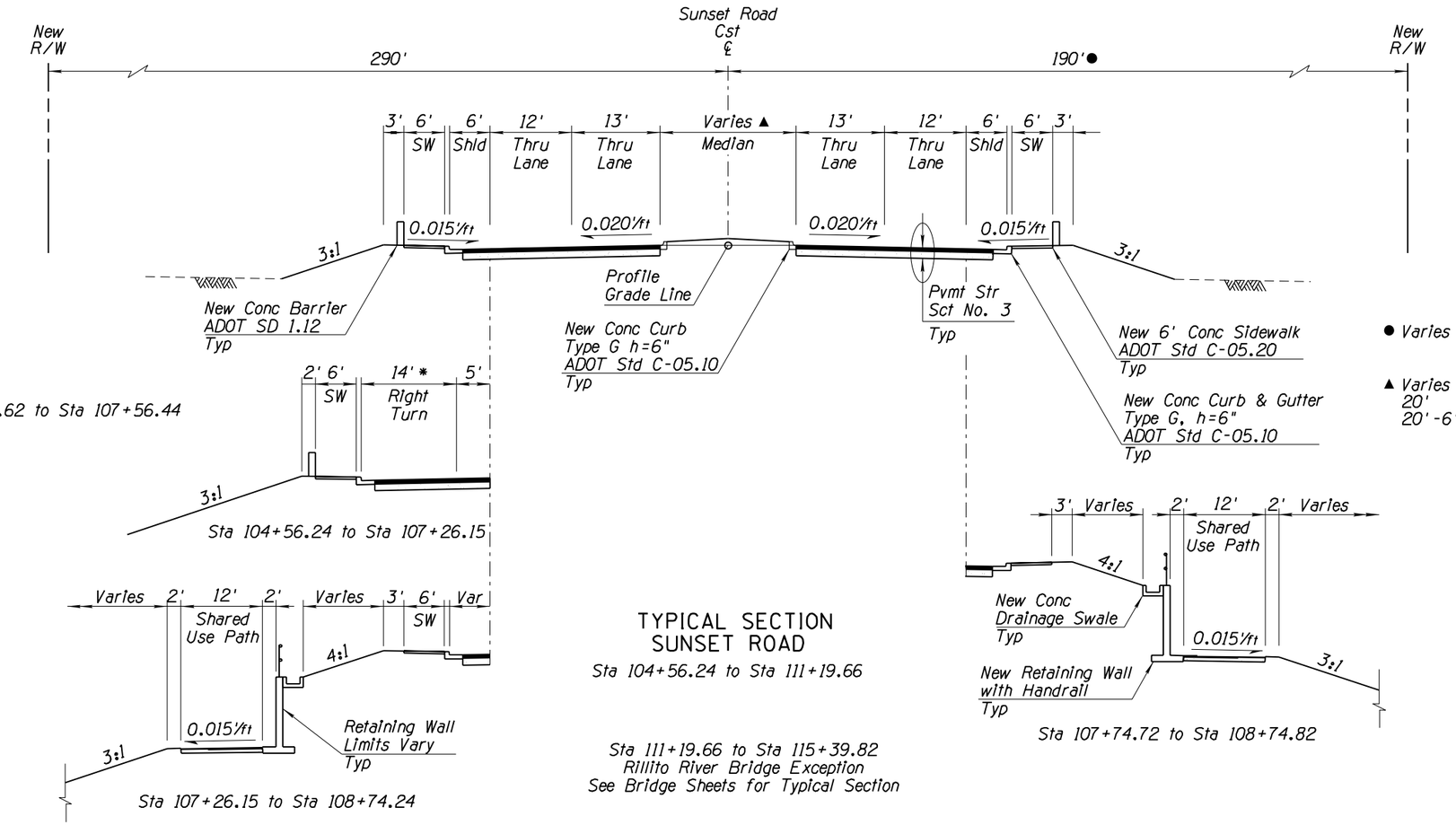
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



● Varies from Sta 104+56.24 to Sta 107+41.21

▲ Varies Sta 104+56.24 to Sta 107+03.91
20' Sta 107+03.91 to Sta 108+81.86
20'-6' Sta 108+81.86 to Sta 111+19.66

* Varies 1' to 14' Sta 106+61.62 to Sta 107+56.44

Sta 104+56.24 to Sta 107+26.15

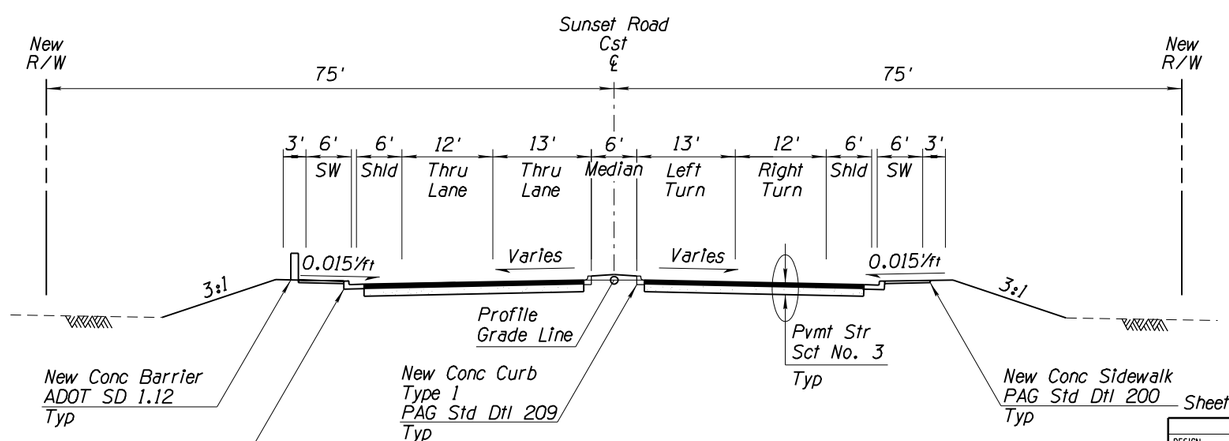
Sta 107+26.15 to Sta 108+74.24

Sta 107+74.72 to Sta 108+74.82

TYPICAL SECTION
SUNSET ROAD

Sta 104+56.24 to Sta 111+19.66

Sta 111+19.66 to Sta 115+39.82
Rillito River Bridge Exception
See Bridge Sheets for Typical Section



NOTES:

1. See Barrier Summary Sheet for Concrete Barrier Limits.

2. See Curb, Curb & Gutter & Sidewalk Summary Sheets for Limits.

Sheet TYP05 of TYP06

TYPICAL SECTION
SUNSET ROAD

Sta 115+39.82 to Sta 115+94.11

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	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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AECOM
www.aecom.com

TYPICAL SECTIONS

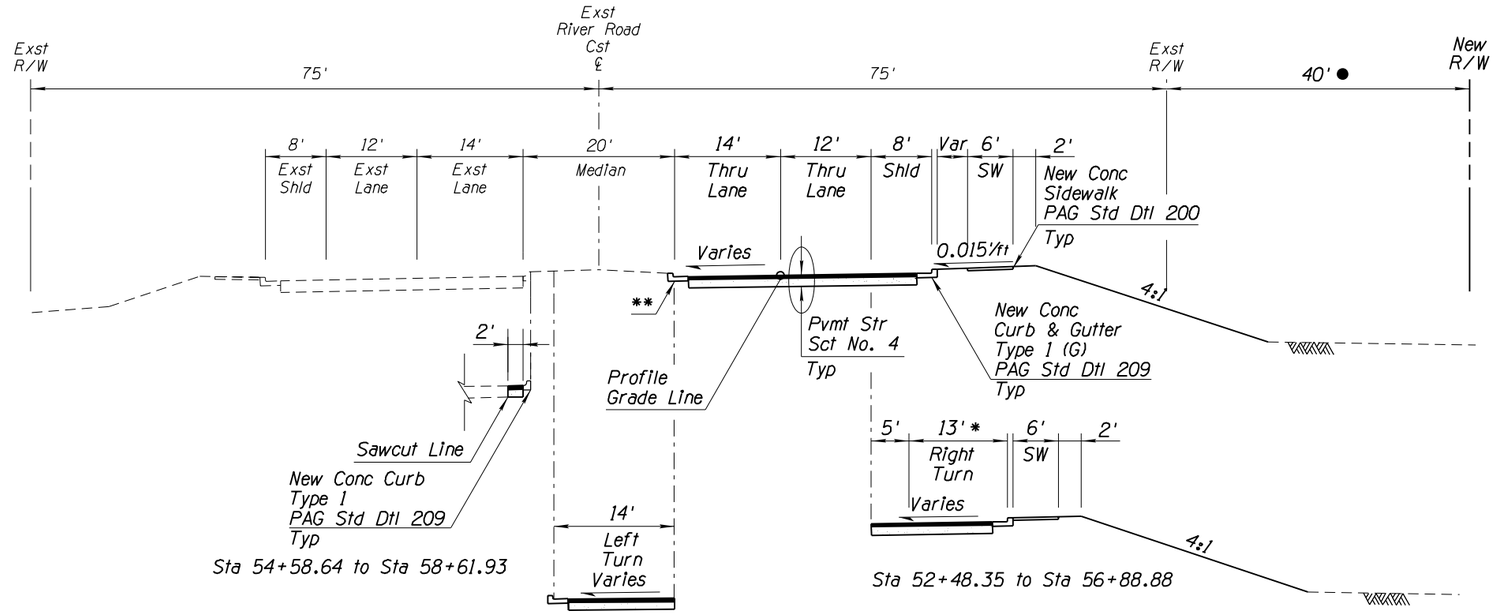
ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 7 OF 50

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



● Sta 52+45.07 to Sta 57+24.11

Sta 54+58.64 to Sta 58+61.93

Sta 55+88.34 to Sta 56+88.88

Sta 52+48.35 to Sta 56+88.88

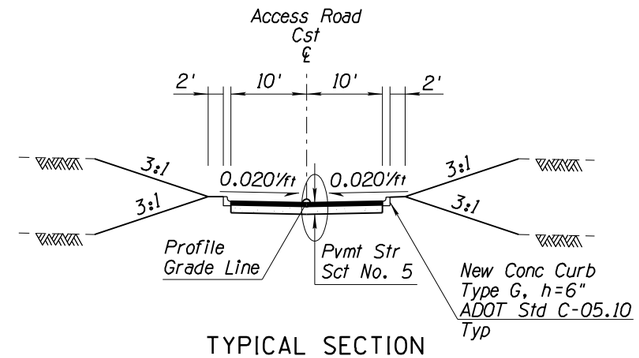
* Varies 1' to 13' Sta 52+48.35 to Sta 54+23.45

** Sta 59+61.00 to Sta 61+13.37
New Conc Curb Type 1
PAG Std Dtl 209

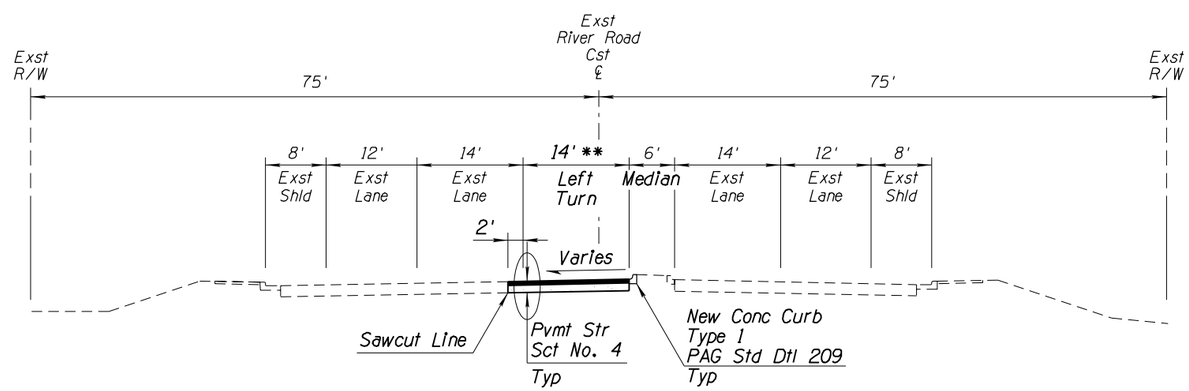
WB RIVER ROAD
Sta 50+66.49 to Sta 58+61.93

EB RIVER ROAD
Sta 50+66.49 to Sta 61+13.37

TYPICAL SECTION
RIVER ROAD



TYPICAL SECTION
ACCESS ROAD

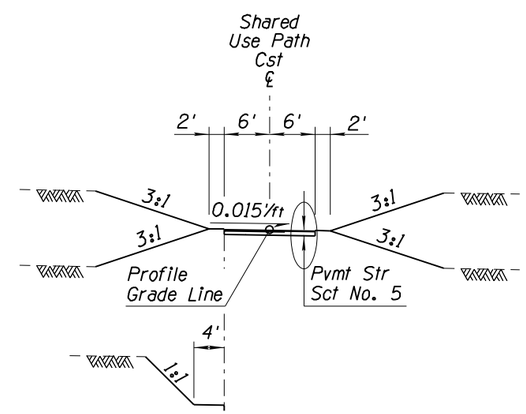


** Varies 1' to 14' Sta 63+84.68 to Sta 64+84.11

WB RIVER ROAD
Sta 58+61.93 to Sta 64+84.11

EB RIVER ROAD
Sta 61+13.37 to Sta 64+84.11

TYPICAL SECTION
RIVER ROAD



Shared Use Path 5

TYPICAL SECTION
SHARED USE PATH

Sheet TYP06 of TYP06

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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AECOM
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TYPICAL SECTIONS

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 8 OF 50

Call at least two full working days before you bring excavation.
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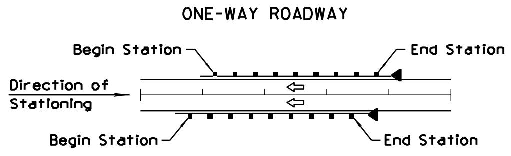
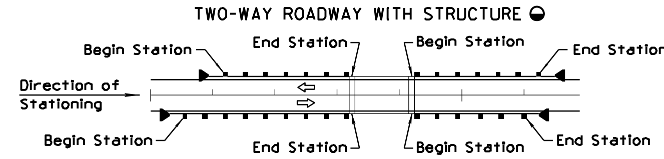
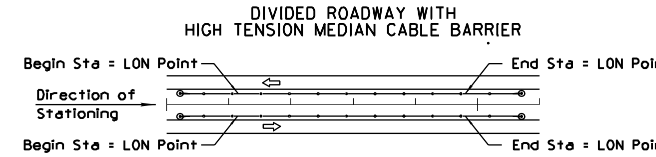
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:05:13 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_TY05.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				







LOCATION: Begin/End Station (Approximate) (0)	Plan Reference Number ◇	C-10.01 Guardrail Installation	BARRIER – GUARDRAIL: C-10.03 (Timber)	Guardrail: C-10.04 (Steel)	Guardrail: Detail	Guardrail: Length (Linear Feet) (0.0)	Guardrail: C-10.06 Long Span	Guardrail: C-10.07 Box Culvert Posts (Each)	Guardrail: Shop Curved Guardrail Length (Linear Feet) (0.0)	Guardrail: Remove Existing Length (Linear Feet) (0.0)	CONCRETE BARRIER: Length (Linear Feet) (0.0)	Concrete Barrier: ADOT SD 1.12	Concrete Barrier: C-10.41 (42" Median)	Concrete Barrier: C-10.50 (32" Half)	Concrete Barrier: SD 1.12 w/ Sidewalk	Concrete Barrier: C-10.52 (32" Half w/ Gutter) △	Concrete Barrier: C-10.53 (42" Half w/ Gutter) △	Concrete Barrier: C-10.54 (32" Half at Piers)	Concrete Barrier: C-10.55 (42" Half at Piers)	Concrete Barrier: Detail	Concrete Barrier: Remove Existing Length (Linear Feet) (0.0)	CABLE: High-Tension Cable Barrier Length (Linear Feet) (0) ●	Cable: C-12.30 Chain-Link Cable Barrier Length (Linear Feet) (0.0)	Begin = Treatment at Beginning / End = Treatment at End	TRANSITION – RAIL (Each): C-10.30 (Wood Post)	Rail: C-10.31 (Steel Post)	TRANSITION – CONCRETE BARRIER (Each): C-10.70 32" or C-10.72 42"	C-10.71 32" or C-10.73 42" △	C-10.74 42" to 32"	C-10.75 32" to C&G ◆	C-10.76 32" on Radius	Detail	END TREATMENT – NEW (Each ◪): Tangent C-10.20,C-10.21,C-10.22 ◧	Flared C-10.26 ◧	End Anchor C-10.08 or Detail	High-Tension Cable Terminal	Sand Barrels C-1 or Detail ■	Attenuator Detail	EXISTING – Action: Reconstruct (See Special Prv)	Remove and Salvage	Construct from Salvage	Remove	EXISTING (Each ◪): Tangent	Flared	End Anchor C-10.08 or Detail	High-Tension Cable Terminal	Sand Barrels C-1 or Detail ■	Attenuator Detail	BCT (L=12.5')	REMARKS
78+62	1	A	X			50.0																		Begin											X							X			X					Remove and replace with MASH compliant guardrail
79+71																								End									X									X	X							
93+00	2										450.0				X									Begin																										
97+45																								End																										
93+10	3										366.0				X									Begin																										
97+45																								End																										
104+58	4										327.0				X									Begin																										Connect to UPRR bridge at west end
107+35																								End																										
104+55	5										355.0				X									Begin																										Connect to UPRR bridge at west end
107+90																								End																										
110+83	6										37.0				X									Begin																										Connect to Rillito bridge at east end
111+20																								End																										
110+76	7										50.0				X									Begin																										Connect to Rillito bridge at east end
111+20																								End																										
115+40	8										44.0				X									Begin																										Connect to Rillito bridge at west end
115+84																								End																										
59+90	9	A	X			87.5																		Begin									X									X	X							Remove and replace with MASH compliant guardrail
61+30																								End																										
																								Begin																										
																								End																										
																								Begin																										
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																								End																										
Sheet Total						137.5					1,629.0																						2		1															

THE ZEROS IN PARENTHESES (0.0) INDICATE THE DIMENSIONAL PRECISION FOR THAT COLUMN

● LENGTH IS FROM LENGTH OF NEED (LON) POINT TO LON POINT. ACTUAL SEGMENT LENGTH VARIES DEPENDING ON TERMINAL TYPE. SEE SPECIAL PROVISIONS.

◒ SEE BRIDGE SHEETS FOR BRIDGE BARRIER DETAILS AND QUANTITIES

◆ SPECIFY TYPE 1 OR 2 UNDER 'REMARKS'

△ SPECIFY GUTTER WIDTH UNDER "REMARKS"

◪ ALLOWABLE END TREATMENT OPTIONS ARE INDICATED WITH THE NUMBER '1' IN THE SPACE. BLANK SPACES ARE NOT VIABLE ALTERNATIVES

■ ARRAY TYPE AND ANGLE IS NOTED UNDER 'REMARKS'

◧ NOTE: FOR RECORD DRAWING PREPARATION - CIRCLE END TREATMENT INSTALLED

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Sheet SB01 of SB01

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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BARRIER SUMMARY SHEET

ROUTE I-10 | LOCATION SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

REV. DATE: 11/19

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:05:54 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_SB01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

CURB, CURB & GUTTER & SIDEWALK SUMMARY SHEET

Plan Reference No. XX	Station to Station	Location	LOCATION	SINGLE CURB				MEDIAN PAVING		CURB AND GUTTER																		DRIVEWAYS, SIDEWALK & RAMPS									REMARKS
										TRANSITIONS ■																											
			Type G, h=6" Std C-05.10 (Lin Ft)	Type A-1, h=7" Std C-05.10 (Lin Ft)	Type I (Conc) PAG Std Dtl 209 (Lin Ft)	Conc Header PAG Std Dtl 213 (Lin Ft)	Median Paving (Pavers) Std C-05.40 (Sq Yd)	Median Paving (Conc) Std C-05.40 (Sq Yd)		Type 1 Std C-05.12	Type 2 Std C-05.12	Type 3 Std C-05.12	Type 4 Std C-05.12	Type 5 Std C-05.12	Type 6 Std C-05.12	Type 7 Std C-05.12	Type 8 Std C-05.12	Type 9 Std C-05.12	Curb Terminal Section PAG Std Dtl 212	Type A, h=7" MAG Detail 220 (Lin Ft)	Type B Std C-05.10 (Lin Ft)	Type C Std C-05.10 (Lin Ft)	Type C-1 Std C-05.10 (Lin Ft)	Type D, h=7" Std C-05.10 (Lin Ft)	Type D-1, h=7" Std C-05.10 (Lin Ft)	Type G, h=6" Std C-05.10 (Lin Ft)	Type I (G) PAG Std Dtl 209 (Lin Ft)	End Treatment C&G (Var Width Gutter) Std C-10.71 (Lin Ft)	Sidewalk, w=6' PAG Std Dtl 200 (Sq Ft)	Sidewalk, w=6' Std C-05.20 (Sq Ft)	Curb Access Ramp Type 1 PAG Std Dtl 207 (Ea)	Curb Access Ramp Type 3 PAG Std Dtl 207 (Ea)	Sidewalk Ramp Type A Std C-05.30 (Ea)	Sidewalk Ramp Type E Std C-05.30 (Ea)	Curb Access Ramp Type 1 PAG Std Dtl 207 (Ea)	Sidewalk Ramp Type F Std C-05.30 (Ea)	
1	82+19 to 82+43	Rt				39																															
2	82+78 to 83+02	Rt				39																															
3	86+04 to 89+04	Rt/Lt			618																																MEDIAN ISLAND
4	89+17 to 89+45	Lt			39													2																			
5	88+98 to 89+36	Rt			54													2																			
6	89+80 to 90+05	Lt			39													1																			
7	89+89 to 90+25	Rt			56													1																			
8	90+05 to 97+85	Lt														1											824			4,440			1	1			
9	90+08 to 97+91	Rt/Lt	1,582																																	2	MEDIAN ISLAND
10	90+25 to 97+86	Rt														1											795				4,419			1	1			
11	104+57 to 111+20	Lt																										637		3,654			1				
12	104+56 to 111+20	Rt/Lt			1,329																																MEDIAN ISLAND
13	104+56 to 111+20	Rt																										687		3,977			1				
14	115+40 to 116+11	Lt																										94		275		1					
15	115+40 to 115+94	Lt/Rt			111																																MEDIAN ISLAND
16	115+40 to 116+17	Rt																										100		307		1					
17	50+46 to 57+15	Rt/Lt			259											1												675								1	MEDIAN ISLAND
18	50+67 to 57+19	Rt																										673		4,032			1				
19	56+75 to 57+18	Lt																										22		128			1				
20	58+69 to 61+30	Rt																										262		1,642							
21	58+60 to 64+84	Lt/Rt			795											2												100									MEDIAN ISLAND
	Sheet Total		1,582		3,300	78										5			6								1,619	3,250		14,015	8,859	2	4	2	2		3	

XX Reference numbers correspond to numbers on Roadway Plans.

■ Transition Lengths are included in Curb & Gutter or Sidewalk Quantity.

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	NAME	DATE
DESIGN	MPK	08-20
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CURB, CURB & GUTTER & SIDEWALK SUMMARY SHEET

ROUTE: I-10

LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 10 OF 50

Sheet CGS01 of CGS02

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:06:18 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_CGS01.DGN

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

CURB, CURB & GUTTER & SIDEWALK SUMMARY SHEET

LOCATION			SINGLE CURB		MEDIAN PAVING		CURB AND GUTTER																						DRIVEWAYS, SIDEWALK & RAMPS									
							TRANSITIONS ■																															
Plan Reference No. XX	Station to Station	Location	Type G, h=6" Std C-05.10 (Lin Ft)	Type A-1, h=7" Std C-05.10 (Lin Ft)	Type 1 (Conc) PAG Std Dtl 209 (Lin Ft)	Conc Header PAG Std Dtl 213 (Lin Ft)	Median Paving (Pavers) Std C-05.40 (Sq Yd)	Median Paving (Conc) Std C-05.40 (Sq Yd)	Type 1 Std C-05.12	Type 2 Std C-05.12	Type 3 Std C-05.12	Type 4 Std C-05.12	Type 5 Std C-05.12	Type 6 Std C-05.12	Type 7 Std C-05.12	Type 8 Std C-05.12	Type 9 Std C-05.12	Curb Terminal Section PAG Std Dtl 212	Type A, h=7" MAG Detail 220 (Lin Ft)	Type B Std C-05.10 (Lin Ft)	Type C Std C-05.10 (Lin Ft)	Type C-1 Std C-05.10 (Lin Ft)	Type D, h=7" Std C-05.10 (Lin Ft)	Type D-1, h=7" Std C-05.10 (Lin Ft)	Type G, h=6" Std C-05.10 (Lin Ft)	Type 1 (G) PAG Std Dtl 209 (Lin Ft)	End Treatment C&G (Var Width Gutter) Std C-10.71 (Lin Ft)	Sidewalk, w=6' PAG Std Dtl 200 (Sq Ft)	Sidewalk, w=6' Std C-05.20 (Sq Ft)	Curb Access Ramp Type 1 PAG Std Dtl 207 (Ea)	Curb Access Ramp Type 3 PAG Std Dtl 207 (Ea)	Sidewalk Ramp Type A Std C-05.30 (Ea)	Sidewalk Ramp Type E Std C-05.30 (Ea)	Curb Access Ramp Type 1 PAG Std Dtl 207 (Ea)	Sidewalk Ramp Type F Std C-05.30 (Ea)	REMARKS
22	10+00 to 15+26	Lt			567													2																				
23	10+00 to 15+26	Rt			531													2																				
24	101+76 to 101+88	Lt																					43															
25	101+74 to 101+74	Rt/Lt	18																																			MEDIAN ISLAND
26	101+82 to 101+88	Rt																					30															
	Sheet Total		18		1,098													4					73															

XX Reference numbers correspond to numbers on Roadway Plans.

■ Transition Lengths are included in Curb & Gutter or Sidewalk Quantity.

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CURB, CURB & GUTTER & SIDEWALK SUMMARY SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 11 OF 50

Sheet CGS02 of CGS02

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:06:42 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_CGS02.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

Centerline Geometric Data Sheet

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES Northing	COORDINATES Easting	Spiral Total Total Delta	Spiral Total T	Spiral Total L	Spiral Total R+o	Spiral Total Ext	Spiral Main or Circular Curve Δ	Spiral Main or Circular Curve D	Spiral Main or Circular Curve R	Spiral Main or Circular Curve L	Spiral Main or Circular Curve T	Spiral Main or Circular Curve Ext	Spiral Main or Circular Curve Super	Spiral Curve Δ	Spiral Curve L	Spiral Curve o	Spiral Curve t
	Exst Sunset Rd Cst ℄	POB	67+96.28	475898.648	967598.544																
	Exst Sunset Rd Cst ℄	PC	79+01.50	476226.617	968653.983																
1	Exst Sunset Rd Cst ℄	PI	81+92.28	476312.903	968931.661						21°15'00"Lt	03°41'47"	1550.00'	574.87'	290.78'	27.04'					
	Exst Sunset Rd Cst ℄	PT	84+76.37	476493.964	969159.186																
	Exst Sunset Rd Cst ℄	PC	89+41.76	476783.751	969523.336																
2	Exst Sunset Rd Cst ℄	PI	91+99.99	476944.551	969725.401						07°59'05"Rt	01°32'55"	3700.00'	515.64'	258.24'	9.00'					
	Exst Sunset Rd Cst ℄	PT	94+57.39	477075.723	969947.843																
	Exst Sunset Rd Cst ℄	POE	101+64.02	477434.654	970556.519																
	Sunset Rd Cst ℄	POB	101+64.02	477434.654	970556.519																
	Sunset Rd Cst ℄	PC	104+41.85	477575.780	970795.842																
3	Sunset Rd Cst ℄	PI	106+67.58	477690.436	970990.276						31°30'48"Lt	07°09'43"	800.00'	440.01'	225.72'	31.23'					
	Sunset Rd Cst ℄	PT	108+81.86	477889.813	971096.105																
	Sunset Rd Cst ℄	POE	116+60.35	478577.439	971461.097																
	Exst River Rd Cst ℄	PT	41+58.40	479864.734	970502.307																
	Exst River Rd Cst ℄	PC	48+96.88	479213.874	970851.211																
4	Exst River Rd Cst ℄	PI	53+94.23	478775.537	971086.188						33°43'58"Lt	03°29'34"	1640.42'	965.79'	497.35'	73.74'	3.50%				
	Exst River Rd Cst ℄	PT	58+62.67	478541.487	971525.021																
	Exst River Rd Cst ℄	PC	65+07.20	478238.178	972093.713																
5	Exst River Rd Cst ℄	PI	69+04.55	478051.183	972444.320						27°13'58"Lt	03°29'34"	1640.42'	779.70'	397.36'	47.44'	3.50%				
	Exst River Rd Cst ℄	PT	72+86.89	478045.356	972841.635																
	Exst River Rd Cst ℄	POE	78+04.43	478037.767	973359.112																
	SUP1 Cst ℄	POB	8+81.00	476240.543	968607.838																
	SUP1 Cst ℄	PC	9+26.50	476263.712	968646.999																
6	SUP1 Cst ℄	PI	9+63.26	476274.717	968682.069						02°47'03"Lt	03°47'17"	1512.50'	73.50'	36.76'	0.45'					
	SUP1 Cst ℄	PT	10+00.00	476287.413	968716.564																
	SUP1 Cst ℄	PC	10+18.88	476294.995	968733.854																
7	SUP1 Cst ℄	PI	11+63.28	476350.569	968867.135						10°53'29"Lt	03°46'57"	1514.73'	287.94'	144.40'	6.87'					
	SUP1 Cst ℄	PCC	13+06.82	476430.325	968987.515																
8	SUP1 Cst ℄	PI	13+94.09	476476.399	969061.632						06°38'46"Lt	03°48'44"	1503.00'	174.35'	87.27'	2.53'					
	SUP1 Cst ℄	PT	14+81.16	476530.741	969129.919																
	SUP1 Cst ℄	PI	17+09.69	476673.046	969308.729																
	SUP1 Cst ℄	PI	18+26.24	476747.875	969398.091																
	SUP1 Cst ℄	PI	19+31.37	476815.371	969478.696																
	SUP1 Cst ℄	PC	20+02.03	476859.688	969533.727																
9	SUP1 Cst ℄	PI	20+10.99	476865.310	969540.708						25°15'39"Lt	143°14'22"	40.00'	17.64'	8.96'	0.99'					
	SUP1 Cst ℄	PT	20+19.67	476873.374	969544.622																

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Sheet HC01 of HC06

	NAME	DATE
DESIGN	MPK	08-20
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

GEOMETRIC DATA SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
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SHEET 12 OF 50

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:07:07 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_G01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

