PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

BUILDING STRONG®

APPLICATION FOR PERMIT
Interstate 17 (I-17) Verde River Bridges
(NB, SB) Structure #: 1731 and 505

Public Notice/Application No.: SPL-2017-00201
Project: I-17 Verde River Bridges (NB, SB) Structure #: 1731, 505 (017 YV 287 H8544 01C)
Comment Period: January 23, 2018 through February 23, 2018
Project Manager: Jesse Rice; (602) 230-6854; Jesse.M.Rice@usace.army.mil

Applicant
Audra Merrick
Arizona Department of Transportation
1801 S. Milton Rd MD F500
Flagstaff, Arizona 86001

Contact
Audrey Navarro
Arizona Department of Transportation
1611 W. Jackson St
Mail Drop EM02
Phoenix, Arizona 85007

Location

Interstate 17 (I-17) at the Verde River near the town of Camp Verde, Yavapai County, AZ (decimal degrees: 34.5866346314961, -111.879509065276). See attached map.

Activity

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is proposing to complete a bridge scour retrofit project on the I-17 Verde River Bridges in order to protect the bridge piers from erosion and maintain the structural integrity of the bridges. For more information see Additional Project Information section below.

Interested parties are hereby notified an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). We invite you to review today's public notice and provide views on the proposed work. By providing substantive, site-specific comments to the Corps Regulatory Division, you provide information that supports the Corps' decision-making process. All comments received during the comment period become part of the record and will be considered in the decision. This permit will be issued, issued with special conditions, or denied under Section 404 of the Clean Water Act. Comments should be mailed to:

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
ATTN: Jesse Rice
3636 North Central Avenue Suite 900
Phoenix, AZ 85012-1939

Alternatively, comments can be sent electronically to: Jesse.M.Rice@usace.army.mil

The mission of the U.S. Army Corps of Engineers Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The Regulatory Program in the Los Angeles District is executed to protect aquatic resources by developing and implementing short- and long-term initiatives to improve regulatory products, processes, program transparency, and customer feedback considering current staffing levels and historical funding trends.

Corps permits are necessary for any work, including construction and dredging, in the Nation's navigable water and their tributary waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the general public, as well as the property rights of private citizens who want to use their land. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public.

During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the general public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the United States. The permit review process serves to first avoid and then minimize adverse effects of projects on aquatic resources to the maximum practicable extent. Any remaining unavoidable adverse impacts to the aquatic environment are offset by compensatory mitigation requirements, which may include restoration, enhancement, establishment, and/or preservation of aquatic ecosystem system functions and services.

Evaluation Factors

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR Part 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Preliminary Review of Selected Factors

EIS Determination- A preliminary determination has been made an environmental impact statement is not required for the proposed work.

Water Quality- The applicant is required to obtain water quality certification, under Section 401 of the Clean Water Act, from the Arizona Department of Environmental Quality. Section 401 requires any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance.

Coastal Zone Management- Not applicable within the State of Arizona.

Essential Fish Habitat- No Essential Fish Habitat (EFH), as defined by the Magnuson-Stevens Fishery Conservation and Management Act, occurs within the project area and no EFH is affected by the proposed project.

Cultural Resources- The proposed project will have no adverse effect on any sites listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, or local significance. The Federal Highway Administration (FHWA), who is the lead federal agency for the project, consulted with the State Historical Preservation Office. Concurrence was received on June 2, 2017.

Endangered Species- Preliminary determinations indicate the proposed activity may potentially affect federally-listed endangered or threatened species and their critical habitat. ADOT and the FHWA, as lead federal agency for the project, have initiated formal consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act.

Public Hearing- Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

Proposed Activity for Which a Permit is Required

Basic Project Purpose- The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the applicant's project is water dependent (i.e., requires access or proximity to or siting within the special aquatic site to fulfill its basic purpose). Establishment of the basic project purpose is necessary only when the proposed activity would discharge dredged or fill material into a special aquatic site (e.g., wetlands, pool and riffle complex, mudflats, coral reefs). The basic project purpose for the proposed project is transportation. The project is not water dependent.

Overall Project Purpose- The overall project purpose serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed project is to protect the I-17 bridges from further erosion from the Verde River and maintain the structural integrity of these facilities.

Additional Project Information

Baseline Information- Within the project limits, I-17 consists of two, 12-foot-wide travel lanes in each direction, divided by a 60-foot-wide median. The Verde River bridges are both seven-span steel continuous-girder bridges and are approximately 525 feet long and 45 feet wide.

Bank slope protection occurs at both banks, and wired rock baskets have been constructed around one of the piers of the southbound (SB) bridge. Over time, the river has eroded material from around the piers of both bridges, undermining the bridges' stability. In addition, cracking on pier walls and abutments is occurring. If not remedied, the bridges would become unsafe for use and would either need to be replaced or traffic would be detoured to an alternate route. The proposed bridge scour retrofit project would prevent this outcome by protecting the bridges from further erosion by the Verde River, thereby maintaining the structural integrity of these facilities.

The project is located within the Semi-desert Grassland Biotic Community at an approximate location of 3,200 feet above mean sea level. Terrain in the greater project vicinity is characterized by vast plateaus, intersected by steep ridges and canyons. Within the project limits, the Verde River corridor is characterized by a relatively narrow low-flow channel with steep cut banks to one side coupled with broad, gently sloping floodways on the other side. I-17 traverses the top of the plateau and spans the river channel below. Vegetation within the project vicinity consists of 1) riparian and xero-riparian species within ephemeral areas of the Verde River, 2) emergent wetland vegetation along the river's edge, and 3) semi-desert grassland in drier upland sites away from the river. Soils in the project vicinity are predominantly composed of sand, gravel and rock, and within the project limits, soils include fine to loamy fine sand, gravelly sand to extremely gravelly loamy sand, loam, silt loam, and silty clay loam. The soils mapped within the project limits are well-drained to excessively drained and are not considered hydric soils.

The Verde River is a perennial stream and the only water of the US in the project area. It originates in Big Chino Valley in north-central Arizona, flows south-east through the rugged highlands and valleys of central Arizona, and empties into the Salt River, east of Phoenix. Within the project vicinity, the Verde River generally flows toward the southeast and under I-17, in the town of Camp Verde. The Verde River, including the ephemeral areas and the intermittent fringe wetlands along both banks of the Verde River are considered Waters of the US.

In the vicinity of the Verde Bridges, the Verde River is generally contained to a low-flow channel between approximately 25 and 65 feet wide and approximately 2 to 4 feet deep. Sand and gravel bars adjacent to the low-flow channel and the adjacent floodway are typically exposed during low flow periods, but are located within the ordinary high water mark (OHWM) and are included within the jurisdictional limits. During higher flows, the river can expand from approximately 420 feet wide to up to approximately 816 feet wide across the sand and gravel bars beneath the Verde Bridges and across the adjacent floodway. The stream bed is primarily soft and composed of sand with some small cobbles.

Project description- ADOT, in association with the FHWA, is planning a bridge scour retrofit project on the I-17 Verde River Bridges. The proposed activities require temporary and permanent discharges of dredged and fill material below the ordinary high water mark (OHWM) of the Verde River. If the proposed project is implemented, 0.527 acre of permanent impacts would occur within areas of the Verde River identified as ephemeral (0.271 acre), wetlands (0.044 acre), and open water (0.212 acre). An additional 4.452 acres of temporary impacts would also occur (3.552 acres of ephemeral, 0.204 acre of wetlands, and 0.696 acre of open water). The project would include the following activities:

- Conducting geotechnical investigations (percolation test of soils)
- Accessing geotechnical test pit locations from I-17 via existing roads to Roundup Road

- Constructing temporary project construction access roads adjacent and parallel to I-17
  - Ingress will be via the southbound I-17 ROW adjacent to the southbound lanes and then Rawhide Road, which continues as a dirt road to the river and passes under the bridges on the north side of the river.
  - Egress from the construction site will be via Roundup Road and the I-17 ROW to merge into the northbound I-17 travel lanes north of the bridge.
- Creating temporary dry work zones within the river bottom
- Constructing concrete armor protection around each pier
- Restoring all disturbed areas, excluding the existing dirt roads, to pre-construction condition following construction
- Staging and stockpiling materials outside of and adjacent to the OHWM
- Reseeding previously vegetated areas outside of the OHWM

Proposed Mitigation– The proposed mitigation may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b)(1) Guidelines. In consideration of the above, the proposed mitigation sequence (avoidance/minimization/compensation), as applied to the proposed project is summarized below:

Avoidance:
To protect the bridge piers from further erosion by the river, scour protection would be constructed around each pier. Because the piers are located within the OHWM of the Verde River, the jurisdictional limits of the Verde River cannot be avoided.

Minimization:
The following features have been incorporated into the proposed project to minimize impacts to waters of the U.S. and associated resources:

- The area designated for staging and stockpiling of equipment and materials is located outside of the OHWM of the Verde River. Staging and stockpiling of materials and equipment will be restricted to a 7.9-acre area located north of the Verde River OHWM and west of I-17.
- Best Management Practices (BMP's) designed to reduce erosion, minimize sedimentation, and eliminate non-storm water pollutants as identified in ADOT's Erosion and Pollution Control Manual for Highway Design and Construction (2012), and ADOT's Standard Specifications for Road and Bridge Construction (2008) would be implemented.
- Site access would occur via existing roads to the extent possible. Construction access to the site via the south bank of the river would have required additional grading and/or road construction as well as vegetation removal, portions of which would have occurred within the OHWM of the Verde River. As such, this option was eliminated from consideration. Instead, temporary bridges would be constructed across the low-flow channel during the first phase of construction and the temporary bypass channel during the second phase of construction to allow construction vehicles to access the south bank of the river.
- The 180-day construction duration would begin in the fall when the Verde River's flows are typically at their lowest to minimize the volume of water diverted.
- ADOT is proposing to place the following requirements on the contractor selected to complete the project:
  - The contractor shall give special attention to the effect of its operations upon the landscape, and shall take care to maintain natural surroundings undamaged.
  - To avoid contamination of the Verde River, the contractor shall develop and implement a containment plan for soil, debris, construction materials, and pollutants

such as fuels, oil, bitumens, calcium chloride, fresh Portland cement, fresh Portland cement concrete, raw sewage, muddy water, chemicals or other harmful materials. The containment plan would be approved by ADOT prior to construction.

