

PUBLIC NOTICE

**US Army Corps
of Engineers®**

LOS ANGELES DISTRICT

APPLICATION FOR PERMIT

Public Notice/Application No.: SPL-2011-996-KAT

Comment Period: April 19, 2012 through May 18, 2012

Applicant

Mr. Greg Gentsch
Arizona Department of Transportation
Prescott District Engineer
1109 E. Commerce Drive (P800)
Prescott, Arizona 86305

Contact

Ms. Anna Masayesva
Arizona Department of Transportation
Environmental Planning Group
1611 West Jackson MD EM02
Phoenix, Arizona 85007

Location

The proposed project is located within the Bishop Creek sub-watershed (HUC 1507010204) within the Agua Fria Watershed (HUC 15070102) of the Agua Fria Basin. The proposed project area is located along Interstate 17 (I-17) between milepost (MP) 243.10 and MP 243.60, at the Agua Fria River northbound (NB) and southbound (SB) bridges, within Black Canyon City, Yavapai County, Arizona (34.071364, -112.140725 decimal degrees, NAD 83). The legal description of the project area is Township 8 North, Range 2 East, portions of Section 3, and Township 9 North, Range 2 East, portions of Section 34 (Gila and Salt River Baseline and Meridian). (USGS 7.5' Quadrangle: *Black Canyon City, Ariz.* [1969]).

Activity

To discharge dredged and/or fill material into 0.656 acre of Agua Fria River for the construction of reinforced concrete scour floors around each bridge pier.

For more information, see page 4 of this notice and attached drawings.

Interested parties are hereby notified that an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). Interested parties are invited to provide their views on the proposed work, which will become a part of the record and will be considered in the decision. This permit application will be issued or denied under Section 404 of the Clean Water Act (33 U.S.C. 1344).

Comments can be e-mailed to: kathleen.a.tucker@usace.army.mil or mailed to:

**U. S. Army Corps of Engineers
ATTENTION: Regulatory Division (SPL-2011-996-KAT)
3636 North Central Avenue, Suite 900
Phoenix, Arizona 85012-1939**

For additional information please call Kathleen A. Tucker at (602) 230-6956 or send an e-mail to kathleen.a.tucker@usace.army.mil. This public notice is issued by the Arizona Regulatory Branch of the Los Angeles District of the US Army Corps of Engineers.

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 will discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR 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 that an environmental impact statement is not required for the proposed work.

Water Quality- The applicant has applied for a water quality certification, under Section 401 of the Clean Water Act, from the Arizona Department of Environmental Quality. Section 401 of the Clean Water Act requires that any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers.

Cultural Resources- The proposed project area has been previously surveyed for cultural resources. The results of the survey have been coordinated with the State Historic Preservation office who has concurred that the proposed project has no adverse effect on sites eligible for listing in the National Register of Historic Places (NHRP).

Endangered Species- Preliminary determinations indicate that the proposed activity would not affect federally-listed endangered or threatened species, or their critical habitat. Therefore, formal consultation under Section 7 of the Endangered Species Act does not appear to be required at this time.

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. The basic project purpose for the proposed project is transportation and therefore, 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, as defined by the Corps, is to construct erosion protection measures at each pier of the Agua Fria River bridges to protect the foundations and the overall bridge structures from failure due to scour.

Additional Project Information

Baseline Information- The Agua Fria River NB and SB bridges (Structure Numbers 1807 and 1808) were determined to be a priority for retrofit based on a list of scour vulnerable state bridges identified by the ADOT Bridge Hydraulics Section. In 2004, the Federal Highway Administration (FHWA) posted an amendment to Title 23, CFR, part 650, subpart C, to revise the National Bridge Inspection Standards to require state and local agencies to evaluate all bridges over waterways and develop, implement, and maintain a Plan of Action for those identified as scour vulnerable. Scour vulnerability is evaluated using FHWA's National Bridge Inventory which includes a ranking system for Scour Critical Bridges. According to FHWA, a scour critical bridge is defined as a bridge with abutment or pier foundations that are determined unstable based on observations of scour, or a bridge with foundations that have the potential to become unstable due to scour. The ranking system ranges from zero to nine, with a scour code of nine given to bridges with no threat of scour and a scour code of zero given to bridges that have failed due to scour and are currently closed to traffic. The Agua Fria River bridges have a current scour code of three, identifying the bridges as scour critical because the current conditions have rendered the foundations unstable. Upon completion of the project, the Agua Fria River bridges would receive a scour code of seven, indicating that erosion countermeasures have been installed, and the bridge is no longer determined scour critical. This action would comply with the FHWA's revised National Bridge Inspection Standards.

The Agua Fria River bridges were originally constructed in 1964. The flow pattern of the river is such that immediately upstream of the bridges, the river turns from a southward direction to a westward direction. Heavy flows through this bend result in shifting the river further south, causing erosion around the bridge piers and abutments. In December of 1978, a large flood event with flows exceeding the flood capacity of the bridges washed out the south abutment of the NB bridge, damaging the bridge deck. The bridges were rebuilt as steel girder bridges with shallow spread footings in 1980, and boulders were dumped at the abutments to line the bank slope in an effort to alleviate the erosion issue. However, recent inspections by the ADOT Bridge Group have revealed continuing scour problems at the bridge piers and abutments.

The permit area is located adjacent to residential development within the Arizona Upland Subdivision of the Sonoran Desertscrub Biotic Community, at an elevation of approximately 1,985 feet above mean sea level. Vegetation in the surrounding area generally consists of creosote bush, burrobush, desert broom, mesquite, and saguaro. Along the banks of the river, there are linear patches of vegetation consisting of paloverde, tamarisk and willow. Vegetation within the river

primarily includes patches of dead or dying sapling cottonwoods and willows, and dead or dying emergent aquatic vegetation such as cattail and bulrush occurring within and adjacent to shallow concave areas along the low-flow channel. Within the active channel, vegetation is minimal with some sparse weedy annuals such as bee plant.

Soils in the area are Thermic Semiarid soils of the Lithic Torriorthents-Lithic Haplustolls-Rock Outcrop Association, which consists of well-drained, shallow, cobbly and gravelly soils, formed in residuum weathered from many rocks including granite, gneiss, rhyolite, andesite, tuffs, limestone, sandstone, and basalt. Geologic formations in the project area consist of young alluvium (Holocene to latest Pleistocene) deposits in present-day river and stream channels, floodplains, and playas. The substrate within the river is sandy with cobbles ranging from 1-inch to 1-foot in diameter indicating regular changes likely occur in the substrate due to seasonal or annual deposition of new soils. However, some areas with an accumulation of silt occur in concave areas in the vicinity of the low-flow channel. The Agua Fria River is intermittent. However, the dead and dying emergent aquatic vegetation observed suggests the area may be seasonally inundated and shallow concave areas retain water for a duration sufficient to germinate wetland vegetation. As previously discussed, there are two USGS stream gages in the greater vicinity along the Agua Fria River that show a trend for increased flows during the winter and spring months due to snow-melt and a brief spike in flows during monsoon season.