Centerline Geometric Data Sheet

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES Northing	COORDINATES Easting	Spiral Total Total Delta	Spiral Total T	Spiral Total L	Spiral Total R+o	Spiral Total Ext	Spiral Main or Circular Curve △	Spiral Main or Circular Curve D	Spiral Main or Circular Curve R	Spiral Main or Circular Curve L	Spiral Main or Circular Curve T	Spiral Main or Circular Curve Ext	Spiral Main or Circular Curve Super	Spiral Curve △	Spiral Curve L	Spiral Curve o	Spiral Curve t
	SUP1 Cst ℄	PC	20+34.19	476886.435	969550.963																
10	SUP1 Cst ℄	PI	20+52.85	476903.229	969559.115						26°16'10"Rt	71°37'11"	80.00'	36.68'	18.67'	2.15'					
	SUP1 Cst ℄	PT	20+70.87	476914.680	969573.858																
	SUP1 Cst ℄	PC	23+61.19	477092.766	969803.143																
10A	SUP1 Cst ℄	PI	23+82.75	477104.532	969821.213						30°10'11"Lt	71°37'11"	80.00'	42.13'	21.56'	2.86'					
	SUP1 Cst ℄	PRC	24+03.31	477123.786	969830.922																
10B	SUP1 Cst ℄	PI	24+21.49	477140.021	969839.109						25°36'33"Rt	71°37'11"	80.00'	35.76'	18.18'	2.04'					
	SUP1 Cst ℄	PT	24+39.07	477151.122	969853.509																
	SUP1 Cst ℄	POE	27+51.84	477342.092	970101.214																
	SUP2 Cst ℄	POB	7+00.00	476187.777	968623.824																
	SUP2 Cst ℄	PC	8+65.28	476197.096	968788.846																
11	SUP2 Cst ℄	PI	8+82.34	476198.057	968805.870						19°21'15"Lt	57°17'45"	100.00'	33.78'	17.05'	1.44'					
	SUP2 Cst ℄	PCC	8+99.06	476204.606	968821.615																
12	SUP2 Cst ℄	PI	9+57.34	476226.988	968875.421						04°06'01"Lt	03°31'10"	1628.00'	116.50'	58.28'	1.04'					
	SUP2 Cst ℄	PCC	10+15.57	476253.160	968927.490																
13	SUP2 Cst ℄	PI	10+29.61	476259.467	968940.036						38°41'10"Lt	143°14'22"	40.00'	27.01'	14.04'	2.39'					
	SUP2 Cst ℄	PT	10+42.57	476272.231	968945.887																
	SUP2 Cst ℄	PC	10+65.88	476293.418	968955.600																
14	SUP2 Cst ℄	PI	10+79.41	476305.715	968961.237						37°22'09"Rt	143°14'22"	40.00'	26.09'	13.53'	2.23'					
	SUP2 Cst ℄	PRC	10+91.97	476312.066	968973.181																
15	SUP2 Cst ℄	PI	12+22.76	476373.472	969088.654						09°04'47"Lt	03°28'43"	1647.14'	261.02'	130.78'	5.18'					
	SUP2 Cst ℄	PT	13+52.99	476452.331	969192.989																
	SUP2 Cst ℄	PI	14+86.95	476533.102	969299.855																
	SUP2 Cst ℄	PI	16+66.95	476631.821	969450.369																
	SUP2 Cst ℄	PI	17+93.58	476708.174	969551.390																
	SUP2 Cst ℄	PC	18+79.81	476761.380	969619.245																
16	SUP2 Cst ℄	PI	18+88.04	476766.460	969625.723						23°15'36"Rt	143°14'22"	40.00'	16.24'	8.23'	0.84'					
	SUP2 Cst ℄	PT	18+96.04	476768.569	969643.795																
	SUP2 Cst ℄	PC	19+06.51	476771.249	969643.795																
17	SUP2 Cst ℄	PI	19+15.69	476773.600	969652.668						13°05'24"Lt	71°37'11"	80.00'	18.28'	9.18'	0.52'					
	SUP2 Cst ℄	PT	19+24.78	476777.899	969660.777																
	SUP2 Cst ℄	POE	25+61.79	477076.275	970223.584																
	SUP3 Cst ℄	POB	9+83.68	477372.005	970085.729																
	SUP3 Cst ℄	PI	10+90.02	477277.571	970134.613																
	SUP3 Cst ℄	PC	12+53.27	477133.204	970210.840																
18	SUP3 Cst ℄	PI	12+63.73	477123.958	970215.722						29°17'49"Rt	143°14'22"	40.00'	20.45'	10.46'	1.34'					
	SUP3 Cst ℄	PRC	12+73.73	477113.506	970215.455																

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Sheet HC02 of HC06

	NAME	DATE
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GEOMETRIC DATA SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

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SHEET 13 OF 50

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

Centerline Geometric Data Sheet

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES Northing	COORDINATES Easting	Spiral Total Total Delta	Spiral Total T	Spiral Total L	Spiral Total R+o	Spiral Total Ext	Spiral Main or Circular Curve Δ	D	R	L	T	Ext	Super	Spiral Curve Δ	L	o	t
19	SUP3 Cst ℄	PI	12+95.91	477091.333	970214.889						30°59'35"Lt	71°37'11"	80.00'	43.27'	22.18'	3.02'					
	SUP3 Cst ℄	PT	13+17.00	477072.034	970225.822																
	SUP3 Cst ℄	POE	13+51.51	477042.007	970242.831																
	Access Rd Cst ℄	POB	9+00.00	477742.214	970660.423																
	Access Rd Cst ℄	PC	11+65.99	477513.076	970795.494																
20	Access Rd Cst ℄	PI	11+86.26	477495.610	970805.790						60°09'58"Lt	163°42'08"	35.00'	36.75'	20.28'	5.45'					
	Access Rd Cst ℄	PT	12+02.74	477495.852	970826.064																
	Access Rd Cst ℄	PI	13+91.90	477498.112	971015.208																
	Access Rd Cst ℄	PI	14+82.13	477505.686	971105.124																
	Access Rd Cst ℄	POE	16+26.45	477507.409	971249.428																
	SUP4 Cst ℄	POB	9+50.00	478051.045	971190.524																
	SUP4 Cst ℄	PC	10+00.00	478075.766	971147.062																
21	SUP4 Cst ℄	PI	10+40.07	478095.574	971112.236						90°05'36"Lt	143°14'22"	40.00'	62.90'	40.07'	16.61'					
	SUP4 Cst ℄	PT	10+62.90	478060.716	971092.484																
	SUP4 Cst ℄	PC	12+31.84	477913.734	971009.199																
22	SUP4 Cst ℄	PI	12+78.62	477873.033	970986.136						07°30'55"Rt	08°02'38"	712.29'	93.43'	46.78'	1.53'					
	SUP4 Cst ℄	PCC	13+25.26	477835.698	970957.949																
23	SUP4 Cst ℄	PI	261+85.42	457995.240	955978.506						179°48'56"Rt	143°14'22"	40.00'	125.53'	24860.16'	24820.19'					
	SUP4 Cst ℄	PRC	14+50.80	477883.799	970894.025																
24	SUP4 Cst ℄	PI	14+90.79	477915.790	970918.017						07°14'15"Lt	09°03'42"	632.29'	79.87'	39.99'	1.26'					
	SUP4 Cst ℄	PT	15+30.67	477950.550	970937.787																
	SUP4 Cst ℄	POE	18+67.89	478243.673	971104.513																
	SUP5 Cst ℄	POB	9+50.00	478058.365	971176.736																
	SUP5 Cst ℄	PC	10+00.00	478036.220	971221.564																
25	SUP5 Cst ℄	PI	10+39.87	478018.563	971257.306						89°48'27"Rt	143°14'22"	40.00'	62.70'	39.87'	16.47'					
	SUP5 Cst ℄	PT	10+62.70	477982.762	971239.770																
	SUP5 Cst ℄	PC	11+83.35	477874.405	971186.694																
26	SUP5 Cst ℄	PI	12+48.76	477815.667	971157.923						08°25'40"Rt	06°27'16"	887.71'	130.58'	65.41'	2.41'					
	SUP5 Cst ℄	PRC	13+13.93	477761.781	971120.854																
27	SUP5 Cst ℄	CC		477739.110	971153.809						218°40'04"Lt	143°14'22"	40.00'	152.66'	-1.00'	-1.00'					
	SUP5 Cst ℄	PRC	14+66.59	477742.000	971193.705																
28	SUP5 Cst ℄	PI	14+86.99	477762.347	971192.231						30°25'58"Rt	76°23'40"	75.00'	39.84'	20.40'	2.72'					
	SUP5 Cst ℄	PT	15+06.43	477780.637	971201.266																
	SUP5 Cst ℄	POE	18+67.46	478104.327	971361.169																
	SUP6 Cst ℄	POB	9+50.00	478661.083	971053.621																

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Sheet HC03 of HC06

	NAME	DATE
DESIGN	MPK	09-20
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GEOMETRIC DATA SHEET

ROUTE I-10 | LOCATION SUNSET ROAD: I-10 TO RIVER ROAD

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SHEET OF
14 OF 50

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

Centerline Geometric Data Sheet

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES Northing	COORDINATES Easting	Spiral Total Total Delta	Spiral Total T	Spiral Total L	Spiral Total R+o	Spiral Total Ext	Spiral Main or Circular Curve △	Spiral Main or Circular Curve D	Spiral Main or Circular Curve R	Spiral Main or Circular Curve L	Spiral Main or Circular Curve T	Spiral Main or Circular Curve Ext	Spiral Main or Circular Curve Super	Spiral Curve △	Spiral Curve L	Spiral Curve o	Spiral Curve t
	SUP6 Cst ℄	PC	10+56.59	478591.812	971134.638																
29	SUP6 Cst ℄	PI	11+11.67	478556.019	971176.499						12°34'19"Lt	11°27'33"	500.00'	109.71'	55.08'	3.02'					
	SUP6 Cst ℄	PT	11+66.30	478530.197	971225.147																
	SUP6 Cst ℄	PI	14+21.86	478410.381	971450.874																
	SUP6 Cst ℄	POE	17+00.00	478277.063	971694.981																
	SUP7 Cst ℄	POB	9+50.00	478604.790	971062.061																
	SUP7 Cst ℄	PC	10+27.15	478630.504	971134.802																
30	SUP7 Cst ℄	PI	10+50.00	478638.119	971156.343						49°06'59"Rt	114°35'30"	50.00'	42.86'	22.85'	4.97'					
	SUP7 Cst ℄	PT	10+70.01	478626.817	971176.199																
	SUP7 Cst ℄	PC	11+93.02	478565.969	971283.105																
31	SUP7 Cst ℄	PI	12+19.66	478552.791	971306.256						56°05'43"Lt	114°35'30"	50.00'	48.95'	26.64'	6.65'					
	SUP7 Cst ℄	PT	12+41.98	478564.656	971330.107																
	SUP7 Cst ℄	POE	13+15.34	478597.329	971395.790																

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Sheet HC04 of HC06

	NAME	DATE
DESIGN	MPK	09-20
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

GEOMETRIC DATA SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
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SHEET 15 OF 50

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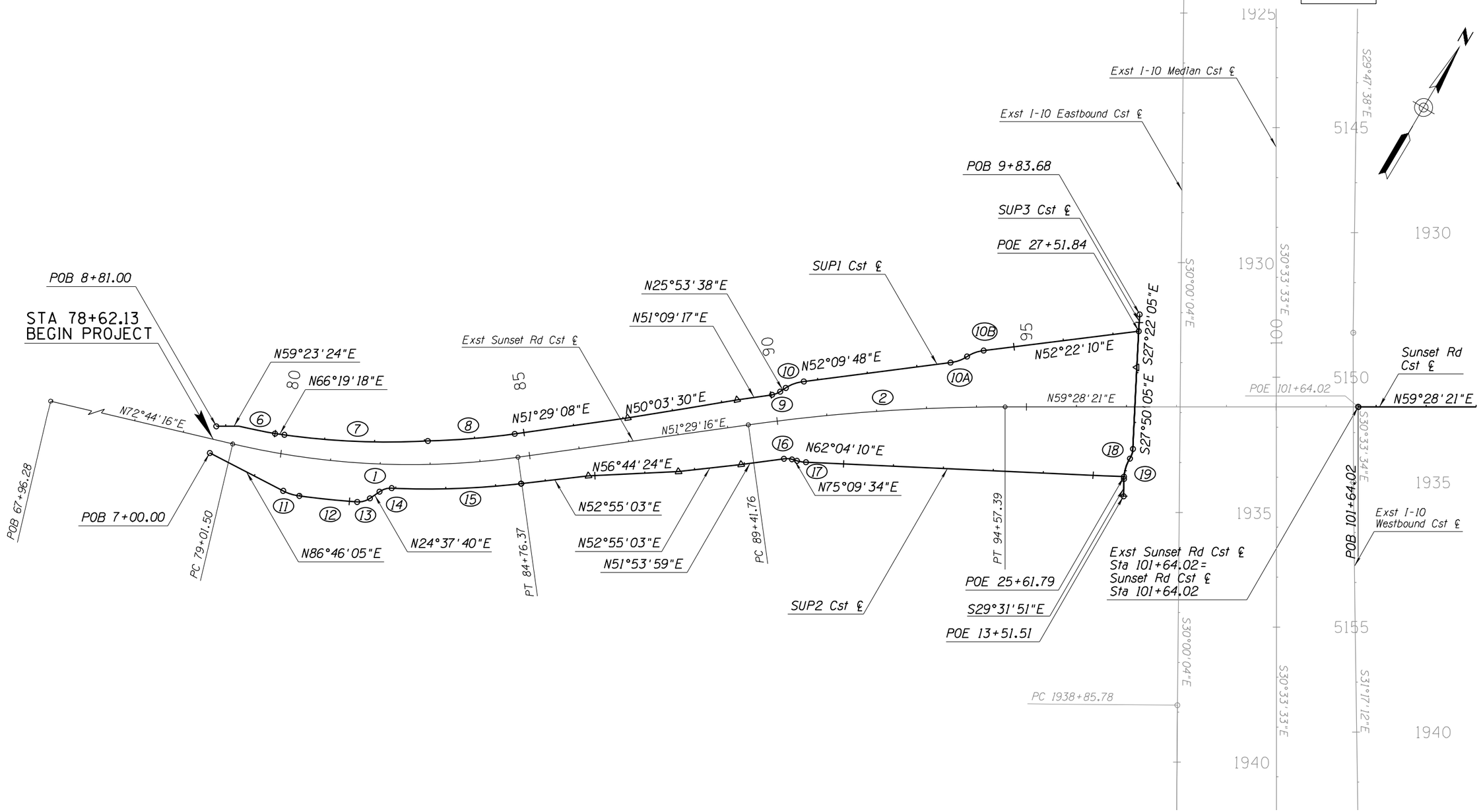
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet HC05 of HC06

NOTE:
1. Curve Numbers 11 and 19 were omitted.

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

GEOMETRIC LAYOUT SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

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SHEET 16 OF 50

100 0 100 200'
SCALE: 1" =100'

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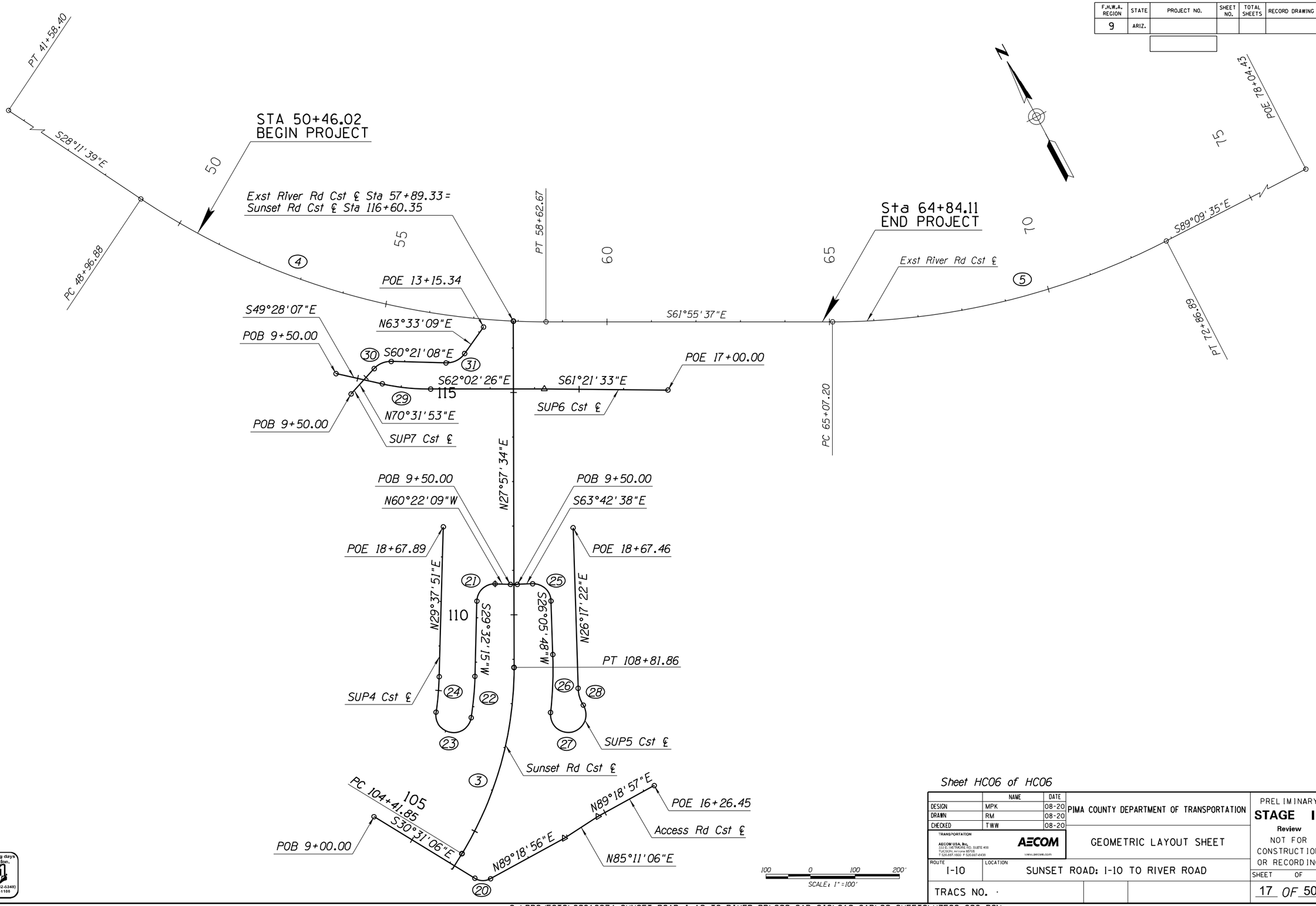
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet HC06 of HC06

	NAME	DATE
DESIGN	MPK	08-20
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GEOMETRIC LAYOUT SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

PRELIMINARY
STAGE I
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SHEET 17 OF 50

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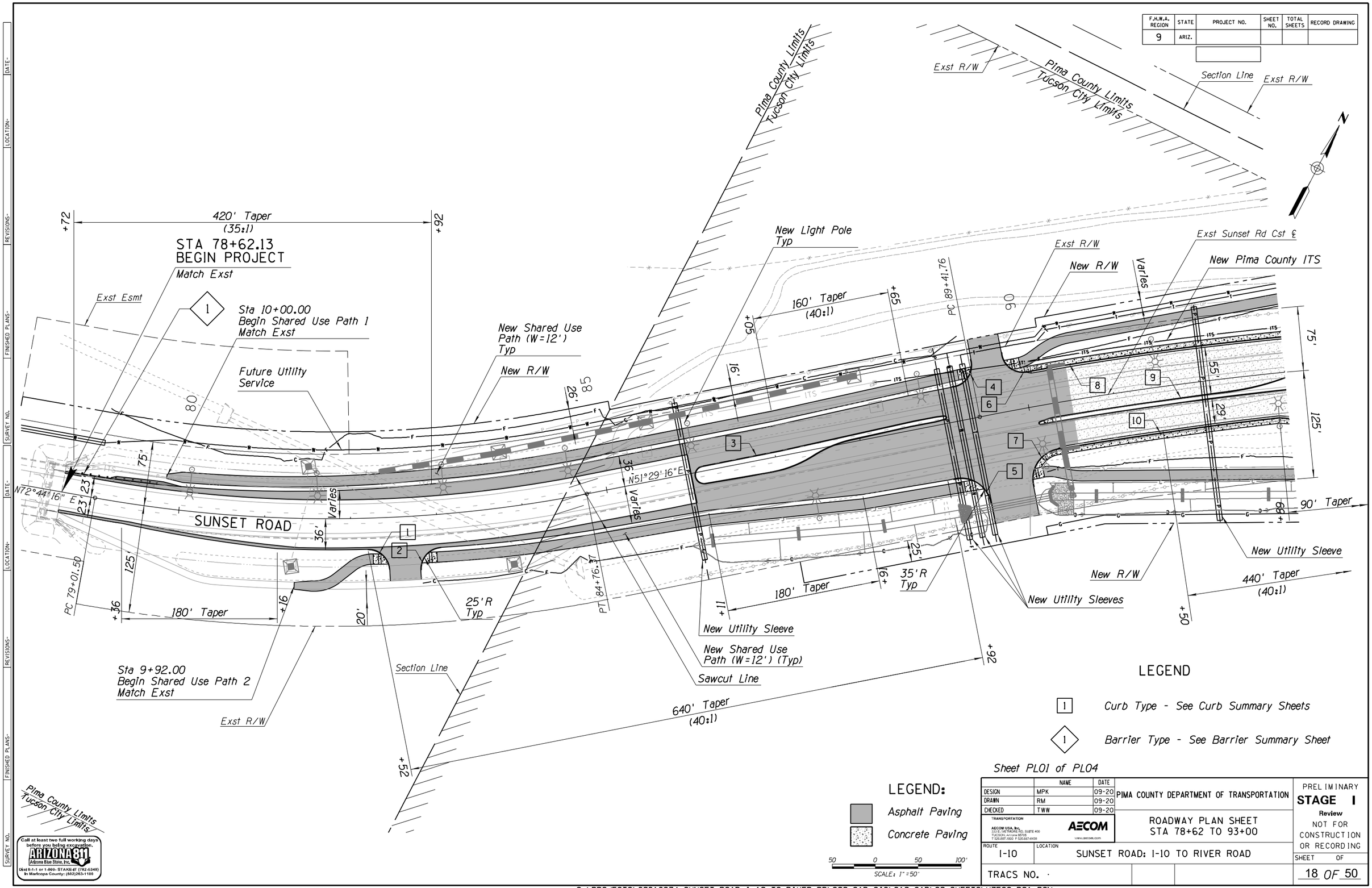
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PL01 of PL04

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

TRANSPORTATION
AECOM USA, Inc.
333 E. WETMORE RD. SUITE 400
TUCSON, Arizona 85705
T 520.887.1800 F 520.887.0439
AECOM
www.aecom.com

ROADWAY PLAN SHEET
STA 78+62 TO 93+00

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

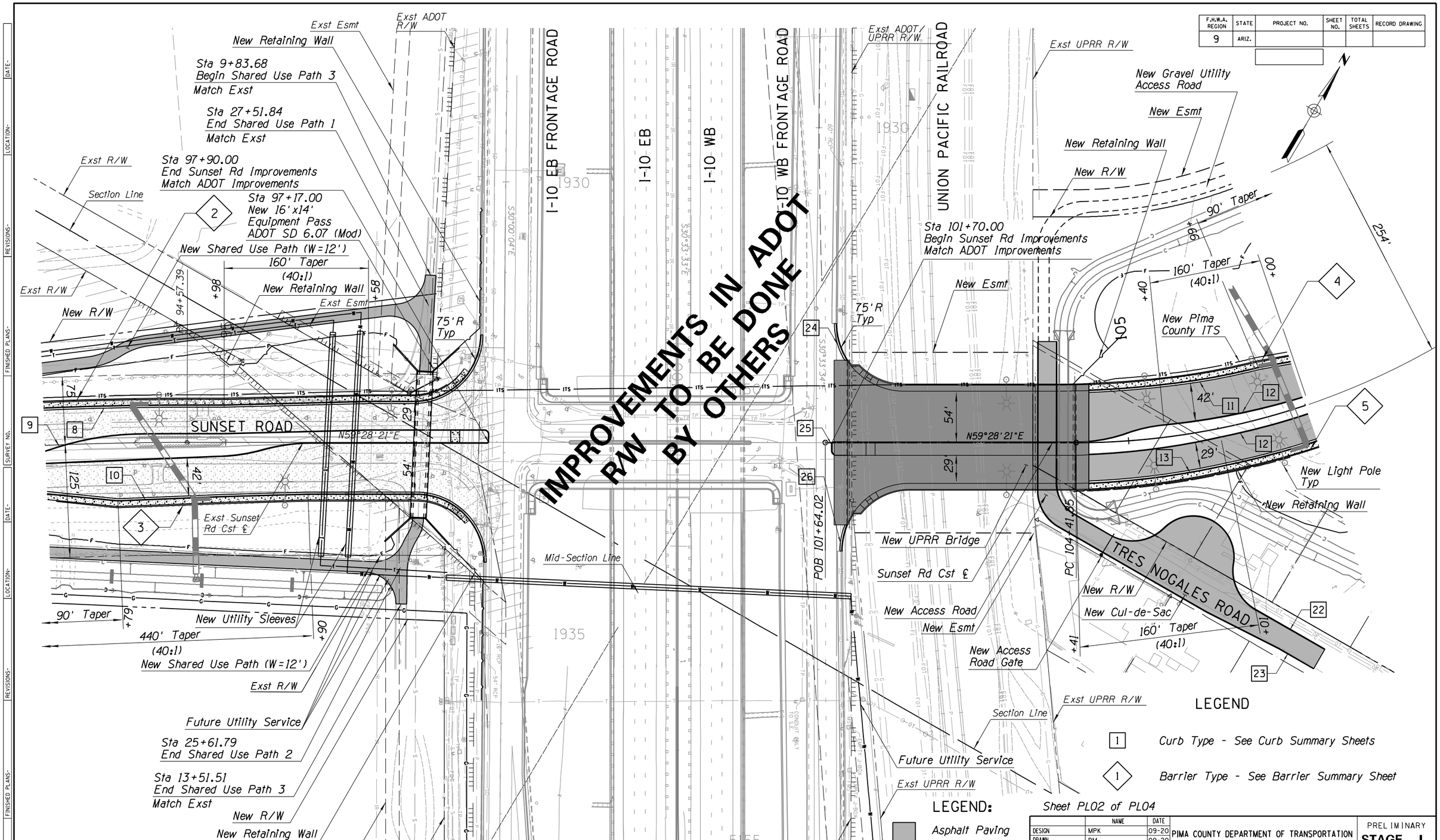
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 18 OF 50

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: Kershner-M Date Plotted: 9/9/2020 Time Plotted: 10:50:37 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_P01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



LEGEND

1	Curb Type - See Curb Summary Sheets
1	Barrier Type - See Barrier Summary Sheet

LEGEND:

- Asphalt Paving
- Concrete Paving
- Bridge

Sheet PL02 of PL04

Note:

1. Improvements to ADOT R/W shall be permitted through ADOT R/W.

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

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333 W. WETMORE RD. SUITE 400
TUCSON, Arizona 85705
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AECOM
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

ROADWAY PLAN SHEET
STA 93+00 TO 107+00

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

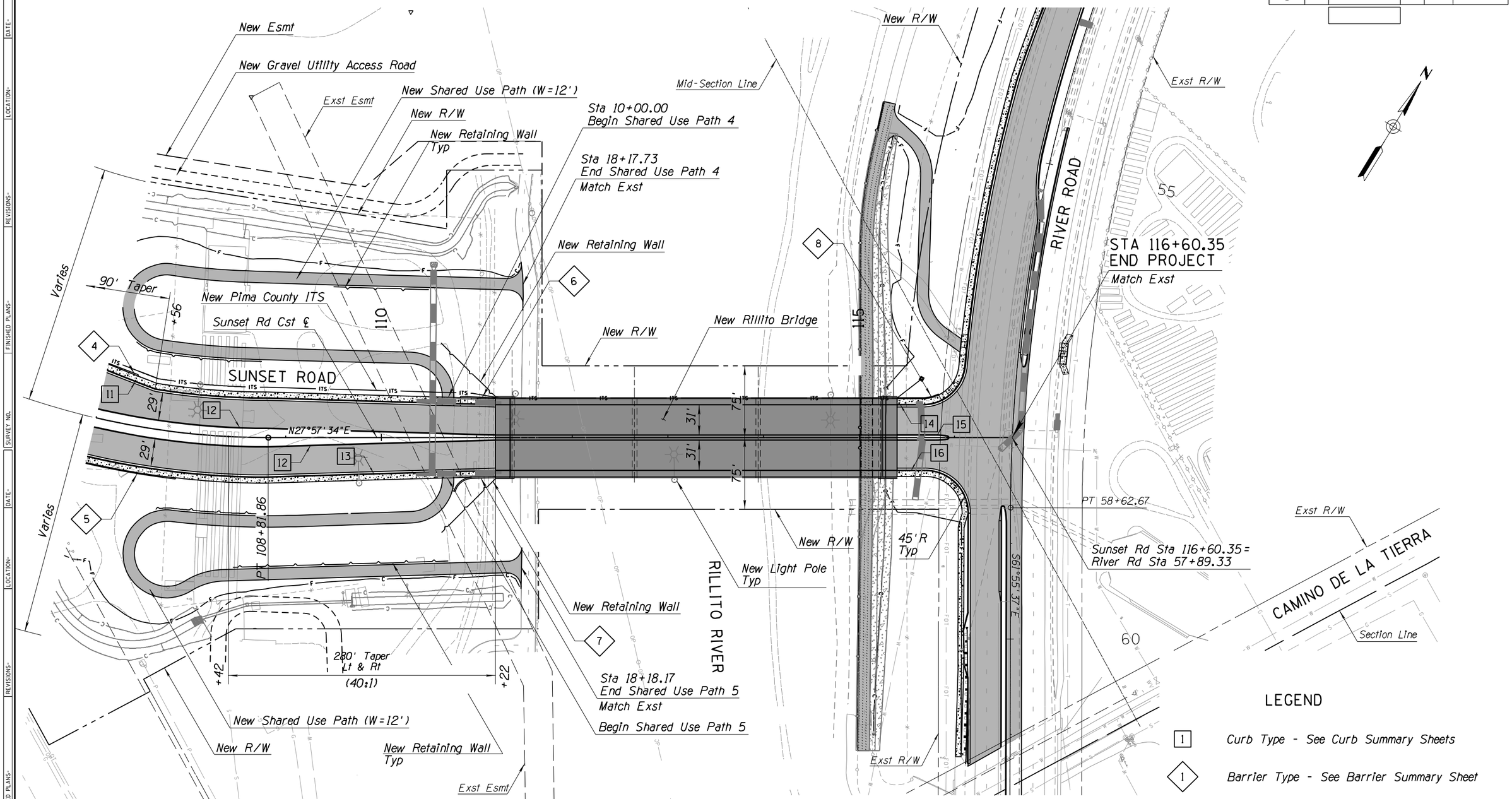
TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 19 OF 50

PLOTTED BY: KershnerM Date Plotted: 9/8/2020 Time Plotted: 4:06:29 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_P02.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



LEGEND

1	Curb Type - See Curb Summary Sheets
1	Barrier Type - See Barrier Summary Sheet

LEGEND:

- Asphalt Paving
- Concrete Paving
- Bridge

50 0 50 100'

SCALE: 1" =50'

Sheet PL03 of PL04

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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AECOM
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

