



# CERTIFICATION

STATE OF ARIZONA  
Clean Water Act Section 401 Water Quality Certification  
U.S. Army Corps of Engineers File No.: SPL-2011-437-KAT  
ADEQ LTF No.: 63732

## 1. AUTHORIZATION

This State Water Quality Certification (Certification) is issued by the Arizona Department of Environmental Quality (ADEQ) under the authority of Section 401(a) of the federal Clean Water Act (CWA) (33 U.S.C. §1251 et seq.) and Arizona Revised Statutes Section 49-202. The conditions listed in Section 5 are in addition to conditions in the pending U.S. Army Corps of Engineers (CoE) Application No. SPL-2011-437-KAT. These Certification conditions are enforceable by the CoE. ADEQ may seek civil penalties up to a maximum of \$25,000 per day per violation if these Certification conditions are violated. Criminal penalties may also be levied if a person knowingly violates any provision of the CWA.

Subject to the conditions in Section 5, ADEQ certifies that based on the information in Section 3, the activities proposed for Apache Junction to Tortilla Flat will not violate applicable surface water quality standards in the various impacted washes, tributaries to Canyon Lake and the Salt River.

## APPLICANT INFORMATION

Project Name: Apache Junction to Tortilla Flat  
Latitude: 33° 31' 37.91";  
Longitude: -111° 23' 21.35"

Applicant: Arizona Department of Transportation (ADOT)  
Madhu Reddy, Phoenix District Engineer  
1801 W. Jefferson Street, Suite 120 MD E700  
Phoenix, AZ 85007

## AUTHORIZING SIGNATURE

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Laurie (Rosi) Sherrill, Project Manager  
Water Quality Division  
Arizona Department of Environmental Quality

Reading file: SWGP16-00xx

## 2. DESCRIPTION OF ACTIVITIES TO BE CERTIFIED

Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) and the Tonto National Forest (TNF), is planning a safety improvement and pavement preservation project along State Route 88 (SR88). ADOT has identified various deficiencies along SR 88 from MP 203.40 to MP 220.20 and are proposing improvements that would enhance safety and traffic operations for the traveling public. One of the identified deficiencies consists of the surface of the concrete ford crossing at Tortilla Creek which has cracked due vehicular traffic and exposure to flows, and is deteriorating with age. Without repair of the ford, concrete failure would eventually occur, creating an impassable section of SR 88 at Tortilla Creek, which would put the road out of service. The project would occur entirely on land managed by the TNF. A temporary construction easement from TNF would be needed for construction.

Repair of the concrete ford across Tortilla Creek (MP 213.40) near Tortilla Flat would occur through the following activities:

- Excavate for the construction of a 15-foot-wide temporary access road within Tortilla Creek upstream of the concrete ford
- Construct pump and sump locations upstream of the concrete ford for dewatering purposes
- Reinforce the upstream slope of the excavation area with filter fabric and sandbags to prevent erosion, and install a French drain to collect groundwater seepage
- Remove and reconstruct a 6-foot-wide by 202-foot-long upstream portion of the concrete ford
- Install a new 4-foot cut-off wall upstream of the reconstructed portion of the ford to prevent undercutting
- Remove debris from within the existing 18-inch CMP
- Line the existing CMP with a new 16-inch CMP and application of grout
- Place structural backfill in the excavated area upstream of the ford
- Repair the existing cracks and spalls on the 17.5-foot-wide downstream portion of ford
- Mill to remove damaged asphalt on top of ford
- Apply methacrylate seal to the concrete ford to prevent water intrusion
- Mill and replace the pavement between MP 203.40 and MP 213.35
- Apply a double application of seal coat on the existing roadway and paved turnouts and pullouts from MP 213.35 to MP 220.20
- Repave 11 pullouts, construct new pavement at 29 pullouts, and remove the pavement at 5 pullouts within the project limits
- Repave 8 turnouts, construct new pavement at 6 turnouts, and widen 1 paved pullout within the project limits
- Stabilize the road shoulders as needed throughout the project area
- Stabilize the edge of the pavement by installing a safety edge
- Modify existing culverts to accommodate the curve improvements at MP 204.50, MP 206.36, and MP 210.43
- Remove a large rock above the roadway at approximate MP 212.70