- The contractor shall develop and implement a Channelization and Contingency Plan for both phases of channelization that outlines procedures to be followed during the opening, operation, and closing of the temporary bypass channels. The plan shall include procedures to be followed if high flows occur during construction and shall address protection of existing work, uncovered bridge foundations, and excavated material from floodwater. The Channelization and Contingency Plan would be approved by ADOT prior to construction.
- The contractor's final construction plan would be submitted to the US Army Corps of Engineers for approval prior to starting construction.
- A Storm Water Pollution Prevention Plan would be prepared during final design in accordance with the requirements of the Arizona Pollutant Discharge Elimination System Construction General Permit.
- No construction activities shall be conducted with the Verde River during storm events or other periods when high flows are present.
- Construction activities shall cease in the event of a containment breach until the breach is addressed and further breaches are prevented.
- Water for construction shall not be withdrawn from the Verde River.
- Wastewater shall be contained and disposed of at an approved off-site location.
- Flows shall be maintained during and after construction to ensure the functions and values of the downstream Waters of the US, including wetlands.
- During the geotechnical investigations, water that accumulates in the test pits would be filtered to remove sediment prior to being dispersed back into the river using one of several options, including filter socks, a combination of filter socks and rock bags, or allowing it to settle into a basin.
- The contractor shall use temporary bridges to cross the Verde River and temporary bypass channels as necessary. The contractor would not be permitted to ford the flowing river channel.
- The OHWM of the Verde River would be flagged prior to project construction and the flagging would be approved by ADOT. Fencing would be temporarily placed within the OHWM of the Verde River to demarcate construction avoidance areas, then removed.
- A movable concrete barrier would be placed along the northern edge of the OHWM to prevent construction vehicles from inadvertently driving into ephemeral waters from the staging area.
- Staging and stockpiling of materials and equipment would be restricted to a 7.9-acre area located north of the Verde River OHWM and west of I-17. No materials or equipment would be stored or stockpiled with the OHWM of the Verde River overnight. Any excess excavation or other materials would be backfilled or moved to the designated area before the end of the same working day.
- No equipment refueling would occur within the OHWM of the Verde River.
- Project activities would avoid all large trees greater than 12" diameter at breast height (dbh).
- Perennial riparian vegetation would be avoided to the extent possible.
- An on-site biological monitor would be present prior to any ground disturbing activities to assist in the demarcation of riparian vegetation to be avoided.
- The contractor shall complete the project in as short of a timeframe as possible.
- Temporary bypass channels would be removed incrementally to minimize pulses of sediment downstream.

- All previously vegetated areas outside of the OHWM would be reseeded upon completion of the project using an ADOT-approved seed mix.
- The contractor shall remove all construction material and debris from the construction site upon completion of the project and all temporarily disturbed areas within the OHWM of the Verde River shall be reclaimed to their pre-construction elevations and topography.
- The contractor shall comply with all terms and conditions of the Section 404 Individual Permit as established by the US Army Corps of Engineers.
- The contractor shall comply with all terms and conditions of the Individual Section 401 Water Quality Certification certified by the Arizona Department of Environmental Quality.

Compensation:
The applicant has proposed to provide compensatory mitigation for permanent impacts to waters of the U.S. in the form of in-lieu fees. To mitigate impacts to waters of the U.S., the applicant would purchase credits from the Prescott Creeks Preservation Association's Watson Woods in-lieu fee site. The final impacts-to-mitigation ratio is still being determined at this time.

Proposed Special Conditions

The following list is comprised of proposed Permit Special Conditions, which are required of similar types of projects:

1. Mitigation.
   Prior to initiating construction in WUS, and to mitigate for impacts to waters of the U.S., the Permittee shall provide documentation verifying purchase of credits from the Corps-approved Prescott Creeks Preservation Association's in-lieu fee program (ILFP). The Permittee shall not initiate work in WUS prior to receiving written confirmation (by letter or e-mail) from the Corps Regulatory Division as to compliance with this special condition. The Permittee retains responsibility for providing the compensatory mitigation until the number and resource type of credits described have been secured from Prescott Creeks and the district engineer has received documentation that confirms that Prescott Creeks has accepted the responsibility for providing the required compensatory mitigation in accordance with the ILFP instrument.

2. Notification.
   The Permittee shall provide notification, via email or letter, to the Corps Regulatory Division at least one week prior to the start of work, as to the anticipated beginning and ending dates of construction.

3. Flagging.
   The Permittee shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. and riparian wetland/habitat areas shown on Figure 1. Offset stakes with the distance to the limits indicated on the marker are acceptable where marking of the exact location is unfeasible or creates a hazard. The contractor(s) shall be thoroughly familiar with each of the project boundaries, and all perimeter markings shall be maintained intact during construction. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements.

4. Maintenance of flows.
   Except when required by the Section 401 Water Quality Certification, appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable. No work will occur when water is present in the worksite except the Big Sandy River. No alteration of flows during construction are authorized.

5. Dewatering.
   Dewatering and diversion of flows around the project site is authorized during construction. The Channelization and Contingency Plan, which outlines procedures for dewatering operations and will be developed by the contractor for the project, must be submitted and approved by the Corps prior to initiating construction. Water removed from the work area will be returned to the channel without contributing to an increase in sediment/turbidity downstream of the project site. To prevent erosion at the discharge point, energy dissipation and/or scour protection will be utilized as appropriate, and must be removed after dewatering operations have ceased.

6. Temporary fills.
   Temporary fills must consist of materials, and placed in a manner, that will not be eroded by expected normal flows. No stockpiling or staging of materials or equipment is authorized within WUS. Temporary fills necessary in order to dewater or temporarily divert flows around the worksite, such as coffer dams, are authorized within the Verde River during construction in the areas indicated on the impact sheets. The Channelization and Contingency Plan for the project, which will outline procedures to be followed if high flows occur, must be submitted and approved by the Corps prior to initiating construction. After the initial construction activity is completed, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations, to the maximum extent possible. The location of these temporary fills must be located to avoid the removal of mature trees (greater than 12” dbh), to utilize previously disturbed areas to the maximum extent possible, and minimize the total area of disturbance. All project areas disturbed by construction-related activities must stabilized and upland areas reseeded with a native seed mixture that is appropriate for the site conditions.

7. Fill free of contaminants
   All fill placed in WUS must be of suitable material (no trash, debris, asphalt, etc.). All discharges of fill material into WUS must be free from toxic pollutants in toxic amounts (Section 307 of the CWA)

8. Invasive species.
   The Permittee is responsible for controlling and preventing the spread of noxious invasive species in WUS. The Permittee shall utilize integrated vegetation management practices in accordance with State and Federal Laws and Executive Orders to manage invasive species in WUS.

9. Endangered Species
   This Corps permit does not authorize you to take any threatened or endangered species. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g. ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service BO contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, the terms and conditions of which are incorporated by reference in this permit.

Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

10. Migratory Birds and Bald and Golden Eagles.
The Permittee is responsible for ensuring their action complies the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The Permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether incidental take permits are necessary and available for a particular activity.

For additional information please call Jesse Rice of my staff at (602) 230-6854 or via e-mail at Jesse.M.Rice@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.

Regulatory Program Goals:

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
3636 North Central Avenue Suite 900
Phoenix, AZ 85012-1939
WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY

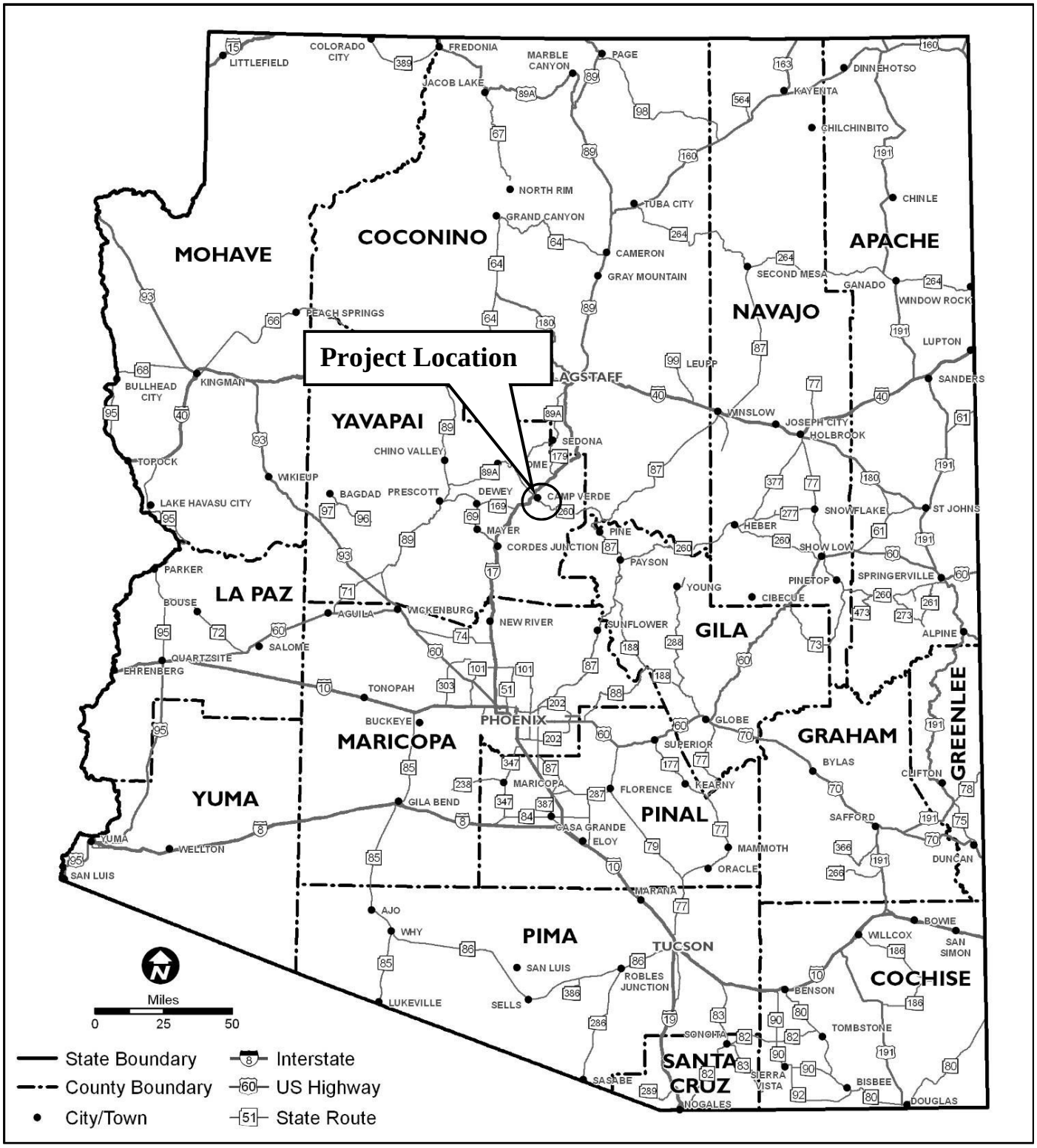


Figure 1. State Location Map
017-B(224)T
017 YV 287 H8544 01C
Verde River Bridges (NB, SB) Structure #: 1731, 505

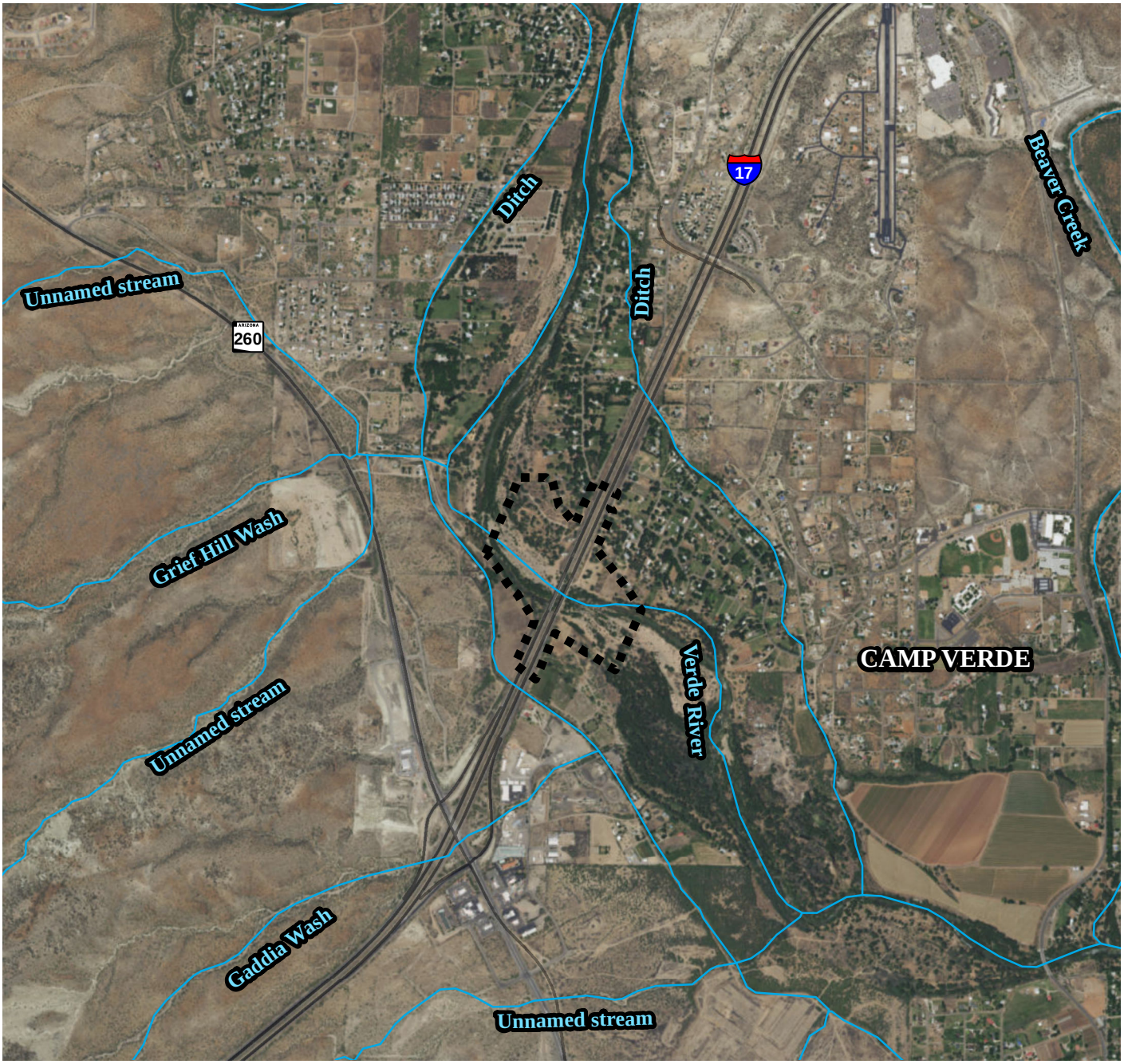


Figure 2. Project Vicinity Map
017-B(224)T
017 YV 287 H8544 01C
Verde River Bridges (NB, SB) Structure #: 1731, 505

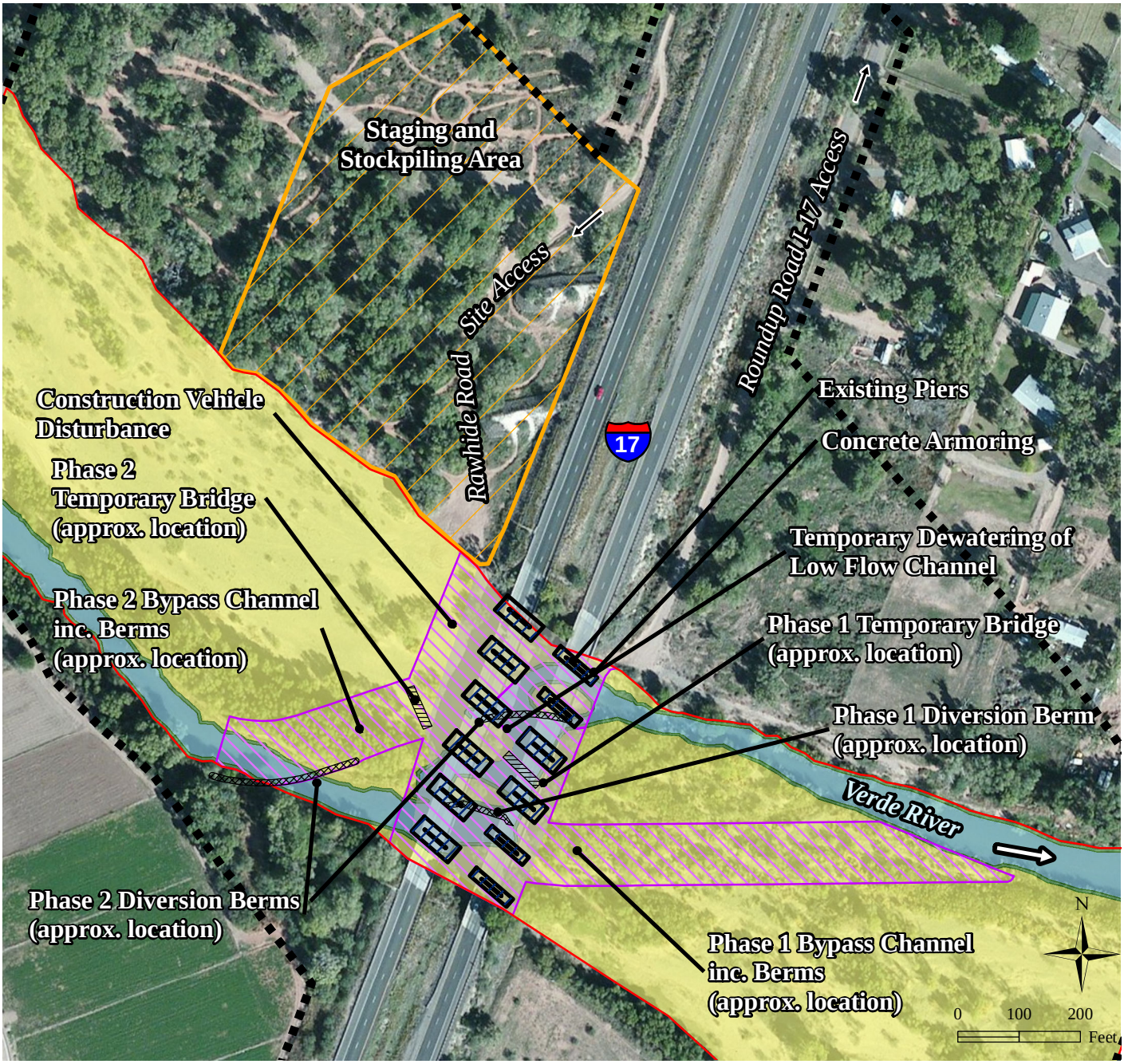
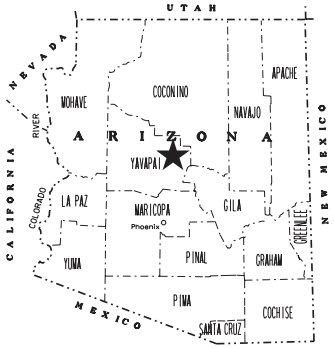


