ARIZONA
DEPARTMENT OF
TRANSPORTATION

ADVERTISEMENT FOR BIDS

SPECIAL PROVISIONS

BIDDERS DOCUMENTS

TRACS/Proj. No.:

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

Contracts and Specifications Group
205 S. 17TH Ave., 2nd Floor, M/D 121F
Phoenix, Arizona 85007-3217

ARIZONA DEPARTMENT OF TRANSPORTATION

ADVERTISEMENT FOR BIDS

BID OPENING: FRIDAY, AUGUST 14, 2026, AT 11:00 A.M. (M.S.T.)

TRACS NO	0000 PM PPM T0415 01C
PROJECT NO	PPM-0-NFA
TERMINI	PIMA COUNTY
LOCATION	CATALINA STATE PARK

ROUTE NO.	MILEPOST	DISTRICT	ITEM NO.
N/A	N/A	SOUTHCENTRAL	N/A

The amount programmed for this contract is $ 6,743,378.00. The location and description of the proposed work are as follows:

The proposed work is located at the Canada del Oro Wash crossing of the Catalina State Park main entrance road, adjacent to State Route 77 within Tucson, in Pima County. The project begins 2000 feet northeast of the Park entrance station, at the ford crossing of Canada del Oro Wash. The work consists of replacing the existing concrete ford crossing with a reinforced concrete slab bridge with a seven-span cast-in-place reinforced concrete closed frame structure. The work includes the reconstruction of the immediate entrance road approaches to match the new bridge section and connections to intersecting park roads. The work also includes channel grading and bank restoration work, as well as removing and stockpiling excess wash materials and other related work.

The time allowed for the completion of the work included in this contract will be **175** working days.

The Arizona Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to §§ 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Contract documents, and other project documents, if applicable, are available as electronic files, at no charge, from the Department's website through the ADOT Contracts and Specifications Group (https://azdot.gov/business/contracts-and-specifications/current-advertisements).

Documents will be available within one week following the advertisement for bids.

To submit a valid bid, the bidder must (1) have prequalification from the Department as necessary for the project, and (2) be included on the project Plansholder List as a Prime.

The Application for Contractor Prequalification may be obtained from the Contracts and Specifications website.

This project requires electronic bidding. If a request for approval to bid as a Prime Contractor is received less than 48 hours prior to bid opening, the Department cannot guarantee the request will be acted on.

This contract is subject to the provisions of Arizona Revised Statutes Section 42-5075 -- Prime contracting classification; exemptions; definitions.

No proposal will be accepted from any contractor who is not a duly licensed contractor in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03.

Persons that require a reasonable accommodation based on language or disability should contact ADOT's Contracts and Specifications Office by phone (602) 712-7221. Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.

Las personas que requieran asistencia (dentro de lo razonable) ya sea por el idioma o discapacidad deben ponerse en contacto con ADOT (602) 712-7221.

The bidder shall provide an electronic proposal guaranty payable to the Arizona Department of Transportation for 10 percent of the amount of the bid.

Prior to the bid opening date, any questions pertaining to the project documents shall be submitted to the Department in a written format through the Bid Express (Bidx) website at https://www.bidx.com/az/lettings. Questions shall be submitted through the Questions and Answers (Q&A) link located within the corresponding letting date and project proposal number links. The Department may not answer all questions, and any decision on whether a question is answered will be within the sole discretion of the Department. Any questions received less than three working days prior to the bid opening date may not be answered.

The Engineering Specialist assigned to this project is: Ghalib Mahdi, gmahdi@azdot.gov, any correspondence with the Engineering Specialist is subject to posting onto Bidx through the project's Q&A link. Answers to questions will not be given verbally, but will be posted exclusively to the Bidx website.