- Construct spot repairs of the roadway section at MP 218.70, MP 219.10, MP 219.20, and MP 219.60
- Reconstruct the roadway curves at six locations:
  - Curve 1 – MP 203.40 to MP 203.60
  - Curve 2 – MP 204.24 to MP 204.36
  - Curve 3 – MP 204.43 to MP 204.53
  - Curve 4 – MP 206.32 to MP 206.50
  - Curve 5 – MP 208.20 to MP 208.50
  - Curve 6 – MP 210.40 to MP 210.50
- Improve roadway drainage immediately west of Boulder Canyon Bridge (MP 211.05) by modifying the crown of pavement
- Install new, extend, reconstruct, or modify guardrail as needed within the project limits
- Remark/restripe the roadway and install a centerline rumble strip
- Remove and replace existing signs
- Install new signs including a new dynamic message sign and camera at westbound MP 211.10
- Using contractor staging areas at approximately MP 201.90, MP 208.00, MP 213.30, and MP 214.40
- Installation of traffic control barriers during construction
- Controlling weeds using chemical and manual methods, as appropriate
- Apply a double application of seal coat on the low-water crossing at Mesquite Creek (MP 214.40)

The project would require dredge and fill activities within the jurisdictional limits of Tortilla Creek. Approximately 0.002 acre of wetlands would be permanently impacted and approximately 0.108 acre of non-wetland Waters would be temporarily impacted at Tortilla Creek as a result of temporary construction access and operations. No other Waters would be impacted by the project.

Tortilla Creek Temporary Access and Construction Disturbance:

Excavation upstream of SR 88 is needed to gain access to Tortilla Creek and to remove and reconstruct the upstream portion of the concrete ford. To accomplish these tasks, a temporary construction access road would be constructed at approximately 15 feet wide and would be located immediately adjacent to the ford. The excavation is considered critical to allow for equipment access and to expose the portion of concrete ford to be removed and cast-in-place the new concrete ford and cut-off wall. Excavated material would be temporarily stockpiled outside Waters. The slope of the excavated area would be reinforced with filter fabric and sandbags to prevent erosion. A French drain would be installed at the bottom of the slope to collect groundwater seepage and a pump would be used to remove water from the drain as needed. Within Tortilla Creek, the excavated work area and temporary access road directly upstream of the ford would be dewatered as needed to allow for an adequate work area and for the curing of concrete. Dewatering may be accomplished by excavating a sump for the purpose of collecting and pumping water. Although not anticipated, berms, concrete barriers, or other temporary structures may be

installed within the disturbance area in order to aid in dewatering the work areas. Water collected on the upstream side of the ford would be pumped to the downstream side to avoid impounding flows. One or more pumps with associated hoses would likely be used to dewater the work area and would pump water across the road.

Pump intakes used during project activities within Tortilla Creek would be screened to avoid intake of fish. Measures to prevent erosion and discharge of sediment-laden water (e.g., settling basins, turbidity socks) would be installed on the downstream end of the hoses so that discharged water does not create nuisance conditions. Following construction, excavated areas upstream of the ford would be backfilled with temporarily stockpiled material. No excavation within Waters would occur downstream of the ford; only foot traffic would be allowed on the downstream side of the concrete ford. Following construction, all filter fabric, sandbags, sumps, pumps, associated hoses, pump intakes, and the French drain would be removed from Tortilla Creek. As part of the project, the areas within Waters that would not be permanently impacted would be re-contoured to preconstruction grade conditions following the completion of construction wherever practicable. Only the minimum area required for the proposed ford improvements at Tortilla Creek would be permanently impacted.