ROADWAY PLAN SHEET
STA 107+00 TO 116+60

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 20 OF 50

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
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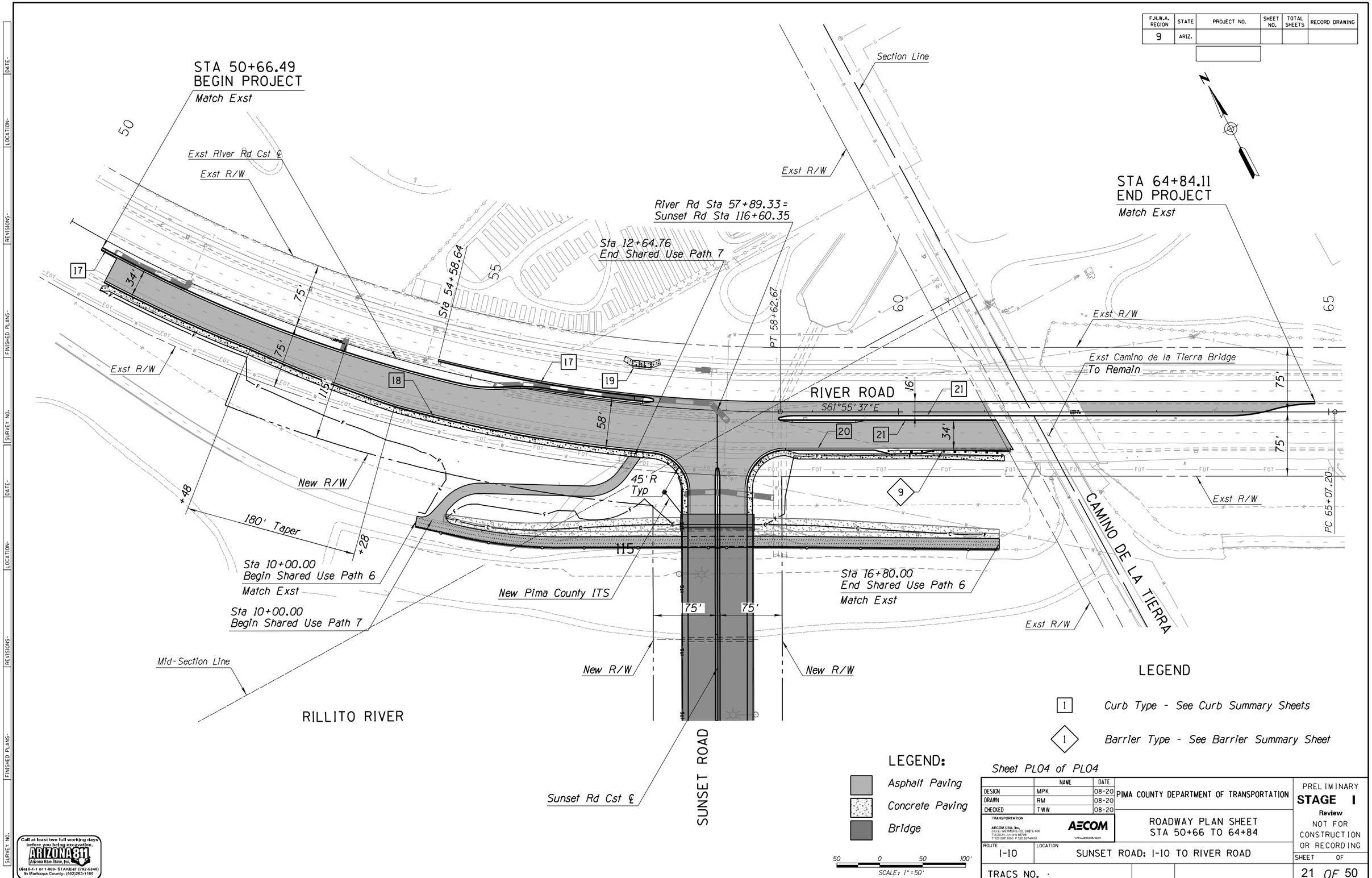
In Maricopa County: (602)263-1100

PLOTTED BY: Kershner-M Date Plotted: 7/24/2020 Time Plotted: 3:10:34 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_P03.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PL04 of PL04

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

ROADWAY PLAN SHEET
STA 50+66 TO 64+84

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

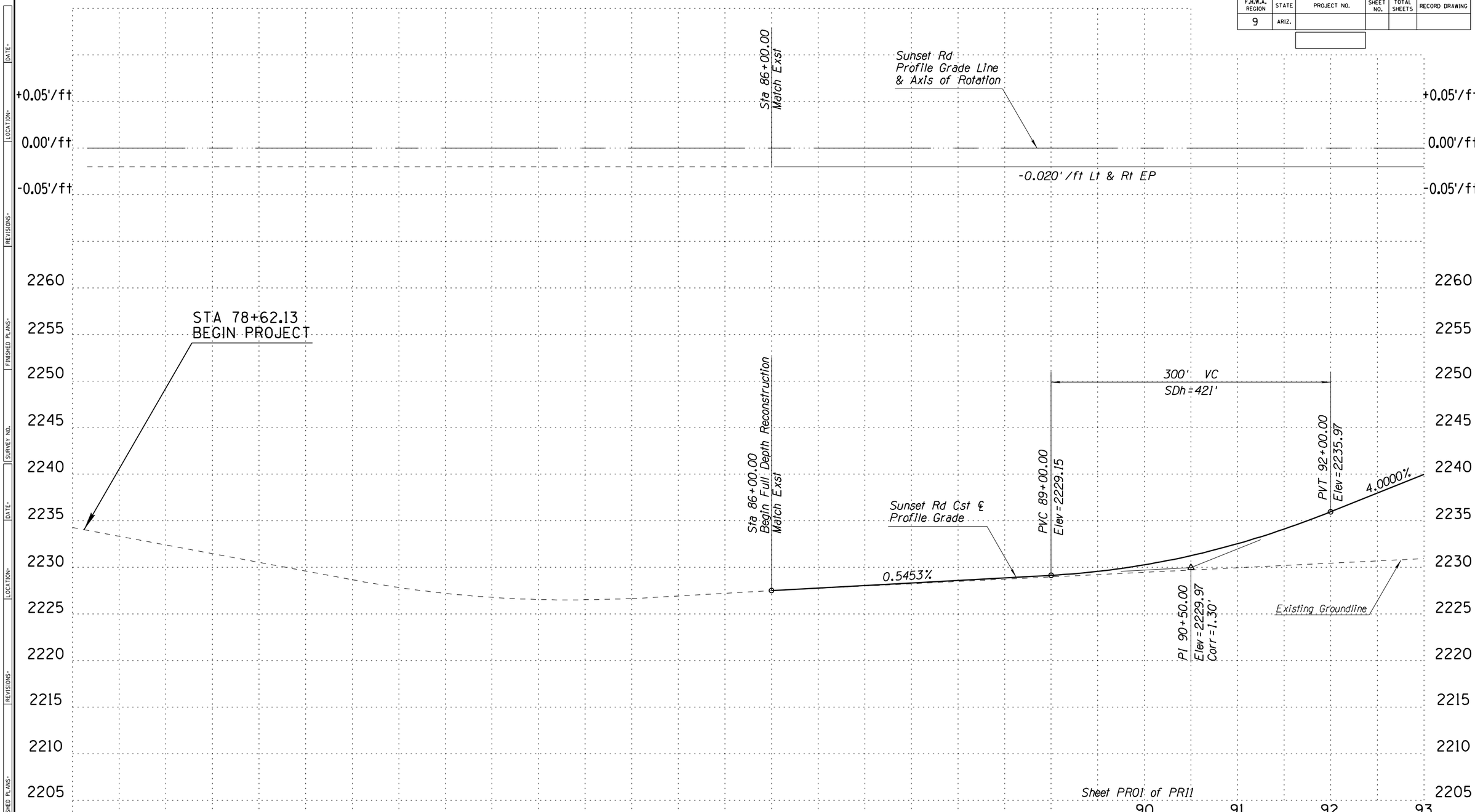
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 21 OF 50

Call at least two full working days before you bring excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:10:57 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_P04.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SUNSET ROAD
PROFILE SHEET
STA 78+62 TO 93+00

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 22 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:11:26 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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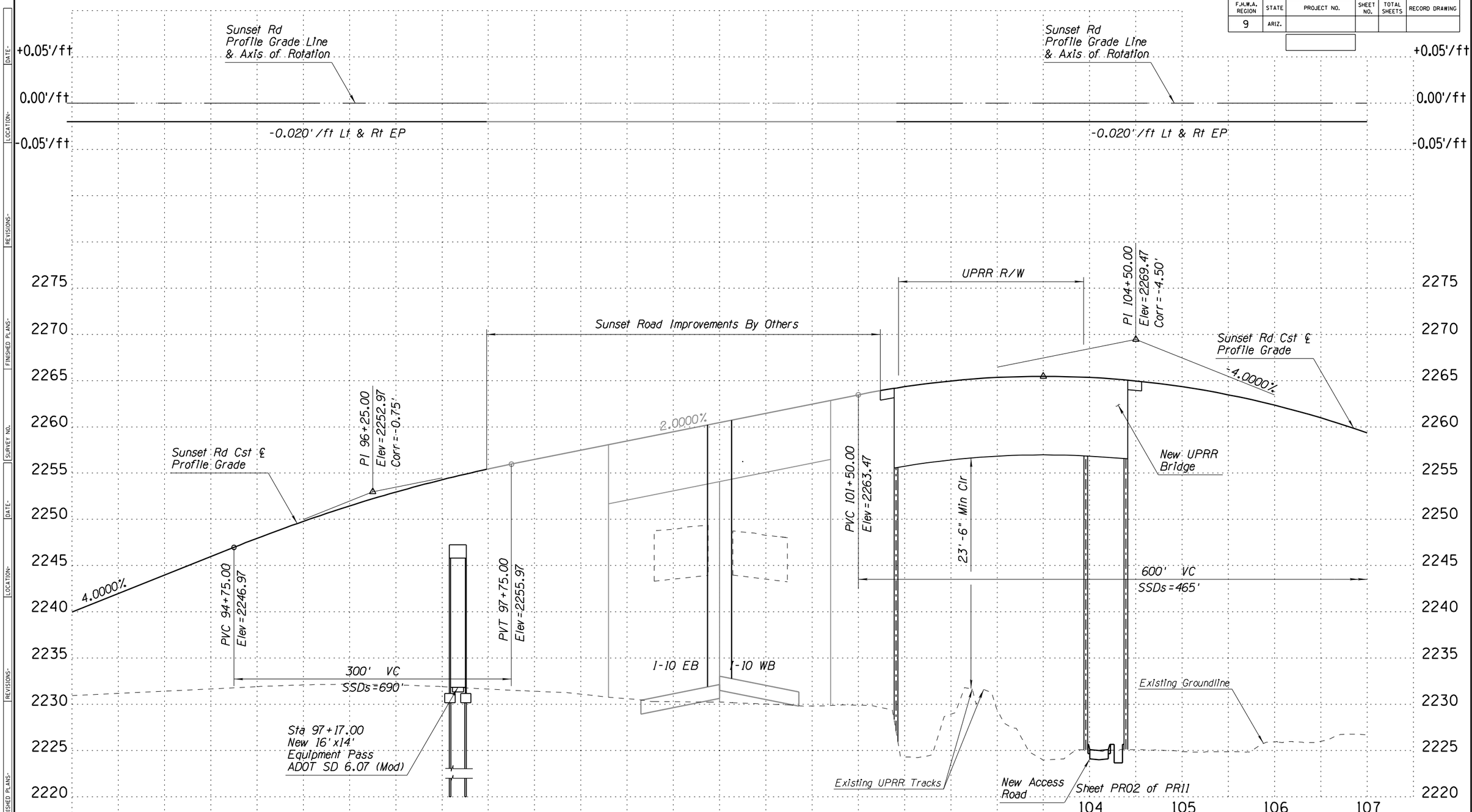

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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333 E. WETMORE RD. SUITE 450
TUCSON, Arizona 85705
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SUNSET ROAD
PROFILE SHEET
STA 93+00 TO 107+00

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

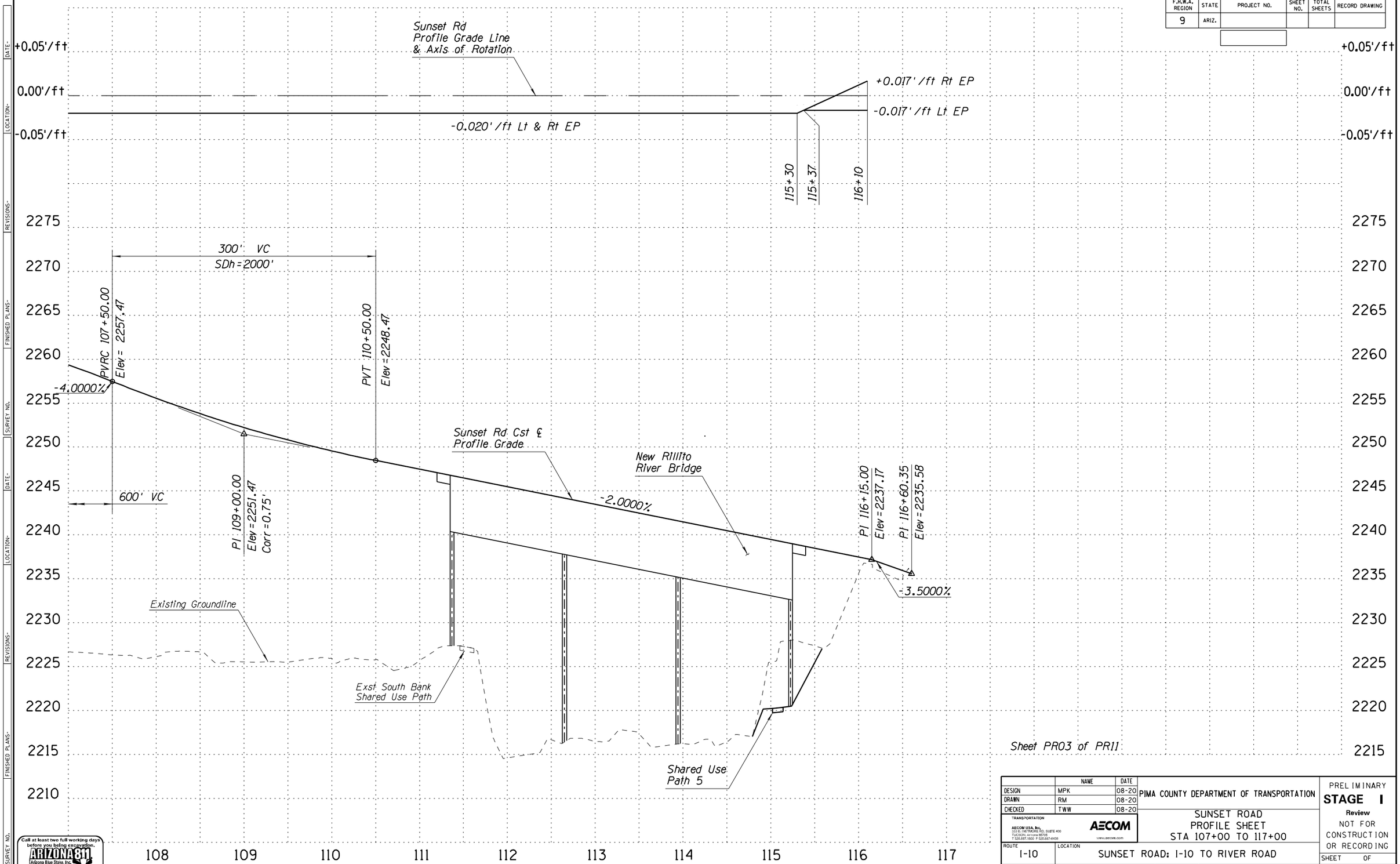
TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 23 OF 50

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:14:17 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V02.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR03 of PR11

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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AECOM
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SUNSET ROAD
PROFILE SHEET
STA 107+00 TO 117+00

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

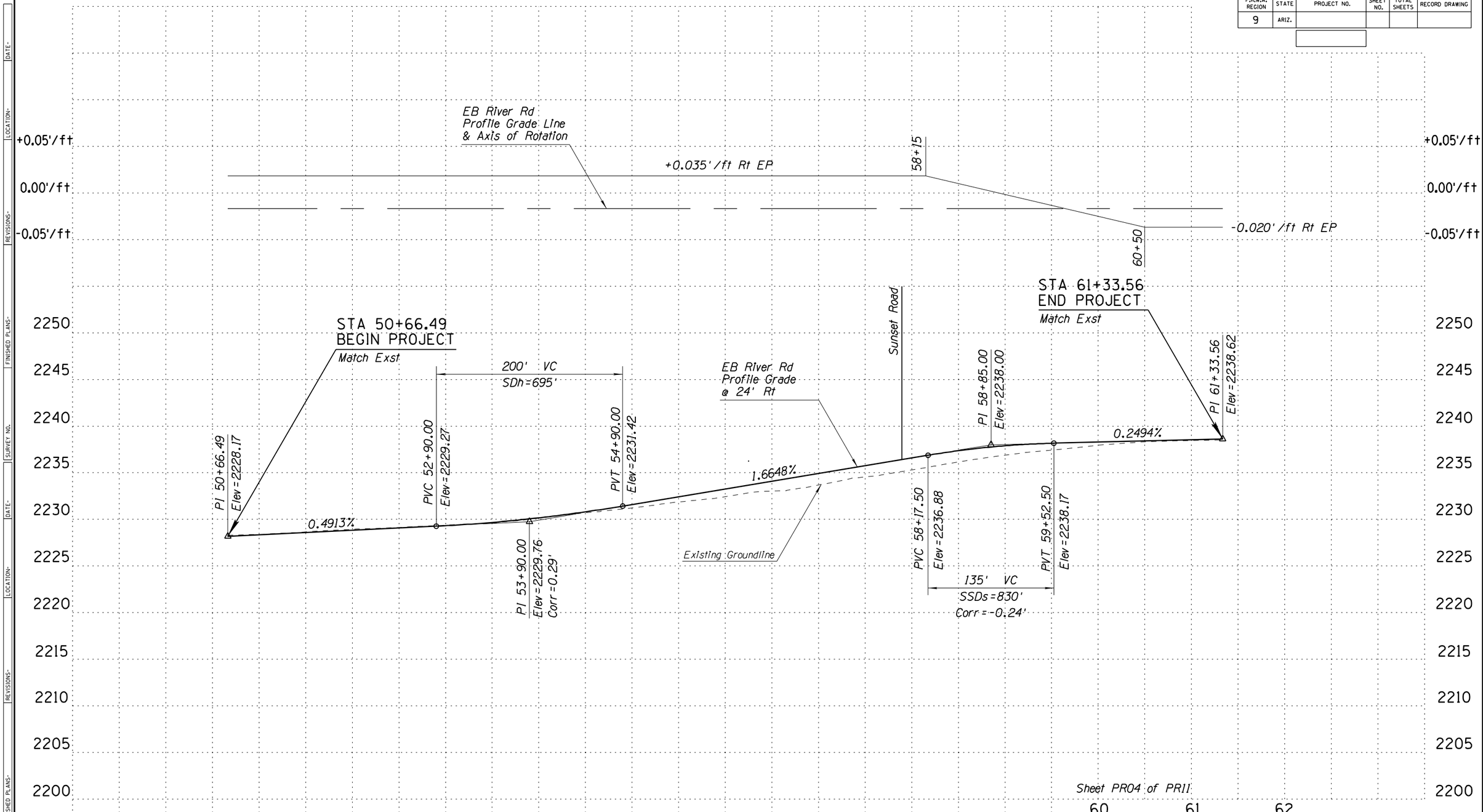
TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 24 OF 50

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:14:39 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V03.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR04 of PR11

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

EB RIVER ROAD
PROFILE SHEET
STA 50+66 TO 61+34

ROUTE: I-10

LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

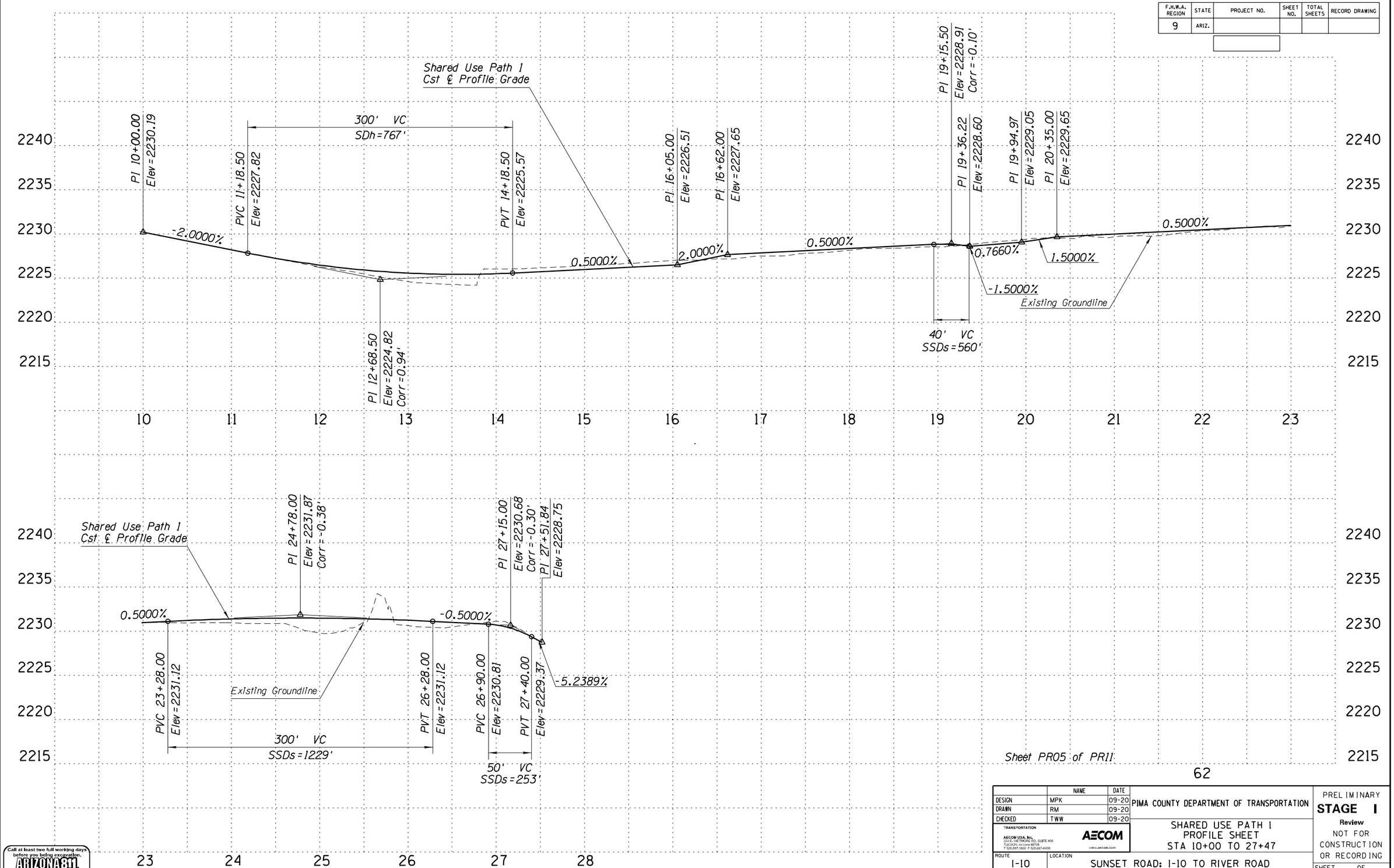
SHEET 25 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:15:00 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V04.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR05 of PR11

62

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

TRANSPORTATION
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333 E. WETMORE RD. SUITE 400
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATH 1
PROFILE SHEET
STA 10+00 TO 27+47

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. -

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 26 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 9/8/2020 Time Plotted: 9:24:19 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V05.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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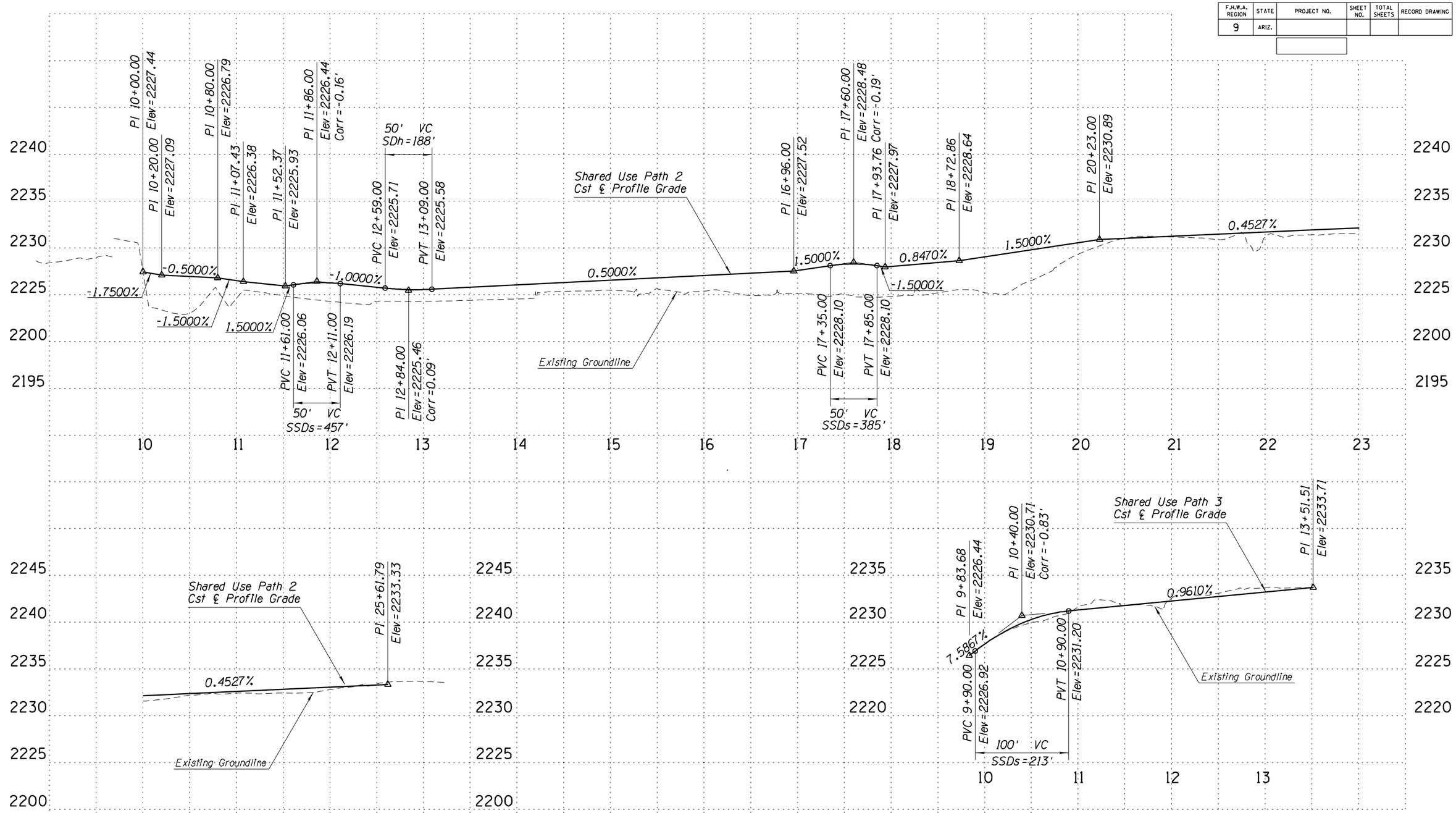

Sheet PR06 of PR11

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

TRANSPORTATION
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATHS 2 & 3
PROFILE SHEET

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. -

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

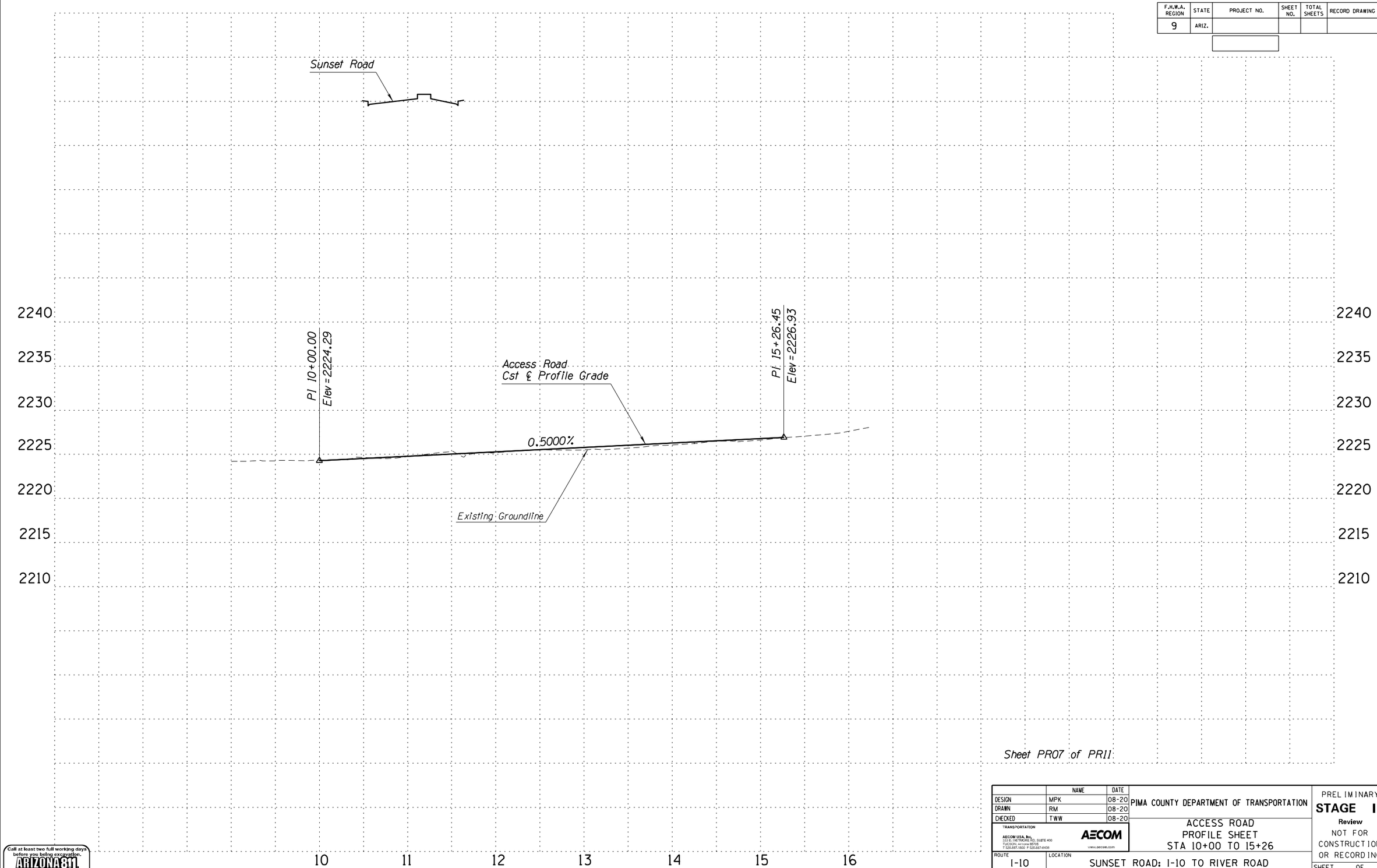
SHEET 27 OF 50

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM Date Plotted: 9/8/2020 Time Plotted: 9:25:15 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V06.DGN

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR07 of PR11

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

ACCESS ROAD
PROFILE SHEET
STA 10+00 TO 15+26

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. -

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

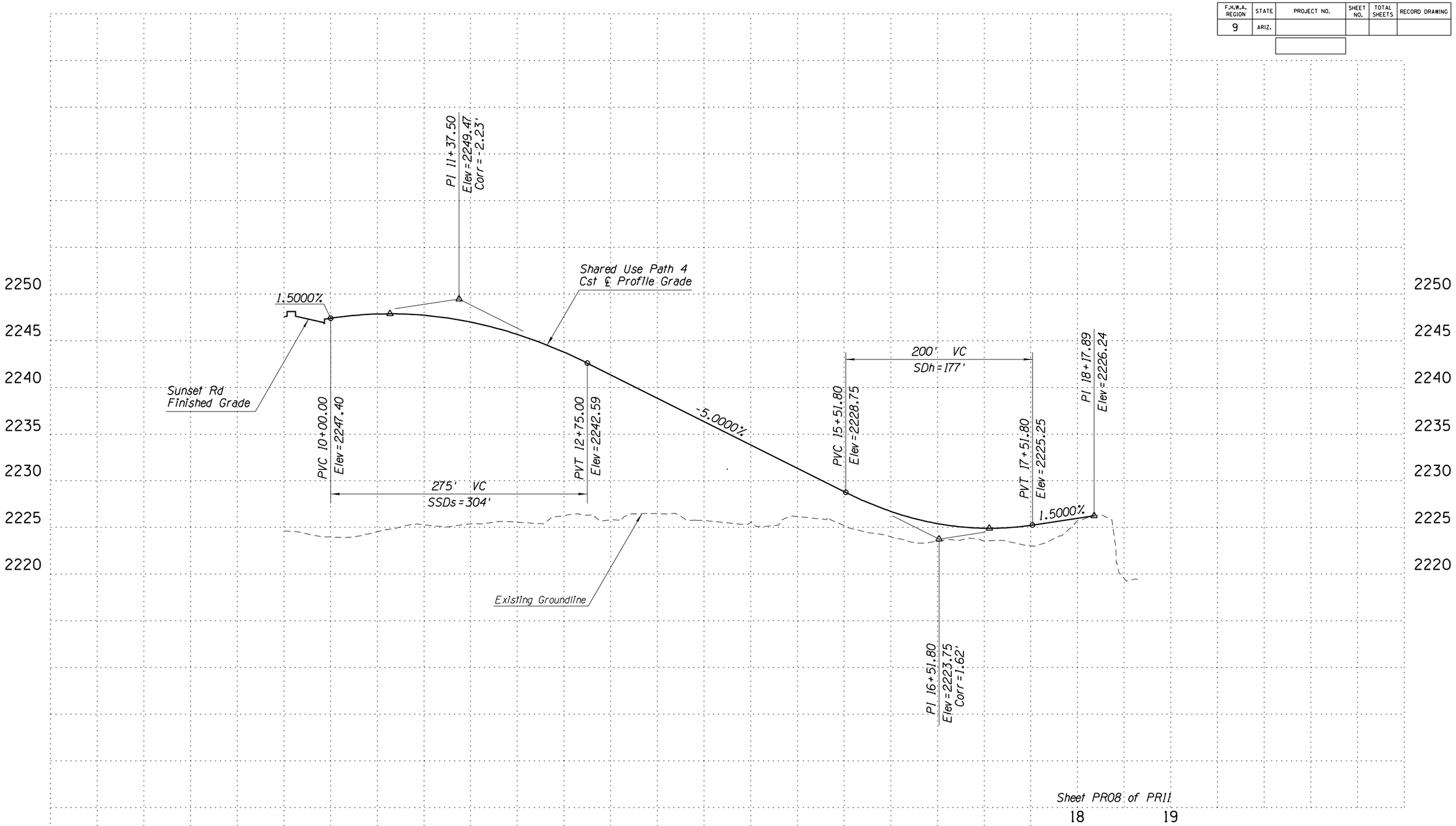
SHEET 28 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:16:03 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V07.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR08 of PR11