Overall Proposed Project Description- ADOT proposes to install scour protection measures around the bridge pier footings to protect the foundations and overall bridge structures from possible failure and to extend the serviceable life of the bridges. The proposed improvements consist of the following:

- Constructing a 40-foot × 65-foot sub-grade concrete armored floor around each of six piers
- Installing 4.5-foot deep concrete cutoff walls on the upstream and downstream end of each of the concrete floors
- Utilizing existing frontage and county roads for access to the riverbed
- Improving and designating a 20-foot-wide temporary access road within the existing drainage easement to access the piers and staging and stockpiling locations
- Staging and stockpiling within ADOT right-of-way and existing drainage easement northwest of the bridges outside of the riverbed
- Removing vegetation including wetland vegetation within the work limits

The project would occur within and adjacent to existing ADOT R/W and drainage easement through private lands. No new R/W, drainage easement, or temporary construction easements are anticipated to be required. Construction is anticipated to begin in the fall of 2012, and is expected to take approximately three months to complete.

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 and Minimization Information –The alternatives analysis for this project indicated that it would not be practicable to avoid waters of the US during project construction. After reviewing the alternatives analysis and independently evaluating opportunities for avoidance, the Corps has concurred that avoidance of waters of the US is not practicable for this project. Impacts would be limited to the minimum necessary to accomplish this project. Based on the alternatives analysis, the Preferred Alternative is the least environmentally damaging practicable alternative. To the extent practicable, impacts to waters of the US would be minimized. Erosion control measures would be taken to reduce impacts to water quality.

Compensation- The proposed action will result in 0.523 acre of permanent impacts to wetlands and 0.133 acre impacts to other waters within the Agua Fria River with a total permanent impact of 0.656 acre. ADOT will provide compensatory mitigation through in-lieu fees. The Corps will include the payment of in-lieu fees as a special condition of the permit.

Proposed Special Conditions

To be developed.