Tortilla Creek Partial Ford Replacement: Following establishment of the temporary construction access road, heavy equipment, such as a front-end loader or backhoe, would access the work area on the upstream side of the concrete ford to remove the deteriorating exterior concrete and the associated fill material from the 6-foot-wide upstream portion of the ford. The segment of the existing CMP in the upstream portion of the ford would be cut off and the remaining section of CMP would be cleared of any blockages with hydrovac trucks that use a combination of pressurized water and vacuum hoses to remove material. A new 16-inch CMP would be installed that would extend through the remaining downstream portion of the 18-inch CMP and through the reconstructed portion of the ford to replace the segment that was cut off. The new CMP would be installed by inserting it inside the existing 18-inch CMP and pushing it into place with an excavator or similar equipment. The space between the old and new pipes would be filled with non-shrinking grout using pressurized pumping to secure the new pipe in place.

After grouting the new CMP into place, the new upstream section of the concrete ford would be constructed. This would likely be accomplished by building wooden forms for the upstream cutoff wall and filling them with concrete. Concrete trucks may be located in the work area on the upstream side of the ford or on the roadway adjacent to the work area. The concrete would be allowed to cure for at least 24 hours before allowing surface water to come into contact with it. The wooden forms would be removed and fill would be placed inside the empty space between the existing ford and the new upstream cutoff wall. Forms would be constructed for the subsequent pouring of concrete for the top of the new section of the ford and removed following curing of the concrete. The dewatering measures would then be removed and the upstream side of the ford would be re-contoured to the preconstruction elevations as needed.

While clearing the CMP of blockages, two hydrovac trucks would be used, one on the upstream side of the ford and one on the downstream side, to vacuum the excess material and discharged water to prevent it from entering into Tortilla Creek. Turbidity socks or other control measures would be temporarily placed on the downstream side of the CMP opening to contain any accidental discharge of water or excavated material. The contractor would hand-place grout at the downstream CMP opening 24 hours prior to pumping grout into the rest of the space, or use another method approved by the Engineer (e.g., installation of a bulkhead or collar on the downstream end of the CMP) to prevent the discharge of grout to downstream Waters when it is pumped into the space between the two pipes.

The ford crossing work would be restricted to the period from April through June, when flows are typically low and sometimes absent. If needed, berms, concrete barriers, or other temporary structure(s) may be installed in order to aid in dewatering the work area. These barriers may form a complete or partial barrier across the channel, but would be located so that no wetlands would be impacted and would be completed so that only nuisance flows are contained. Any barrier would be removed in its entirety following construction. Dewatering would occur through the use of sump locations and pumps to maintain flows to downstream portions of Tortilla Creek. All new concrete would be allowed to cure for at least 24 hours before allowing surface water to come into contact with it.

#### Tortilla Creek Ford Repairs:

Cracks on the 17.5-foot-wide downstream portion of the ford would be repaired by grinding the cracks to v-notches and filling them with concrete bonding agent. Spalls would be repaired using a structural concrete curing compound. Once the materials have cured, the top of the ford would be coated with a methacrylate sealant.

Best management practices would be used to prevent methacrylate from entering the channel or surface water of Tortilla Creek. The methacrylate would be applied during clear weather when surface flows that might overtop the ford are not likely to occur. Because more than 1 acre of land is expected to be disturbed, an Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit would be obtained. A Stormwater Pollution Prevention Plan (SWPPP) would be created pursuant to both the ADOT Statewide Stormwater Discharge Permit and the AZPDES Construction General Permit. Erosion control would be provided in accordance with ADOT's standard specifications and the SWPPP for the project, which would minimize the transport of sediment by requiring the contractor to use storm water and erosion control best management practices.

#### Material Disposal:

Best Management Practices would be followed for disposal of all excess materials. After completion of construction activities at Tortilla Creek, excavated earthen material would be backfilled in the excavation area to restore the natural soil substrate. No excavation would occur within any other Waters within the project area. Temporary fill materials, if any, would be removed from Waters following completion of construction activities.