Figure 4. Alternative 1 (Preferred) - Concrete Armoring with Temporary Bypass Channels
017-B(224)T
017 YV 287 H8544 01C
Verde River Bridges (NB, SB) Structure #: 1731, 505

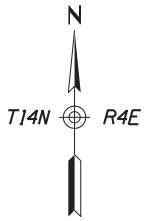


STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION

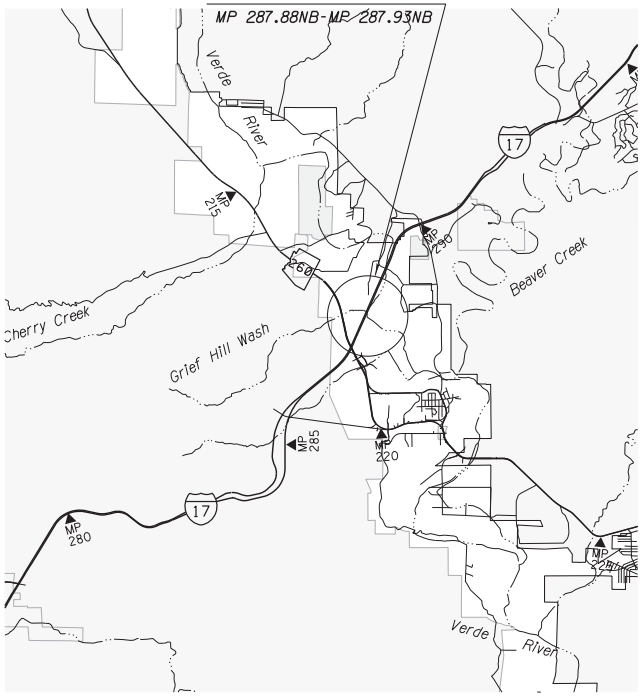
ADOT

PROJECT PLANS

STATE HIGHWAY
CORDES JCT.–FLAGSTAFF HIGHWAY
INTERSTATE 17



SCOUR RETROFIT
MP 287.88NB-MP 287.93NB



Constructed by:

Construction Company

Completion Date

Red-Lines by:

Construction Administrator Name & Company

Completion Date

Record Drawings by:

Record Drawings Designer Name & Company

Completion Date

VERDE RIVER BRIDGES (NB,SB)STR #1731,505

PROJECT NO. 017 YV 287 H8544 01 C
FEDERAL AID NO. 00–017–B(224)T

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
DALLAS HAMMIT, P.E., STATE ENGINEER

REC. DWGS. DATA	REC. DWG. DATE	OF

V:/Roadway\users\td036\ 10:57:43 AM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(224)	2	13	

REFERENCES

I-17-2(46)
I-17-2(48)
ACIM-17-2(32)
I-10-6-920
OIT YV 287 H8623 01C
OIT YV 286 H6820 01C
SURVEY NO. 1067

DESIGN DATA

2015 AADT = 27,200
2040 AADT = 40,240
Min Design Speed = 75 MPH

MIDPOINT OF PROJECT

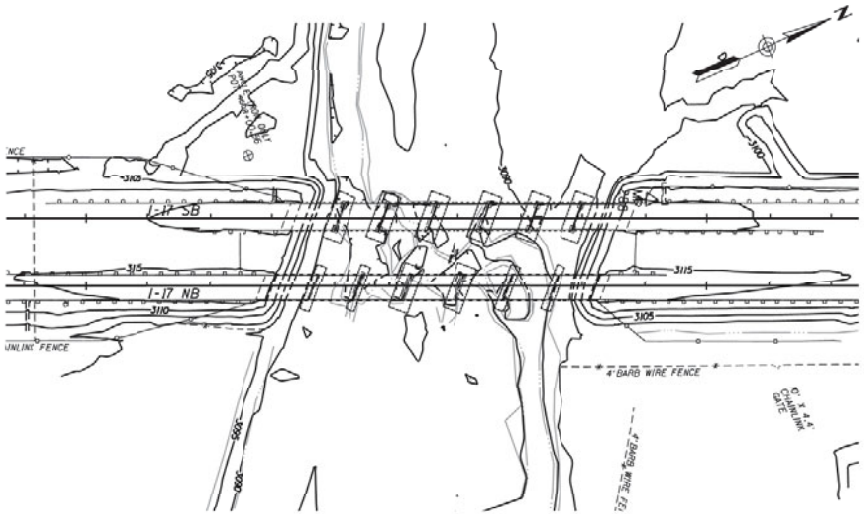
Central Zone
State Plane Coordinates

X = 711,560
Y = 1,304,000

LENGTH OF PROJECT

I-17 Sta 4605+00.00 to 4635+00.00
Gross & Net Length = 3,000.00' - 0.57 Miles
Mile Post 287.84 to 288.40

INDEX OF SHEETS



I-17 NB/SB BRIDGES OVER THE VERDE RIVER
SCOUR RETROFIT

GENERAL NOTES

The roadway plans have been designed using the 2012 Construction Standard Drawings (C-Series) and current revisions. Refer to the 1A sheet for a listing of current revision dates.

Where only the horizontal location of an existing utility is shown, the location is approximate. Where both the horizontal and vertical location of an existing utility is shown, the location has been verified by field survey methods. The contractor shall comply with all current Blue Stake laws and Section 107.15 of the Specifications.

The average project elevation is 3,114'

Delineators, object markers and mile post markers shall be removed and reset as required.

For R/W information not shown, see Right-of-Way Map No.

New Right of Way is not required. Specific use easements are required.

Basis of Bearings:
ADOT Engineering Survey Crew surveyed and provided the Coordinates for the project. Coordinates were based on NAD83(Horizontal and NAVD88 Vertical Datum with a GAF of 1.00025. NGS Control Points used for this project include: K344, A494, and MCGUIREVILLE.

Basis of Alignment and Stations:
Best Fit Alignment was based on split of existing edge of pavement survey points and R/W Markers located in the field. Alignment was tied to R/W marker Station: POT STA 4600+13.47 I-17 NB. Record IM-017-B(201)A was used to construct the best-fit alignment file.

Basis of Elevations:
NGS Monument Stamped K344 with elevation 3289.57, was held as basis of elevation for the project.

EARTHWORK QUANTITIES		
Excavation	0	CY
Embankment (0% Shrink) (Available)	0	CY
Drainage Excavation	12,522	CY
Waste (Contouring)	0	CY

EARTHWORK FACTORS		
Station	Shrink/Swell	Ground Compaction
Project Limits	0% Shrink	0.10

	NAME	DATE
DESIGN	RB	10/16
DRAWN	MAG	10/16
CHECKED	RB	10/16

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

JACOBS

DESIGN SHEET AND NOTES

ROUTE: I-17
LOCATION: VERDE RIVER AT INTERSTATE 17
ADOT BRIDGE NO. 505 AND 1731

TRACS NO. H8544 01D | 017-A(224) | ___ OF ___

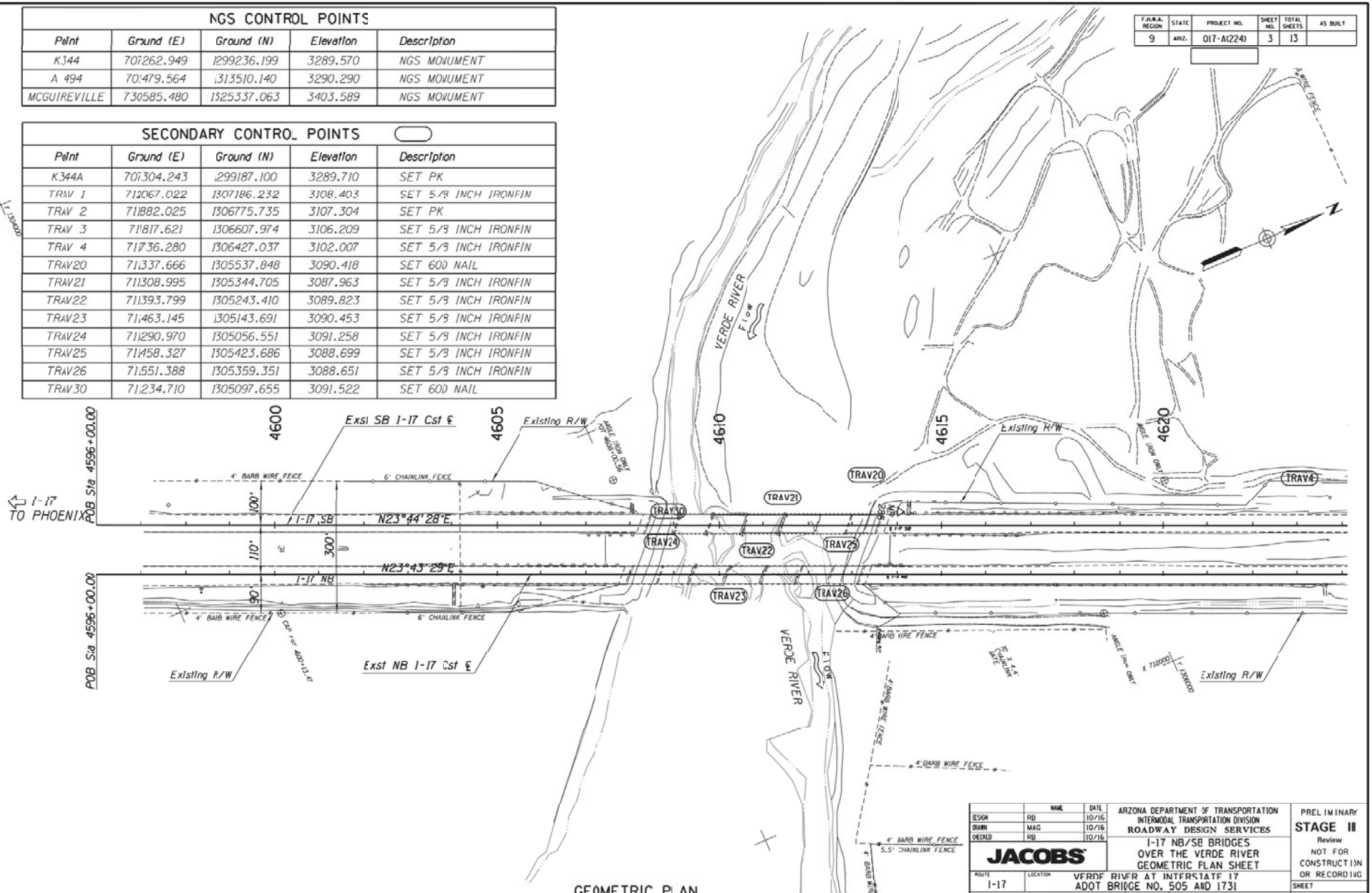
PRELIMINARY
STAGE II
Review
NOT FOR CONSTRUCTION OR RECORDING