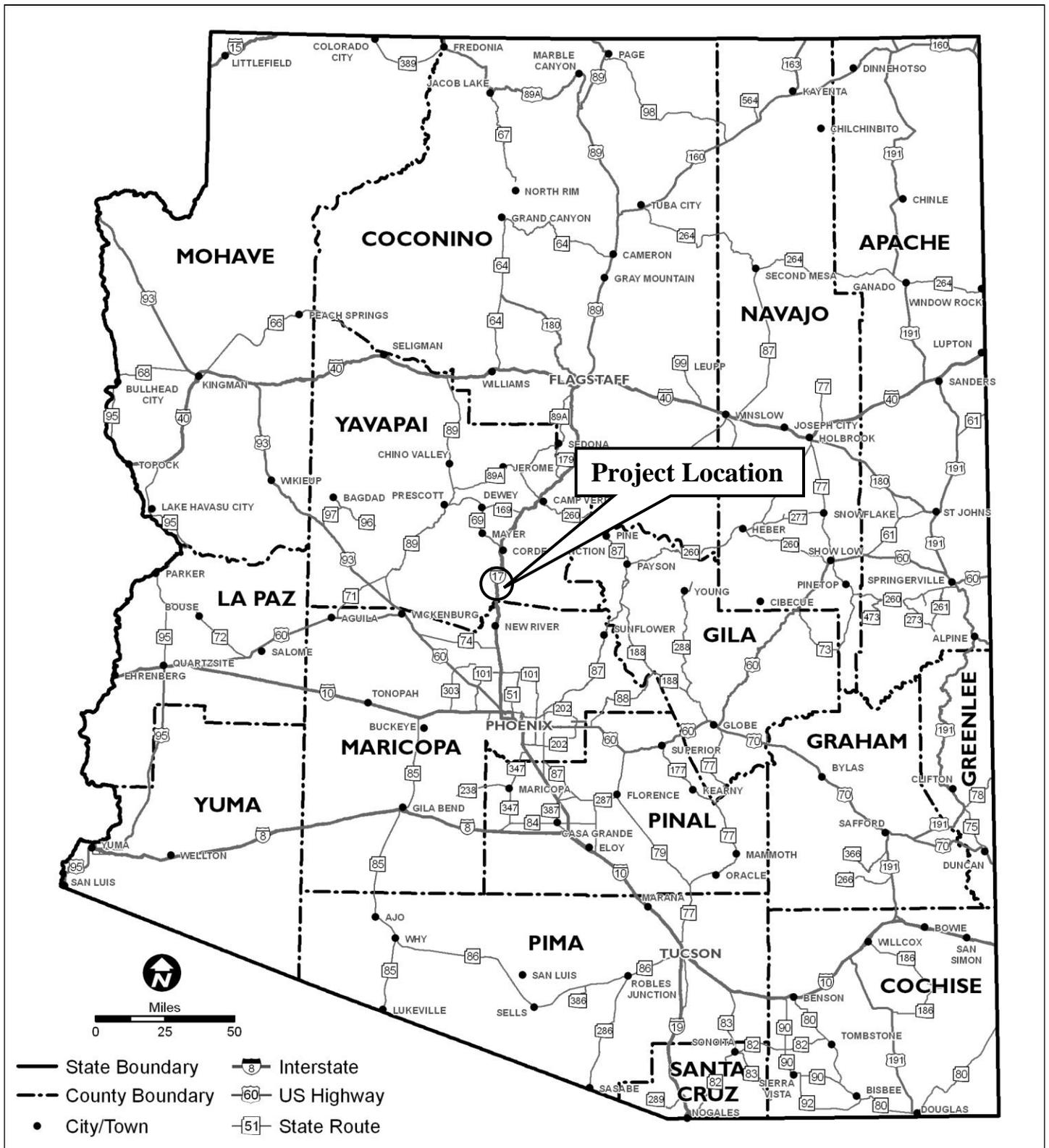


Figure 1. State Location Map

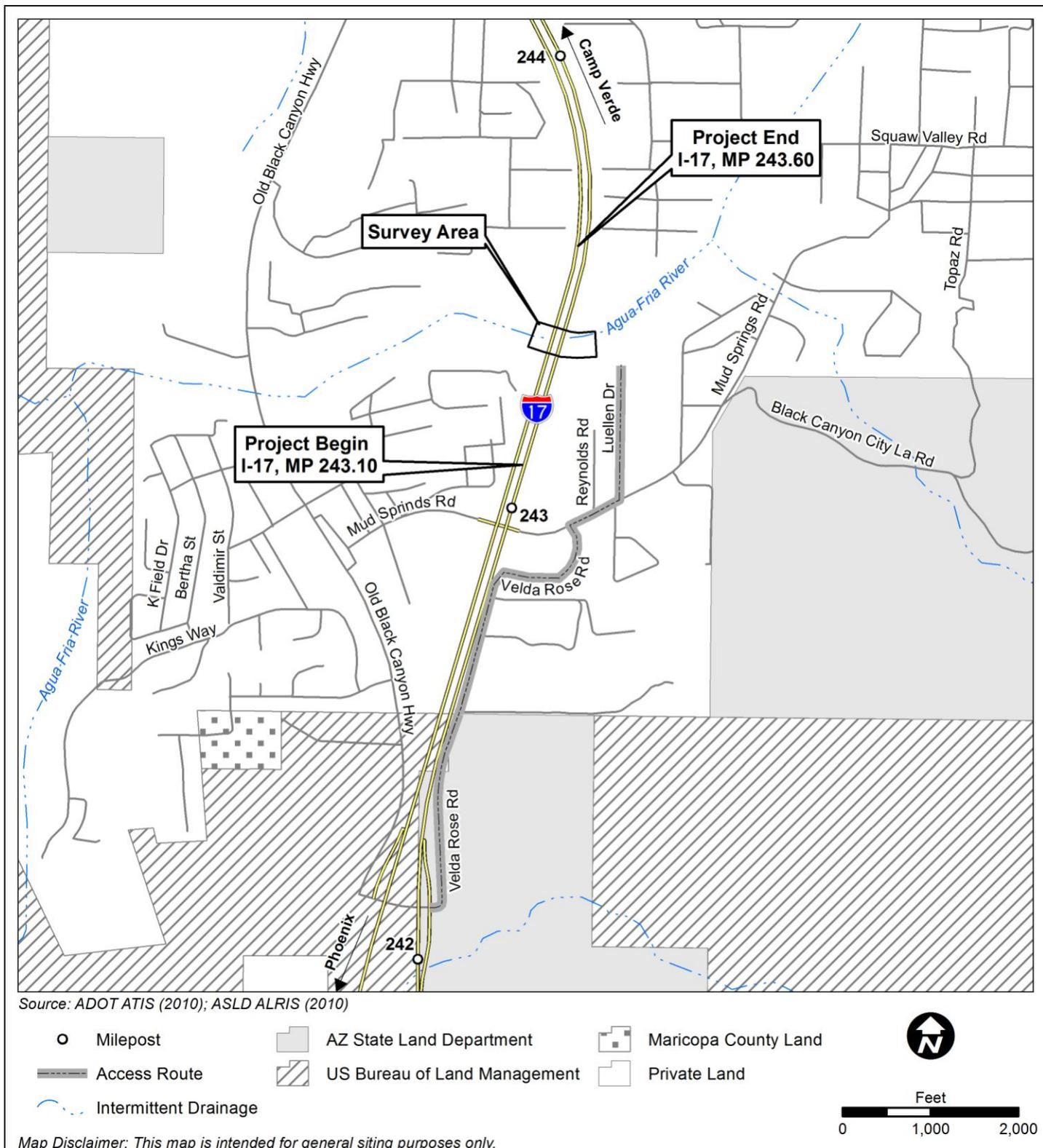


Figure 2. Project Vicinity Map

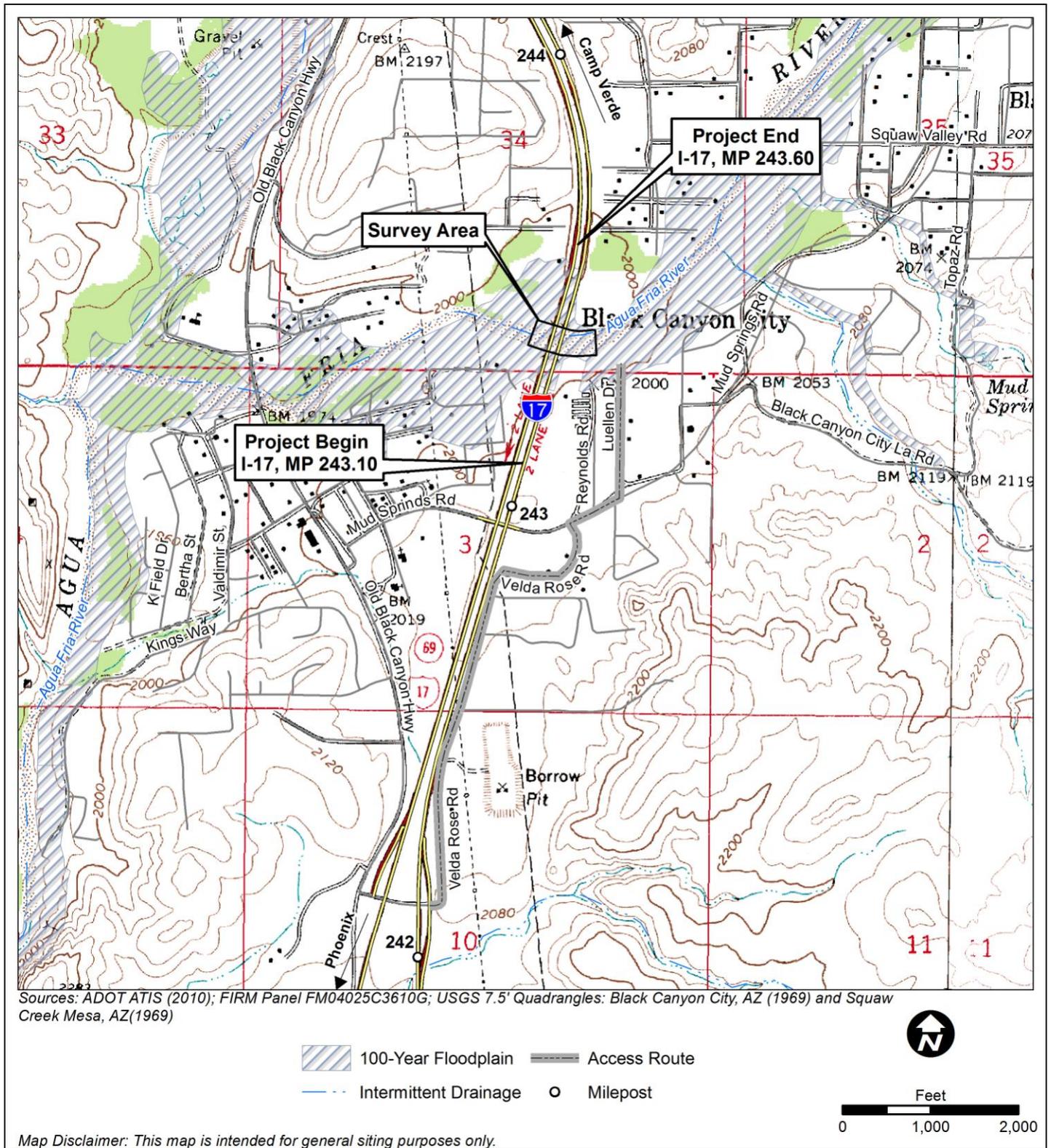
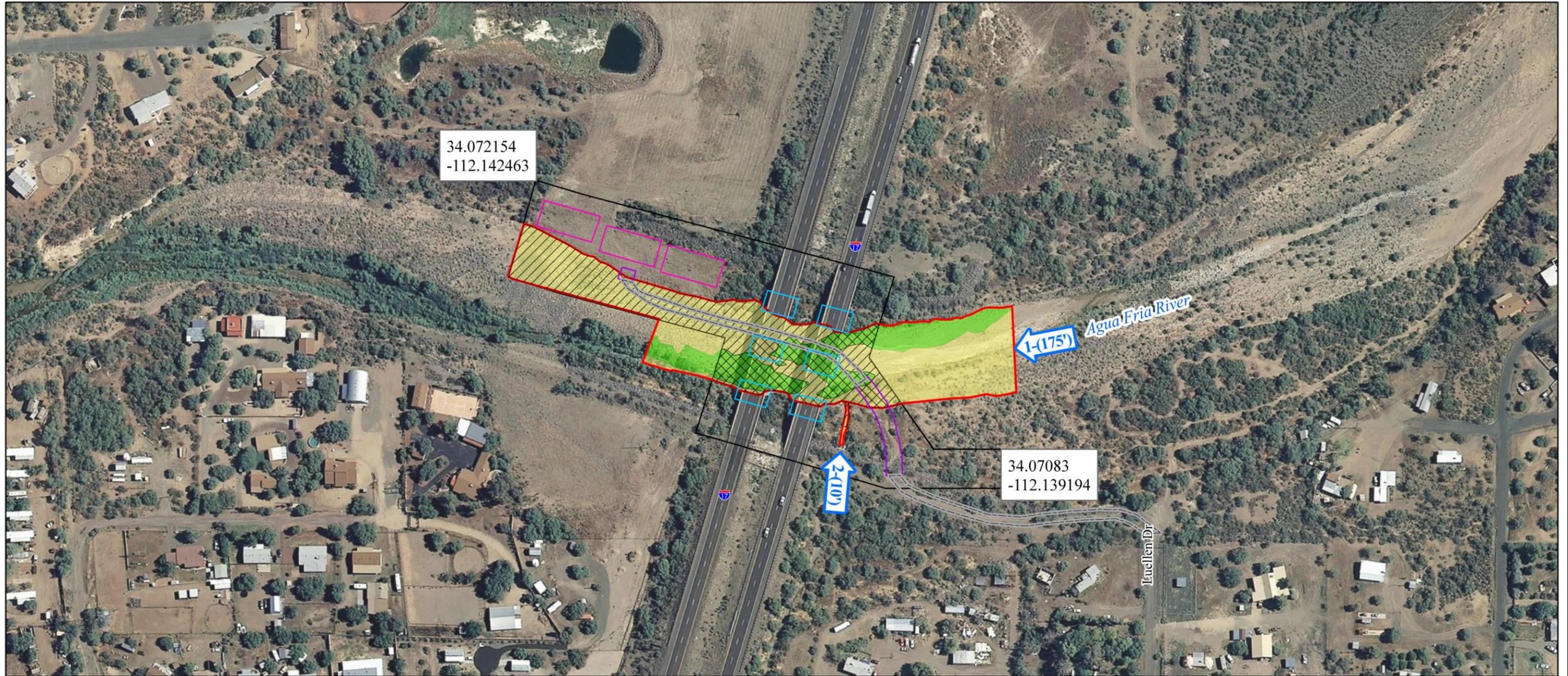
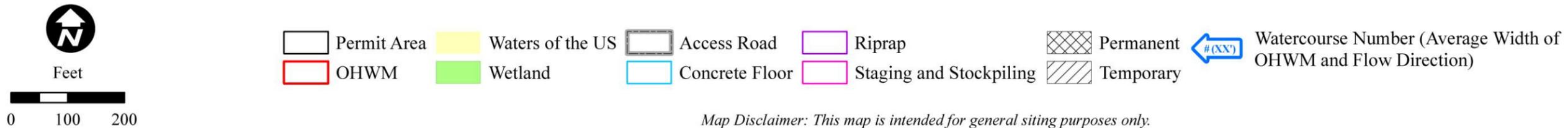