Brahama Singh, P.E.
Group Manager
Contracts & Specifications

Project Advertised on: 06/04/2026

SPECIAL PROVISIONS

FOR

ARIZONA PROJECT

0000 PM PPM T0415 01C

PPM-0-NFA

PIMA COUNTY

CATALINA STATE PARK

ENTRANCE ROAD IMPROVEMENTS

PROPOSED WORK:

The proposed work is located at the Canada del Oro Wash crossing of the Catalina State Park main entrance road, adjacent to State Route 77 within Tucson, in Pima County. The project begins 2000 feet northeast of the Park entrance station, at the ford crossing of Canada del Oro Wash. The work consists of replacing the existing concrete ford crossing with a reinforced concrete slab bridge with a seven-span cast-in-place reinforced concrete closed frame structure. The work includes the reconstruction of the immediate entrance road approaches to match the new bridge section and connections to intersecting park roads. The work also includes channel grading and bank restoration work, as well as removing and stockpiling excess wash materials and other related work.

PROFESSIONAL ENGINEER SEALS:

These Special Provisions represent the combined efforts of the following organizations:

(1) Jacobs Engineering Group
(2) Arizona Department of Transportation, Roadside Development Section

A representative of each organization has affixed their seal below, which attests that those portions of these Special Provisions which relate to the project plans were prepared under their direction.



Expires 12-31-2028

Jacobs Engineering Group

(Civil, Traffic, Structures)



Arizona Department of Transportation

Roadside Development

(Seeding)

(SPC00ST, 06/19/25)

SPECIFICATIONS:

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

Arizona Department of Transportation, Standard Specifications for Road and Bridge Construction, Edition of 2021,

Arizona Department of Transportation, Roadway Engineering Group, Construction Standard Drawings, listed in the project plans, and available on the Department's website,

Arizona Department of Transportation, Traffic Engineering Group, Manual of Approved Signs, available on the Department's website,

Arizona Department of Transportation, Traffic Engineering Group, Temporary Traffic Control Design Guidelines, dated April, 2025, available on the Department's website,

Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 edition and Arizona Supplement to the 2009 edition, dated January, 2012,

The Proposal Pamphlet which includes the following documents:

These Special Provisions,

Appendix A – Subgrade Acceptance Chart

Appendix B – Section 404 Permit and Section 401 Water Quality Certification Documents

Appendix C – Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Title VI / Non-Discrimination Assurances,
Appendix A
Appendix E,

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Executive Order 2009-09, November 13, 2009,

Bidding Schedule,

Proposal,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontracts, Subject to the Equal Opportunity Clause of Executive Order No. 99-4 and the Filing of Required Reports, Non-Federal Aid Projects, August 1, 2000,

Certification With Respect to the Receipt of Addenda,

Participation in Boycott of Israel Certification Form,

Forced Labor of Ethnic Uyghurs Ban Certification Form, Rev. November 2022.

BID SUBMISSION:

In submitting a bid, the bidder shall completely execute the following documents:

Proposal,

Bidding Schedule,

Surety (Bid) Bond, 12-1303,

Certification With Regard to the Performance of Previous Contracts or Subcontracts, Subject to the Equal Opportunity Clause of Executive Order No. 99-4 and the Filing of Required Reports, Non-Federal Aid Projects, August 1, 2000,

Certification With Respect to the Receipt of Addenda,

Participation in Boycott of Israel Certification Form, and

Forced Labor of Ethnic Uyghurs Ban Certification Form, Rev. November 2022.

PROPOSAL GUARANTY:

Each bidder is advised to satisfy itself as to the character and the amount of the proposal guaranty required in the Advertisement for Bids.

CONTRACT DOCUMENTS:

The bidder to whom an award is made will be required to execute a Performance Bond and a Payment Bond, each in 100 percent of the amount of the bid, an Insurance Certificate and the Contract Agreement.

A copy of these documents is not included in the Proposal Pamphlet; however, each bidder shall satisfy itself as to the requirements of each document.