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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AECOM
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATH 4
PROFILE SHEET
STA 10+00 TO 18+18

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. -

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 29 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
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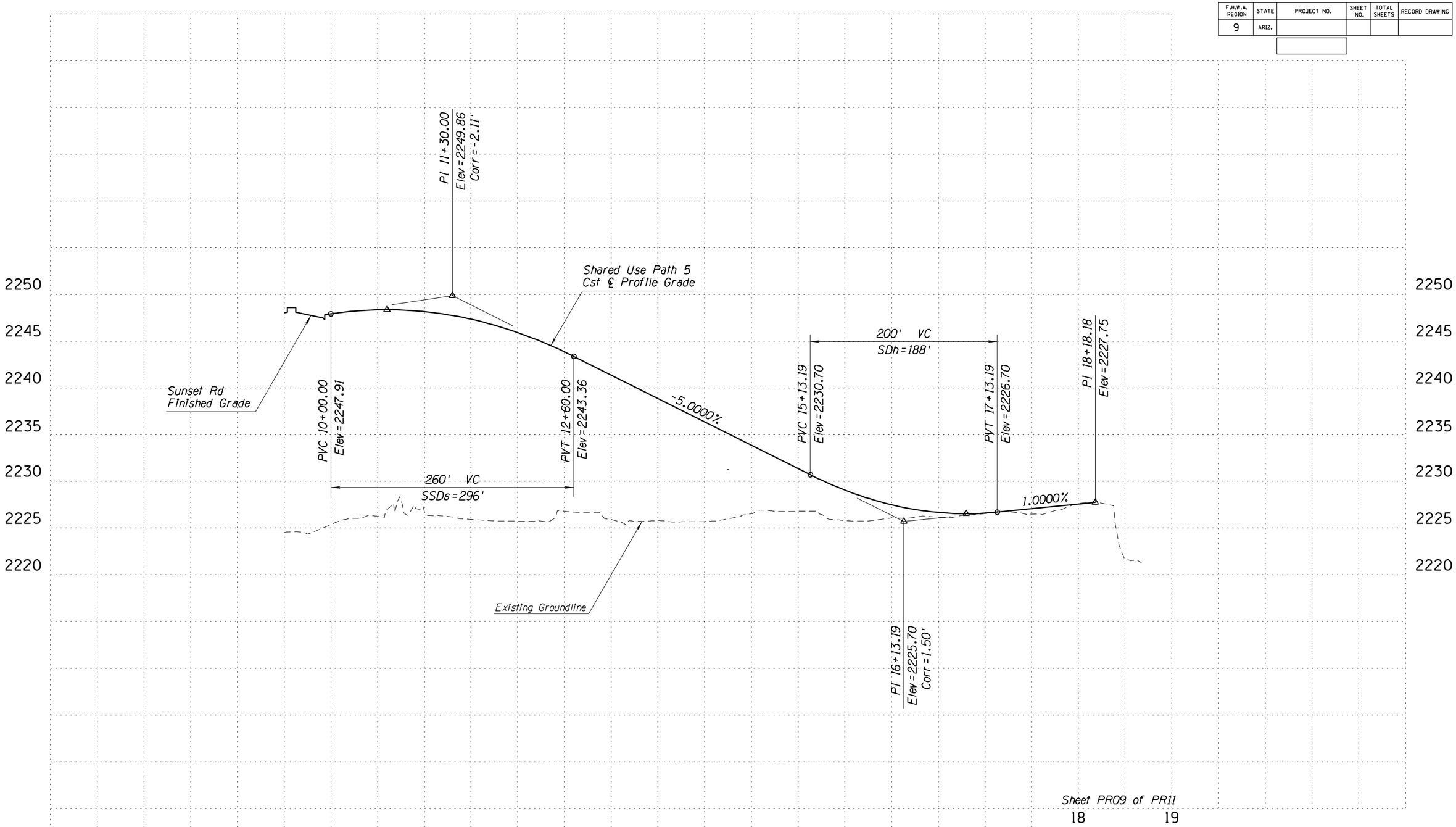
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:16:24 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V08.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR09 of PR11

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATH 5
PROFILE SHEET
STA 10+00 TO 18+18

ROUTE: I-10

LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 30 OF 50

Call at least two full working days before you bring excavation.
ARIZONA 811
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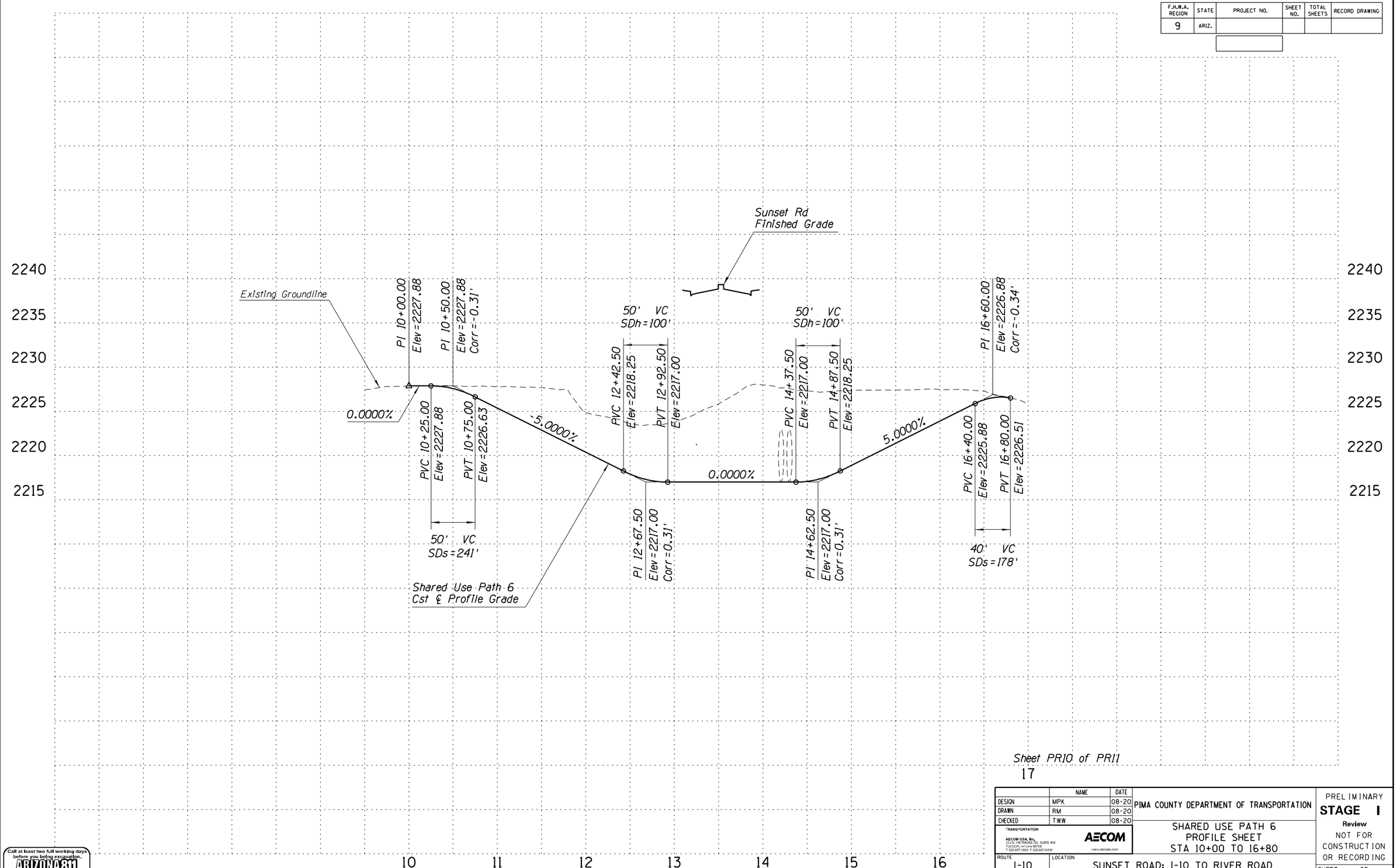
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY:. "KershnerM Date Plotted: 7/24/2020 Time Plotted: ".3:16:46 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V09.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR10 of PR11

17

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATH 6
PROFILE SHEET
STA 10+00 TO 16+80

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. -

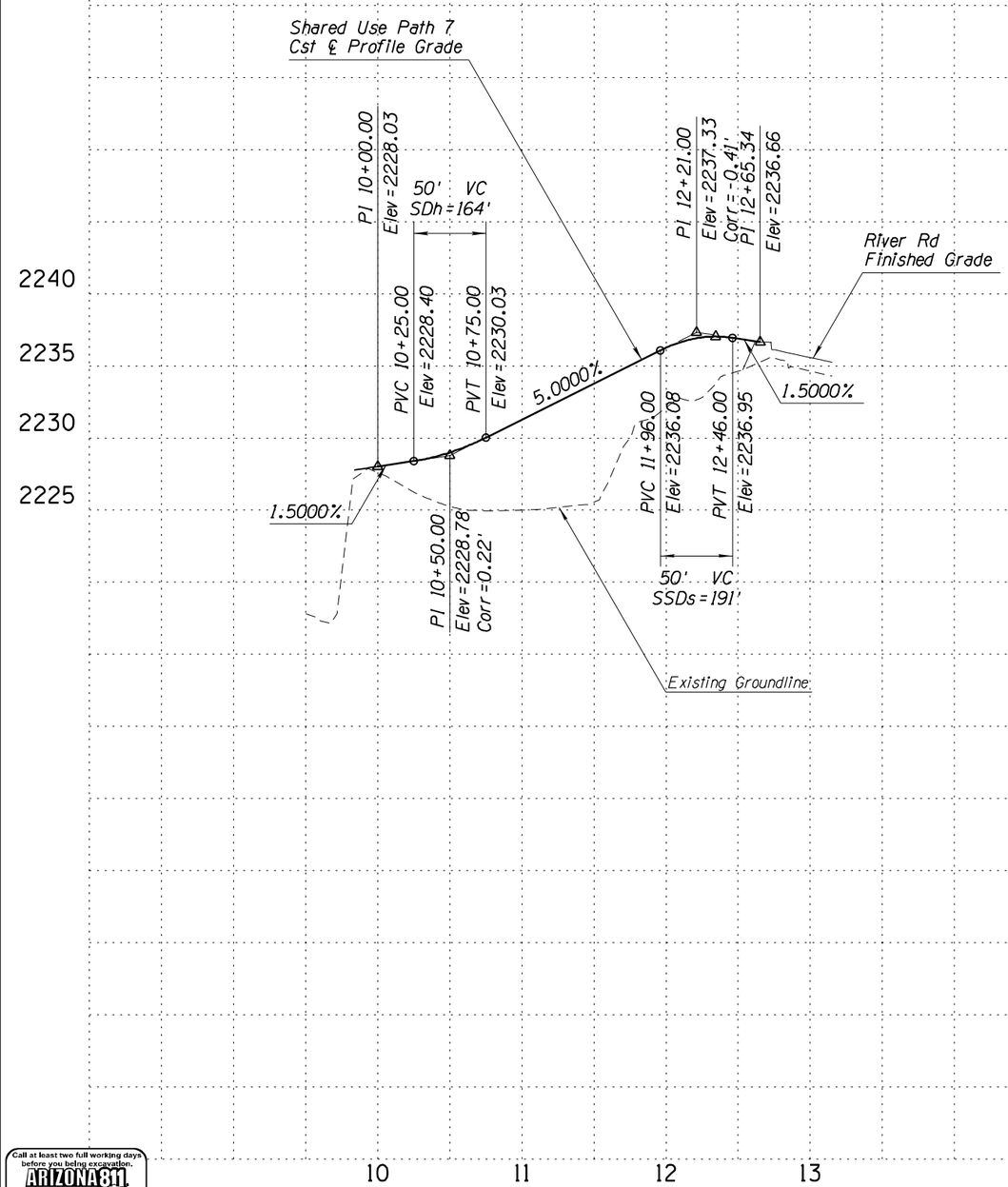
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 31 OF 50

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:17:06 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V010.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PR11 of PR11

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

TRANSPORTATION
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TUCSON, Arizona 85705
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AECOM
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SHARED USE PATH 7
PROFILE SHEET
STA 10+00 TO 12+65

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO. ·

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 32 OF 50

Call at least two full working days before you being excavation.
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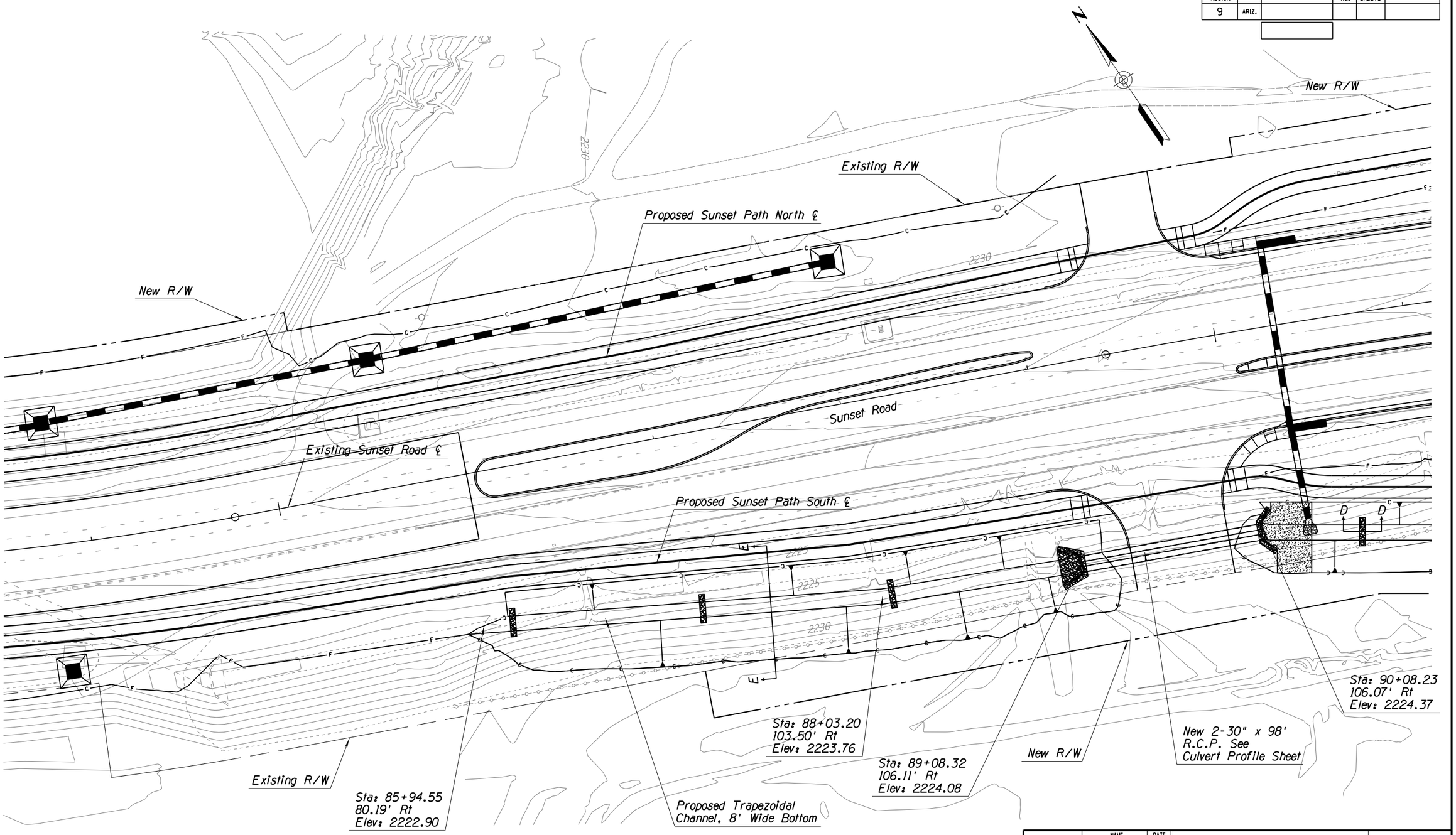
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:17:28 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_V011.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Note:
1. Station, offset and elevation are based on Sunset Rd ℄ and measured at the center of channel bottom.
2. See DT01 for channel sections.

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	NAME	DATE
DESIGN	ZD	08-20
DRAWN	ZD	08-20
CHECKED	GB	08-20

WSP USA Inc.
177 N. Church Ave.
Suite 1105
Tucson, AZ 85701

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

WEST I-10
OFFSITE COLLECTOR CHANNEL

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

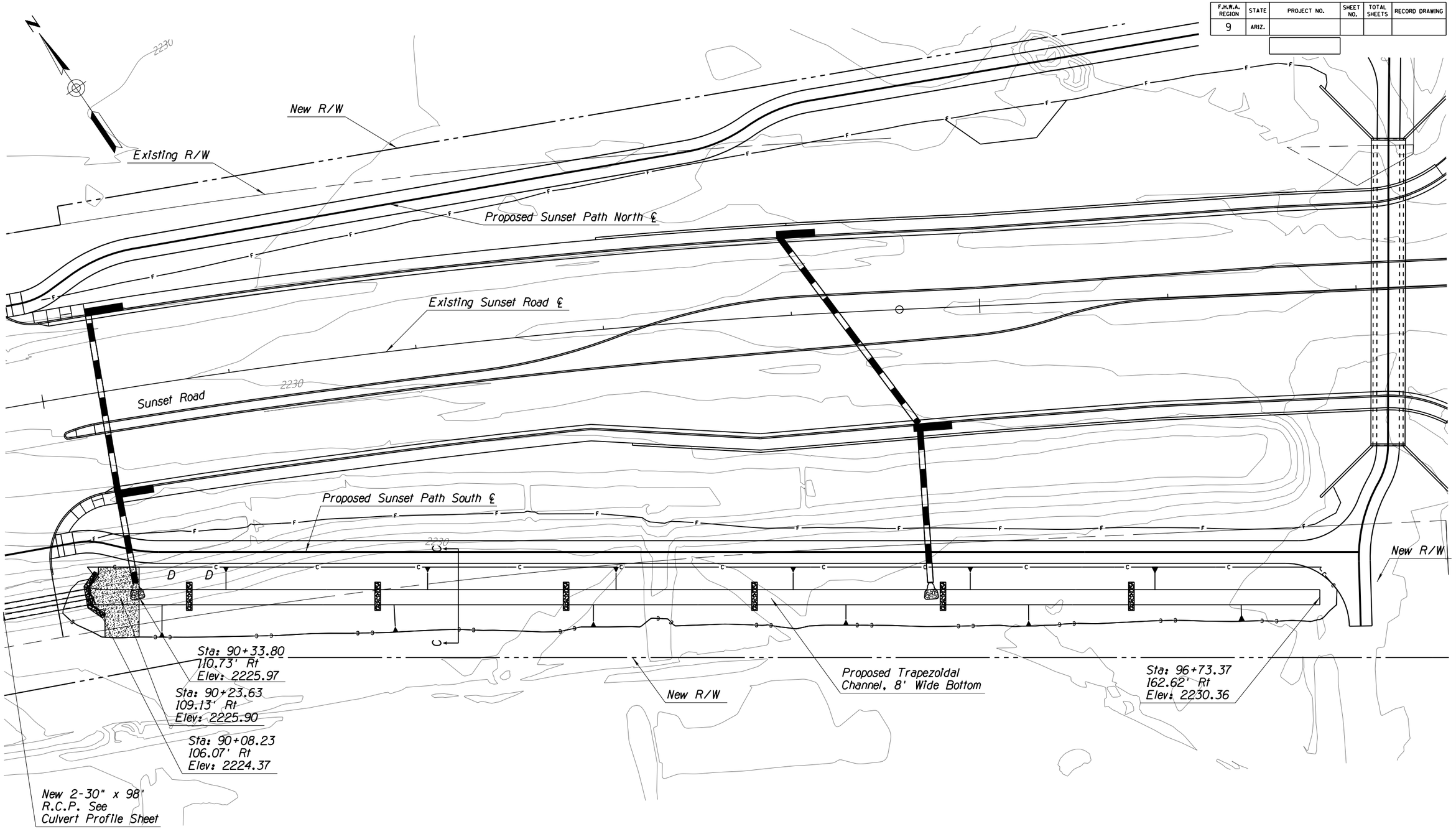
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET DR01 OF DR04

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drn01.dgn

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



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DRAWN	ZD	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

WEST I-10
OFFSITE COLLECTOR CHANNEL

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET DR02 OF DR04

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drn02.dgn

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

Note:
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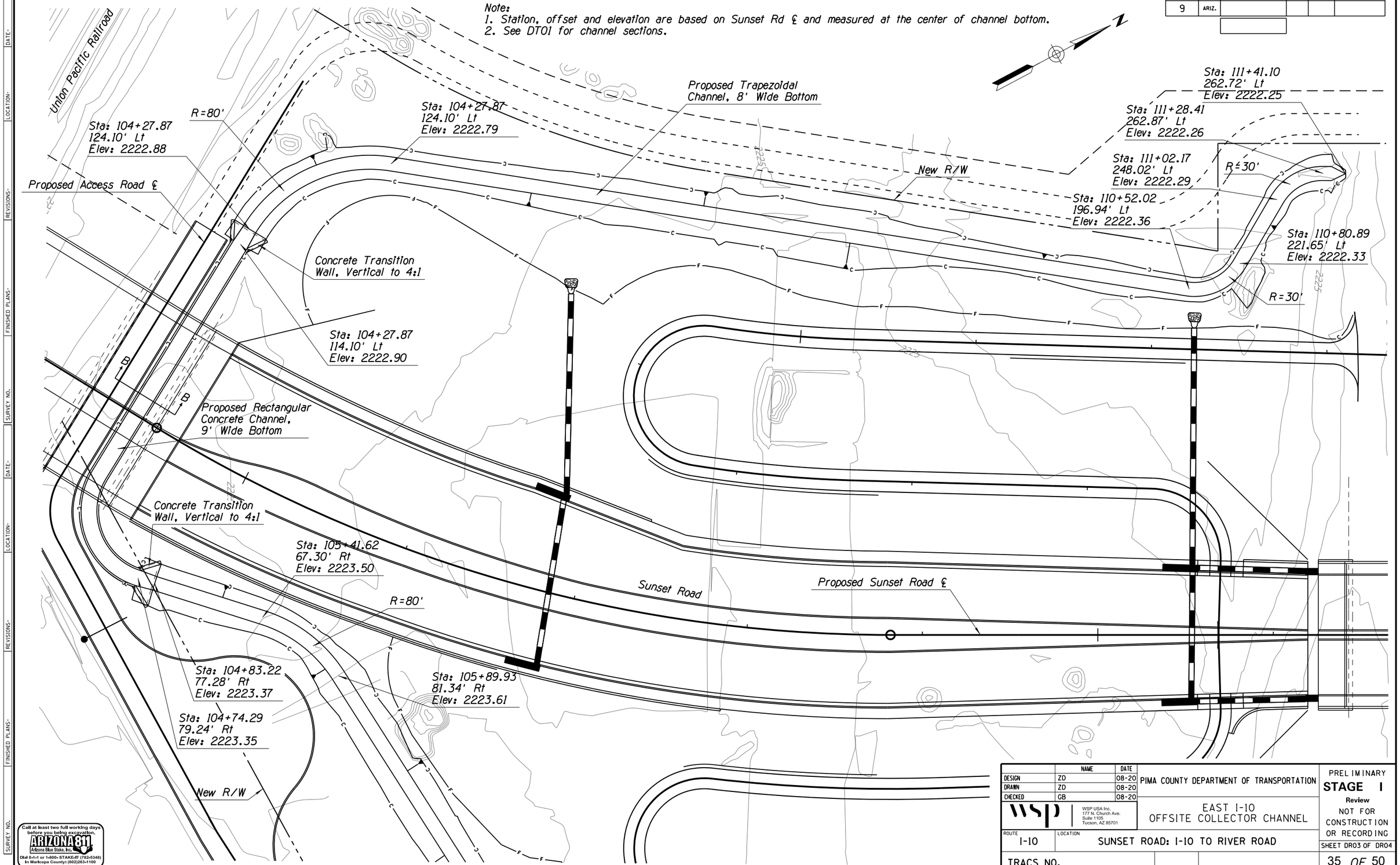
2. See DT01 for channel sections.



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	NAME	DATE
DESIGN	ZD	08-20
DRAWN	ZD	08-20
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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

EAST I-10
OFFSITE COLLECTOR CHANNEL

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

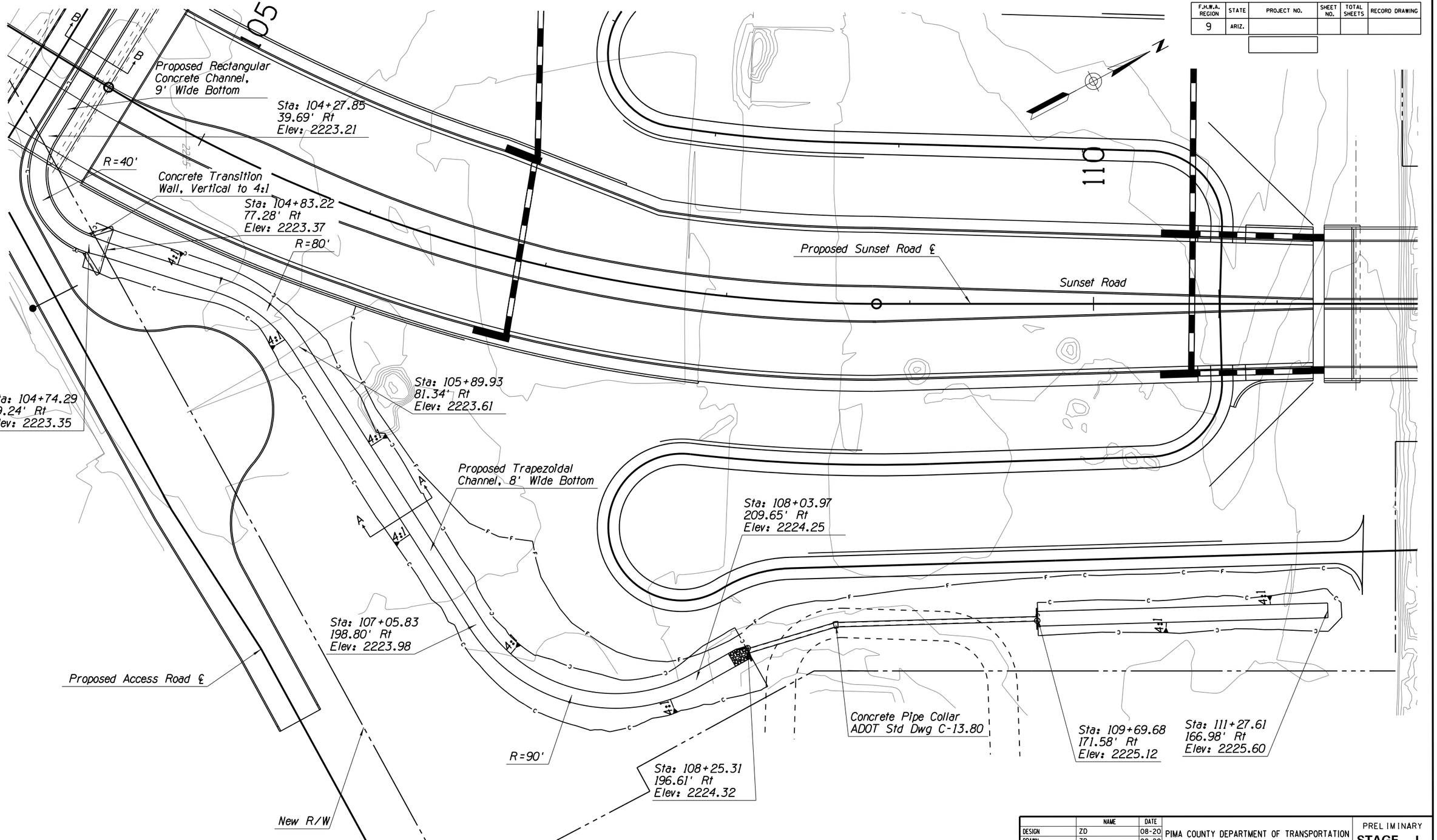
SHEET DR03 OF DR04

35 OF 50

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drn03.dgn

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Note:
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2. See DT01 for channel sections.

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DESIGN	ZD	08-20
DRAWN	ZD	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

EAST I-10
OFFSITE COLLECTOR CHANNEL

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

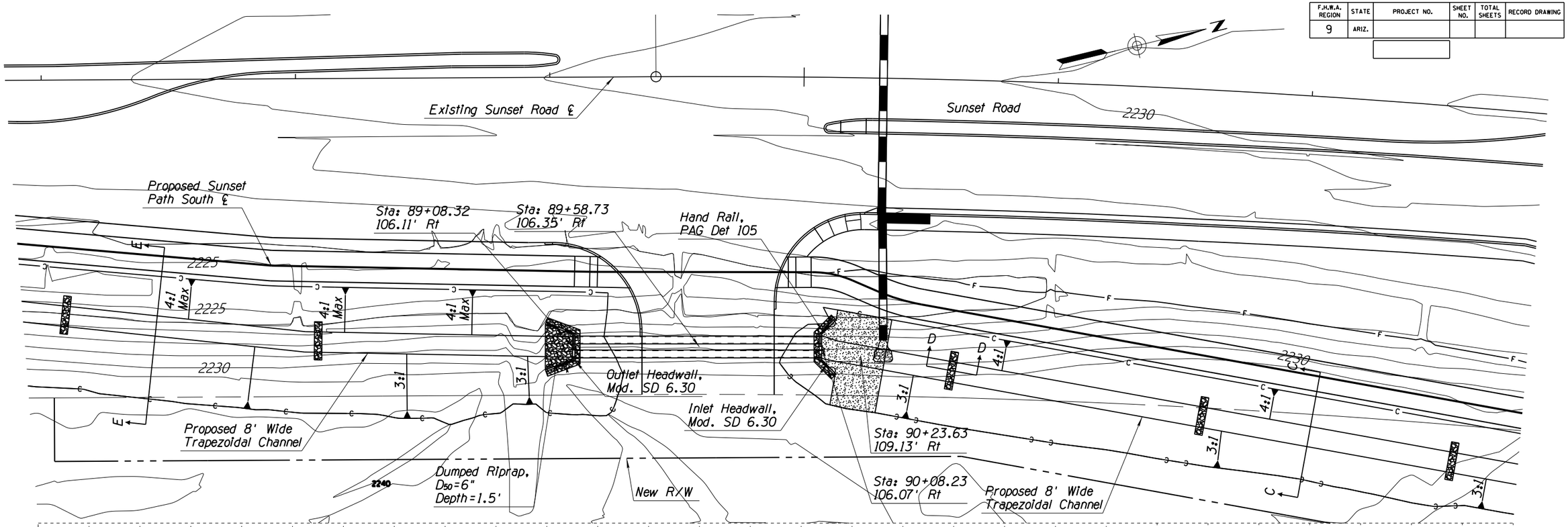
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

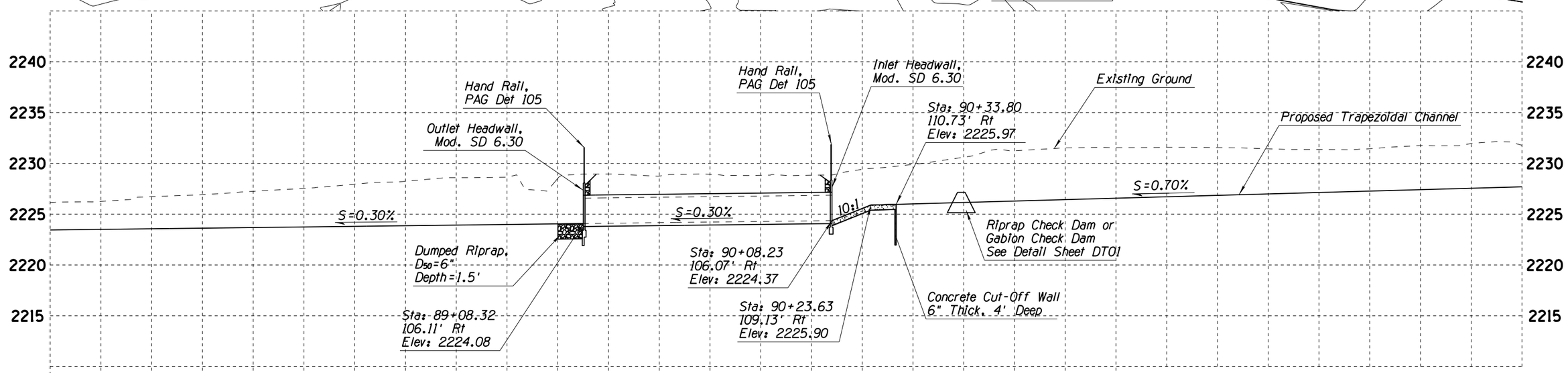
SHEET DR04 OF DR04

36 OF 50

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drn04.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				





Sunset Rd. Driveway Culvert
New 2-30" x 98' R.C.P.