Figure 3. Survey Area Topographic and Floodplain Map



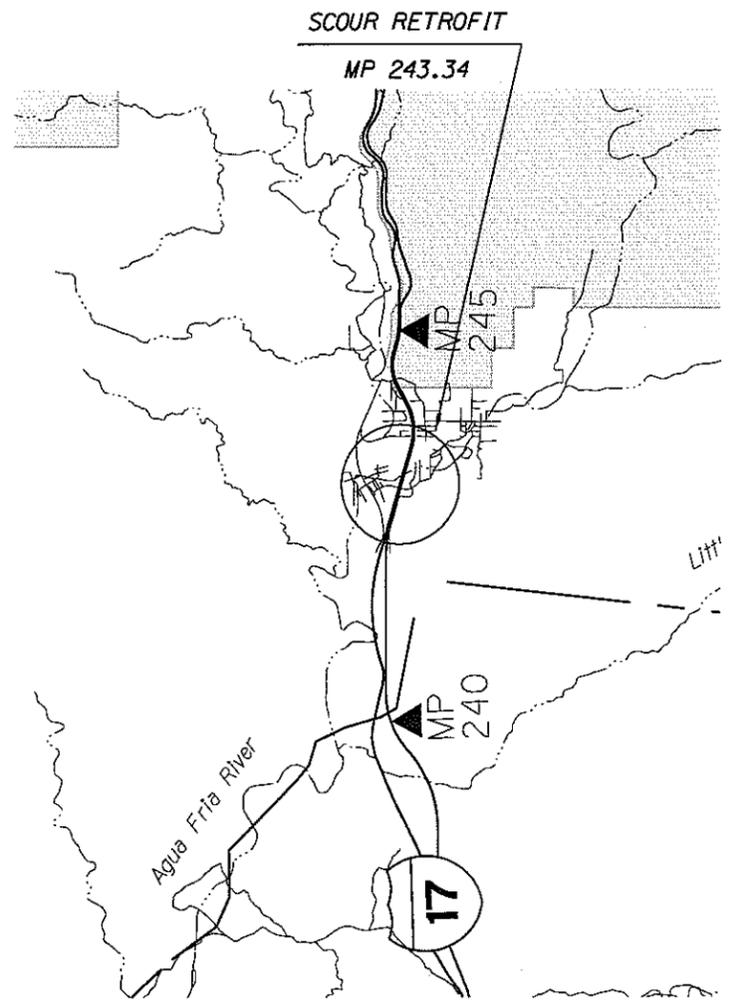
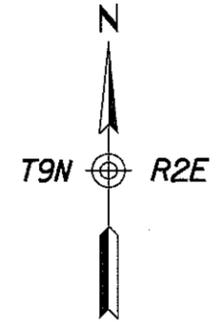
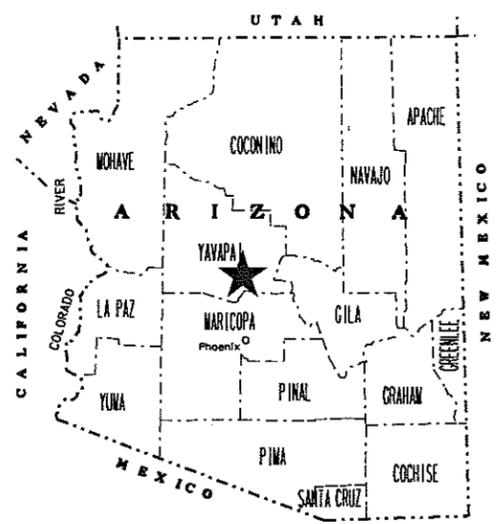
Sources: ADOT ATIS (2010), ADOT CADD Files (recvd 03/28/2012), AZTEC (2011-2012), ESRI World Imagery (2010), SPL-2011-996-KAT. Corresponding USGS 7.5' Quadrangle: Black Canyon City, AZ (1969).