### **3. INFORMATION REVIEWED**

During the development of this State Certification, ADEQ had access to and reviewed the following documents which are on file with ADEQ:

- A. U.S. Army Corps of Engineers Public Notice / Application No. SPL-2011-437-KAT. Comment period from 1/15/2016 through 2/13/2016.
- B. Complete CWA Section 401 Certification application package dated 2/18/2016, and received by ADEQ on 2/19/2016. Permittee: Madhu Reddy, District Engineer, ADOT.
- C. State of Arizona Water Quality Standards for Surface Waters (WQS), Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1. Designated uses for Canyon Lake are: Aquatic and Wildlife warm (A&Ww) and Full Body Contact (FBC), Fish Consumption (FC), Agricultural - Irrigation (AgI), Agricultural - Livestock watering (AgL) and Domestic Water Source (DWS).
- D. Descriptions and maps submitted by ADOT.
- E. If any comments are received during this public notice period, those comments may also be used.

### **4. NOTIFICATION PROVISIONS**

For any correspondence regarding this project, the ADEQ mailing address is:

Arizona Department of Environmental Quality  
Rosi Sherrill  
Surface Water Section / 401 Certifications / mailstop 5415A-1  
1110 West Washington Street  
Phoenix, Arizona 85007

For questions or general comments:

Email: [ls7@azdeq.gov](mailto:ls7@azdeq.gov)

Voice: (602) 771-4409

In any correspondence, reference:

Apache Trail to Tortilla Flat  
CoE File No.: SPL-2011-437-KAT  
ADEQ LTF No.: 63732  
Reading file: SWGP16-00xx

### **5. CONDITIONS FOR STATE 401 WATER QUALITY CERTIFICATION**

For the purposes of this Certification the following definitions apply:

- Waters of the U.S. (WUS) as defined by the CoE and U.S. Environmental Protection Agency (EPA) under the Clean Water Act. This Certification applies only to activities within a WUS.
- Native material/fill is defined as pollutant-free soil, sand, gravel or similar material from the streambed or banks in the immediate area of the permitted work.

## **GENERAL CONDITIONS**

1. ADEQ's State 401 Water Quality Certification of these activities proposed by the applicable CWA 404 Permit, does not affect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from these activities. This Certification is not intended to waive any other federal, state or local laws.
2. If monitoring, by ADEQ or others, indicates that water quality is adversely affected by the activities certified herein, ADEQ will notify the CoE and request suspension of the CWA 404 permit.
3. Issuance of a State 401 Water Quality Certification does not imply or suggest that requirements for other permits including, but not limited to Aquifer Protection Permits, Arizona Pollutant Discharge Elimination System Permits and Reclaimed Water permits are met or superseded. Applicant should contact ADEQ to ensure all applicable permits are obtained.
4. This Certification applies only to the activities described in Section 2 and is based upon the information listed in Section 3. This Certification is valid for the same period as the CWA 404 permit issued by the CoE. The applicant must apply for renewal, modification or extension of this Certification if the CWA 404 permit is renewed, modified, extended or otherwise changed. This Certification may be reopened by ADEQ at any time due to a change (e.g., lowered or more stringent) in a surface water quality standard for a parameter likely to result from project activities. ADEQ may add or modify conditions in this Certification to ensure that the applicant's activities comply with the most recent standard.
5. The applicant shall provide a copy of this Certification to all appropriate contractors and subcontractors. The applicant shall also post and maintain a legible copy of this Certification in a weather-resistant location at the construction site where it may be seen by the workers.
6. The applicant shall notify ADEQ of project completion within 30 days following project completion.
7. The applicant is responsible for all activities certified herein and any exceedances of WQS that such activities may cause or contribute to in any WUS.
8. This Certification does not authorize the discharge of mining, construction or demolition wastes, wastewater, process residues or other potential pollutants to any WUS except as specified in the application, supporting documents, and/or in the CWA 404 permit.