Headwater Elev. =2227.40
Q_{100} =60 cfs
$V_{100\ out}$ =7.64 ft/s

Note:
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DRAWN	ZD	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CULVERT 1
PLAN & PROFILE

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET CD01 OF CD03

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drnprof01.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
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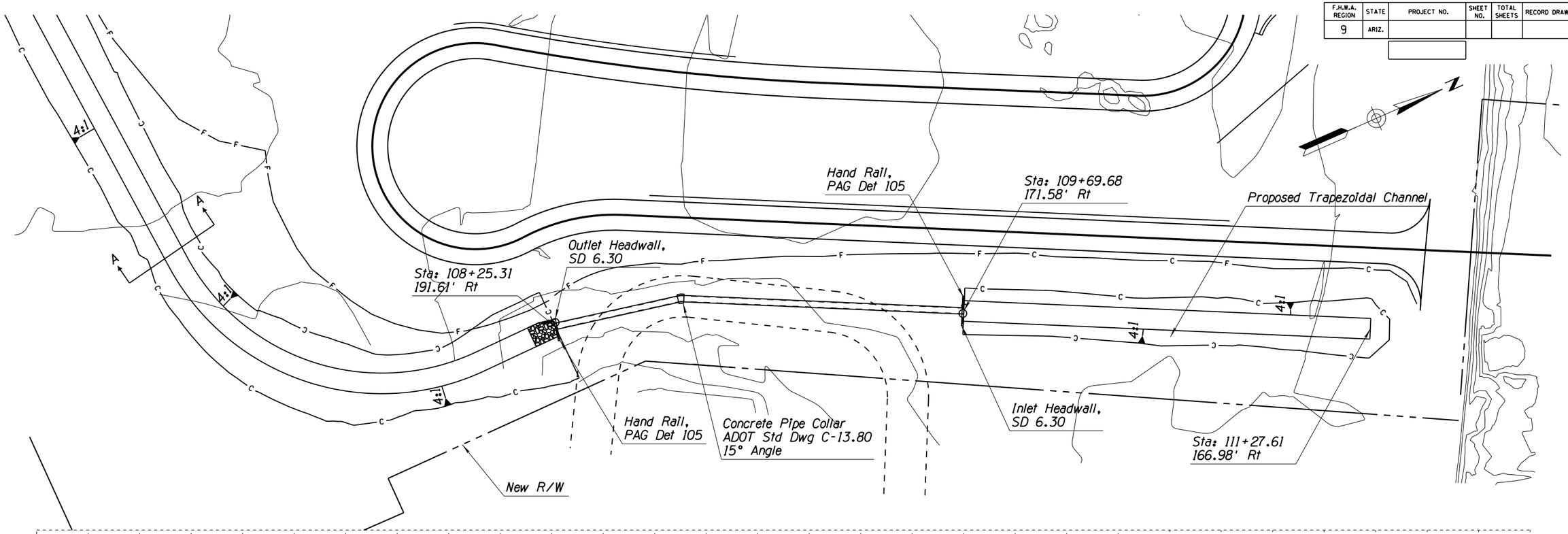

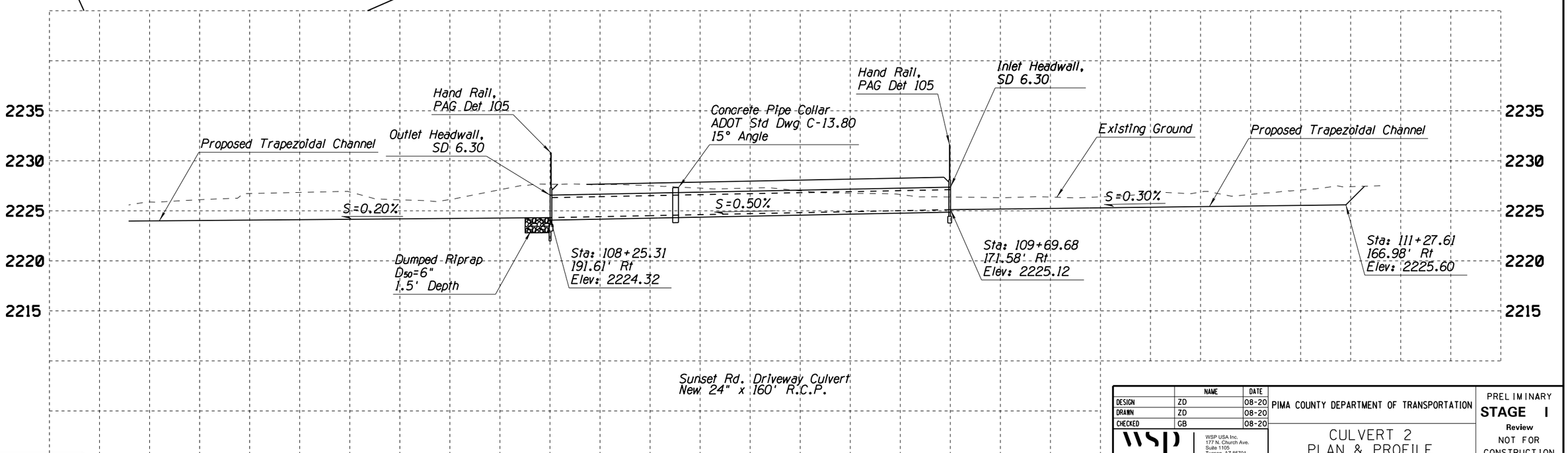

	NAME	DATE
DESIGN	ZD	08-20
DRAWN	ZD	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CULVERT 2
PLAN & PROFILE

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET CD02 OF CD03

38 OF 50

Call at least two full working days before you being excavation.
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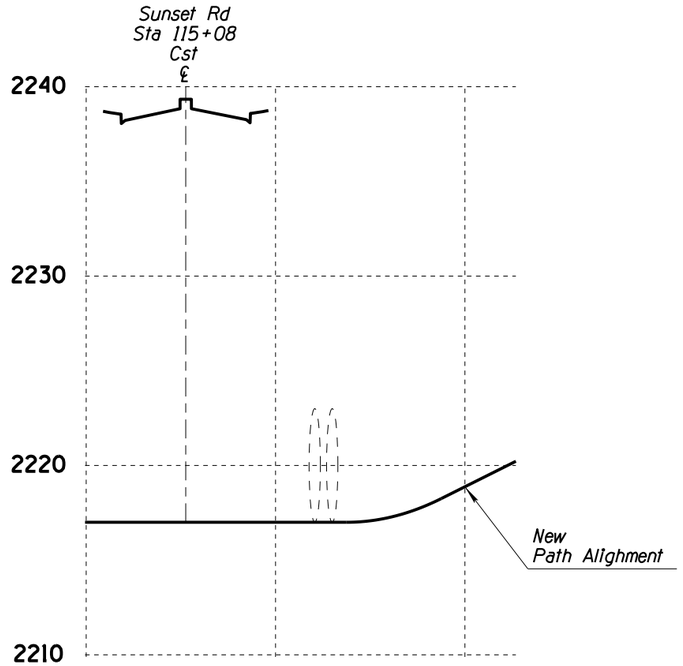
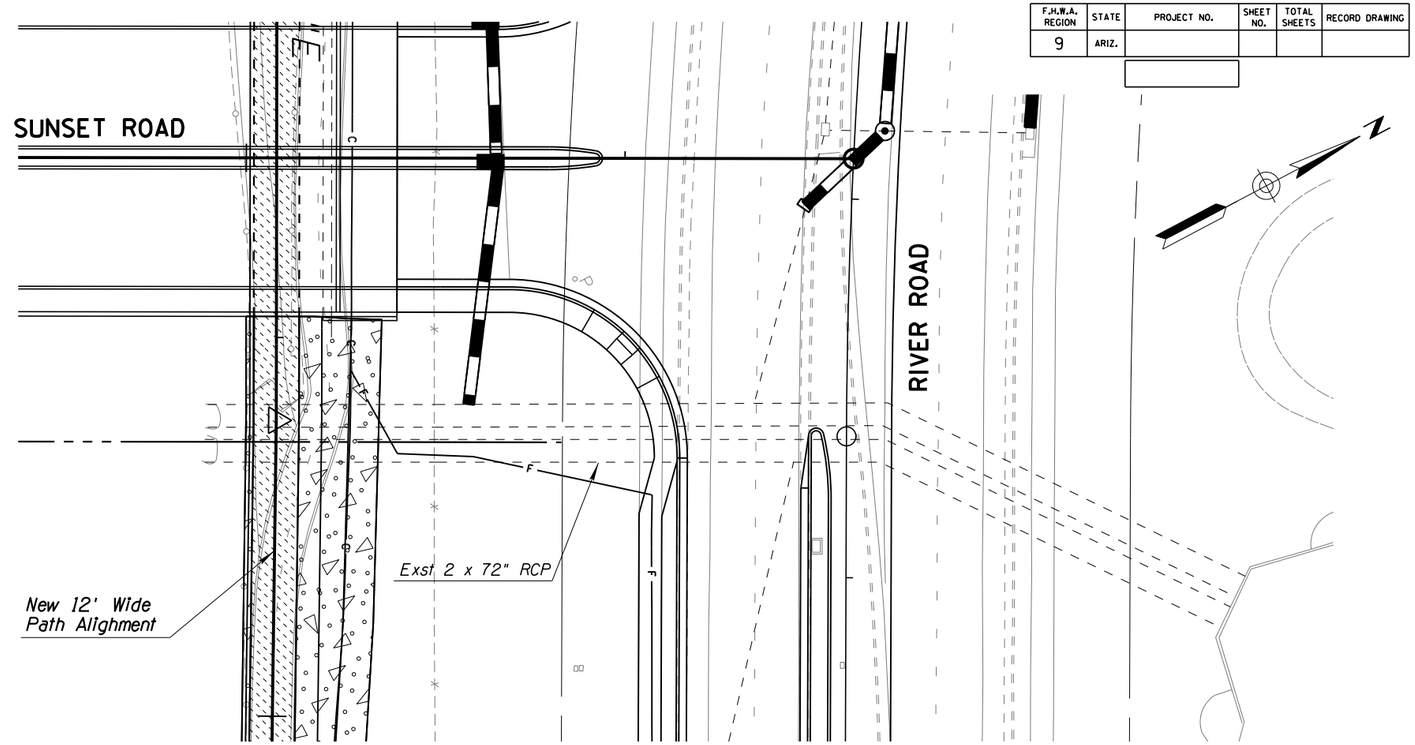
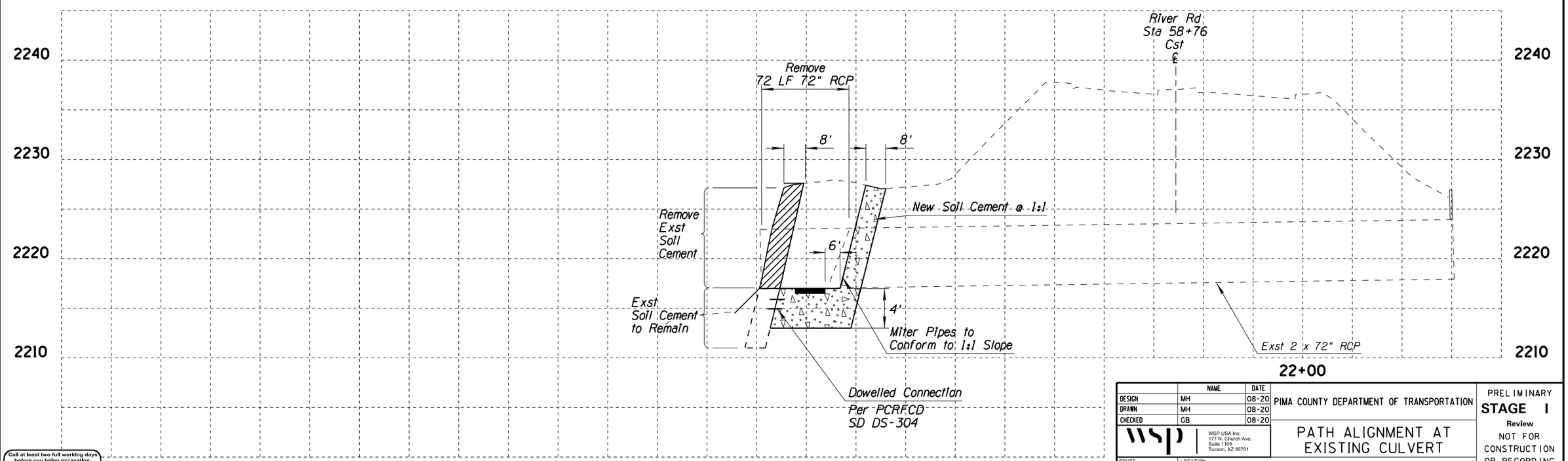
PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drnprof02.dgn

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				







	NAME	DATE
DESIGN	MH	08-20
DRAWN	MH	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

PATH ALIGNMENT AT EXISTING CULVERT

ROUTE: I-10

LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET CD03 OF CD03

39 OF 50

Call at least two full working days before you being excavation.
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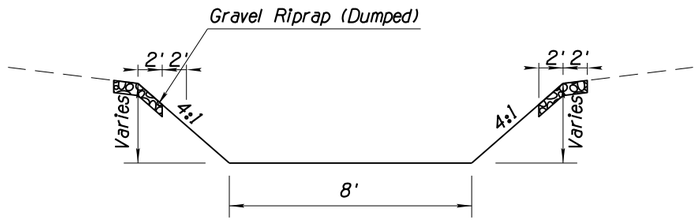
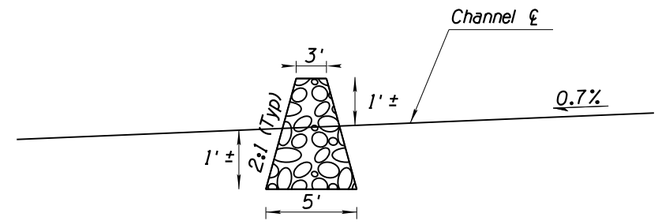
SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583drnprof03.dgn

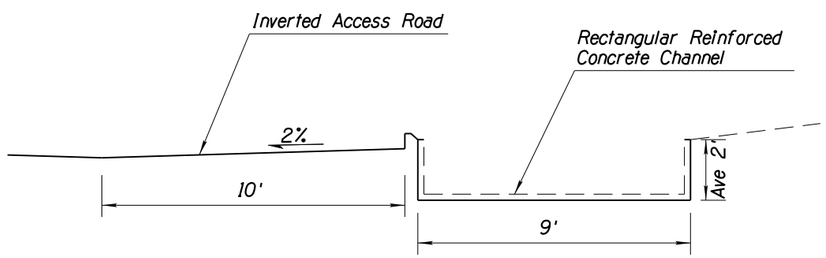
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



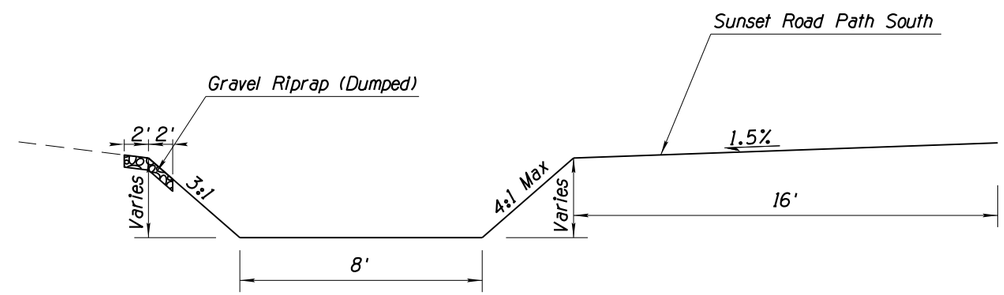
Section A-A
NTS



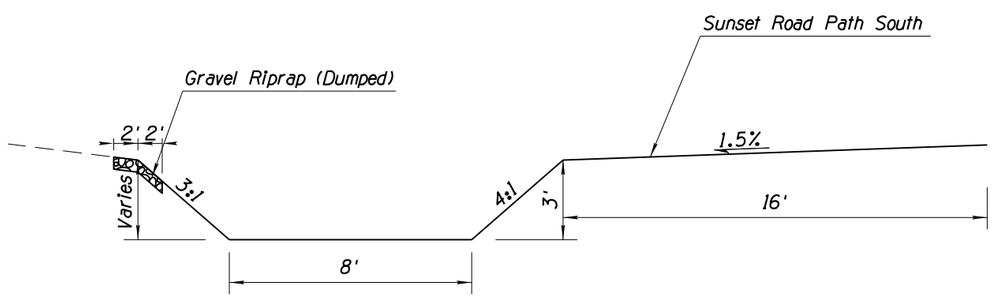
Section D-D
NTS



Section B-B
NTS



Section E-E
NTS



Section C-C
NTS

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	NAME	DATE
DESIGN	ZD	08-20
DRAWN	ZD	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CHANNEL TYPICAL SECTION

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

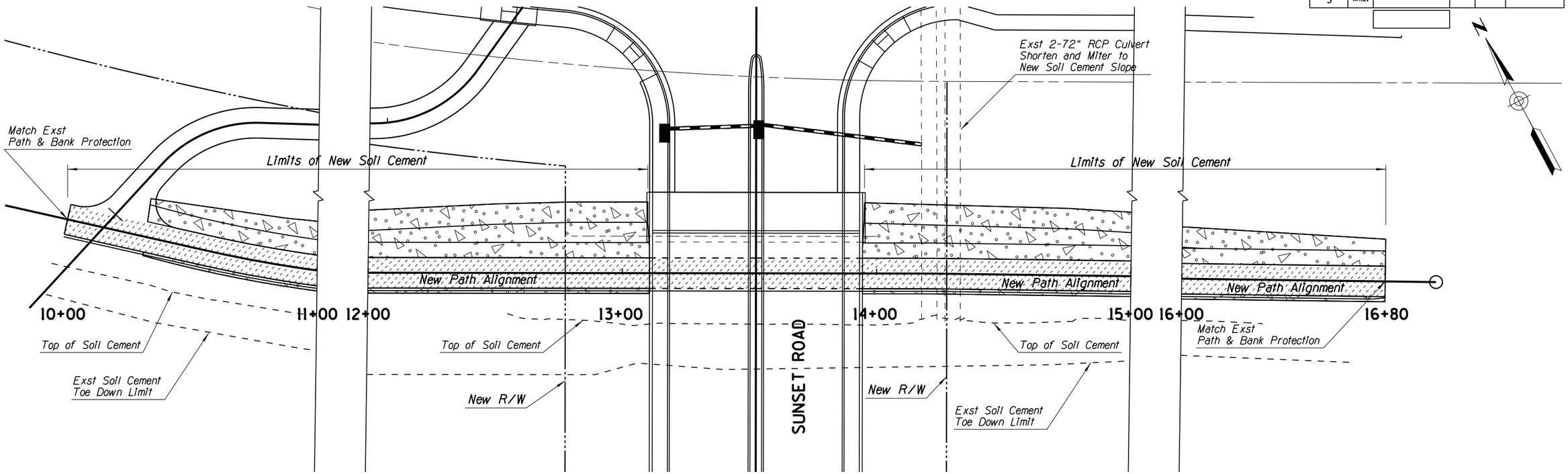
SHEET DT01 OF DT02

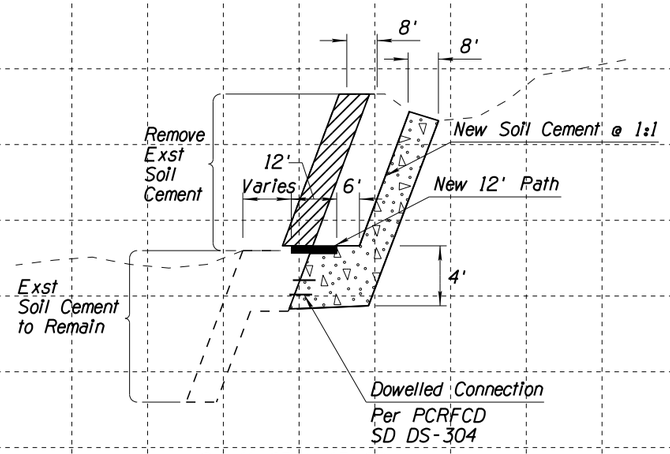
PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583det01.dgn

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

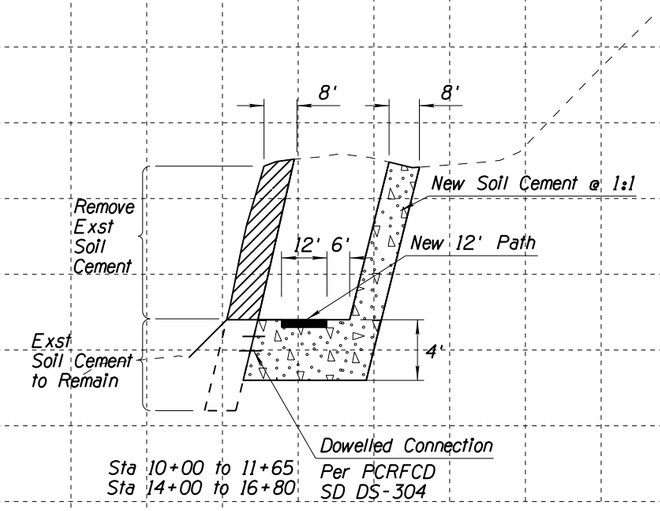
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

RIVER ROAD





Sta 11+65 to 13+00



Sta 10+00 to 11+65
Sta 14+00 to 16+80

	NAME	DATE
DESIGN	MH	08-20
DRAWN	MH	08-20
CHECKED	GB	08-20

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PIMA COUNTY DEPARTMENT OF TRANSPORTATION

SOIL CEMENT LIMITS & TYPICAL SECTIONS

ROUTE: I-10

LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET DT02 OF DT02

41 OF 50

Call at least two full working days before you being excavation.
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DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY:- $USER$ Date Plotted: $DATE$ Time Plotted: -. $TIME$ Y:\30900007A Sunset Rd I-10 to River\Drainage\h7583det02.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

PAVEMENT MARKING GENERAL NOTES

1. All equipment/materials and construction shall meet or exceed the requirements contained in the current Pima Association of Governments (PAG) Standard Specifications and the Standard Details for Public Improvements, the Special Provisions and the approved plans. All pavement markings shall be installed in accordance with the PC/COT Pavement Marking Design Manual and applicable amendments.

2. The striping contractor shall contact the Pima County Pavement Marking Supervisor (520-724-2624) at least 3 working days in advance of any pavement marking layout being installed to schedule inspection and approval of pavement markings during normal business hours Monday through Friday, State holidays excluded.

3. Upon approval of the pavement marking layout, the Pima County Pavement Marking Supervisor will issue written authorization to the contractor to proceed with installing all pavement markings and associated reflective raised pavement markings.

4. The permanent pavement markings may be modified as directed and approved by the Traffic Engineer or their designee.

5. The design speed for Sunset Road is 40 miles per hour (mph). The design vehicle is WB-67. The posted speed limit is 35 mph. The design speed for River Road is 50 mph. The design vehicle is WB-67. The posted speed limit is 45 mph.

6. All lane dimensions are measured from the center of lane line, center of double lane line or edge of pavement, unless otherwise noted.

7. The pavement marking drawings are schematic only. The contractor shall follow all dimensions, applicable marking details, and specified Pima County and City of Tucson standards when installing pavement striping, symbols, legends, and markers.

8. Painted layout striping shall be 15 mil (0.015") thick, water-based paint placed on the final pavement surface with 8 pounds per gallon of AASHTO M 247-13 Type I glass beads with adhesion/moisture proof coating. Painted layout striping shall be installed within five (5) working days of the final pavement surface being completed.

9. Painted symbols and legends shall be applied at the same time as the painted striping, with the exception of bike lane symbols and words (such as stop, ahead, only, etc.).

10. The final longitudinal striping shall be 90 mil (0.090") thick ribbon extruded thermoplastic reflectorized striping placed over the painted layout striping with a single drop of 10 pounds per 100 square feet of AASHTO M 247-13 glass beads. The final longitudinal striping shall be placed within 21 to 30 calendar days of the final pavement surface being completed. All previously exempted longline markings shall be applied during the final longitudinal striping.

11. All final transverse striping, including symbols and legends, shall be 90 mil (0.090") thick alkyd hand cart extruded thermoplastic with 10 pounds per 100 square feet of AASHTO M 247-13 Type I glass beads.

12. The contractor shall be responsible for the layout and installation of pavement markings on the final surface course following one control line per direction of travel consisting of control points that have been set to no more than 50 feet apart on curve sections and 200 feet in tangent sections where the pavement marking pattern does not change. The layout and inspection of all pavement markings shall be approved by the Engineer prior to the application of material.

13. It is the contractor's responsibility to ensure that the final surface course is placed so that the construction joint is no more than one foot offset from the final striping.

14. The retroreflective raised pavement markers shall be installed so that the reflective face of each marker is facing the direction of traffic and is perpendicular to the direction of traffic flow. Type C or G pavement markers shall be installed so that the clear (or white) reflective face of each marker is facing approaching traffic and perpendicular to the direction of traffic flow to which it applies.

15. All retroreflective raised pavement markers shall be installed per the current edition of the PAG Standard Specifications, the PC/COT Pavement Marking Manual and applicable amendments.

16. All removal of existing pavement markings shall be accomplished in accordance with Section 701 of the PAG Standard Specifications. Painting over existing striping does not constitute approved striping obliteration.

17. Unless otherwise noted, all pavement markings shall be installed by the contractor.

18. Upon final inspection by Pima County, a written acceptance of an itemized punchlist of missing or unacceptable pavement markings shall be submitted to the contractor.

19. The contractor shall be responsible for maintaining all striping until project is approved for "Construction Acceptance" by Pima County (fully open to traffic, all punchlist items are completed, and the one year minimum warranties begin). If the pavement marking material manufacturer offers a longer warranty, the contractor shall transfer that warranty to Pima County.

20. The PC/COT Pavement Marking Manual is available online.

21. The Engineer of record shall be required to produce as-built striping plans with 90 days of Construction Acceptance.

22. Type H raised pavement markers shall be placed on median ends as shown on Sheet 5-13 (without crosswalk) or Sheet 5-14 (with crosswalk) of the PC/COT Pavement Marking Design Manual.

23. Blue raised pavement markers shall be placed adjacent to fire hydrants as shown on Sheet 7-1 of the PC/COT Pavement Marking Design Manual.

24. The layout and inspection of all pavement markings shall be approved by the Engineer prior to the application of materials.

25. The Engineer of record shall be required to produce as-built striping plans within 90 days of Construction Acceptance.

26. The Type H raised pavement markers shall be placed on median ends as shown on Sheet 5-13 (without crosswalk) or Sheet 5-14 (with crosswalk) of the PC/COT Pavement Marking Design Manual.

27. Blue raised pavement markers shall be placed adjacent to fire hydrants as shown on Sheet 7-1 of the PC/COT Pavement Marking Design Manual.

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

Sheet PM01 of PM05

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

TRANSPORTATION
AECOM USA, Inc.
333 E. Wetmore Rd. Suite 400
Tucson, Arizona 85705
T 520.887.1800 F 520.887.6108
AECOM
www.aecom.com

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING GENERAL NOTES

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

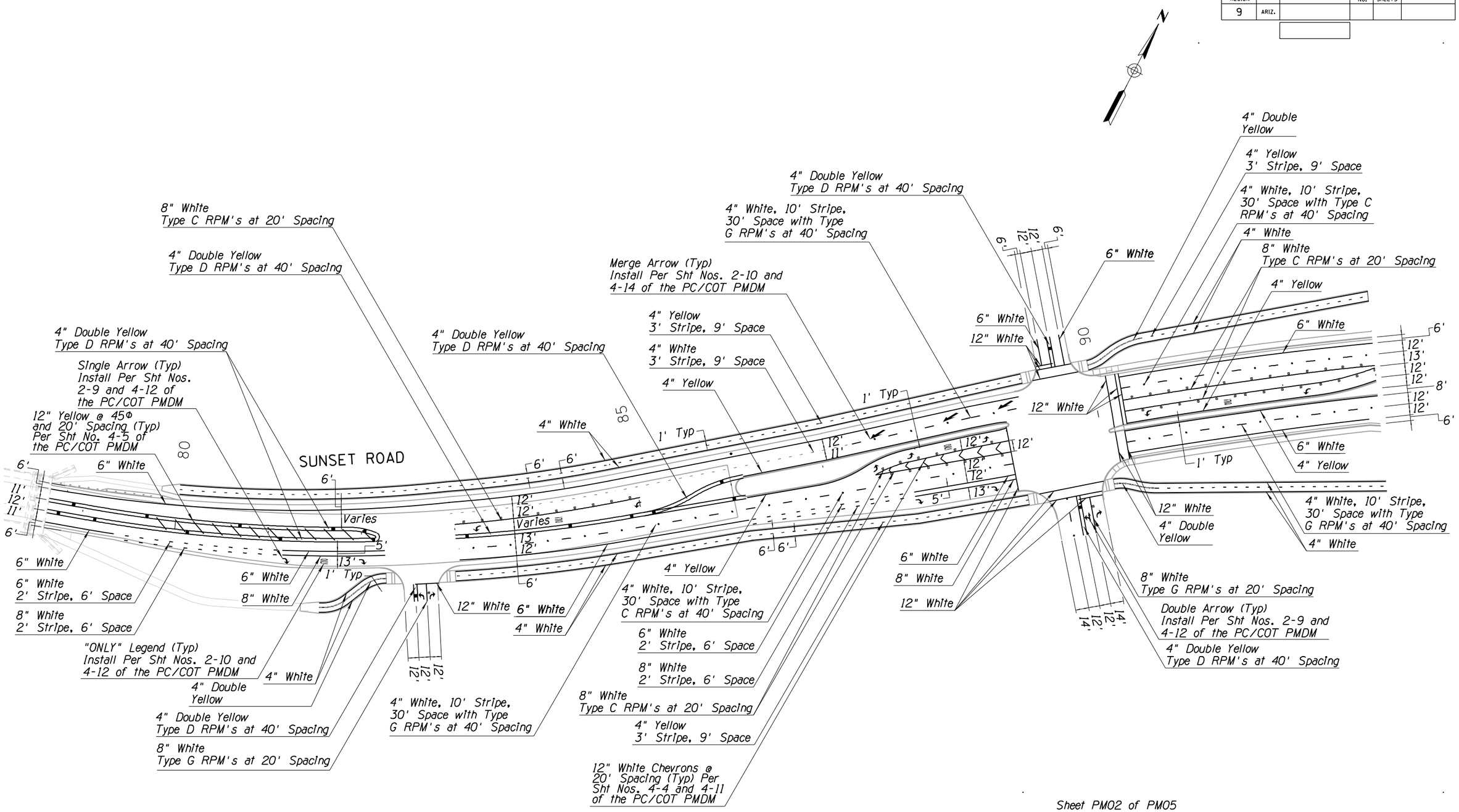
TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 42 OF 50

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



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50 0 50 100'
SCALE: 1"=50'

Sheet PM02 of PM05

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

TRANSPORTATION
AECOM USA, Inc.
333 E. Wetmore Rd. Suite 400
Tucson, Arizona 85705
T 520.887.1800 F 520.887.4435
AECOM
www.aecom.com

PAVEMENT MARKING
STA 78+62 TO 93+00

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO.