Map Disclaimer: This map is intended for general siting purposes only.

Figure 4. Alternative A (Preferred Alternative) – Pier Concrete Armoring Impacts to Waters of the US

STATE OF ARIZONA
 DEPARTMENT OF TRANSPORTATION
 INTERMODAL TRANSPORTATION DIVISION
 PROJECT PLANS
 STATE HIGHWAY
 CORDES JCT.-FLAGSTAFF HIGHWAY
 INTERSTATE 17



Constructed by:

 Construction Company

Completion Date _____

Red-Lines by:

 Construction Administrator Name & Company

Completion Date _____

As-Built by:

 As-Built Designer Name & Company

Completion Date _____

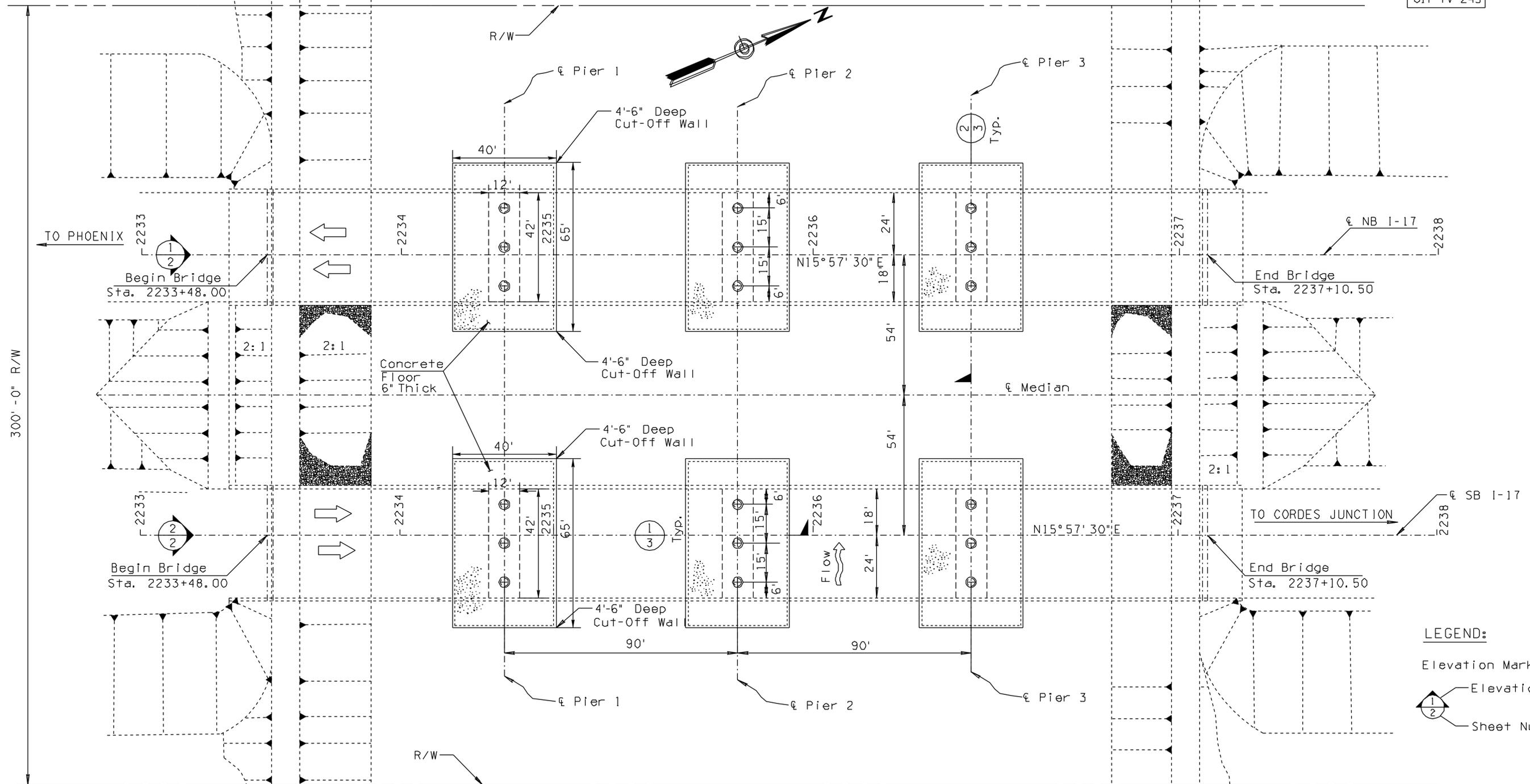
AGUA FRIA NB,SB STR #1807,1808
PROJECT NO. 017 YV 243 H7991 01 C
FEDERAL AID NO. 017-A(225)A

ARIZONA DEPARTMENT OF TRANSPORTATION
 INTERMODAL TRANSPORTATION DIVISION
 FLOYD ROEHRICH, JR., P.E., STATE ENGINEER

AS BUILT DATA	AS BUILT DATE	OF
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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(225)A	2	7	

017 YV 243



LOCATION PLAN
 (Structure No. 1807 & 1808)
 Scale: 1" = 20' - 0"

LEGEND:
 Elevation Marker
 Elevation Number
 Sheet Number



APPROXIMATE QUANTITIES FOR AGUA FRIA BRIDGES			
ITEM	UNIT	TOTAL	AS-BUILT
Structural Excavation	CY	5,383	
Class "S" Concrete f'c = 3000 psi	CY	477	
Reinforcing Steel	Lbs	30,483	

Quantity shown for structural excavation and shotcrete are 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.

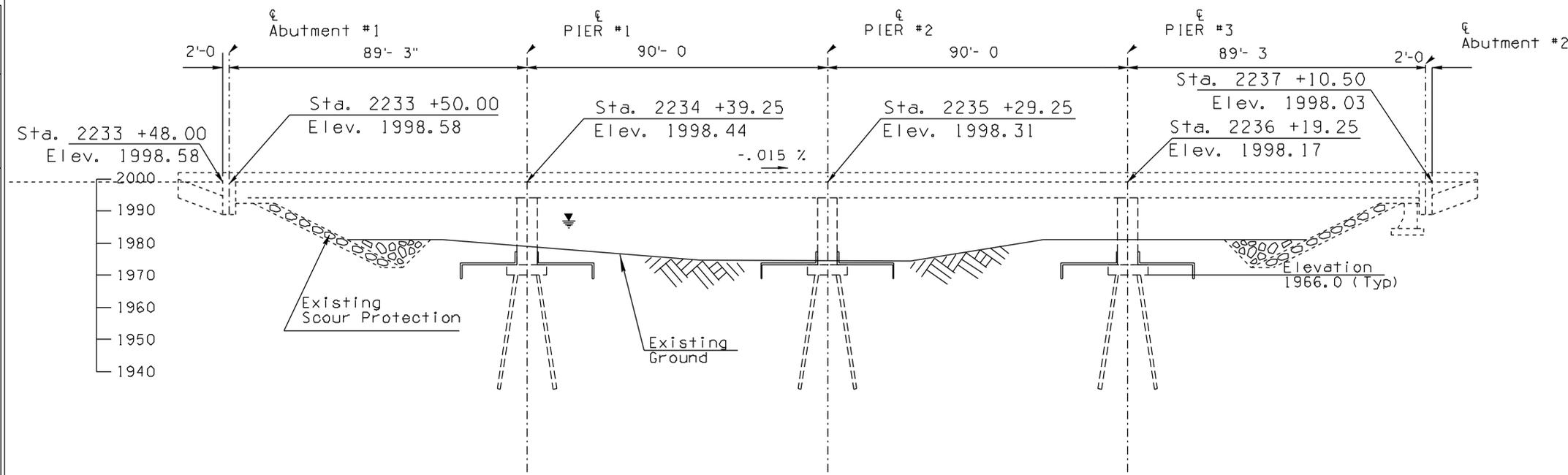
LEGEND:
 Title/Detail Marker
 Section Marker
 Sheet Number