The documents, approved by the Department of Transportation, Highways Division, are identified as follows:

Statutory Performance Bond, 12-1301, September, 1992

Statutory Payment Bond, 12-1302, September, 1992

Contract Agreement, 12-0912, August, 2000

Certificate of Insurance, 12-0100, June, 1998

A copy of each document may be obtained by making a request to Contracts & Specifications.

MATERIAL AND SITE INFORMATION:

Projects requiring materials, excavation, or site investigation may have additional information available concerning the material investigations of the project site and adjacent projects. This information, when available and applicable, may be examined in the Office of the Bridge Group-Geotechnical Services, located at 205 S. 17th Avenue, Phoenix, AZ 85007-3212. The contractor may contact Bridge Group at (602) 712-7481 to schedule an appointment to examine the information. This information will not be attached to the contract documents.

(NOGOAL, 06/09/16)

NONDISCRIMINATION:

Policy:

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract and the award of subcontracts and supply contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

(TITLEVI, 08/19/21)

STANDARD TITLE VI SPECIFIC ASSURANCES:

The Arizona Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

GENERAL REQUIREMENTS:

Use of Prohibited Products:

The contractor shall **not** commit any of the following actions:

(1) Deliver, install, or include any prohibited product under this contract.
(2) Propose to deliver, install, or include any prohibited product under this contract.
(3) Enter into a new contract to procure or obtain any prohibited product.

For the purpose of this Section, “Prohibited Product” is defined as any telecommunication or video surveillance equipment, systems, or services produced by:

(1) Huawei Technologies Company.
(2) ZTE Corporation.
(3) Hytera Communications Corporation.
(4) Hangzhou Hikivision Digital Technology Company.
(5) Dahua Technology Company.
(6) Any subsidiary or affiliate of the entities mentioned in this Section.

The contractor shall identify the known subsidiaries and affiliates of the aforementioned from the following Website:

https://umd.service-now.com/itsupport?id=kb_article_view&sysparm_article=KB0014132&sys_kb_id=28015b70dbe0e3849382f1a51d96193f

BLM Material Sources:

If the contractor elects to pursue the use of material sources on BLM land under Title 30 Code of Federal Regulations, it is at the contractor’s sole risk, and the Department bears no responsibility for any delays or costs associated with the request to use material sources on BLM Land.

The Department will not request or pursue any “free-use permit” under Title 23 Code of Federal Regulations or any other arrangement with BLM on this project.

No extension in contract time or compensation will be granted for any attempt by the contractor to utilize BLM land.

Environmental Mitigation Measures:

The contractor’s commitments are identified in the Environmental, Permits, Issues, and Commitments (EPIC) Plan Sheet 1F. The contractor shall follow the requirements specified in the EPIC plan sheet 1F, Subsection 104.16 of the specifications and these Special Provisions.

In addition, the contractor shall pay attention to the project specific environmental commitments that are specified in Section 10 of the EPIC Plan Sheet 1F.

Local Agencies Standards:

The plans and these Special Provisions reference certain Standard Details promulgated by a local agency or agencies. Any local agency's Standard Specifications referenced on the standard details shall not be used unless they are so designated by these Special Provisions.

All Portland cement concrete and aggregate base shall conform to ADOT Standard Specifications. Whenever reference is made to structural concrete and aggregate base in the local agency's specifications, the reference shall be construed to mean Class S concrete and Class 2 aggregate base, respectively.

When not included in the project documents, copies of the latest Standard Specifications and Details for each local agency will be available on the local agency's website.

Designated Staging Area:

An area has been environmentally cleared to be considered as a possible staging area by the contractor. The site is a combined staging and emergency helicopter landing pad for the Park. It is located 600-feet east of the Park entrance on Drive A, and accessed from the maintenance area service road. This site, however, has certain restrictions and limitations, that the contractor shall be aware of prior to deciding to use it as a staging area, which include:

(1) Avoid stockpiling, storing, parking, staging within 500-ft of the helicopter landing area.
(2) Install security fencing in accordance with the Park security requirements.
(3) Restore the staging area to its pre-construction condition.
(4) Remove all trash and debris from the site.
(5) Apply seeding to the disturbed, graded areas outside of the low-flow channel.