10/10/2016 P:\W7Y4210 Verde River\700PROJTEC\70CIVIL\702ADGN\S1259ds01.dgn

NGS CONTROL POINTS				
Point	Ground (E)	Ground (N)	Elevation	Description
K344	707262.949	1299236.199	3289.570	NGS MONUMENT
A 494	701479.564	1313510.140	3290.290	NGS MONUMENT
MCGUIREVILLE	730585.480	1325337.063	3403.589	NGS MONUMENT

SECONDARY CONTROL POINTS				
Point	Ground (E)	Ground (N)	Elevation	Description
K344A	707304.243	1299187.100	3289.710	SET PK
TRAV 1	712067.022	1307186.232	3108.403	SET 5/8 INCH IRONPIN
TRAV 2	711882.025	1306775.735	3107.304	SET PK
TRAV 3	711817.621	1306607.974	3106.209	SET 5/8 INCH IRONPIN
TRAV 4	711736.280	1306427.037	3102.007	SET 5/8 INCH IRONPIN
TRAV20	711337.666	1305537.848	3090.418	SET 60D NAIL
TRAV21	711308.995	1305344.705	3087.963	SET 5/8 INCH IRONPIN
TRAV22	711393.799	1305243.410	3089.823	SET 5/8 INCH IRONPIN
TRAV23	711463.145	1305143.691	3090.453	SET 5/8 INCH IRONPIN
TRAV24	711290.970	1305056.551	3091.258	SET 5/8 INCH IRONPIN
TRAV25	711458.327	1305423.686	3088.699	SET 5/8 INCH IRONPIN
TRAV26	711551.388	1305359.351	3088.651	SET 5/8 INCH IRONPIN
TRAV30	711234.710	1305097.655	3091.522	SET 60D NAIL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(224)	3	13	



GEOMETRIC PLAN
Scale 1" = 100'

	NAME	DATE
DESIGN	RB	10/16
DRAWN	MAG	10/16
CHECKED	RB	10/16

JACOBS

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

I-17 NB/SB BRIDGES
OVER THE VERDE RIVER
GEOMETRIC PLAN SHEET

ROUTE	LOCATION
I-17	VERDE RIVER AT INTERSTATE 17 ADOT BRIDGE NO. 505 AND 1731

TRACS NO. H8544 01D | 017-A(224) | SHEET ___ OF ___

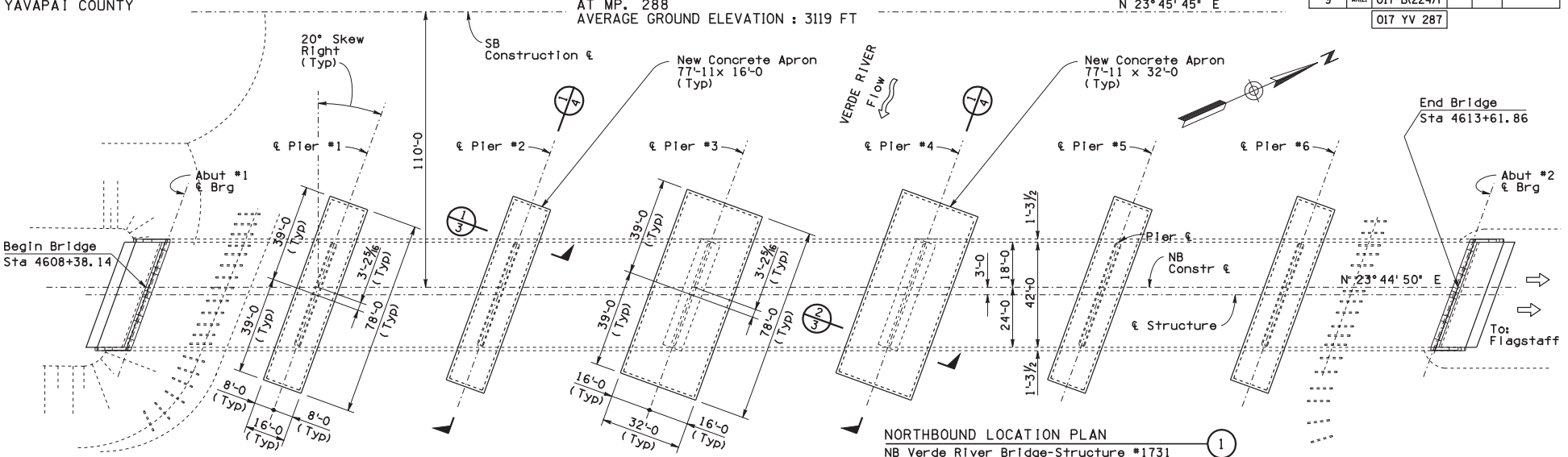
PRELIMINARY
STAGE II
Review
NOT FOR CONSTRUCTION OR RECORDING

10/10/2015 P:\W7114210 Verde River\700PROJTEC\70CIVIL\702ADGN\S1259geo01.dgn

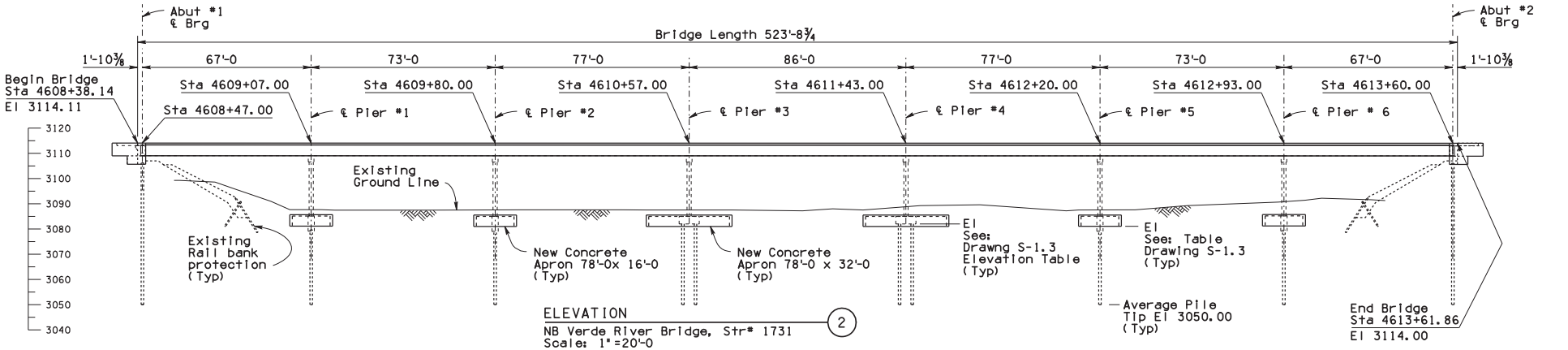
CORDES JT - FLAGSTAFF HIGHWAY
VERDE RIVER BRIDGE NB & SB
YAVAPAI COUNTY

EASTERN ZONE X= 511437 Y= 1305028
AT MP. 288
AVERAGE GROUND ELEVATION : 3119 FT

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.	017-B(224)T			
		017 YV 287			



NORTHBOUND LOCATION PLAN (1)
NB Verde River Bridge-Structure #1731
Existing 7 Span Steel Girder Bridge
Scale: 1"=20'-0



ELEVATION (2)
NB Verde River Bridge, Str# 1731
Scale: 1"=20'-0

NOTES:
Quantity shown for structural excavation is for estimating and establishing unit costs only, actual payment quantity shall be determined from the contractor survey to be verified and approved by the Engineer.

APPROXIMATE QUANTITIES FOR VERDE RIVER BRIDGES			
ITEM	UNIT	TOTAL	AS-BUILT
Structural Excavation	CY	4,081	
Class "S" Concrete f'c = 3000 psi	CY	870	
Reinforcing Steel	Lbs	56,820	

BRIDGE DESIGN SECTION 'C'		DATE
DESIGN	M. Hasan	8-16
DRAWN	Hasan/Edwards	8-16
CHECKED	X. Xu	8-16
APPROVED-SECTION LEADER	S.-Y. Hsu	8-16

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
BRIDGE GROUP

STA 4608+
VERDE RIVER BRIDGE NB #1731
GENERAL PLAN

I-17 ROUTE	287.88 MILEPOST	1731 STRUCTURE NO.