BRIDGE HYDRAULICS SECTION			DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP	PRELIMINARY - I NOT FOR CONSTRUCTION OR RECORDING
DESIGN	M.H.H.	09-11			
DESIGN CK'D	L.P.J.	09-11			
DRAWN	M.H.H.	09-11			
DWG CK'D	L.P.J.	09-11			
APPROVED-PROJ. ENGINEER	L.P.J.	09-11		AGUA FRIA BRIDGES BRIDGES NB & SB SCOUR PROTECTION PLAN	
APPROVED-DESIGN LEADER	L.P.J.	09-11			
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION	DWG. 51.1 OF 4	
1-17	243.34	NB 1807 SB 1808	1-17 CORDES JCT -FLAGSTAFF HWY		
TRACS NO. H H7991 DIC			017-A(225)A	2 OF 7	

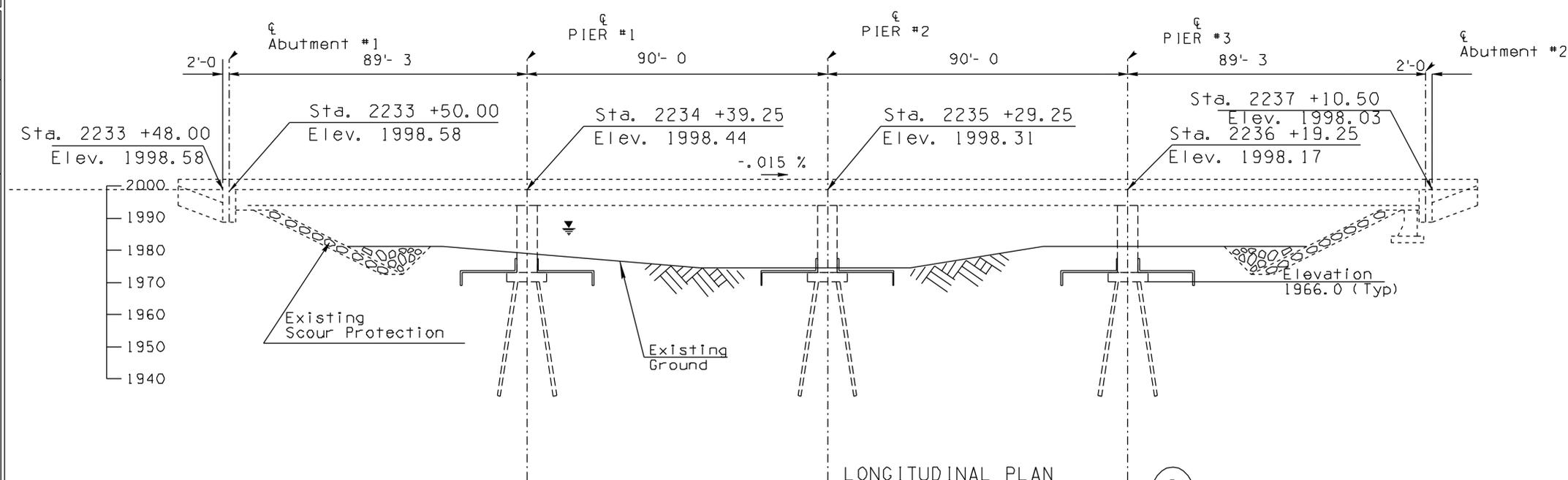
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(225)A	3	7	

017 YV 243

NO. 1 DESCRIPTION OF REVISIONS
 NO. 2 DESCRIPTION OF REVISIONS



LONGITUDINAL PLAN
 (Structure No. 1807 NB)
 Scale: 1" = 20'-0"



LONGITUDINAL PLAN
 (Structure No. 1808 SB)
 Scale: 1" = 20'-0"

HW = 1988.6
 Q record = 41,000 cfs.
 D. A. = 830 sq. mi.



GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, Edition of 2008.

Design Specifications - AASHTO Standard Specifications for Highway Bridges, 17th Edition 2002.

All concrete shall be Class "S" (f'c = 3000 psi).
 Reinforcing steel shall conform to ASTM Specification A615/A615M.

All reinforcing shall be furnished as Grade 60. (fs = 24,000 psi) All bends and hooks shall meet the requirements of AASHTO Article 8.23.

All bend dimensions for reinforcing steel shall be out-to-out of bars.

All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless otherwise noted. The contractor shall provide weakened plane joints as directed by the Engineer. Temporary Construction Easement is required.

EXCAVATION NOTE:

Excavated shall be placed back and the channel graded to the existing ground elevation as directed by the engineer.