No measurement or direct payment will be made to the contractor for any cost associated with using this location, or the efforts to restore it to its original condition.

Haul Routes and Hauling to / from Site:

Haul routes and hauling hours shall be in accordance with local ordinances and approved by the City of Tucson and Pima County authorities and the Engineer. The contractor shall obtain permits and comply with any noise mitigation measures to meet the local noise ordinances at no additional cost to the Department.

Erosion / Sediment Control and Stormwater Quality:

The contractor shall give attention to the impact of the construction operations upon natural landscape and shall take care to maintain natural surroundings undamaged at no additional cost to the Department. The contractor shall minimize soil disturbance by implementing Low Impact Development (LID) methods to control erosion as close as possible to the source of disturbance.

The contractor shall use all means necessary to significantly reduce impacts by staging/stockpiling and carrying out project activities in such a way as to curtail/contain the potential for erosion and discharge of pollutants from the project site.

Fine particles including minor miscellaneous dirt, dust, rock fragments or construction debris that may be associated with stormwater discharges into catch basins shall be prevented/ controlled to maximum extent practicable (MEP) at no additional cost to the Department. Such compliance measures may include frequent dry vacuuming and/or pavement sweeping during construction to ensure no debris, dirt, dust, and material fragments will be built up within 25 feet from catch basins. On-site staging, material storage and stockpiling shall not be allowed within 50 feet from catch basins.

When needed, the contractor shall apply perimeter control Best Management Practices (BMPs) (Wattles) on the down-slope perimeter of construction disturbed areas, unpaved on-site staging, and stockpiling at no additional cost to the Department. To prevent sediment from bypassing the wattle ends, the end of the wattles shall be turned up the slopes for a minimum of 3 feet to form an “L” shape. No portion of the wattle shall be installed within 6 feet from the edge of the pavement. Wattles shall not be placed over any driveways or access roads that intersect with the roadway mainline. Additionally, wattles shall not be placed on the flow path of inlets and outlets of drainage facilities. Perimeter control BMPs (wattles) shall be installed in accordance with the manufacturer’s instructions. The contractor shall adjust the field layout of erosion control and sediment prevention elements as approved by the Engineer. The contractor shall also observe ADOT traffic safety standards when installing perimeter control BMPs in the traffic clear zone/recovery area.

During construction the contactor shall minimize vehicular travel or equipment operation on the unpaved soil areas to MEP. The contractor shall develop and implement procedures to avoid earth disturbance, soil compaction, and damage to vegetative cover from vehicular travel or equipment operation during inclement weather or unsuitable soil conditions. The contractor shall stabilize all construction disturbed soil areas at no additional cost to the Department.

No grout, concrete or wash water shall be disposed within the project limits or its vicinity. The contractor shall install concrete washout BMP as needed and under the direction of the Engineer at no additional cost to the Department. This BMP shall include proper disposal of all excess grout, concrete, and wash water.

All Rock Mulch and Rock Riprap used for erosion/sediment control shall be placed and shaped as shown on the BMPs’ plans/details. Rock Mulch/Riprap materials shall be fractured/crushed rocks in angular shape and as defined in the Section 810 of the Standard Specifications and these special provisions. Natural river-run materials, especially the rounded natural river rocks/cobblestones are not acceptable.

The contractor shall not use unpaved areas within the project limits for staging or stockpiling without first installing erosion control and sediment prevention BMPs and as directed and approved by the Engineer. Staging and stockpiling on the unpaved areas shall be avoided to MEP.