LOCATION: VERDE RIVER BRIDGE NB AND SB

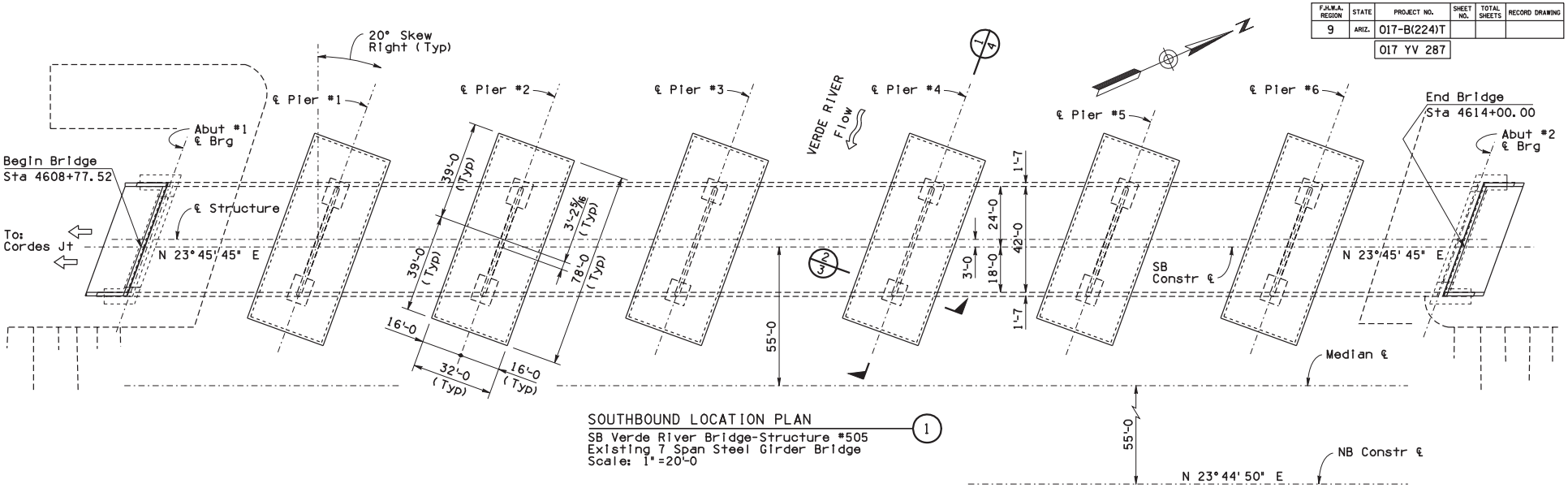
TRACS NO. H 8544 01C | 017-B(224)T

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING
DWG. S-1.1 OF 4
___ OF ___

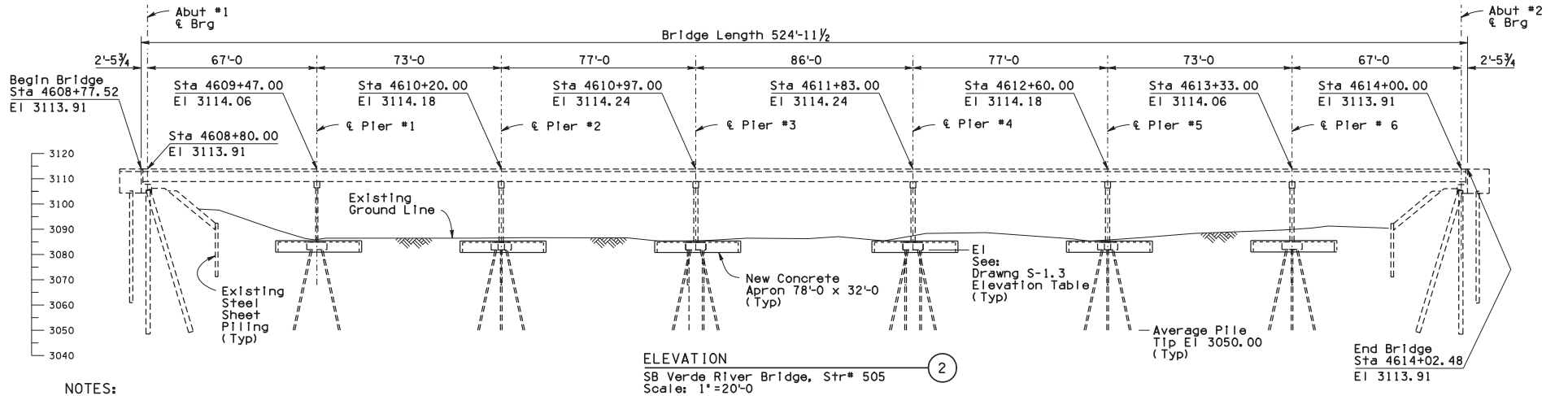
23-AUG-2016 15:31 V:\Bridge\Users\a6456\s1731gp.dgn

NO.1 DESCRIPTION OF REVISIONS | DATE | MADE BY
NO.2 DESCRIPTION OF REVISIONS | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.	017-B(224)T			
		017 YV 287			



SOUTHBOUND LOCATION PLAN (1)
SB Verde River Bridge-Structure #505
Existing 7 Span Steel Girder Bridge
Scale: 1"=20'-0



ELEVATION (2)
SB Verde River Bridge, Str# 505
Scale: 1"=20'-0

NOTES:
Quantity shown for structural excavation is for estimating and establishing unit costs only, actual payment quantity shall be determined from the contractor survey to be verified and approved by the Engineer.

BRIDGE DESIGN SECTION 'C'		DATE
DESIGN	M. Hasan	8-16
DRAWN	Hasan/Edwards	8-16
CHECKED	X. Xu	8-16
APPROVED-SECTION LEADER	S.-Y. Hsu	8-16

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
BRIDGE GROUP

STA 4608+
VERDE RIVER BRIDGE SB #505
GENERAL PLAN

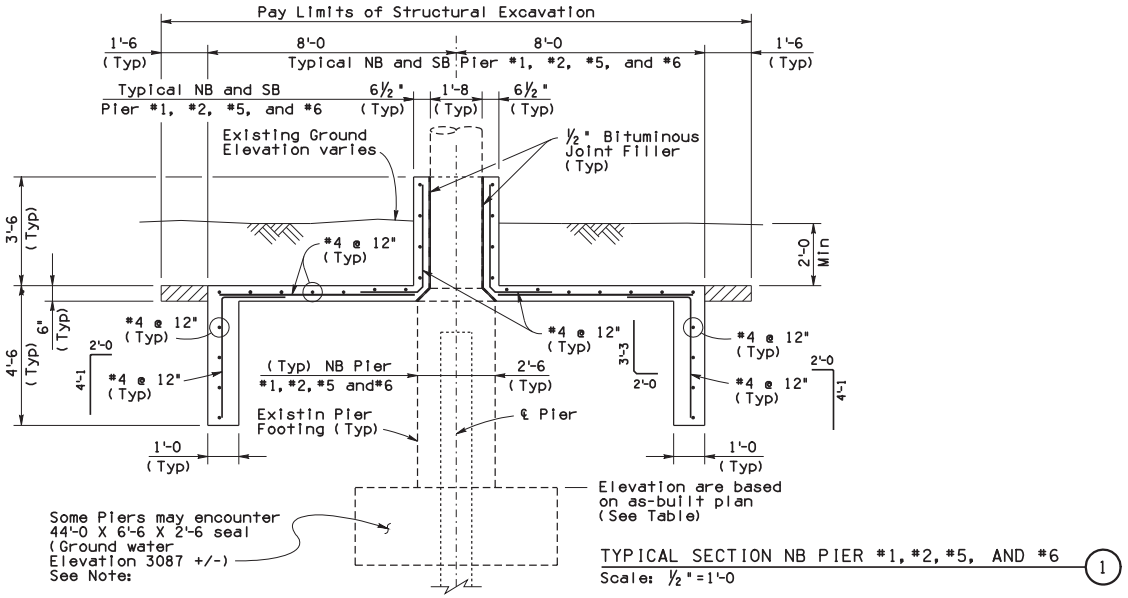
I-17 ROUTE	287.93 MILEPOST	505 STRUCTURE NO.	LOCATION VERDE RIVER BRIDGE NB AND SB

TRACS NO. H 8544 01C | 017-B(224)T

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING
DWG. S-1.2 OF 4
___ OF ___

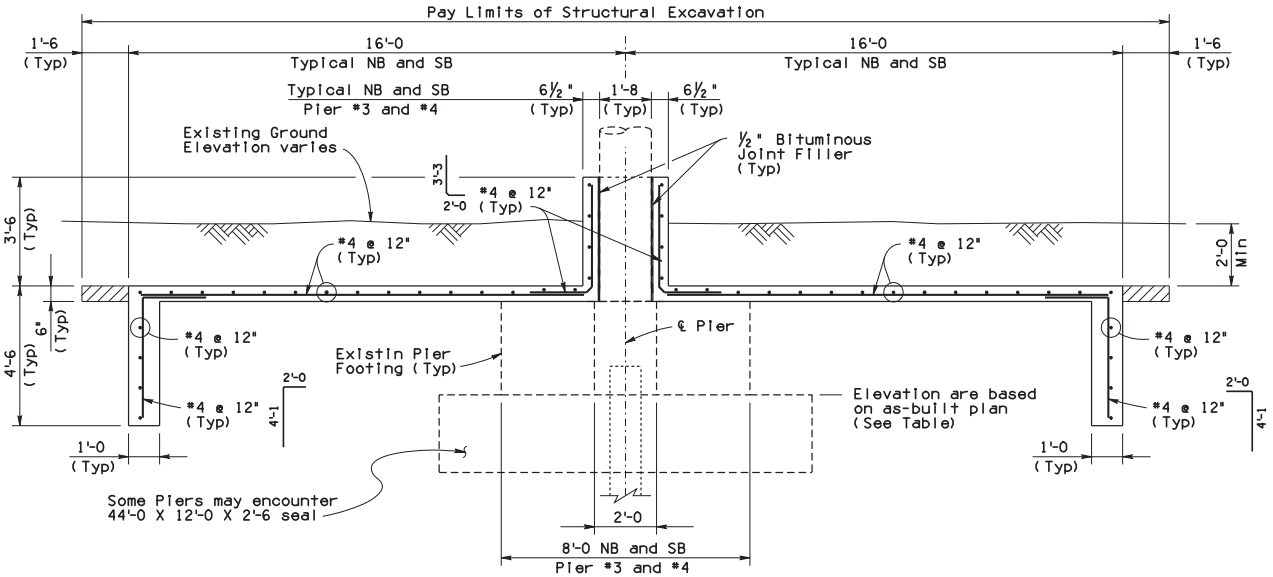
23-AUG-2016 15:31 V:\Bridge\Users\a6456\s0505gp.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.	017-B(224)T			
		017 YV 287			