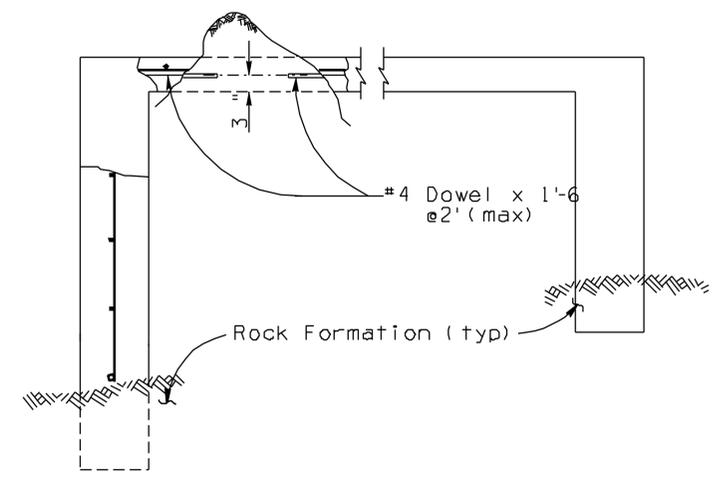
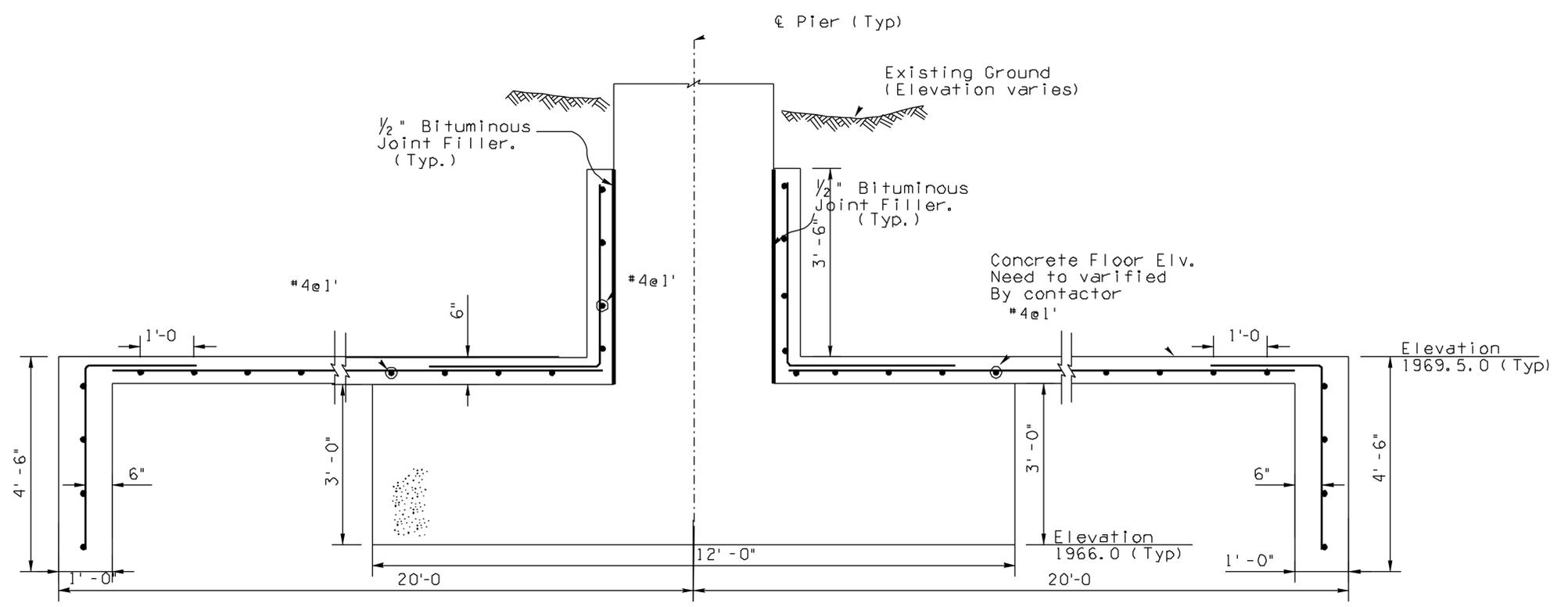
NOTE:

All the construction area need to be clean before and after construction. All work will be completed within existing right of way

BRIDGE HYDRAULICS SECTION		DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP	PRELIMINARY - I NOT FOR CONSTRUCTION OR RECORDING
DESIGN	M.H.H.	09-11		
DESIGN CK'D	[P.]	09-11		
DRAWN	M.H.H.	09-11		
DWG CK'D	[P.]	09-11		
APPROVED-PROJ. ENGINEER	[P.]	09-11	AGUA FRIA BRIDGES BRIDGES NB & SB NB & SB ELEVATION	DWG. 51.2 OF 4
APPROVED-DESIGN LEADER	[P.]	09-11		
1-17 ROUTE	243.34 MILEPOST	NB 1807 SB 1808 STRUCTURE NO.	LOCATION 1-17 CORDES JCT -FLAGSTAFF HWY	
TRACS NO. H H7991 DIC			017-A(225)A	3 OF 7

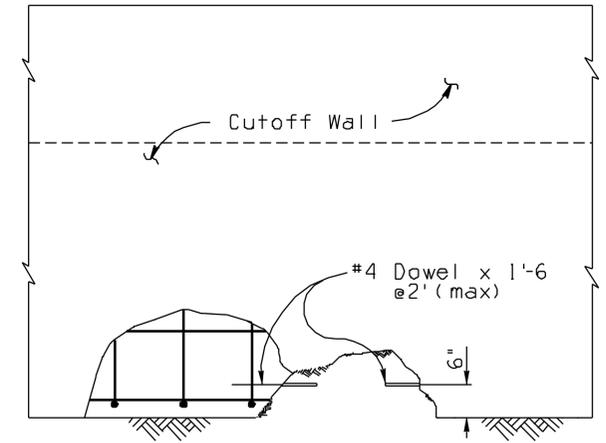
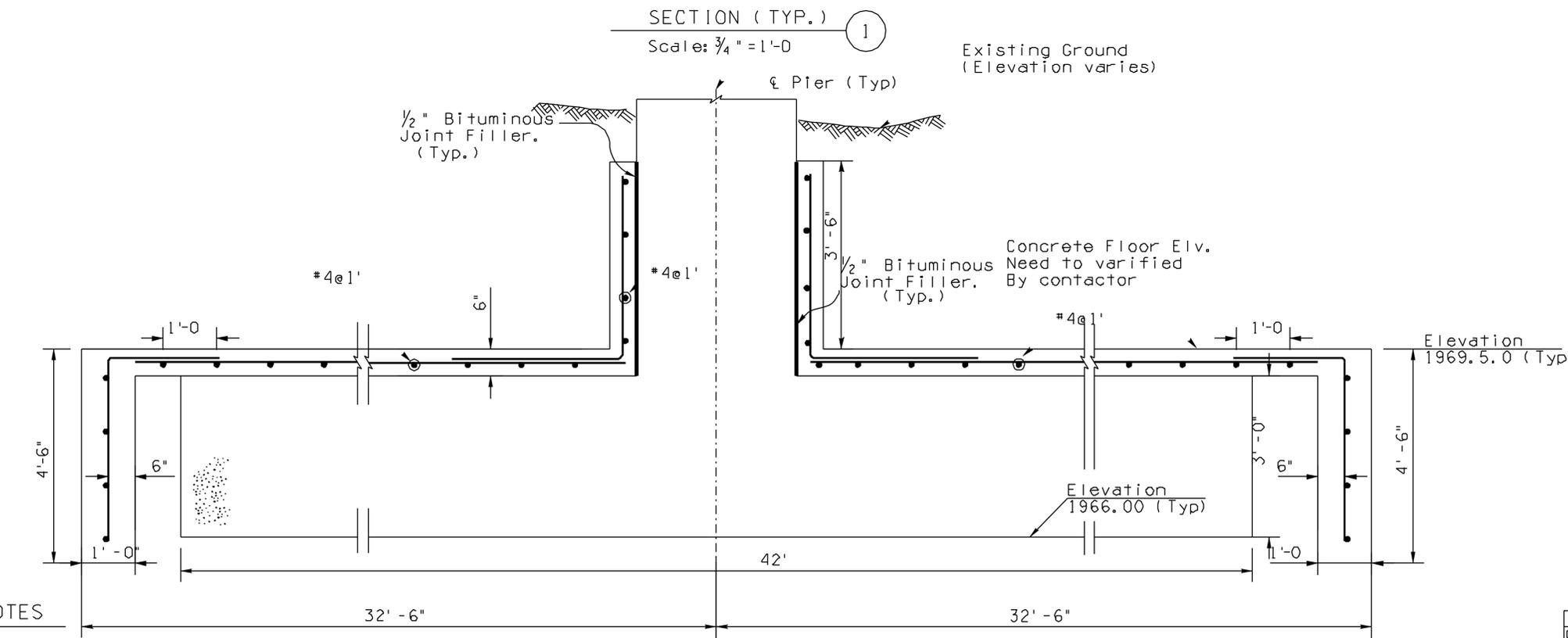
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	017-A(225)A	4	7	