Dewatering Trenches:

Any water encountered during the installation of underground facilities shall be disposed of by the contractor in a manner, which will not cause damage to public or private property or constitute a nuisance or menace to the public and shall be in accordance with the Storm Water Pollution Prevention Plan (SWPPP) for the project. The contractor shall furnish, locate, install, and operate pumps, pipes, appliances and equipment of sufficient capacity as required to keep all excavations free from water while work progresses, including weekends and holidays. The contractor shall provide means and facilities necessary to conduct water to the pumps.

No measurement or direct payment will be made for dewatering trenches, the cost being considered included in the contract items.

Dewatering:

It is the contractor's responsibility to make provisions for the removal and/or control of groundwater, surface water and water infiltrating into the site during construction. The contractor shall provide all necessary machinery, appliances, equipment, labor, tools and incidentals to keep excavations free from water during construction and shall dewater and dispose of the water so as not to cause injury to the public.

Any surface or subterranean water encountered during the installation of underground facilities shall be disposed of by the contractor in such a manner as will not cause damage to public or private property or constitute a nuisance or menace to the public. The contractor shall furnish, install, and operate pumps, pipes, appliances, and equipment of sufficient capacity necessary to keep all excavations free from water while work is in progress, including weekends and holidays. The contractor shall provide all means and facilities necessary to direct water to the pumps. No separate payment will be made for dewatering trenches.

Any permits required for dewatering operations and disposal of water shall be obtained and paid for by the contractor. The contractor shall have on hand sufficient pumping equipment and machinery in good working condition for ordinary emergencies, and shall have workmen available to operate the pumping equipment. Dewatering systems shall not be shut down between shifts, on holidays, on weekends, or during work stoppages without written permission from the Engineer.

Control of ground water shall be such that softening of the bottom excavations, or formation of "quick conditions or boils" shall be prevented. Dewatering systems shall be designed and operated so as to prevent the removal of the natural soils.

During excavation, construction of structures, installation of pipelines and sewers, and placement of fill and trench backfill, excavations shall be kept free of water. The static water level shall be drawn down below the bottom of the excavation so as to maintain the undisturbed state of the natural soils and allow the placement of any fill or backfill to the required density. The dewatering system shall be installed and operated so that the ground water level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property.

Release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compact fill or backfill, and prevent flotation or movement of all structures, pipelines and sewers.

No direct payment will be made for dewatering ground water, accumulated surface water, effluent infiltration or water of any origin, or for channelizing and diverting surface or other water. Costs for this work shall be considered included in the contract items related to this work.

Transition of Select AASHTO Standard Test Method to Arizona Test Method Equivalent:

Whenever reference is made in the specifications to an AASHTO Test Method, the reference shall be construed to mean it's equivalent Arizona Test Method as listed in the table below.

TEST METHOD TRANSITION TABLE	
AASHTO Standard	**Equivalent Arizona Test Method**
R 66	103
R 97	104
R 90	105
T 11, T 27	201
T 85	210
T 84	211
T 335	212
T 99	225
	226
T 224	227
T 191	230
T 272	232
T 310	235
T 288, T 289	236
T 176	242
T 99	245
T 272	246
T 304 Method A	247
T 24	317
T 329	406
R 68, T 245	410
T 355	412
T 166	415
R 47	416
T 209	417
T 287	421
T 269	424
T 308	427
	428

(101DEFN, 04/21/22)

SECTION 101 DEFINITIONS AND TERMS:

101.02 Definitions:

Acceptance: of the Standard Specifications is hereby deleted:

Characteristic: of the Standard Specifications is revised to read:

A measurable or an observable property of a material, product, or item of construction.

City, County, Township, or Town: of the Standard Specifications is hereby deleted:

Contract Bonds (Performance Bond and Payment Bond): the title and text of the Standard Specifications is revised to read:

Contract Bonds:

Surety Bonds that include Performance Bond and Payment Bond.

Highway, Street, or Road: of the Standard Specifications is revised to read:

A general term denoting a public way for purposes of travel, vehicular, pedestrian or by other means, including the entire area within the right-of-way.