## **SPECIFIC CONDITIONS**

### **Erosion Prevention and Hydraulic Alterations**

9. Clearing, grubbing, scraping or otherwise exposing erodible surfaces shall be minimized to the extent necessary for each construction phase or location.
10. Dredged or fill material shall be placed so that it is stable, meaning after placement, the material does not show signs of excessive erosion. Indicators of excess erosion

include: gulying, head cutting, caving, block slippage, material sloughing, etc. Material shall not discharge (e.g., via leaching, runoff) pollutants into streams or wetlands.

11. Erosion control, sediment control and/or bank protection measures shall be installed before construction and pre-operation activities and shall be maintained during construction and post-construction periods to minimize channel or bank erosion, soil loss and sedimentation. Control measures shall not be constructed of uncemented or unconfined imported soil, or other materials easily transported by flow.
12. The effectiveness of all pollution control measures, including those preventing erosion and affecting sedimentation, shall be reevaluated after each flow event and repaired/modified as needed.
13. Direct runoff of water used for irrigation or dust control shall be limited to the extent practicable and shall not cause downstream erosion or flooding nor cause an exceedance of applicable water quality standards.
14. Except where the activities certified herein are intended to permanently alter any WUS, all disturbed areas shall be restored and (re)vegetated as indicated in the application documents if approved by the CoE (including offsite/in lieu mitigation). Denuded areas shall be revegetated as soon as practicable. Vegetation shall be maintained on unarmored banks and slopes to stabilize soil and prevent erosion. Fill used to support vegetation rooting or growth shall be protected from erosion.
15. Activities herein certified shall, as much as practicable, be performed during periods of low flow (baseflow or less) in any perennial WUS, or no flow in any ephemeral or intermittent WUS. No work shall be done, nor shall any equipment or vehicles enter any WUS while flow is present, unless all conditions in this Certification are met.
16. When flow is present in any WUS within the project area, the applicant and any contractor will not alter the flow by any means except to prevent erosion or pollution of any WUS.
17. Any disturbance in the stream bank or streambed areas shall be stabilized to prevent erosion and sedimentation of the waterbody during and after operations. Any disturbed areas shall be contoured and vegetated as soon as practicable.
18. Applicant will take measures necessary to prevent approaches to any WUS crossing from causing erosion or contributing sediment to any WUS.
19. The applicant shall ensure no adverse change with respect to stream hydraulics, erosion and sediment load, of any WUS upstream and downstream from the project. If such change has occurred, the applicant shall take steps to restore the pre-project stability of any impacted segments.

### **Sediment Loads**

20. When flow in any WUS in the work area is sufficient to erode, carry or deposit material, activities certified herein shall cease until:
  - the flow decreases below the point where sediment movement ceases; or

- control measures have been undertaken; e.g., equipment and materials easily transported by flow are protected with non-erodible barriers or moved outside the flow area
21. Silt laden or turbid water resulting from activities certified herein shall be settled, filtered or otherwise treated to ensure no exceedance of, or reduction from, natural background levels of sediment occurs in any WUS.
  22. Any washing or dewatering of fill material must occur outside of any WUS prior to placement and the rinsate from such washing shall be settled, filtered or otherwise treated to prevent migration of pollutants (including sediment) from causing erosion to any WUS. Other than replacement of native fill or material used to support vegetation rooting or growth, fill placed in locations subject to scour must resist washout whether such resistance is derived via particle size limits, presence of a binder, vegetation, or other armoring.

### **Pollution Prevention**

23. If activities certified herein are likely to cause or contribute to an exceedance of water quality standards - operations shall cease until the problem is resolved or until control measures have been undertaken.
24. Construction material and/or fill (other than native fill or that necessary to support re-vegetation) placed in any WUS, shall not include materials that can cause or contribute to pollution of the WUS. Examples of prohibited fill include pollutant-contaminated soil and materials defined as pollutants or hazardous in Arizona Revised Statutes (A.R.S.) § 49-201.

Acceptable construction materials that will or may contact water in any WUS are: untreated logs and lumber; natural stone (crushed or not), crushed clean concrete (recycled concrete); native fill; precast, sprayed or cast-in-place concrete (including soil cement and unmodified grouts); steel (including galvanized); plastic and aluminum. Use of other materials may be allowed, but require prior written approval from ADEQ.