TYPICAL SECTION NB PIER #1, #2, #5, AND #6 — 1

Scale: ½" = 1'-0



TYPICAL SECTION NB PIER #3 AND #4 - SB PIER #1, #2, #3, #4, #5, AND #6 — 2

Scale: ½" = 1'-0

NOTES:

1. Contractor shall verify existing ground elevations at no cost to the Department.
2. Existing trees and brush hindering the construction of the concrete protection shall be removed at no cost to the Department
3. All work will be completed within existing right of way
4. All Excavated material shall be placed back over the new concrete floor and shall be graded to the original ground line as directed by the Engineer at no cost to the Department.
5. Contractor shall verify existing seal under pier at no cost to the Department

ELEVATION AT THE BOTTOM OF PIER CAP		
NAME	NB Elevation	SB Elevation
Pier #1	3077.93	3078.99
Pier #2	3078.06	3079.19
Pier #3	3078.07	3083.15
Pier #4	3078.06	3083.15
Pier #5	3078.03	3079.19
Pier #6	3077.88	3078.99

LEGEND:

Hatched Area Indicates Pay Limits of Structural Excavation

BRIDGE DESIGN SECTION 'C'		DATE
DESIGN	M. Hasan	8-16
DRAWN	Hasan/Edwards	8-16
CHECKED	X. Xu	8-16
APPROVED-SECTION LEADER	S.-Y. Hsu	8-16

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
BRIDGE GROUP

STA 4608+
VERDE RIVER BRIDGE NB AND SB
SCOUR FLOOR DETAILS

I-17 ROUTE	287.93 NB 287.88 SB MILEPOST	505/1731 STRUCTURE NO.	LOCATION VERDE RIVER BRIDGE NB AND SB

TRACS NO. H 8544 01C | 017-B(224)T

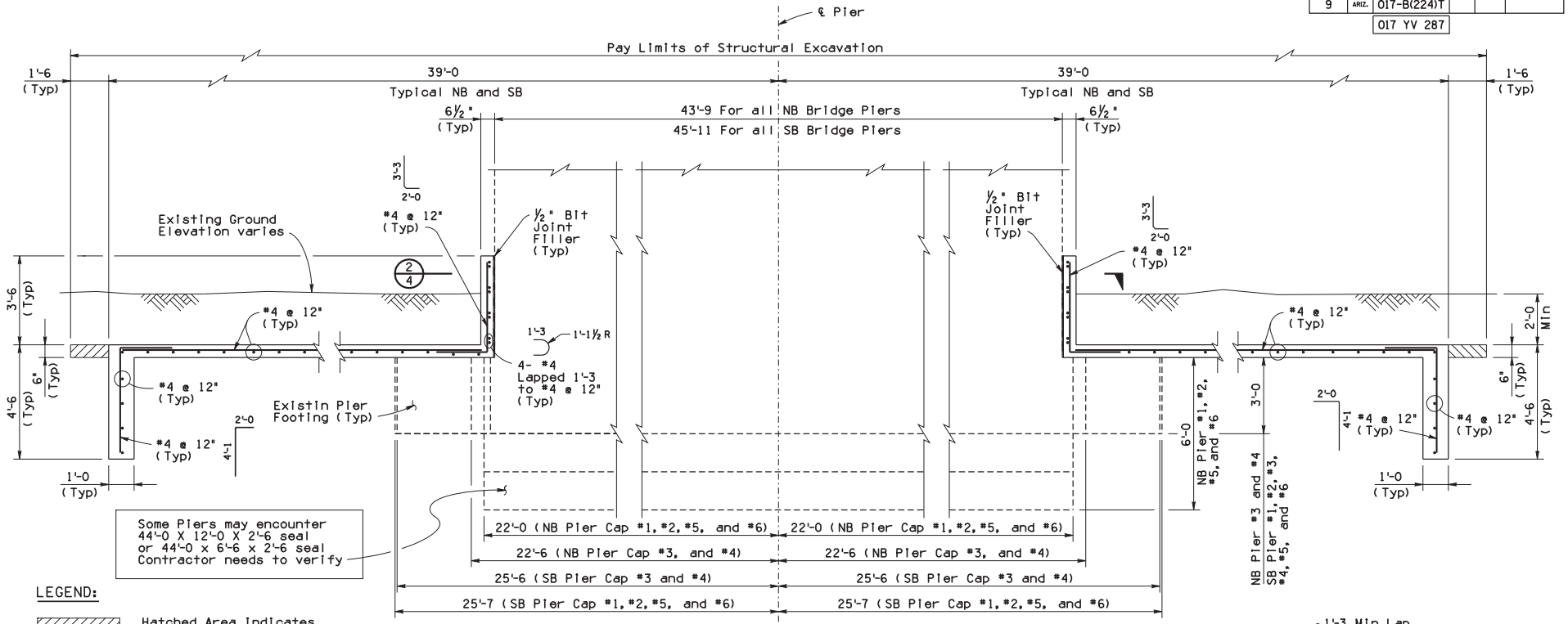
PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG. S-13 OF 4

___ OF ___

23-AUG-2016 15:31 V:\Bridge\Users\a6456\s0505-1731spl.dgn

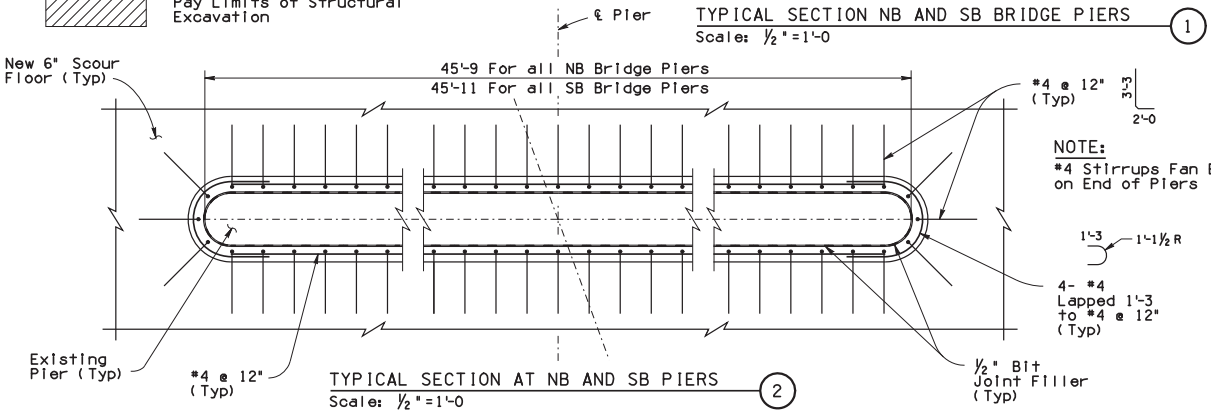
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.	017-B(224)T			
		017 YV 287			



LEGEND:

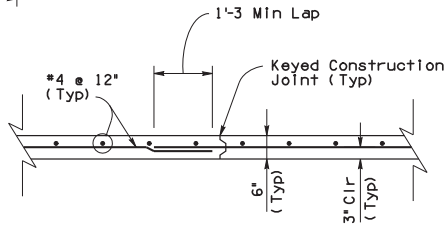
Hatched Area Indicates Pay Limits of Structural Excavation

TYPICAL SECTION NB AND SB BRIDGE PIERS (1)
Scale: ½" = 1'-0



NOTE:
#4 Stirrups Fan Equally on End of Piers

TYPICAL SECTION AT NB AND SB PIERS (2)
Scale: ½" = 1'-0



CONDTRUCTION JOINT DETAIL (3)
Scale: ¾" = 1'-0

BRIDGE DESIGN SECTION 'C'		DATE
DESIGN	M. Hasan	8-16
DRAWN	Hasan/Edwards	8-16
CHECKED	X. Xu	8-16
APPROVED-SECTION LEADER	S.-Y. Hsu	8-16