Roadbed: of the Standard Specifications is revised to read:

The graded portion of a highway, prepared as a foundation for the pavement structure and shoulders.

Roadside Development: of the Standard Specifications is revised to read:

Activities which provide for the preservation of landscape materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching and the placing of other ground covers; or such planting and other improvements as may increase the effectiveness and enhance the appearance of the highway.

State: of the Standard Specifications is revised to read:

The State of Arizona, acting through its authorized representatives.

(102SCSGR, 08/15/24)

SECTION 102 BIDDING REQUIREMENTS AND CONDITIONS:

102.11 Availability of Documents: the first paragraph of the Standard Specifications is modified to add:

(l) Survey Control Sheet.

102.11 Availability of Documents: the second paragraph of the Standard Specifications is revised to read:

The project plans, special provisions, proposal pamphlet, cross sections, earthwork quantity sheets, survey control sheet, and any applicable reports are provided in PDF format. The Department makes no representation or warranties as to the compatibility, usability, or readability of the PDF documents with any system, software, hardware, or application package other than that on which the files were originally saved. The contractor bears the sole risk of any modifications, manipulations, or alterations to the plans, special provisions, proposal pamphlet, and any applicable reports.

SECTION 104 – SCOPE OF WORK:

104.04 (A) Detours: of the Standard Specifications is modified to add:

No separate measurement or payment will be made for the earthwork and grading operations to both install and remove the detour, that cost being considered included in the roadway earthwork costs.

Installation of base and surfacing materials used for constructing detours will be measured and paid for as specified under their respective contract items. When the use of the detour is no longer required, all base and surfacing materials shall be removed and disposed of in accordance with the Standards Specifications and these Special Provisions. No separate measurement or payment will be made for removing and disposing of these materials.

(104TPDDC, 08/21/25)

SECTION 104 SCOPE OF WORK:

104.04 Maintenance of Traffic: of the Standard Specifications is modified to add:

Prior to construction, alterations to contract phasing, detours, and Maintenance and Protection of Traffic plans shall be reviewed by the Engineer at the preconstruction conference or a pre-activity meeting based on the contractor’s preliminary schedule and proposed contract phasing.

104.04 Maintenance of Traffic: of the Standard Specifications is modified to add:

(D) General Traffic Control Information:

The project shall be constructed in accordance with the most recent versions of Part VI of the Manual on Uniform Traffic Control Devices (MUTCD), 2023 Editions, with the Arizona Supplement to the 2023 MUTCD, the Arizona Department of Transportation Traffic Control Design Guidelines (TCDG), and the traffic control necessary to provide a safe and efficient work zone without unduly delaying traffic. Alterations and modifications to the traffic control concept and special provisions will be considered if they conform to the references listed above. Any changes or revisions to the traffic control requirements in the traffic control concept and Special Provisions must be approved in advance by the Engineer.

The contractor shall develop and submit a traffic control plan for the Engineer's approval, in accordance with these Special Provisions and as specified in Section 701 of the Specifications. No work shall begin until written approval of a Traffic Control Plan (TCP) is received from the Engineer.

The temporary removal or covering of existing signs shall be in accordance with Section 701-3.11 and 701-5.10 of the Standard Specifications. The contractor shall store and reinstall items, which have been removed or relocated in a manner approved by the Engineer at no additional cost to the Department.

(E) Schedules for Daily Traffic Control Activities:

The contractor shall provide a schedule of daily activities and corresponding traffic control schemes. The information shall be provided in advance or during the weekly construction meeting in accordance with Subsection 108.04 of the specifications and shall specify the limits of the work activities and related traffic control plan by location, direction and time.

The schedule and the related traffic control shall be developed in such a way that access or alternative access is maintained at all times to all adjacent residential development, commercial and public rights of way. The schedule should be developed in such a manner that it can be released to other agencies and the public. The schedule shall be updated as necessary.