25. The applicant will erect any barriers, covers, shields and other protective devices as necessary to prevent any construction materials, equipment or contaminants/pollutants from falling, being thrown or otherwise entering any WUS.
26. Area(s) must be designated, entirely outside of any WUS, for equipment staging and storage. In addition, the applicant must designate areas located entirely outside of any WUS for fuel, oil and other petroleum product storage and for solid waste containment. All precautions shall be taken to avoid the release of wastes, fuel or other pollutants to any WUS.

Any equipment maintenance, washing or fueling that cannot be done offsite will be performed in designated areas. All equipment shall be inspected for leaks. All leaks shall be repaired and all repaired equipment will be cleaned to remove any fuel or other fluid residue prior to use within (including crossing) any WUS.

- A spill response kit will be maintained in these areas to mitigate any spills. The kit will include material specifically manufactured and sold as spill adsorbent/absorbent and spill containment. The applicant will ensure that whenever there is activity on the site, that there are personnel on site trained in the proper response to spills and the use of spill response equipment.
27. A spill containment plan shall be maintained onsite to ensure that pollutants are prevented from entering any WUS. Any pollutant generated by activities certified herein shall be properly disposed in accordance with applicable regulations.
  28. Upon completion of the activities certified herein, areas within any WUS shall be promptly cleared of all forms, piling, construction residues, equipment, debris or other obstructions.
  29. If fully, partially or occasionally submerged structures are constructed of cast-in-place concrete instead of pre-cast concrete, applicant will take steps; e.g., sheet piling or temporary dams, to prevent contact between water (instream and runoff) and the concrete until it cures and until any curing agents have evaporated or otherwise cease to be available; i.e., are no longer a pollutant threat.
  30. Washout of concrete handling equipment must not take place within any WUS and any washout runoff shall be prevented from entering any WUS.
  31. Any permanent WUS crossings other than fords, shall not be equipped with gutters, drains, scuppers or other conveyances that allow untreated runoff (due to events equal to or lesser in magnitude than the design event for the crossing structure) to directly enter a WUS if such runoff can be directed to a local stormwater drainage, containment and/or treatment system.

### **Temporary and Permanent Structures**

32. Permanent and temporary pipes and culvert crossings shall be adequately sized to handle expected flow and properly set with end sections, splash pads, headwalls or other structures that dissipate water energy to control erosion.
33. Debris will be cleared as needed from culverts, ditches, dips and other drainage structures in any WUS to prevent clogging or conditions that may lead to washout.
34. All temporary structures constructed of imported materials and all permanent structures, including but not limited to, access roadways; culvert crossings; staging areas; material stockpiles; berms, dikes and pads, shall be constructed to accommodate overtopping and resist washout by streamflow.
35. Any temporary crossing, other than fords on native material, shall be constructed in such a manner to provide armoring of the stream channel. Materials used to provide this armoring shall not include anything easily transportable by flow. Examples of acceptable materials include steel plates, untreated wooden planks, pre-cast concrete planks or blocks; examples of unacceptable materials include clay, silt, sand and gravel finer than cobble (roughly fist-sized). The armoring must resist washout.
36. No vehicles or equipment shall ford any unarmored WUS crossing when flow is present.

37. Any ford, other than fords on native material, shall be designed, and maintained as necessary to carry the proposed traffic without causing erosion or sedimentation of the stream channel while dry or during a flow event equal to or less than the design event for the crossing.
38. No unarmored ford shall be subject to heavy-truck or equipment traffic after a flow event until the streambed is dry enough to support the traffic without disturbing streambed material to a greater extent than in dry conditions. Light vehicles (less than 14,000 pounds gross weight) are not restricted by this condition.
39. Temporary structures constructed of imported materials are to be removed no later than upon completion of the permitted activity.
40. Temporary structures constructed of native materials, if they provide an obstacle to flow, or can contribute to or cause erosion, or cause changes in sediment load, are to be removed no later than upon completion of the permitted activity.