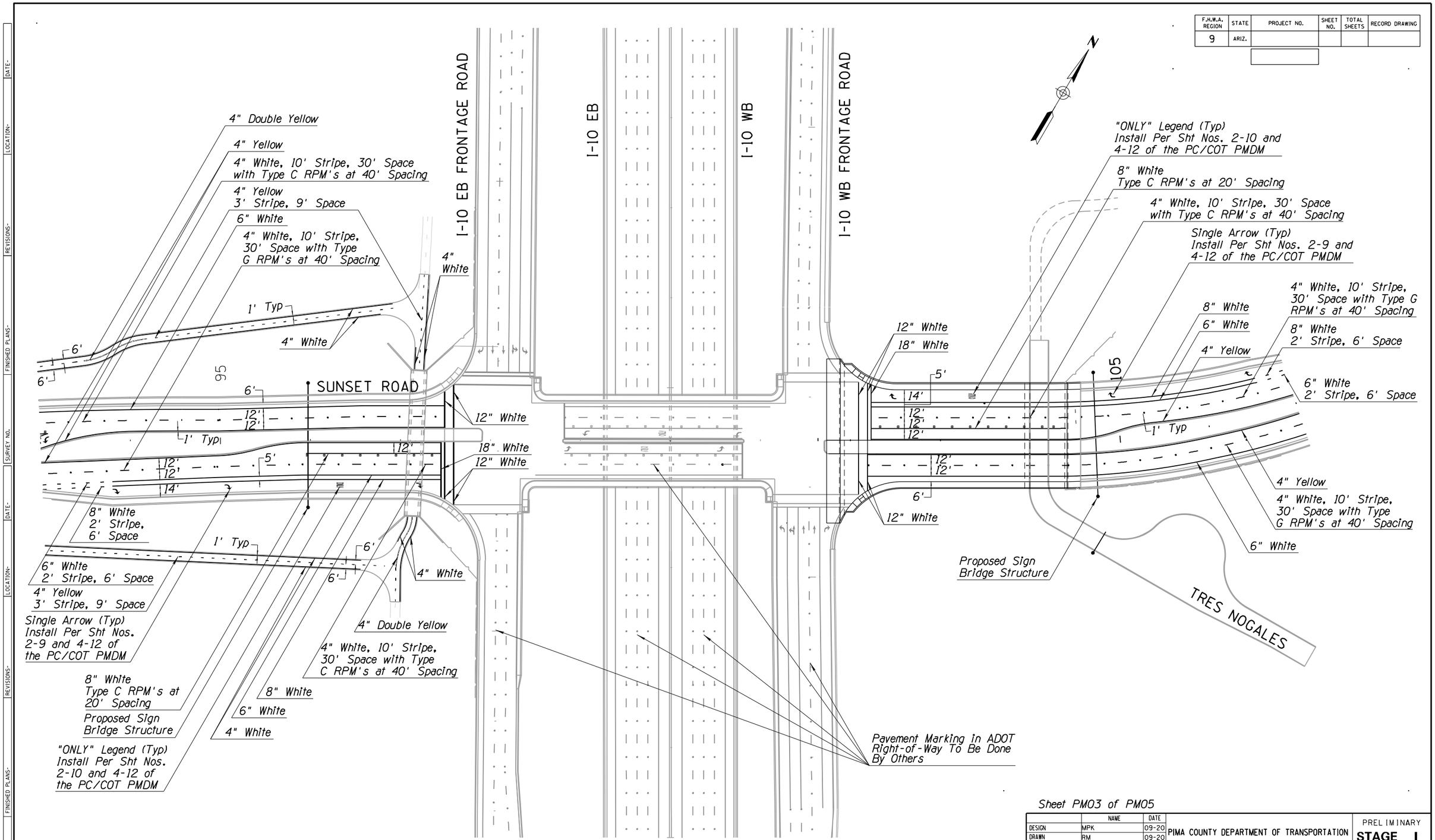
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 43 OF 50

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

PLOTTED BY: KershnerM Date Plotted: 9/8/2020 Time Plotted: 9:26:44 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\T7583_P01.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PM03 of PM05

	NAME	DATE
DESIGN	MPK	09-20
DRAWN	RM	09-20
CHECKED	TWW	09-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

TRANSPORTATION
AECOM USA, Inc.
333 W. Wetmore Rd. Suite 400
Tucson, Arizona 85705
T 520.887.1800 F 520.887.6435
AECOM
www.aecom.com

PAVEMENT MARKING
STA 93+00 TO STA 107+00

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

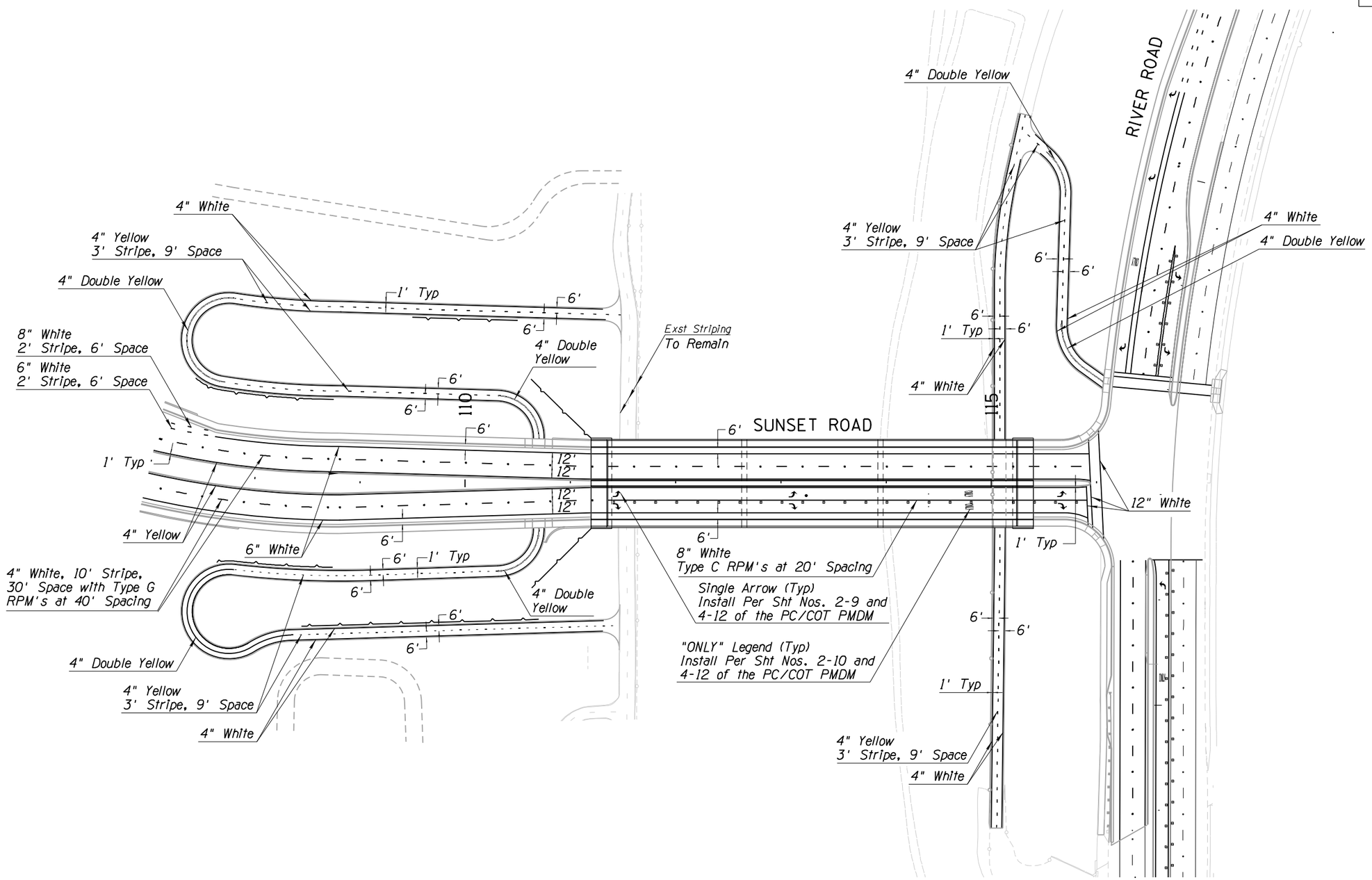
SHEET 44 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

PLOTTED BY: KershnerM Date Plotted: 9/8/2020 Time Plotted: 9:27:11 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\T7583_P02.DGN

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PM04 of PM05

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

TRANSPORTATION
AECOM USA, Inc.
333 E. Wetmore Rd. Suite 400
Tucson, Arizona 85705
T 520.887.1800 F 520.887.6439
AECOM
www.aecom.com

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING
STA 107+00 TO STA 116+60

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 45 OF 50

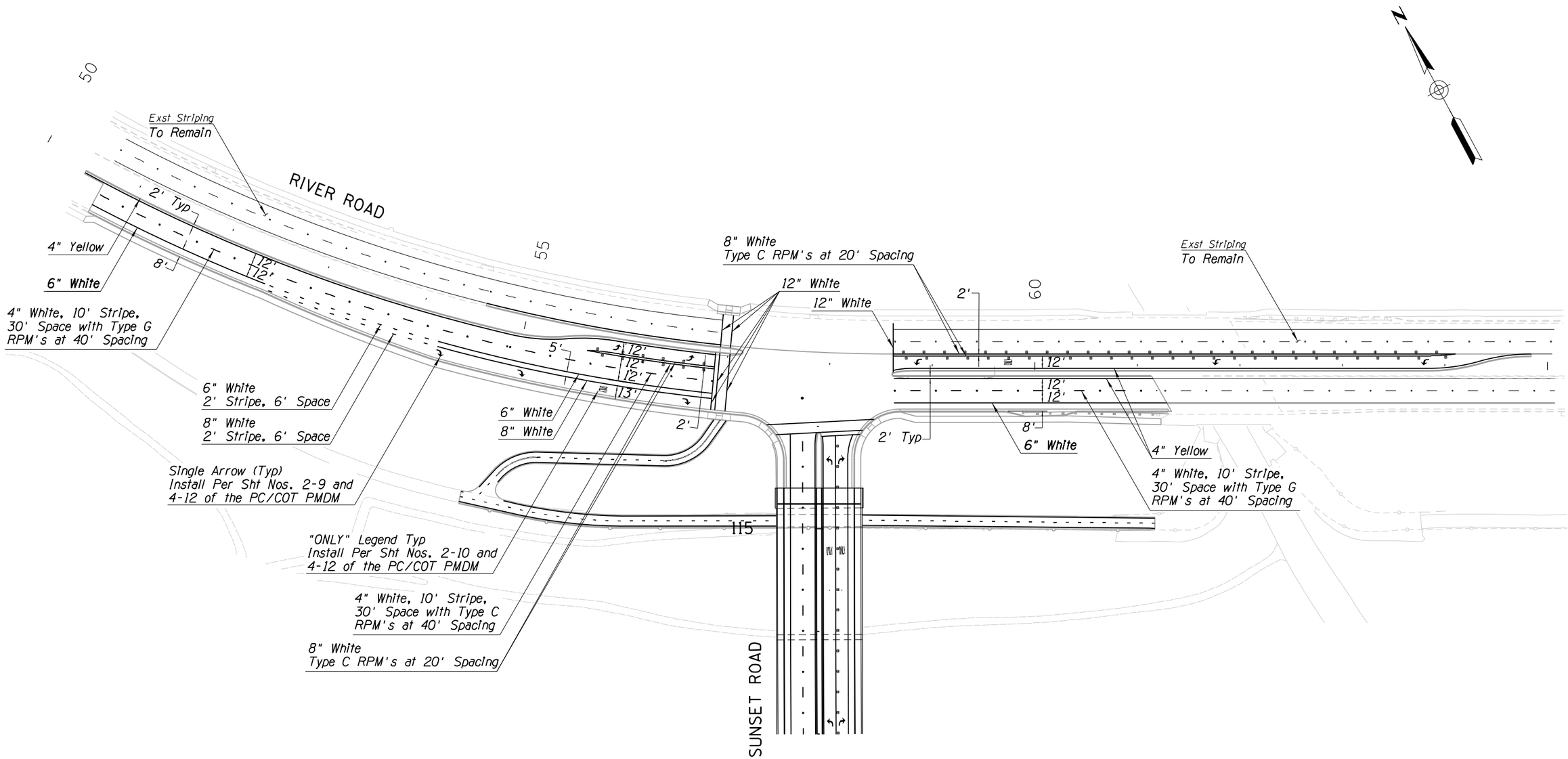
50 0 50 100'
SCALE: 1" = 50'

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:19:26 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\T7583_P03.DGN

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



Sheet PM05 of PM05

	NAME	DATE
DESIGN	MPK	08-20
DRAWN	RM	08-20
CHECKED	TWW	08-20

TRANSPORTATION
AECOM USA, Inc.
333 E. Wetmore Rd. Suite 400
Tucson, Arizona 85705
T 520.887.1800 F 520.887.6439
AECOM
www.aecom.com

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING
STA 50+66 TO 64+84

ROUTE: I-10
LOCATION: SUNSET ROAD; I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 46 OF 50

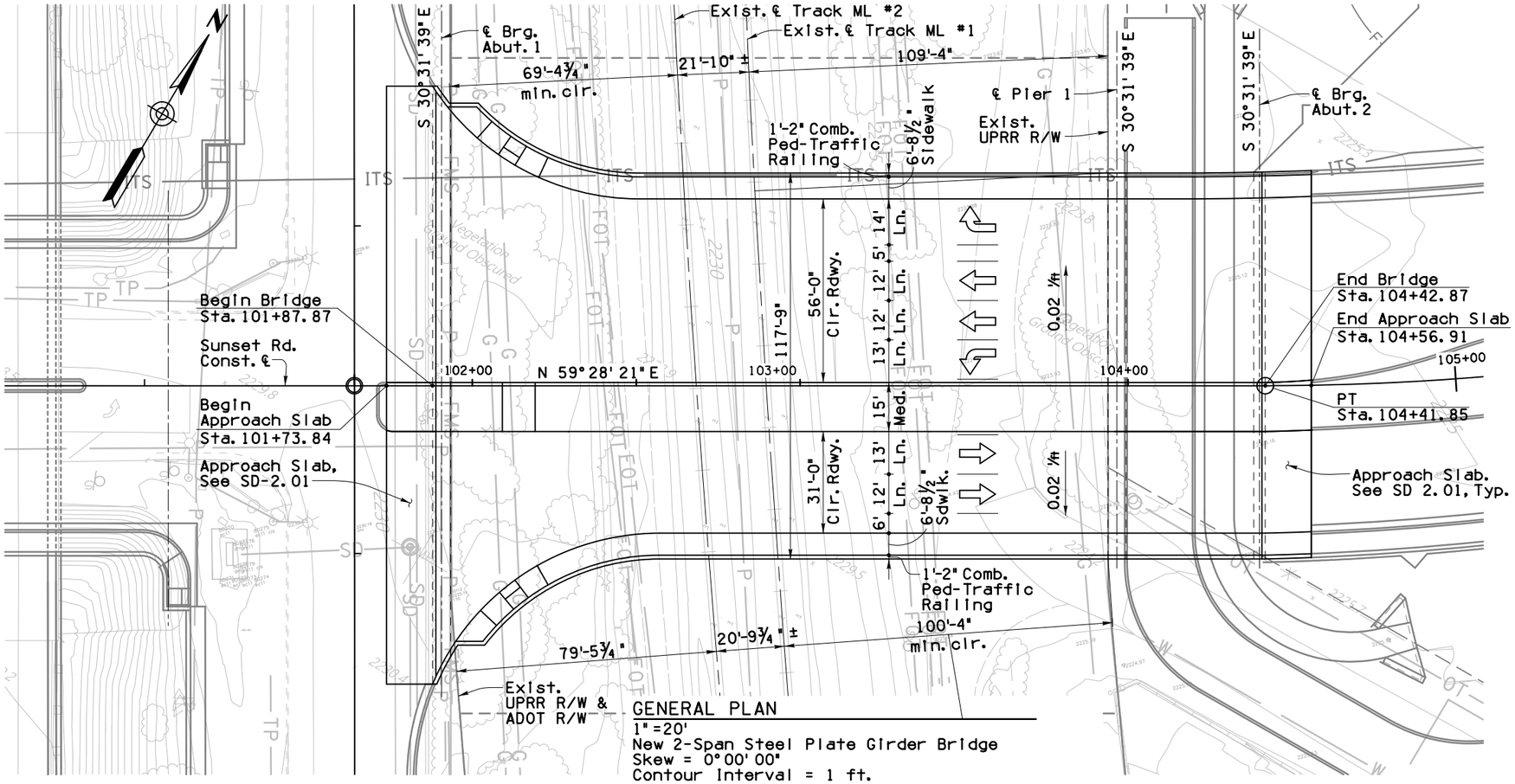
50 0 50 100'
SCALE: 1" = 50'

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS- | REVISIONS- | LOCATION- | DATE-

PLOTTED BY: KershnerM Date Plotted: 7/24/2020 Time Plotted: 3:19:50 PM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\T7583_P04.DGN

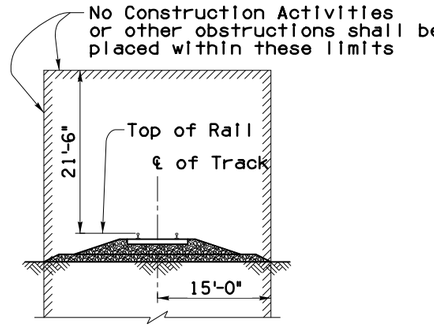
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



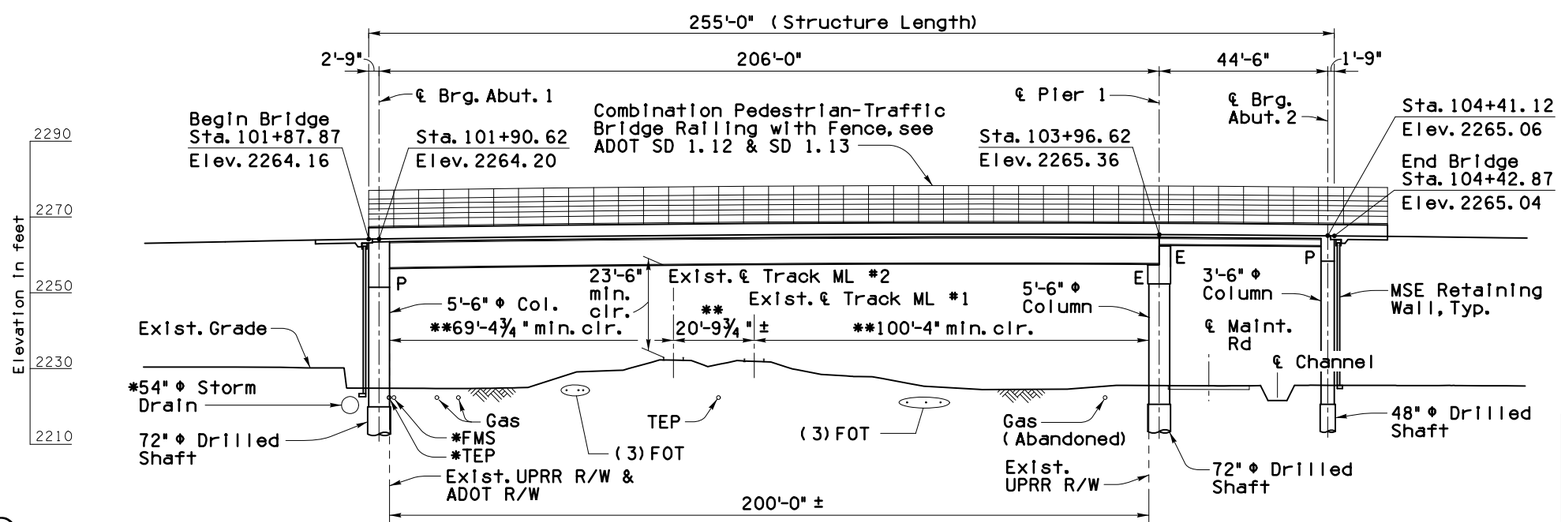
GENERAL PLAN
1" =20'
New 2-Span Steel Plate Girder Bridge
Skew = 0°00' 00"
Contour Interval = 1 ft.

Notes:

1. All Stations, Elevations & Dimensions are at Sunset Road Const. ℄.
2. Contractor to verify utility line locations.

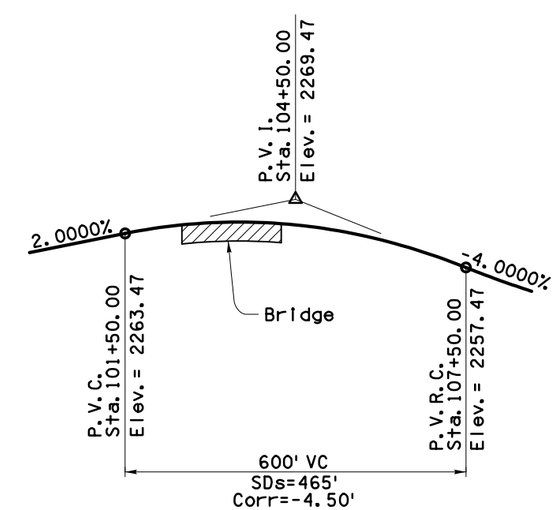


MIN. CONSTR. CLEARANCE ENVELOPE
(NORMAL TO RAILROAD)



ELEVATION
1" =20'

* To be relocated
** Measured perpendicular to Track



PROFILE GRADE
No Scale

	NAME	DATE
DESIGN	KGR, KRH	08-20
DRAWN	JHS, MJL	08-20
CHECKED	CGP	08-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

CONSOR
1400 E. Fort Lowell Rd., Suite 200, Tucson, AZ 85719 (520) 325-6105

BRIDGE OVER UPRR
PLAN & ELEVATION

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

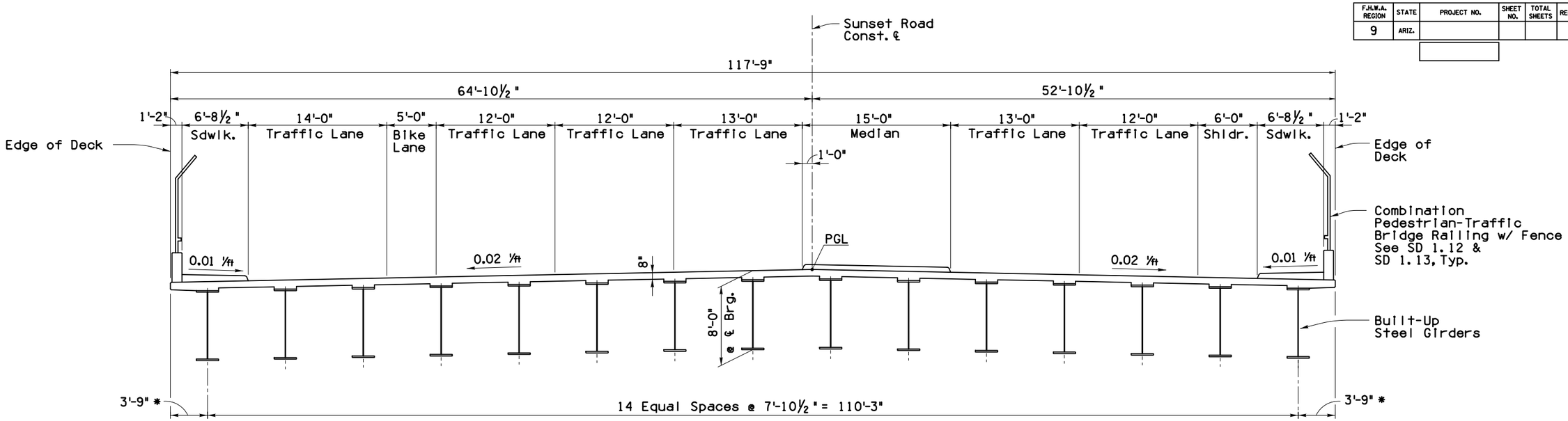
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET S01 OF S02
47 OF 50

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

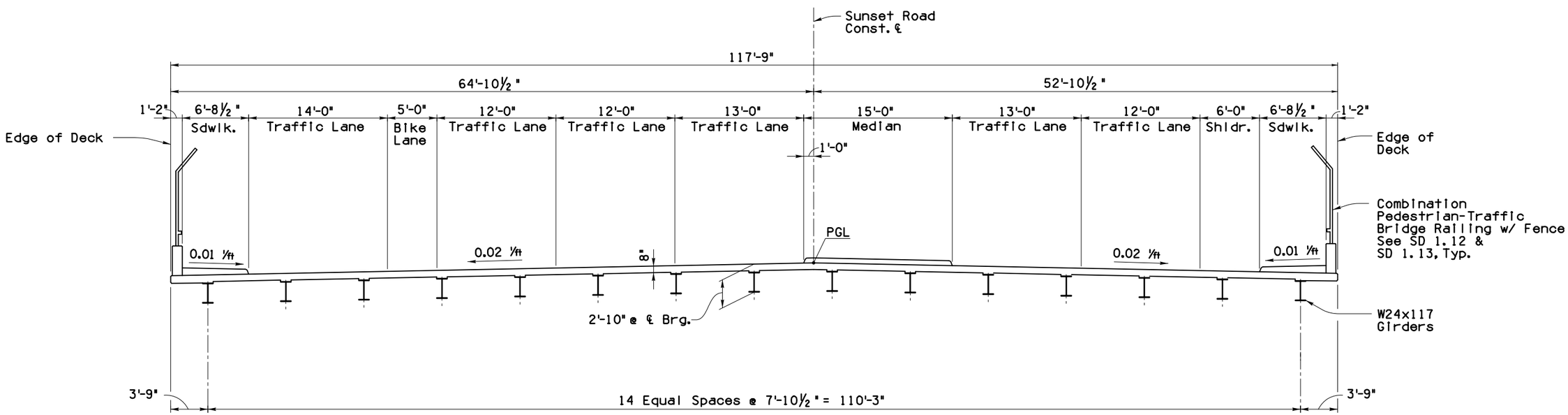
PLOTTED BY: mlichtenstein Date Plotted: 7/31/2020 Time Plotted: 9:17:49 AM W:\Jobs\2019\1923_Sunset_2\1923_Working\1923_UPRR_Alt 1_GP1.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



TYPICAL SECTION - SPAN 1
3/16" = 1'-0"

* Dimension varies at deck flare at Abutment 1.



TYPICAL SECTION - SPAN 2
3/16" = 1'-0"

	NAME	DATE
DESIGN	KGR, KRH	08-20
DRAWN	JHS, MJL	08-20
CHECKED	CGP	08-20

CONSOR
14300 E. Fort Lowell Rd., Suite 200, Tucson, AZ 85749 (520) 326-0795

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

BRIDGE OVER UPRR
TYPICAL SECTIONS

ROUTE I-10 | LOCATION SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET S02 OF S02

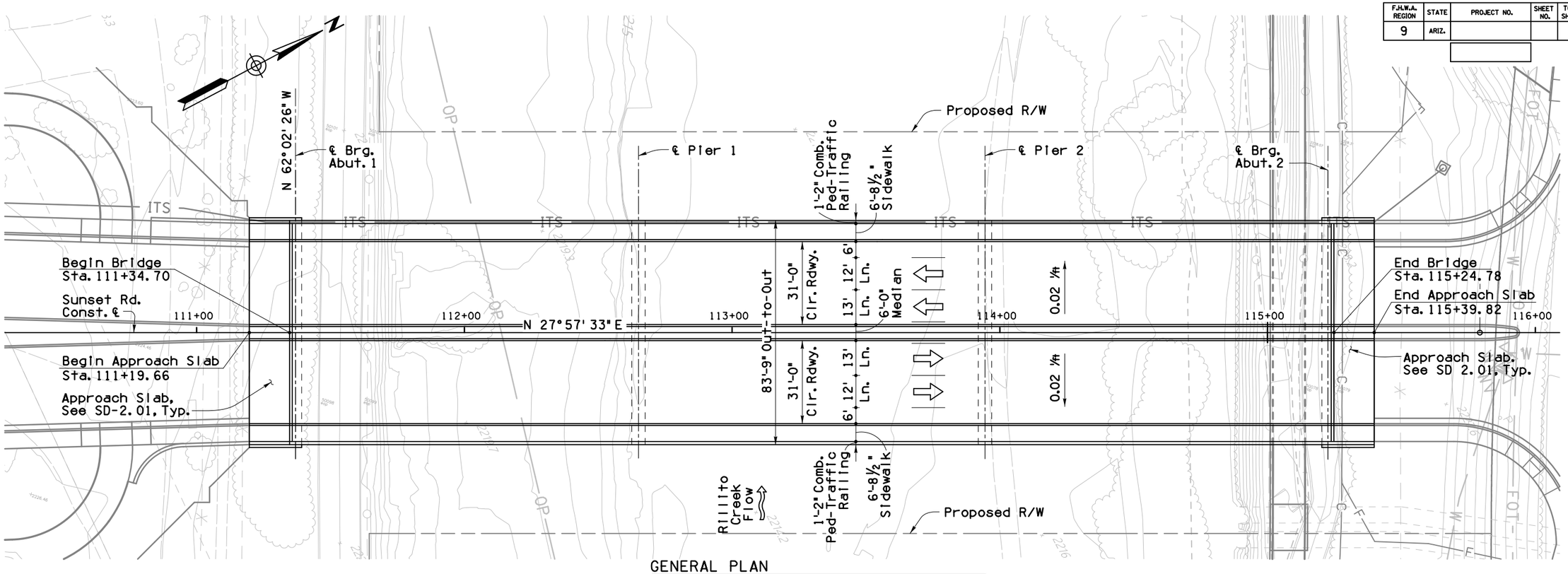
48 OF 50

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

DATE: | LOCATION: | REVISIONS: | FINISHED PLANS: | SURVEY NO.