Holidays:

No roadway closures will be allowed on and during the following weekend holiday periods, unless otherwise approved by the Engineer.

HOLIDAY PERIODS	START DAY & TIME (12:00 PM)	END DAY & TIME (6:00 AM)
Civil Rights Day	Friday, January 16, 2026	Tuesday, January 20, 2026
President's Day	Friday, February 13, 2026	Tuesday, February 17, 2026
Memorial Day	Friday, May 22, 2026	Tuesday, May 26, 2026
Independence Day	Friday, July 3, 2026	Monday, July 6, 2026
Labor Day	Friday, September 4, 2026	Tuesday, September 8, 2026
Columbus Day	Friday, October 9, 2026	Tuesday, October 13, 2026
Veterans Day	Tuesday, November 10, 2026	Thursday, November 12, 2026

104.10 Contractor's Responsibility for Work: The second paragraph of the Standard Specifications is modified to read:

Until final written acceptance of the project by the Engineer, the contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. This includes removal of debris from the worksite after major storm events where sediment may be deposited within the project limits. The contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work as specified in Subsection 104.11 of the specifications.

(104MTBRN, 06/04/96)

SECTION 104 SCOPE OF WORK:

104.08 Prevention of Air and Noise Pollution: the first paragraph of the Standard Specifications is modified to add:

Burning of trash, debris, plant material, wood, or any other waste materials will not be allowed. The contractor shall dispose of such materials in accordance with the requirements of Subsection 107.11.

(104SWDEQ, 02/10/20)

SECTION 104 SCOPE OF WORK:

104.09 Prevention of Stormwater Pollution: of the Standard Specifications is revised to read:

(A) General:

The contractor shall follow the requirements of Section 402 of the Clean Water Act (CWA), 33 USC 1251 and other water quality regulations. The CWA regulates discharge of pollutants into the waters of the United States and provides quality standards for surface waters. Section 402 of the CWA provides stormwater pollution prevention regulations. ADEQ's Aquifer Protection Permit (APP) Program regulates temporary concrete washout facilities. The APP Type 1 Permit (APP 1.12) applies only when projects disturb one or more acres and are covered under the Arizona Department of Environmental Quality Construction General Permit.

The contractor shall minimize ground disturbance to the natural surroundings. No ground disturbing activities shall occur until all applicable permits have been obtained. The applicable permit requirements must always be met.

The contractor shall provide adequate information to the contractor's personnel, including employees of any subcontractors, to ensure that all personnel understand requirements of the applicable permits that are relevant to their job functions.

(B) Clean Water Act, Section 402, Arizona Pollutant Discharge Elimination System (AZPDES):

(1) General Requirements:

The contractor shall be responsible for preparing and processing all documents and implementing the requirements of the Arizona Pollutant Discharge Elimination System (AZPDES) "General Permit for Discharge from Construction Activities to the Waters of the United States," for pollution prevention issued by the Arizona Department of Environmental Quality (ADEQ). That document is hereinafter referred to as the Construction General Permit (CGP) and is available on ADEQ's website.

The work shall include providing, installing, and maintaining, temporary and permanent pollution prevention control measures and removing and disposing of temporary pollution prevention control measures. Control Measures, as hereinafter referenced, shall be deemed to include pollution prevention control as described in the CGP. Control Measures may be temporary or permanent.

The contractor's schedule shall allow sufficient time for the following submittal, review, and approval times:

Table 104-1 Submittal, Review, and Approval Timeframes	
Contractor submittal of Erosion Control Coordinator (ECC) qualifications	By the pre-construction conference
Department review and approval of ECC qualifications	within seven calendar days of receipt
Department review and approval of subsequent submittals (if required)	within seven calendar days of receipt
Contractor submittal of SWPPP to Engineer	By the pre-construction conference
Department review and approval of subsequent submittals (if required)	within seven calendar days of receipt
Engineer/contractor joint review of SWPPP	within 10 calendar days after contractor submittal of SWPPP with ADOT approval of the ECC
Approved Notice of Intent (NOI) submittal and review times	as described in the CGP

No increase in contract time will be granted for the contractor's failure to provide acceptable submittals within the specified timeframes.