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
BRIDGE GROUP

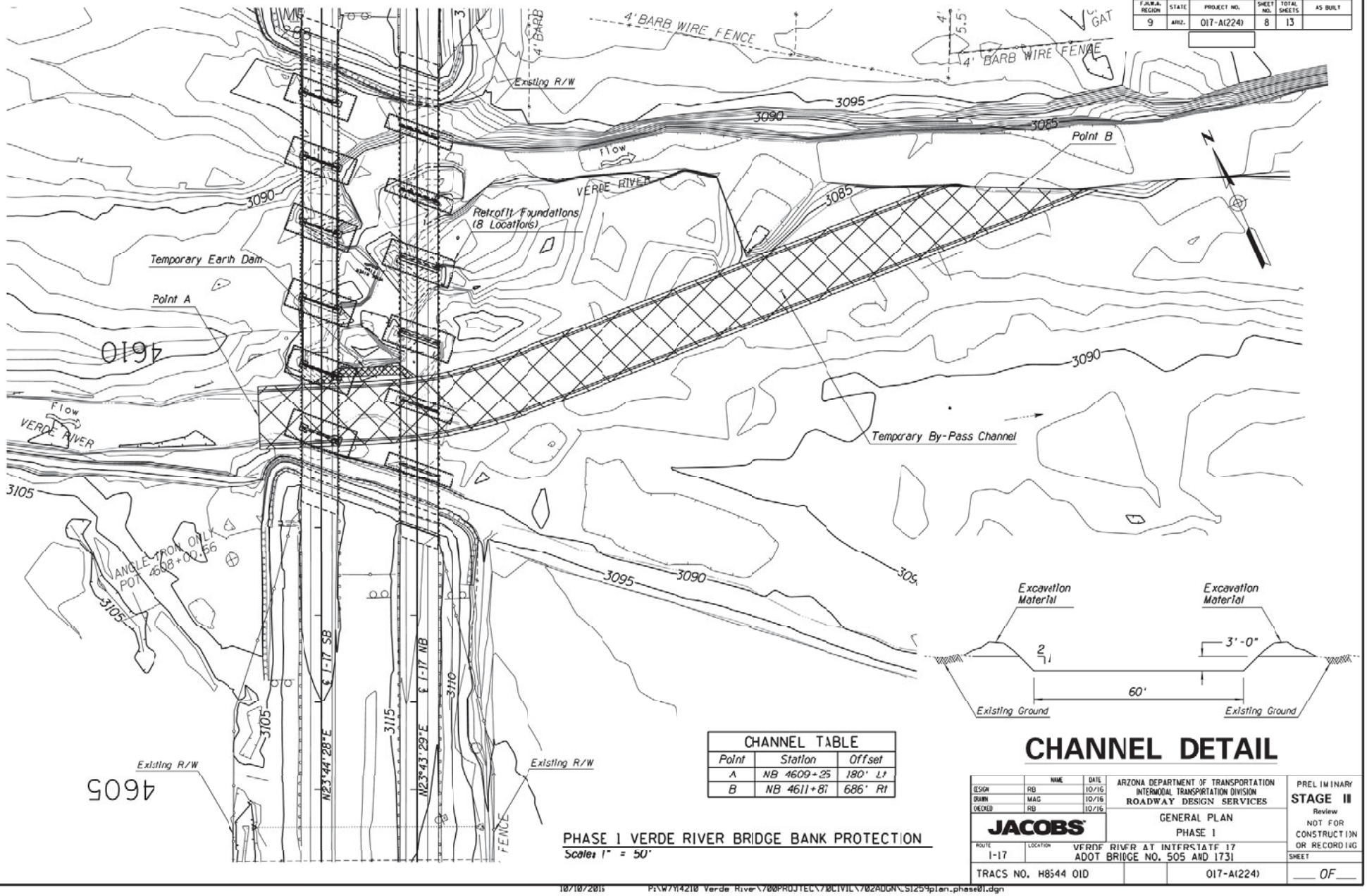
STA 4608+
VERDE RIVER BRIDGE NB AND SB
SCOUR FLOOR DETAILS

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING
DWG. S-1.4 OF 4

I-17 ROUTE	287.93 NB 287.88 SB MILEPOST	505/1731 STRUCTURE NO.	LOCATION: VERDE RIVER BRIDGE NB AND SB

TRACS NO. H 8544 01C | 017-B(224)T | ___ OF ___

23-AUG-2016 15:31 V:\Bridge\Users\a6456\s0505-1731sp2.dgn



CHANNEL TABLE		
Point	Station	Offset
A	NB 4609+25	180' Lt
B	NB 4611+81	686' Rt

PHASE 1 VERDE RIVER BRIDGE BANK PROTECTION
Scale: 1" = 50'

CHANNEL DETAIL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(224)	8	13	

	NAME	DATE
DESIGN	RB	10/16
DRAWN	MAG	10/16
CHECKED	RB	10/16

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

JACOBS

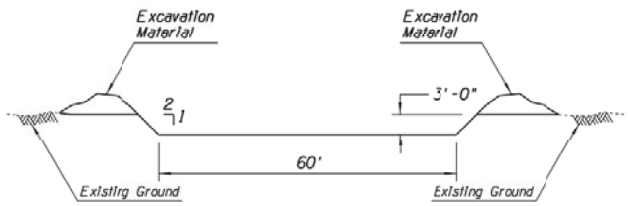
GENERAL PLAN
PHASE 1

ROUTE	LOCATION
I-17	VERDE RIVER AT INTERSTATE 17 ADOT BRIDGE NO. 505 AND 1731

TRACS NO. H8544 01D | 017-A(224)

PRELIMINARY
STAGE II
Review
NOT FOR CONSTRUCTION OR RECORDING
SHEET ___ OF ___

10/10/2016 P:\W7114210 Verde River\700PROJTEC\70CIVIL\702ADGN\S1259plan_phase01.dgn



CHANNEL DETAIL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(224)	9	13	

CHANNEL TABLE		
Point	Station	Offset
A	SB 4609+25	382' Lt
B	SB 4612+17	162' Rt

PHASE 2 VERDE RIVER BRIDGE BANK PROTECTION
Scale: 1" = 50'

	NAME	DATE
DESIGN	RB	10/16
DRAWN	MAG	10/16
CHECKED	RB	10/16

JACOBS

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

GENERAL PLAN
PHASE 2

ROUTE	LOCATION
I-17	VERDE RIVER AT INTERSTATE 17 ADOT BRIDGE NO. 505 AND 1731

TRACS NO. H8544 01D | 017-A(224)

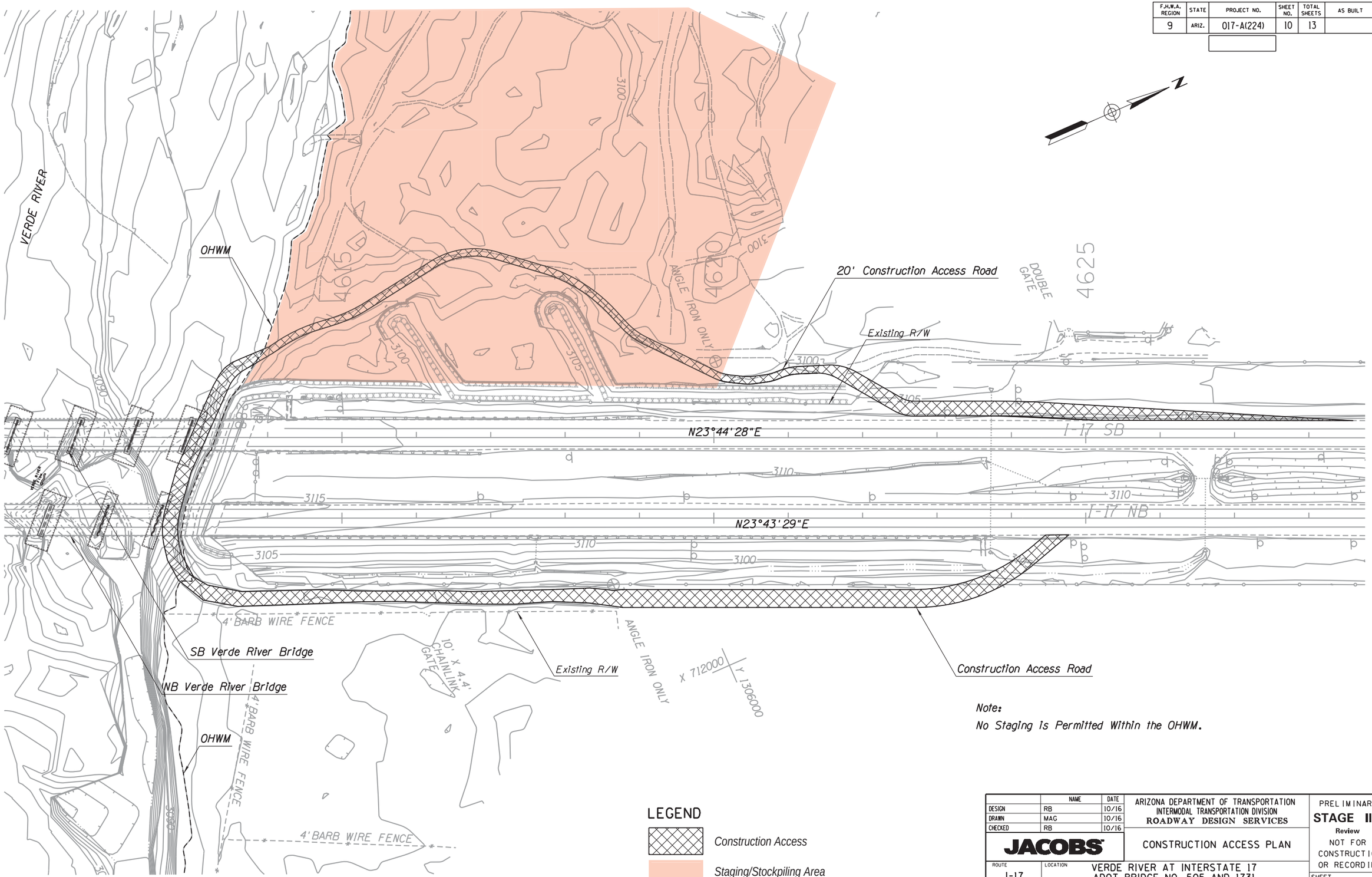
PRELIMINARY
STAGE II
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET ___ OF ___

10/10/2016 P:\W7714210 Verde River\700PROJTEC\70CIVIL\702ADGN\S1259plan_phase02.dgn

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(224)	10	13	

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



Note:
No Staging is Permitted Within the OHWM.

LEGEND

Construction Access

Staging/Stockpiling Area

	NAME	DATE
DESIGN	RB	10/16
DRAWN	MAG	10/16
CHECKED	RB	10/16

JACOBS

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

CONSTRUCTION ACCESS PLAN

ROUTE: I-17
LOCATION: VERDE RIVER AT INTERSTATE 17 ADOT BRIDGE NO. 505 AND 1731

TRACS NO. H8544 01D | 017-A(224)

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

SHEET ___ OF ___

9/15/2017 P:\W7Y14210 Verde River\700PROJTEC\710CIVIL\702ADGN\LS1259access01_OHWM.dgn