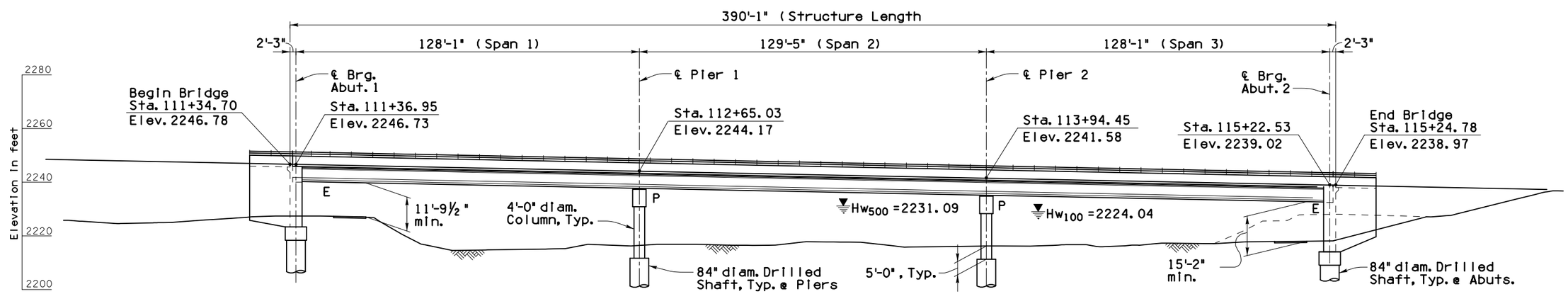
PLOTTED BY: mlichtenstein Date Plotted: 7/31/2020 Time Plotted: 9:17:52 AM W:\Jobs\2019\1923_Sunset_2\1923_Working\1923_UPRR_Alt 1_XS1.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



GENERAL PLAN

1" = 20'
New 3-Span Precast-Prestressed Concrete
AASHTO Type V Mod. Girder Bridge
Skew = 0°
Contour Interval = 1 ft.



ELEVATION

1" = 20'

Notes:

1. All Stations, Elevations & Dimensions are at Sunset Road Const. ℄.
2. Contractor to verify utility line locations.

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

	NAME	DATE
DESIGN	KGR, KRH	08-20
DRAWN	JHS, MJL	08-20
CHECKED	CGP	08-20

CONSOR
14300 E. Fort Lowell Rd., Suite 200, Tucson, AZ 85749 (520) 3304936

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

BRIDGE OVER RILLITO CREEK
PLAN & ELEVATION

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

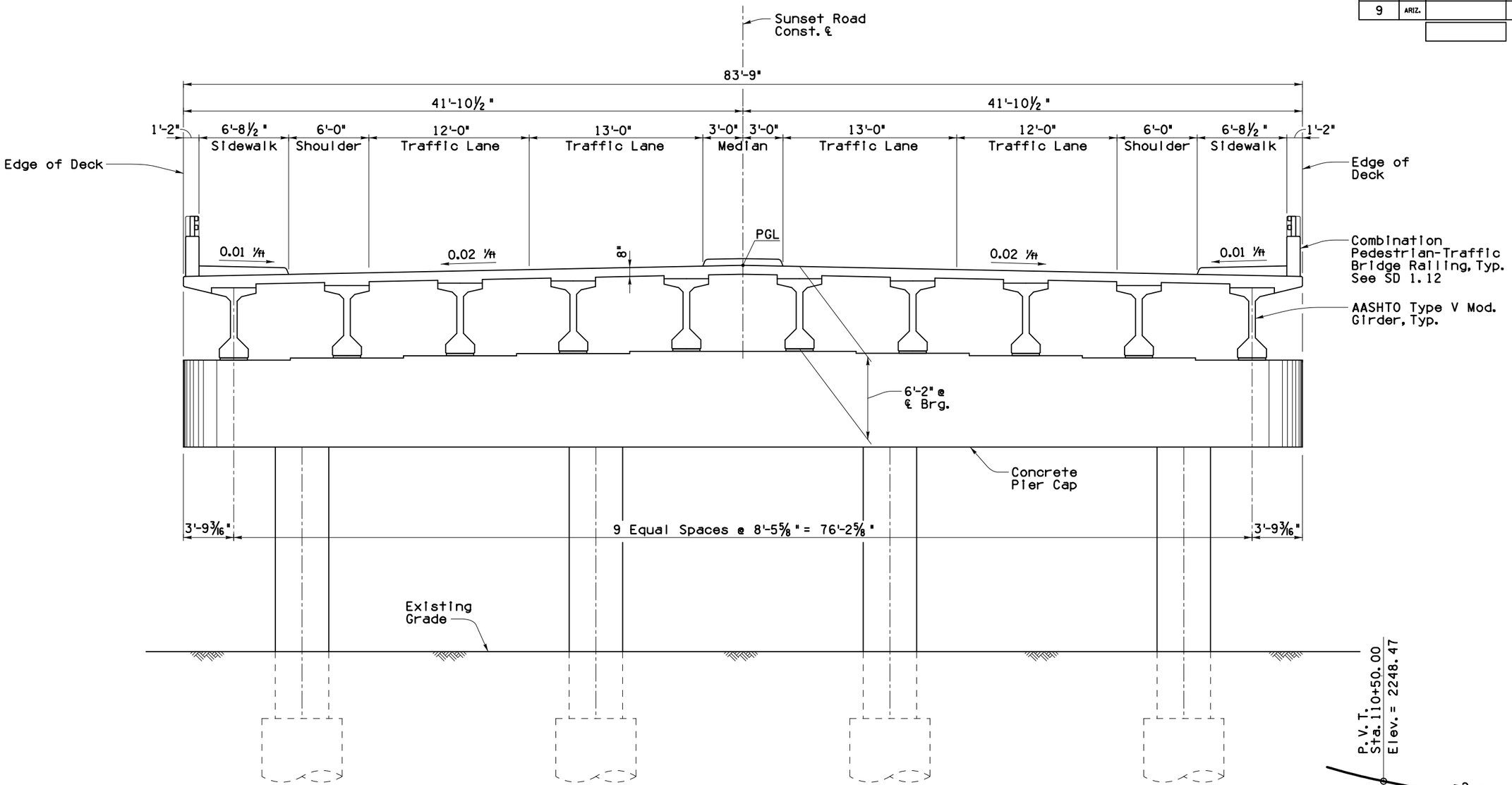
TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

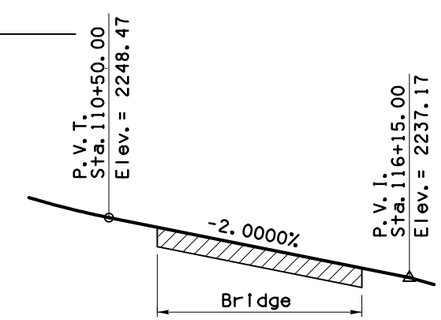
SHEET S03 OF S04

PLOTTED BY:- MLichtenstein Date Plotted: 7/29/2020 Time Plotted: -. 4:10:51 PM W:\Jobs\2019\1923_Sunset_2\1923_Working\1923_Rillito_Alt 1_GP1.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



TYPICAL SECTION
¼" = 1'-0"



PROFILE GRADE
No Scale

	NAME	DATE
DESIGN	KGR, KRH	08-20
DRAWN	JHS, MJL	08-20
CHECKED	CGP	08-20

CONSOR
1205 E. Rutland Rd., Suite 206 Tucson, AZ 85719 (520) 326-6126

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

BRIDGE OVER RILLITO CREEK
TYPICAL SECTION

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET S04 OF S04

50 OF 50

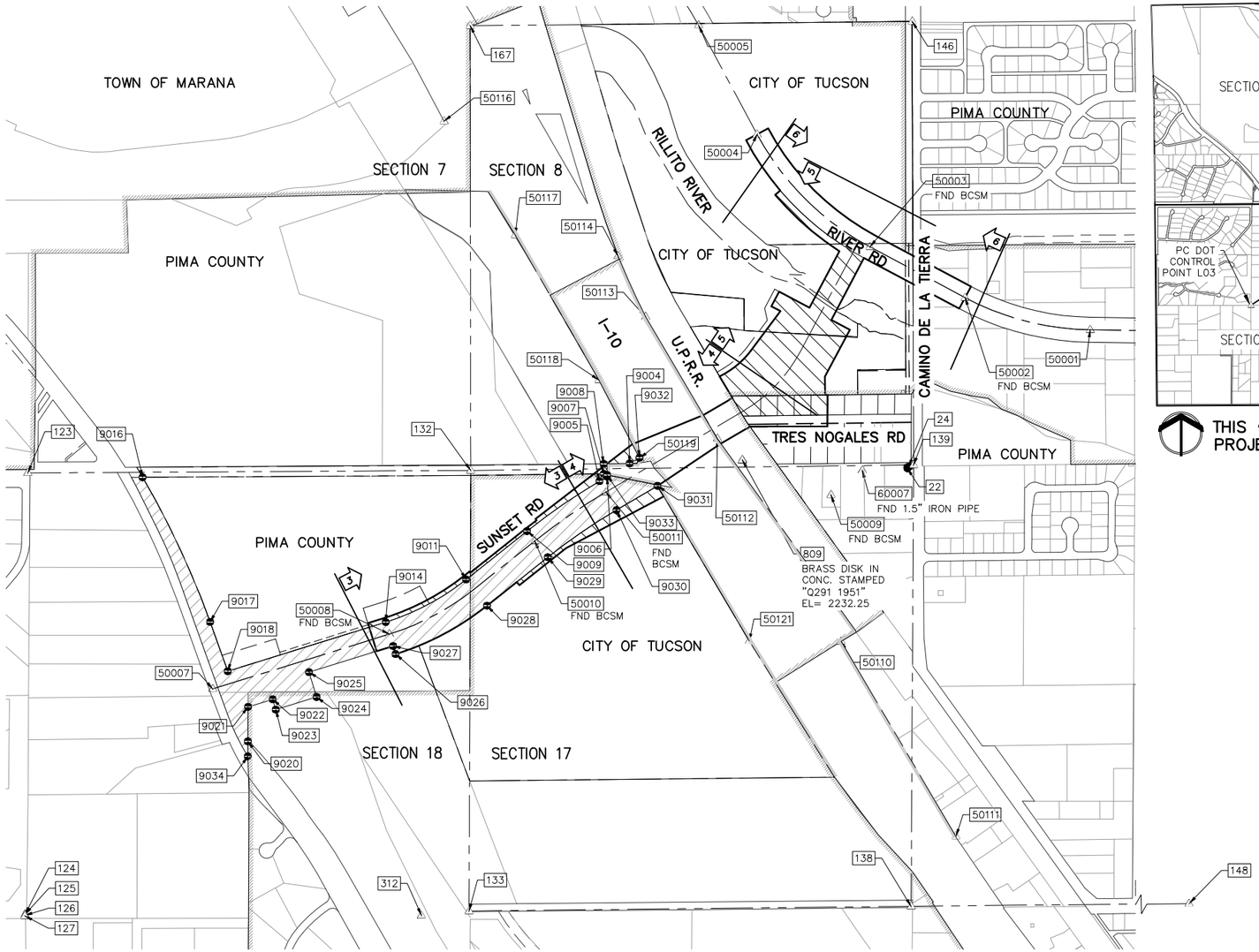
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

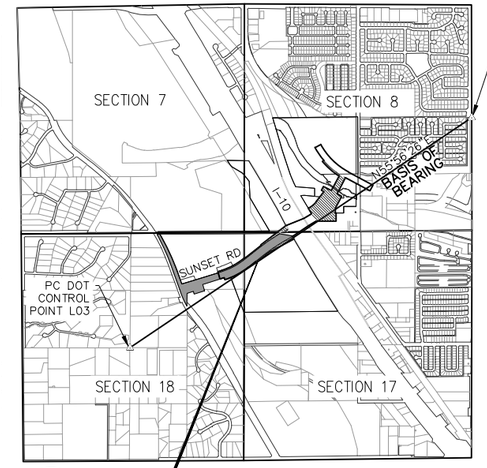
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

PLOTTED BY:- MLichtenstein Date Plotted: 7/29/2020 Time Plotted: -. 4:10:59 PM W:\Jobs\2019\1923_Sunset_2\1923_Working\1923_Rillito_Alt 1_XS1.dgn

APPENDIX 4—PRELIMINARY RIGHT-OF-WAY PLANS (6 pages)

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				





LOCATION MAP

A PORTION OF SECTIONS 7, 8, 17, & 18, T 13 S, R 13 E, G&SRM, PIMA COUNTY, ARIZONA
SCALE: 3"=1 MILE

LEGEND

	EXISTING RIGHT-OF-WAY
	EXISTING SECTION LINE
	EXISTING CENTERLINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED CENTERLINE
224-33-0010	PIMA COUNTY TAX IDENTIFICATION NUMBER
△	FOUND SURVEY MONUMENT AS DESCRIBED
pk	FOUND PK NAIL
	FOUND REBAR RLS 60468
●	1/2" x 18" REBAR TAGGED 60468, TO BE SET
	BOUNDARY – CITY OF TUCSON/PIMA COUNTY/TOWN OF MARANA
	EXISTING RIGHT-OF-WAY
	RIGHT-OF-WAY DEDICATED THIS SURVEY
	ADOT RIGHT-OF-WAY BOUNDARY
(M)	MEASURED DIMENSION THIS SURVEY
(R)	RECORD MEASUREMENT PER BOOK 8 PAGE 100 M&P TRES NOGALES
(R1)	RECORD MEASUREMENT PER SEQUENCE 20172760377
(R2)	RECORD MEASUREMENT PER SEQUENCE 20172760379
(R3)	RECORD MEASUREMENT PER SEQUENCE 20172770450
(R3C)	CALCULATED RECORD MEASUREMENT PER SEQUENCE 20172770450

SHEET INDEX

SHEET 1	COVER SHEET AND CONTROL SHEET
SHEET 2	AFFECTED PARCELS EXHIBIT
SHEETS 3–6	PLAN SHEETS

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON EXISTING SURVEY CONTROL POINTS PROVIDED BY ADOT. THE PUBLISHED GRID TO GROUND FACTOR FOR PC DOT "J07" IS 1.00016. TO CONVERT PROJECT COORDINATES TO ARIZONA STATE PLANE ZONE 2 DIVIDE BY 1.00016.

VERTICAL CONTROL

VERTICAL CONTROL FOR THIS PROJECT IS BASED ON ADOT BENCHMARK Q291 HAVING AN ELEVATION OF 2232.25 FEET, NAVD 88 DATEM. BENCHMARK IS A BRASS DISK SET IN CONCRETE STAMPED "Q291 1951".

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS PROJECT IS A GRID BEARING OF N55°56'26"E BETWEEN PC DOT CONTROL POINTS L03 AND G09.

SURVEYORS CERTIFICATE

THIS SURVEY WAS COMPLETED UNDER MY DIRECT SUPERVISION.

BRUCE BROWN
R.L.S. NO. 60468

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
60468
BRUCE
BROWN
Date signed
ARIZONA U.S.A.
Expires 09/30/21

SCALE: 1"=400'
400 200 0 400 800

COORDINATE TABLE – CONTROL POINTS			
PT NO	NORTHING	EASTING	DESCRIPTION
123	477190.2670	966493.5070	2" BCSM (N 1/4 COR SEC 18)
124	474551.0830	966476.4420	"INT"
125	474551.1360	966476.3360	1" ACP "LS 1052 1/4 269"
126	474545.9520	966476.5340	1 1/2" LCP "CEN 18 SEC"
127	474542.2390	966476.6310	1" OPEN PIPE
132	477204.8200	969139.9510	BRASS STEM AKA PIMA COUNTY GEODETIC CONTROL POINT AJ05 (NE COR SEC 18)
133	474571.8140	969130.3380	1/2" REBAR WITH PLASTIC CAP "RLS 16097" (E 1/4 COR SEC 18)
138	474599.3620	971771.5550	1-1/2" ACP "PE 1260" (CENTER 1/4 COR SEC 17)
139	477237.3830	971786.2330	3" BCSM IN HAND HOLE "RLS 12537" (N 1/4 COR SEC 17)
146	479888.8360	971778.0440	1/2" REBAR NO TAG (CENTER OF 1/4 COR SEC 8)
148	474626.8310	974402.2180	2" BCSM "RLS 19817" (E 1/4 COR SEC 17)
167	479863.1640	969136.8680	DRILLED HOLE IN CONCRETE (E 1/4 COR SEC 7)
312	474544.9720	968845.3040	1 1/2" ACP AKA PIMA COUNTY GEODETIC CONTROL POINT AL05

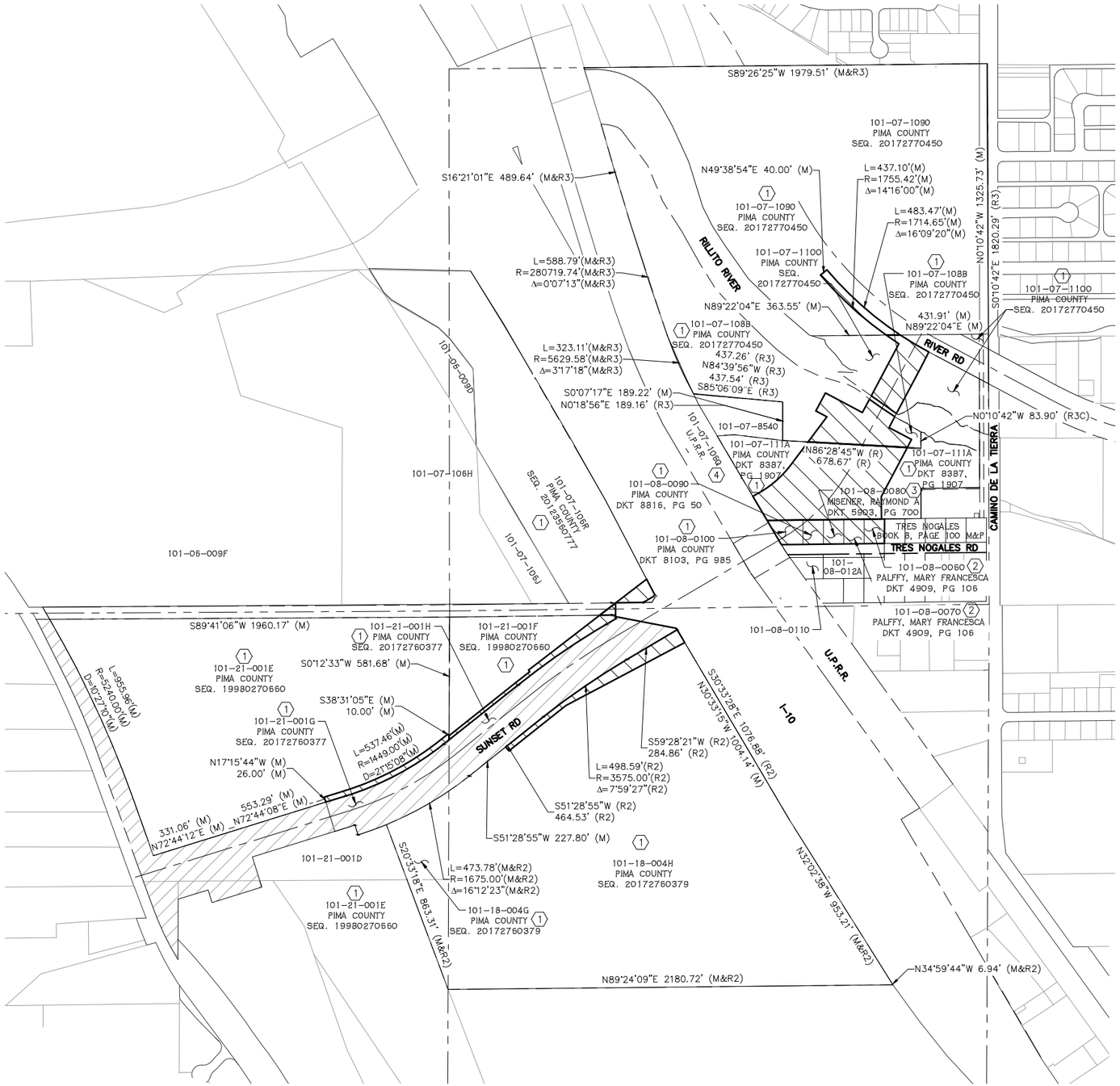
Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

Sheet S01 of S06

	NAME	DATE		
DESIGN	BB	07-20	PIMA COUNTY DEPARTMENT OF TRANSPORTATION	PRELIMINARY STAGE I Review NOT FOR CONSTRUCTION OR RECORDING
DRAWN	CLR	07-20		
CHECKED	BB	07-20	RIGHT-OF-WAY PLAN SHEET STA TO STA	
eec Engineering and Environmental Consultants, Inc. 555 E. RIVER ROAD, SUITE 301 TUCSON, ARIZONA 85704 520-321-6825				
ROUTE I-10	LOCATION SUNSET ROAD: I-10 TO RIVER ROAD			SHEET 1 OF 6
TRACS NO.				

N:\19099 Survey\19099.17 Sunset II ROW\500 Engineering, Design & Survey\590-Survey\594-C3D\Sunset II ROW Plans.dwg Plotted: Jul 27, 2020 – 3:53pm crichardson

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



SCALE: 1"=300'

300 150 0 300 600

NOTES:

1. EAST AND WEST BANKS OF THE RILLITO RIVER ARE BASED ON PIMA COUNTY MAP GUIDE 1/4 SECTION DRAWINGS AND ARE APPROXIMATE.
2. COMMITMENT TO TITLE VESTING DEED LEGAL DESCRIPTIONS TO DATE ONLY REFER TO THE EAST AND WEST BANK OF THE RILLITO RIVER WITH NO COURSES OR MEANDERS DEFINED.
3. THE OWNERSHIP AND LOCATION OF THE AREA SHOWN AS THE RILLITO RIVER IS UNKNOWN AS OF 7-5-2020.
4. THE AREAS SHOWN FOR THE ADJOINING PROPERTIES TO THE RILLITO RIVER ARE APPROXIMATE AS THE BOUNDARY OF THE AREA SHOWN AS THE RILLITO RIVER ARE APPROXIMATE.
5. THE BOUNDARIES OF PARCELS 101-07-106H, 101-07-106J, 101-07-106R, AND 101-06-009D ARE BASED ON PIMA COUNTY MAP GUIDE 1/4 SECTION DRAWING AND ARE APPROXIMATE.
6. COMMITMENT TO TITLE VESTING DEED LEGAL PROVIDED TO DATE DO NOT DEFINE THE BOUNDARIES OF PARCELS 101-07-106H, 101-07-106J, 101-07-106R, AND 101-06-009D.
7. THE AREAS OF PARCELS 101-07-106H, 101-07-106J, 101-07-106R, AND 101-06-009D ARE APPROXIMATE.

AREA	PIMA COUNTY TAX I.D.	OWNER	ACQUISITION TYPE	GROSS AREA S.F.	ACQUISITION AREA S.F.	NET PARCEL AREA(1) S.F.	NET PARCEL AREA(2) S.F.	TOTAL NET PARCEL AREA S.F.
1	101-07-106R	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	691,188.71	10,723.96	680,464.75		680,464.75
1	101-07-1088	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	576,444.58	77,339.92	488,103.25	11,001.40	499,104.65
1	101-07-1090	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	1,817,365.96	18,405.82	1,798,960.14		1,798,960.14
1	101-07-1100	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	197,708.36	51,776.53	62,934.00	82,997.83	145,931.83
1	101-07-111A	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	393,820.70	206,360.29	71,341.76	116,118.65	187,460.41
1	101-08-0090	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	12,000.00	12,000.00	-		-
1	101-08-0100	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	16,862.72	12,000.00	-		-
1	101-18-004G&H PARENT	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	2,613,636.76	44,527.26	2,569,109.50		2,569,109.50
1	101-21-001E - PARENT	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	1,612,965.79	17,871.80	1,595,093.98		1,595,093.98
1	101-21-001F - PARENT	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	230,044.77	26,230.64	212,814.13		212,814.13
1	OLD SUNSET ABANDONMENT - PARENT	PIMA COUNTY FLOOD CONTROL	RIGHT-OF-WAY	167,537.90	2,303.62	165,234.28		165,234.28
1	**TOTAL PIMA COUNTY FLOOD CONTROL AREA**			**8,338,576.24**	**479,539.84**			**7,854,173.68**
2	101-08-0060	PALFFY, MARY FRANCESCA	RIGHT-OF-WAY	12,000.00	12,000.00	-		-
2	101-08-0070	PALFFY, MARY FRANCESCA	RIGHT-OF-WAY	12,000.00	12,000.00	-		-
2	**TOTAL PALFFY, MARY FRANCESCA AREA**			**24,000.00**	**24,000.00**			-
3	101-08-0080	MISENER, RAYMOND A	RIGHT-OF-WAY	**12,000.00**	**12,000.00**	-		-
4	101-07-106Q	UPRR	EASEMENT	**N/A**	**40,115.17**			

Sheet S02 of S06

	NAME	DATE
DESIGN	BB	07-20
DRAWN	CLR	07-20
CHECKED	BB	07-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY PLAN SHEET
STA TO STA

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

Engineering and Environmental Consultants, Inc.
555 E. RIVER ROAD, SUITE 301
TUCSON, ARIZONA 85704 520-321-4625

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

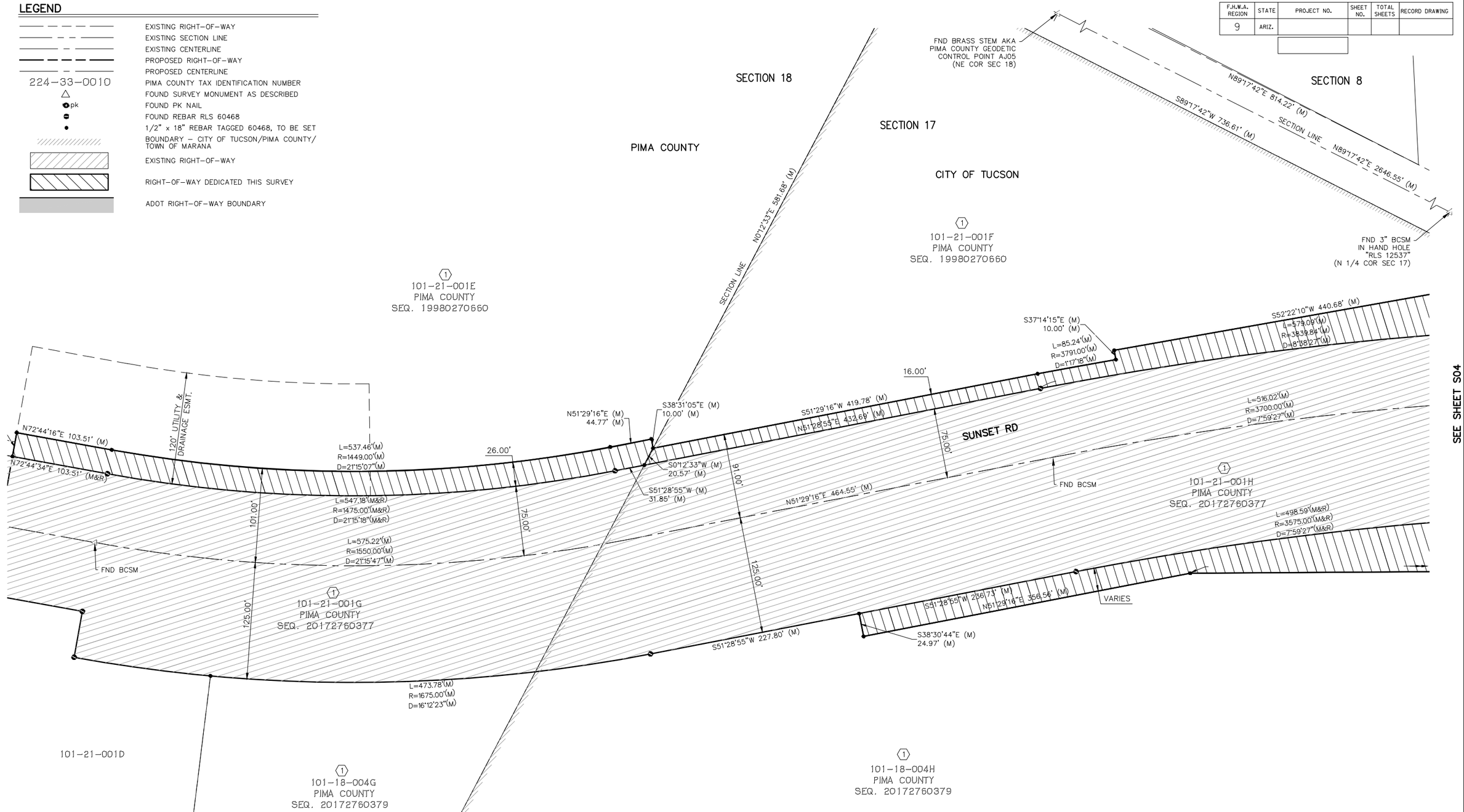
SHEET 2 OF 6

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

LEGEND

- EXISTING RIGHT-OF-WAY
- EXISTING SECTION LINE
- EXISTING CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CENTERLINE
- 224-33-0010 — PIMA COUNTY TAX IDENTIFICATION NUMBER
- FOUND SURVEY MONUMENT AS DESCRIBED
- pk — FOUND PK NAIL
- FOUND REBAR RLS 60468
- 1/2" x 18" REBAR TAGGED 60468, TO BE SET
- BOUNDARY – CITY OF TUCSON/PIMA COUNTY/ TOWN OF MARANA
- EXISTING RIGHT-OF-WAY
- RIGHT-OF-WAY DEDICATED THIS SURVEY
- ADOT RIGHT-OF-WAY BOUNDARY



SEE SHEET S04

Sheet S03 of S06

	NAME	DATE
DESIGN	BB	07-20
DRAWN	CLR	07-20
CHECKED	BB	07-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY PLAN SHEET
STA TO STA

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

Engineering and Environmental Consultants, Inc.
555 E. RIVER ROAD, SUITE 301
TUCSON, ARIZONA 85704 520-321-4625

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

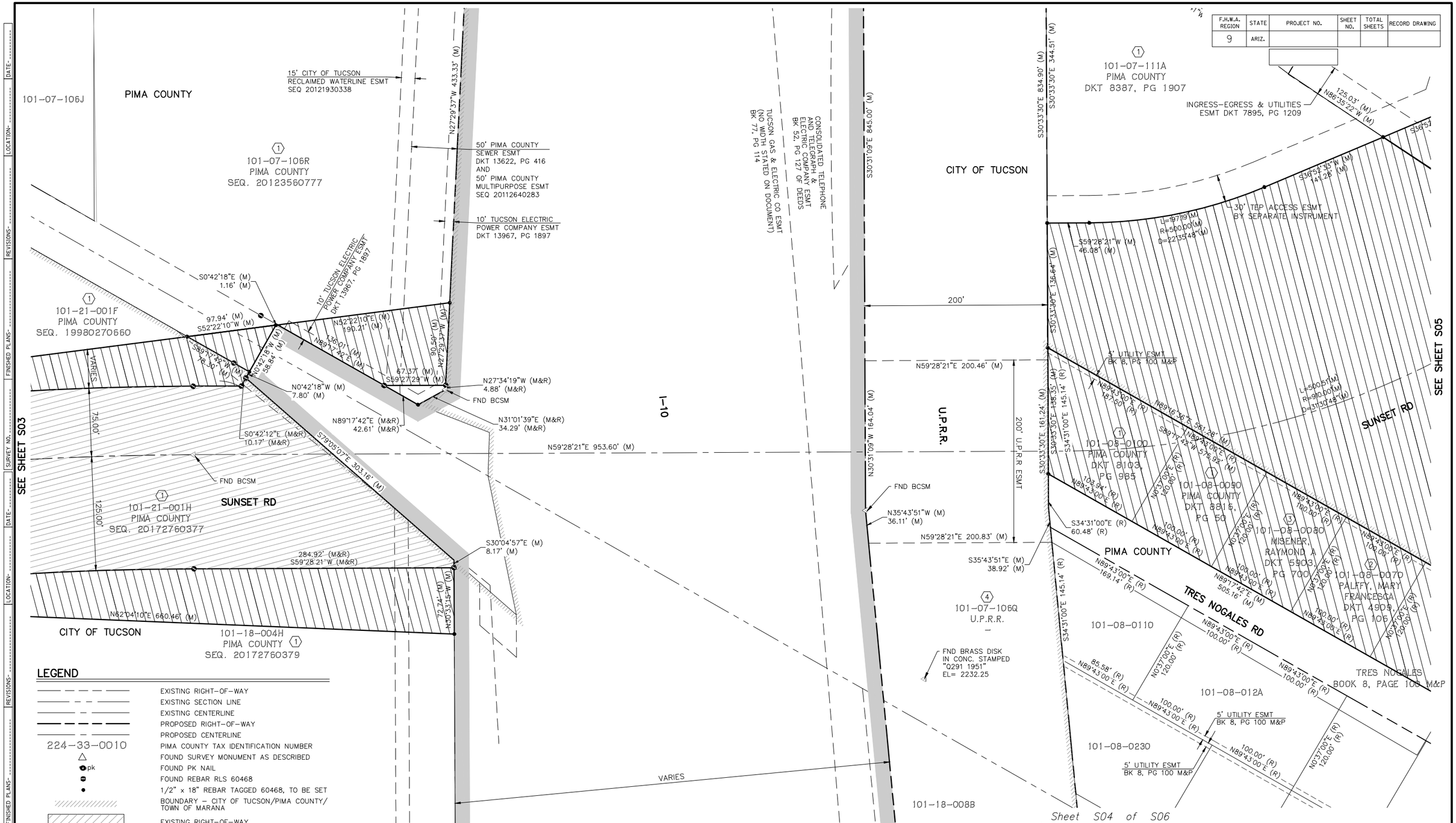
SHEET 3 OF 6

Call at least two full working days before you being excavation.
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