017 YV 243



CONCRETE TO ROCK CONNECTION
Scale: 3/4" = 1'-0"

SECTION (TYP.) ①
Scale: 3/4" = 1'-0"



DOWEL DETAIL
Scale: 3/4" = 1'-0"

SECTION (TYP.) ②
Scale: 3/4" = 1'-0"

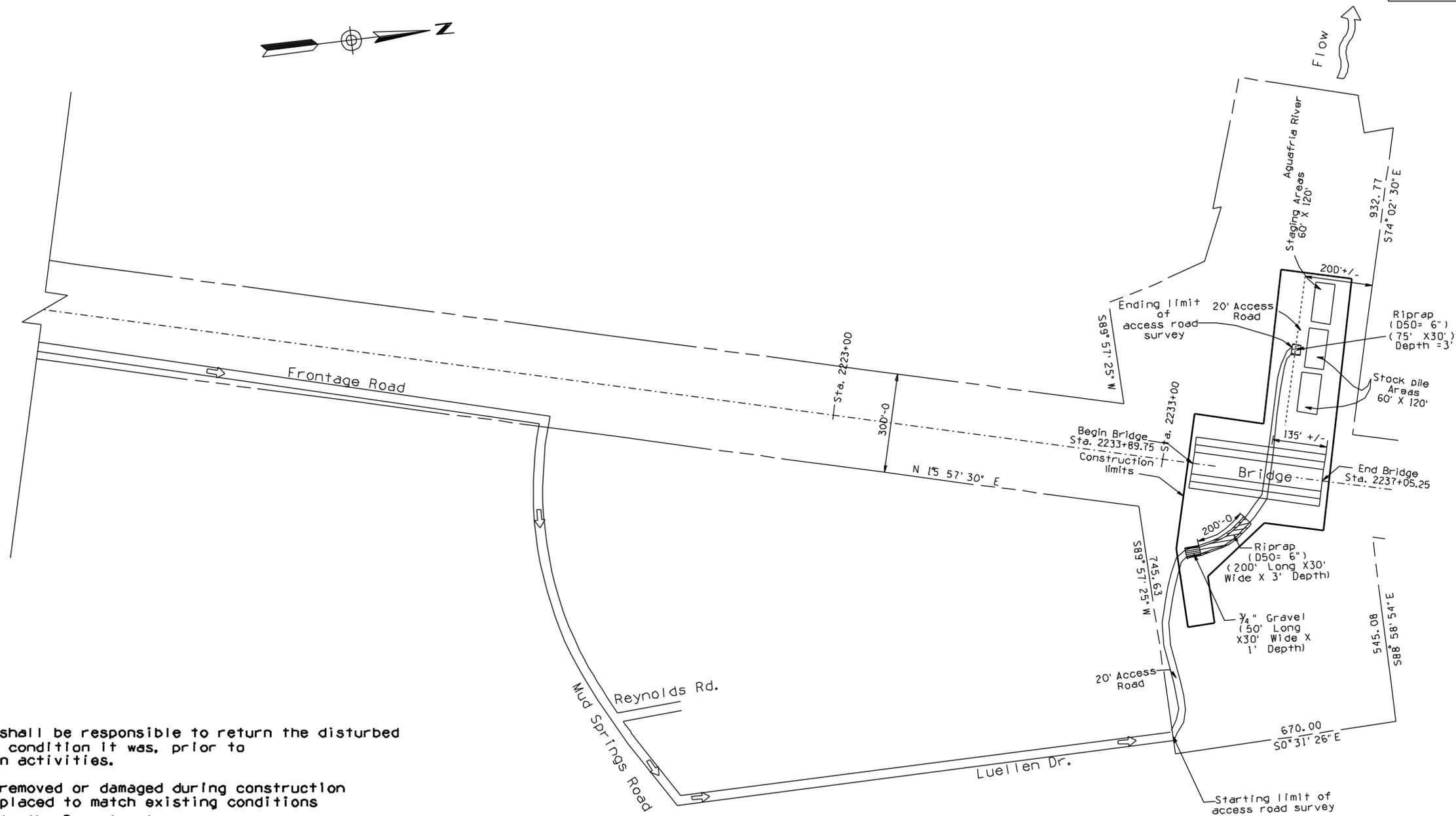
- NOTES
- Contractor shall verify existing ground elevations.
 - Existing trees and brush hindering the construction of the concrete protection shall be removed.
 - All work will be completed within existing right of way
 - Excavated material shall be backfilled.



BRIDGE HYDRAULICS SECTION			DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP	PRELIMINARY - I NOT FOR CONSTRUCTION OR RECORDING
DESIGN	M.P.L.H.	08-11			
DESIGN CK'D	L.P.J.	08-11			
DRAWN	M.H.H.	08-11			
DWG CK'D	L.P.I.	08-11		AGUA FRIA BRIDGES BRIDGES NB & SB NB & SB ELEVATION	CONSTRUCTION OR RECORDING
APPROVED-PROJ. ENGINEER	L.P.I.	08-11			
APPROVED-DESIGN LEADER	L.P.I.	08-11			
1-17 ROUTE	243.34 MILEPOST	NB 1807 SB 1808 STRUCTURE NO.	LOCATION	1-17 CORDES JCT -FLAGSTAFF HWY	
TRACS NO. H H7991 DIC			017-A(225)A		DWG. 51.3 OF 4 4 OF 7

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	017-A(225)A	5	7	

017 YV 243



NOTES:

1. Contractor shall be responsible to return the disturbed Area to the condition it was, prior to construction activities.
2. All fences removed or damaged during construction shall be replaced to match existing conditions at no cost to the Department.
3. Low flow areas of channel must remain open always. No staging and stock piling is allowed within waters of the US.
4. For Details see R/W Project F-025-1-604
5. All work to be completed within existing right of way.
6. The contractor shall provide necessary clearing for the access road. However, at the completion of the project, the contractor shall restore the ground to the original condition.
7. The contractor shall survey the access road including where 3/4" Gravel and riprap (D50 = 6") will be provided, so that contractor can restore the ground elevation in original condition.

SITE ACCESS PLAN
Not to scale



BRIDGE HYDRAULICS SECTION			DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP	PRELIMINARY NOT FOR CONSTRUCTION OR RECORDING
DESIGN	M.H.H.	03-12			
DESIGN CK'D	M.M.	03-12			
DRAWN	M.H.H.	03-12			
DWG CK'D	M.M.	03-12			
APPROVED-PROJ. ENGINEER	L. fty	03-12			
APPROVED-DESIGN LEADER	L. fty	03-12			
I-17	243.34	1807/1808	LOCATION	AGUA FRIA BRIDGES NB & SB	DNG. 5-14 OF 4
ROUTE	MILEPOST	STRUCTURE NO.	AGUA FRIA BRIDGES NB & SB		
TRACS NO.	H 7991 OIC		017-A(225)A	OF	