N:\19099 Survey\19099.17 Sunset II ROW\500 Engineering, Design & Survey\590-Survey\594-C3D\Sunset II ROW Plans.dwg Plotted: Jul 27, 2020 – 3:56pm crichardson

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



LEGEND

	EXISTING RIGHT-OF-WAY
	EXISTING SECTION LINE
	EXISTING CENTERLINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED CENTERLINE
224-33-0010	PIMA COUNTY TAX IDENTIFICATION NUMBER
△	FOUND SURVEY MONUMENT AS DESCRIBED
pk	FOUND PK NAIL
	FOUND REBAR RLS 60468
●	1/2" x 18" REBAR TAGGED 60468, TO BE SET
	BOUNDARY – CITY OF TUCSON/PIMA COUNTY/ TOWN OF MARANA
	EXISTING RIGHT-OF-WAY
	RIGHT-OF-WAY DEDICATED THIS SURVEY
	ADOT RIGHT-OF-WAY BOUNDARY

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

15' CITY OF TUCSON
RECLAIMED WATERLINE ESMT
SEQ 20121930338

Sheet S04 of S06

	NAME	DATE
DESIGN	BB	07-20
DRAWN	CLR	07-20
CHECKED	BB	07-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY PLAN SHEET
STA TO STA

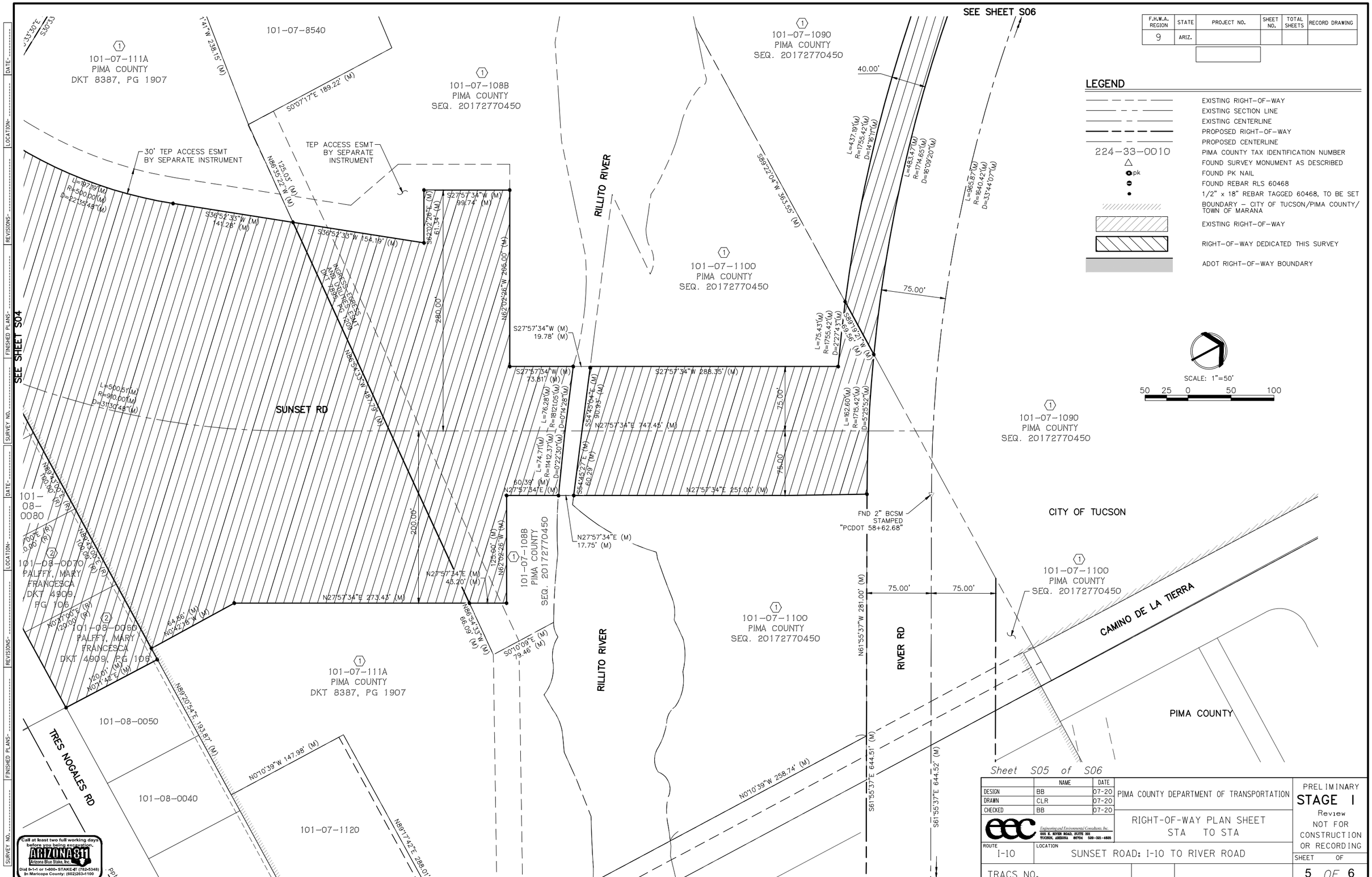
Engineering and Environmental Consultants, Inc.
555 E. RIVER ROAD, SUITE 301
TUCSON, ARIZONA 85704 520-321-4625

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD
SHEET 4 OF 6
TRACS NO.

N:\19099 Survey\19099.17 Sunset II ROW\500 Engineering, Design & Survey\590-Survey\594-C3D\Sunset II ROW Plans.dwg Plotted: Jul 27, 2020 – 3:57pm crichardson

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



LEGEND

	EXISTING RIGHT-OF-WAY
	EXISTING SECTION LINE
	EXISTING CENTERLINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED CENTERLINE
224-33-0010	PIMA COUNTY TAX IDENTIFICATION NUMBER
△	FOUND SURVEY MONUMENT AS DESCRIBED
pk	FOUND PK NAIL
	FOUND REBAR RLS 60468
•	1/2" x 18" REBAR TAGGED 60468, TO BE SET
	BOUNDARY – CITY OF TUCSON/PIMA COUNTY/ TOWN OF MARANA
	EXISTING RIGHT-OF-WAY
	RIGHT-OF-WAY DEDICATED THIS SURVEY
	ADOT RIGHT-OF-WAY BOUNDARY

Call at least two full working days before you being excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

Sheet S05 of S06

	NAME	DATE
DESIGN	BB	07-20
DRAWN	CLR	07-20
CHECKED	BB	07-20

eac Engineering and Environmental Consultants, Inc.
555 E. RIVER ROAD, SUITE 301
TUCSON, ARIZONA 85704 520-321-4625

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY PLAN SHEET
STA TO STA

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 5 OF 6

N:\19099 Survey\19099.17 Sunset II ROW\500 Engineering, Design & Survey\590-Survey\594-C3D\Sunset II ROW Plans.dwg Plotted: Jul 27, 2020 – 3:57pm crichardson

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				

LEGEND

- EXISTING RIGHT-OF-WAY
- EXISTING SECTION LINE
- EXISTING CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CENTERLINE
- 224-33-0010 — PIMA COUNTY TAX IDENTIFICATION NUMBER
- FOUND SURVEY MONUMENT AS DESCRIBED
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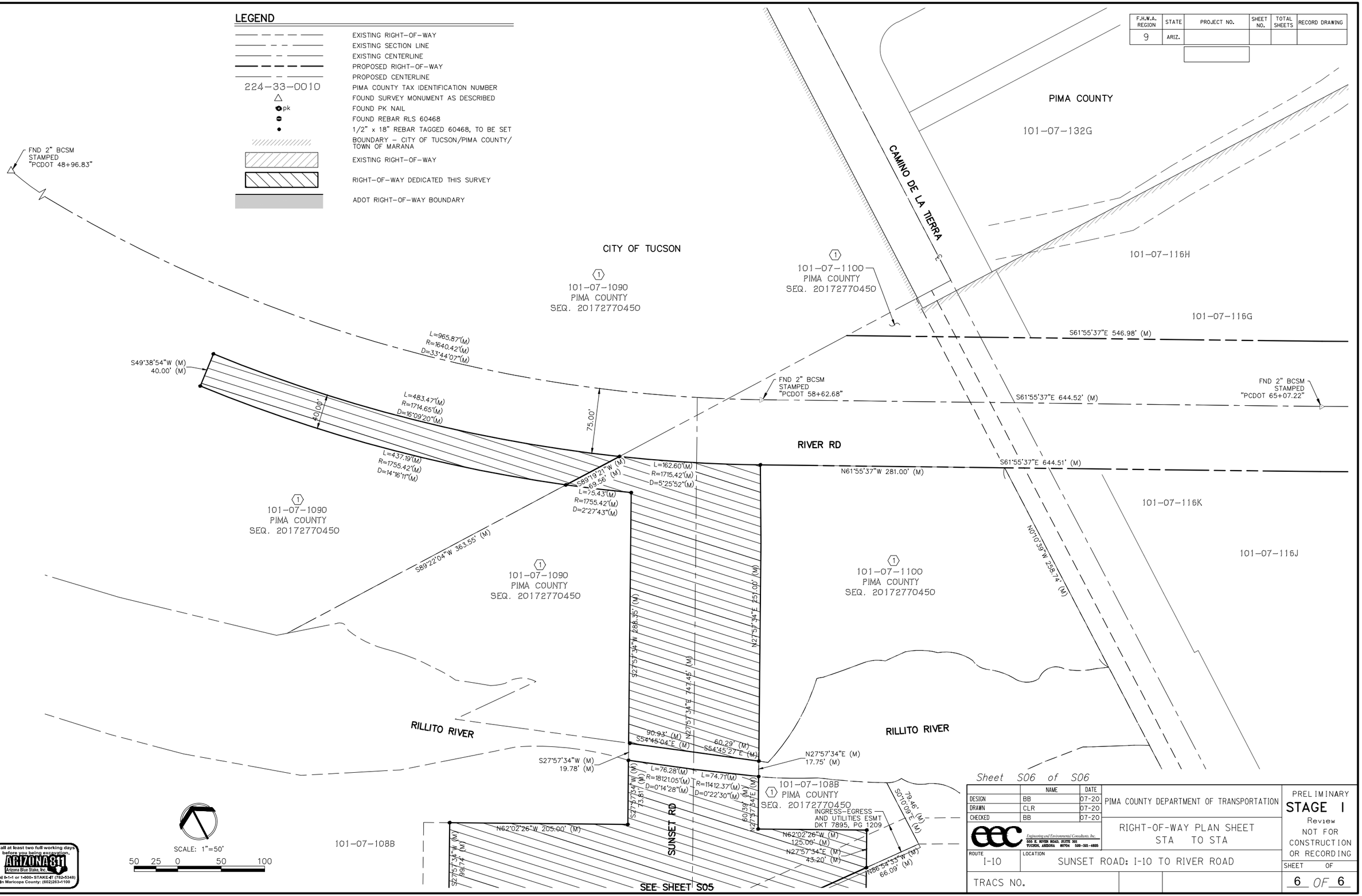
- EXISTING RIGHT-OF-WAY
- RIGHT-OF-WAY DEDICATED THIS SURVEY
- ADOT RIGHT-OF-WAY BOUNDARY



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ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100

Sheet S06 of S06

	NAME	DATE
DESIGN	BB	07-20
DRAWN	CLR	07-20
CHECKED	BB	07-20

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY PLAN SHEET
STA TO STA

Engineering and Environmental Consultants, Inc.
5151 E. BENTON ROAD, SUITE 101
TUCSON, ARIZONA 85706 520-321-4625

ROUTE: I-10
LOCATION: SUNSET ROAD: I-10 TO RIVER ROAD

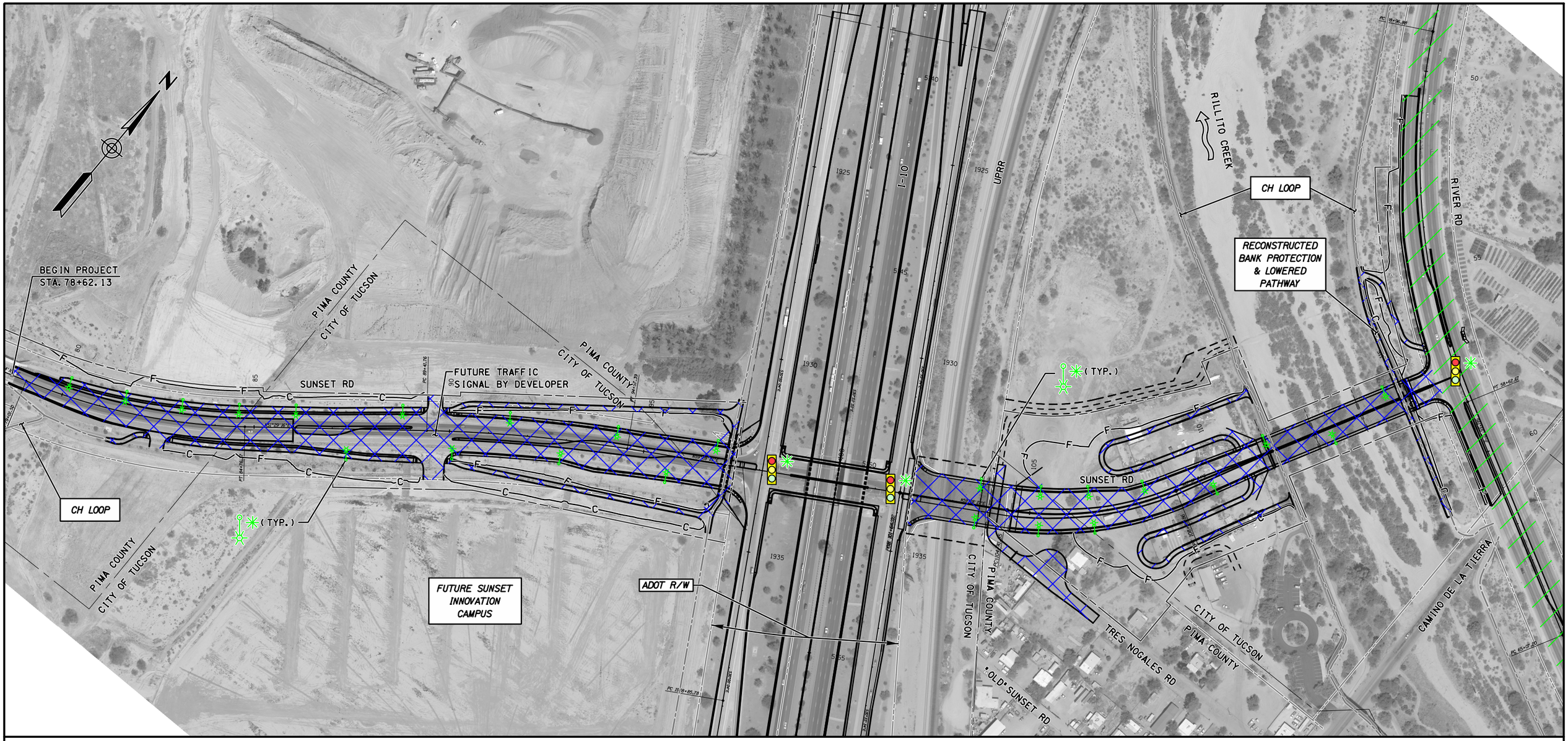
TRACS NO.

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET 6 OF 6

N:\19099 Survey\19099.17 Sunset II ROW\500 Engineering, Design & Survey\590-Survey\594-C3D\Sunset II ROW Plans.dwg Plotted: Jul 27, 2020 – 3:58pm crichardson

APPENDIX 5—PROPOSED MAINTENANCE RESPONSIBILITIES



LEGEND

PCDOT

COT

NOTES

✳ TRAFFIC SIGNALS AND LIGHTING TO BE MAINTAINED BY COT

IMPROVEMENTS WITHIN ADOT R/W TO BE MAINTAINED BY OTHERS

SUNSET ROAD: I-10 TO RIVER ROAD (4SRRIV)

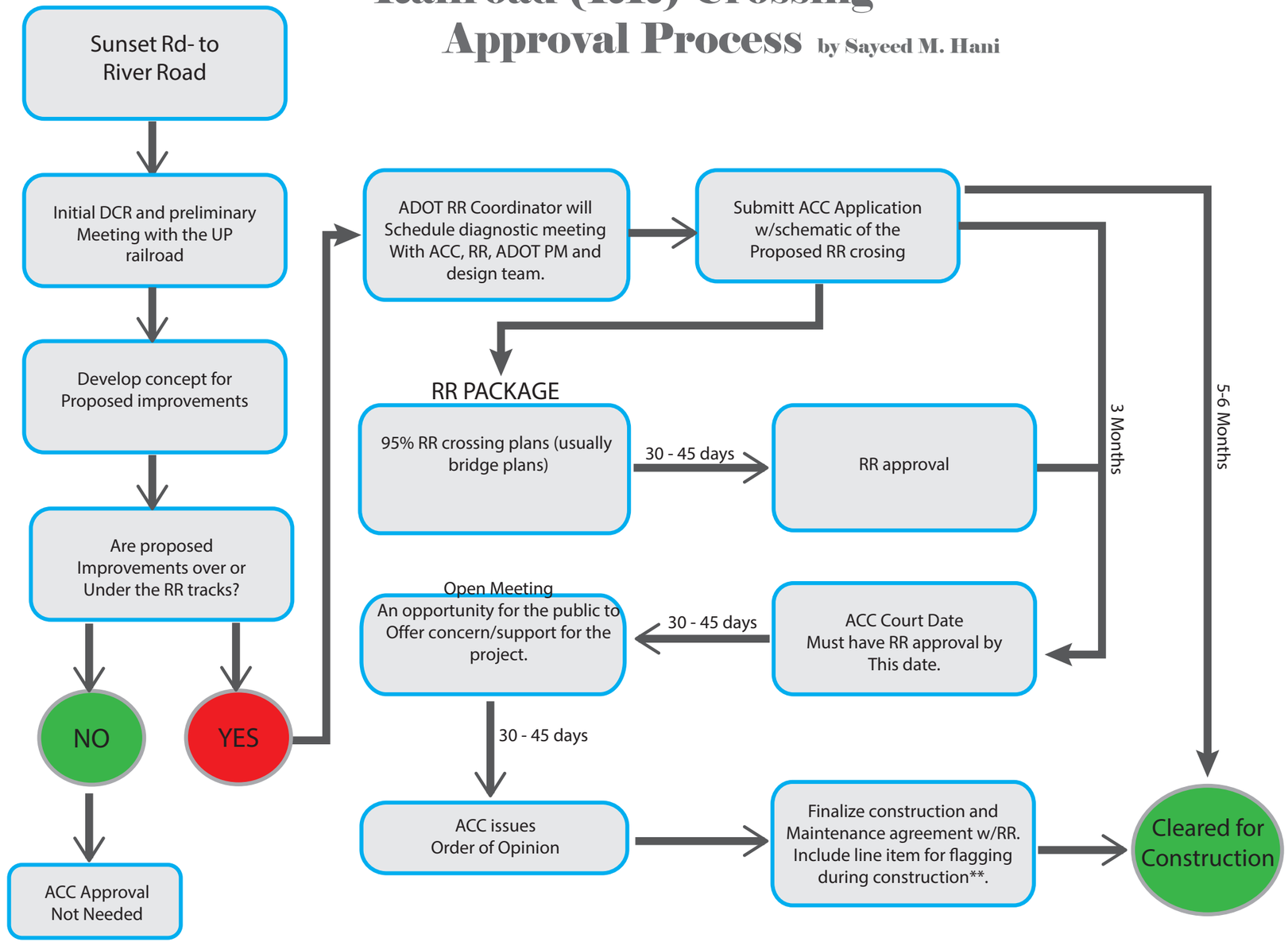
PROPOSED MAINTENANCE RESPONSIBILITIES

DATE: 8/3/2020

APPENDIX 6—ARIZONA CORPORATION COMMISSION (ACC) RAILROAD (RR) CROSSING APPROVAL PROCESS

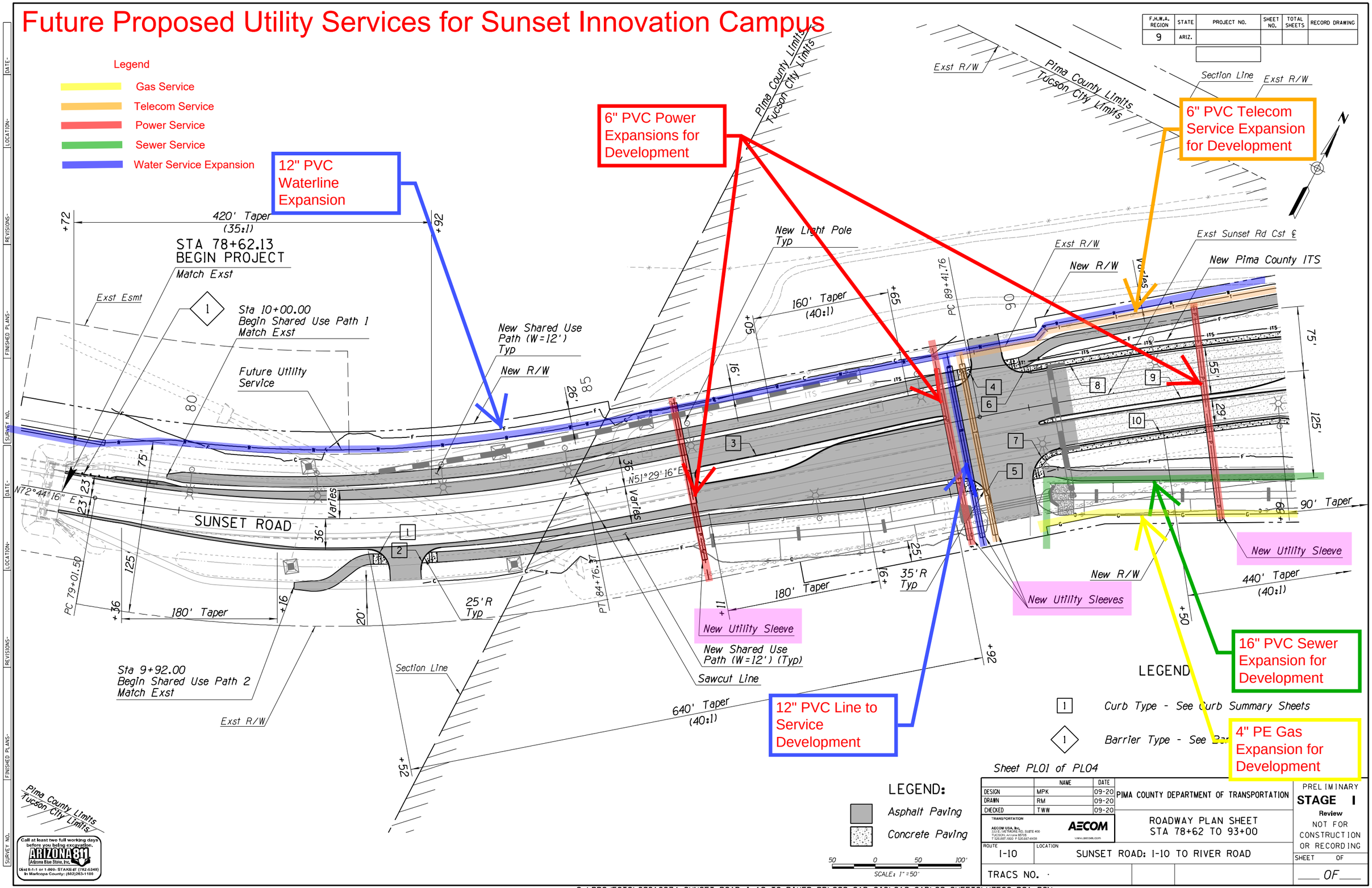
Arizona Corporation Commission (ACC) Railroad (RR) Crossing Approval Process

by Sayeed M. Hani

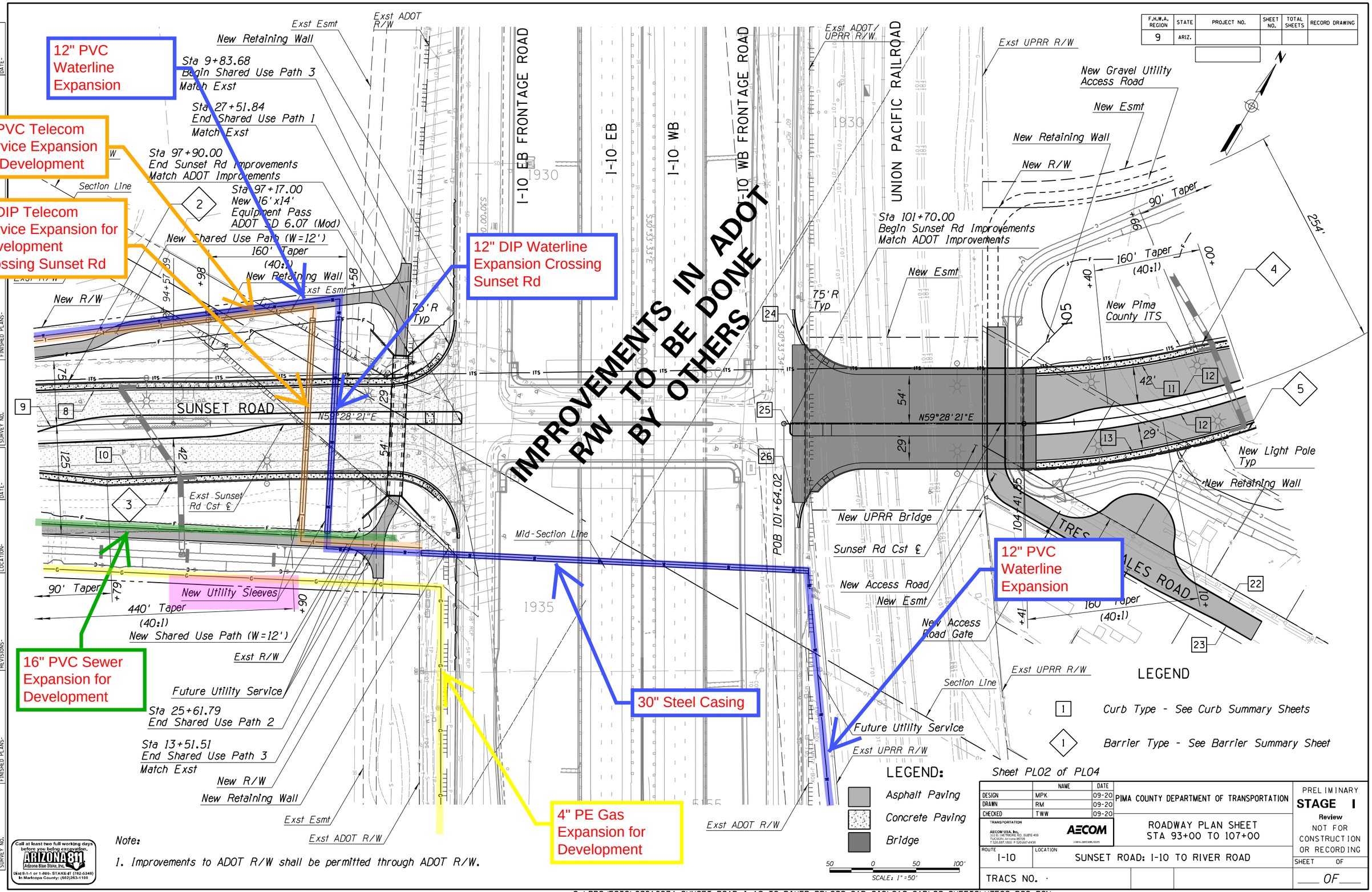


APPENDIX 7—FUTURE PROPOSED UTILTY SERVICES FOR SUNSET INNOVATION CAMPUS (2 pages)

Future Proposed Utility Services for Sunset Innovation Campus



PLOTTED BY: KershnerM Date Plotted: 9/9/2020 Time Plotted: 10:50:37 AM C:\PROJECTS\60616874 SUNSET ROAD I-10 TO RIVER RD\900_CAD_GIS\910-CAD\20-SHEETS\H7583_P01.DGN


12" PVC Waterline Expansion
6" PVC Telecom Service Expansion for Development
6" DIP Telecom Service Expansion for Development Crossing Sunset Rd
12" DIP Waterline Expansion Crossing Sunset Rd
IMPROVEMENTS IN ADOT R/W TO BE DONE BY OTHERS
16" PVC Sewer Expansion for Development
30" Steel Casing
4" PE Gas Expansion for Development
12" PVC Waterline Expansion
Sta 9+83.68
Begin Shared Use Path 3
Match Exst
Sta 27+51.84
End Shared Use Path 1
Match Exst
Sta 97+90.00
End Sunset Rd Improvements
Match ADOT Improvements
Sta 97+17.00
New 16' x14'
Equipment Pass
ADOT SD 6.07 (Mod)
New Shared Use Path (W=12')
160' Taper
(40:1)
New Retaining Wall
Exst Esmt
Exst ADOT R/W
New R/W
Section Line
SUNSET ROAD
N59°28'21"E
Exst Sunset Rd Cst ℄
90' Taper
440' Taper
(40:1)
New Utility Sleeves
New Shared Use Path (W=12')
Exst R/W
Future Utility Service
Sta 25+61.79
End Shared Use Path 2
Sta 13+51.51
End Shared Use Path 3
Match Exst
New R/W
New Retaining Wall
Exst Esmt
Exst ADOT R/W
Mid-Section Line
I-10 EB FRONTAGE ROAD
I-10 EB
I-10 WB
I-10 WB FRONTAGE ROAD
UNION PACIFIC RAILROAD
Exst ADOT/ UPRR R/W
Exst UPRR R/W
New Gravel Utility Access Road
New Esmt
New Retaining Wall
New R/W
90' Taper
Sta 101+70.00
Begin Sunset Rd Improvements
Match ADOT Improvements
New Esmt
160' Taper
(40:1)
New Pima County ITS
75' R Typ
New Light Pole Typ
New Retaining Wall
TRESTLES ROAD
New UPRR Bridge
Sunset Rd Cst ℄
New Access Road
New Esmt
New Access Road Gate
Exst UPRR R/W
Section Line
Future Utility Service
Exst UPRR R/W
POB 101+64.02
254'
LEGEND
Curb Type - See Curb Summary Sheets
Barrier Type - See Barrier Summary Sheet
LEGEND:
Asphalt Paving
Concrete Paving
Bridge
SCALE: 1"=50'
Sheet PL02 of PL04
Note:
1. Improvements to ADOT R/W shall be permitted through ADOT R/W.
Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800- STAKE-IT (782-5348)
In Maricopa County: (602)263-1100
F.H.W.A. REGION 9
STATE ARIZ.
PROJECT NO.
SHEET NO.
TOTAL SHEETS
RECORD DRAWING
DESIGN MPK 09-20
DRAWN RM 09-20
CHECKED TWW 09-20
PIMA COUNTY DEPARTMENT OF TRANSPORTATION
AECOM
ROADWAY PLAN SHEET
STA 93+00 TO 107+00
ROUTE I-10
LOCATION SUNSET ROAD: I-10 TO RIVER ROAD
TRACS NO.
PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION OR RECORDING
SHEET OF
OF
PLOTTED BY: KershnerM
Date Plotted: 9/8/2020
Time Plotted: 4:06:29 PM
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