(2) Stormwater Pollution Prevention Plan (SWPPP):

The SWPPP shall include all information and permit requirements specified in the CGP, and shall also be consistent with applicable state or local programs.

Unless otherwise approved by the Engineer and documented in the SWPPP, the contractor shall not expose a surface area of greater than 750,000 square feet to erosion through clearing and grubbing, or excavation and filling operations within the project limits until temporary or permanent Control Measures for that portion of the project have been installed and accepted by the Engineer.

The contractor shall indicate each 750,000 square-foot sub-area in the SWPPP, along with proposed Control Measures for each sub-area. The SWPPP shall also include the sequence of construction for each sub-area, and installation of the required temporary or permanent Control Measures.

The contractor shall give installation of permanent Control Measures priority over reliance on temporary measures. Permanent Control Measures and drainage structures shall be installed as soon as possible in the construction sequencing of the project, preferably concurrent with construction of the related sub-area or drainage device.

The project plans may include erosion/sediment control plans and details along with a Control Measure Index Sheet (CMIS) to assist the contractor in preparing the SWPPP. The contractor and the contractor's ECC, or other qualified designee, as described in Subsection 104.09(B)(3), shall review the contract documents, and prepare the SWPPP for review by

the Engineer. The contractor shall use the Department's SWPPP Template to prepare the SWPPP. The template is available on the Department's Water Resources website.

The SWPPP shall specify the mechanism whereby revisions may be proposed by the contractor or the Engineer throughout the project and incorporated into the plan, including the review and approval procedure. The Engineer and contractor shall jointly approve and sign each revision to the SWPPP before implementation. Any revisions made by the contractor to amend the approved SWPPP will require two to seven calendar days for review**.**

The contractor shall prepare the SWPPP for the Engineer's review including all information specified herein. The contractor shall submit the SWPPP to the Engineer at the preconstruction conference.

Within 10 calendar days of the SWPPP submittal, the Engineer and contractor will jointly review the contractor's SWPPP. The contractor shall include any additional revisions directed by the Engineer. The SWPPP shall meet the terms and conditions of the CGP and be compatible with construction sequencing and maintenance of traffic plans.

When agreement has been reached, the Engineer and contractor's ECC will sign the SWPPP. The Engineer's signature will constitute approval of the SWPPP. Upon approval of the SWPPP, the contractor and the Engineer shall each file a Notice of Intent (NOI) as specified in Subsection 104.09(B)(6). The Engineer will provide a copy of the Department's NOI to the contractor to be included in the SWPPP.

The SWPPP shall be maintained in accordance with the CGP. A current copy shall be maintained at a location approved by the Engineer and amended as necessary from the time the contractor files its NOI until the NOT is submitted. The SWPPP shall be available for inspection by entities identified in the CGP, and for use by the Engineer.

No condition of the CGP or the SWPPP shall release the contractor from any responsibilities or requirements under other environmental statutes or regulations.

In accordance with the CGP, the Engineer and the contractor shall confirm the frequency of inspections appropriate for the project. The contractor shall identify the frequency in the SWPPP. The contractor shall inform the Engineer when each inspection will be performed a minimum of 72 hours in advance so the Engineer can jointly perform the inspection if desired.

The contractor shall monitor rainfall on the site with a commercially manufactured rain gauge accurate to within 0.10 inches of rain. Rainfall records shall be maintained in the SWPPP.

(3) Erosion Control Coordinator (ECC):

The contractor shall designate an erosion control coordinator (ECC) to be responsible for approval and implementation of the SWPPP, as well as all other applicable requirements of the CGP. The contractor's ECC shall have the qualifications described in Subsection 104.09(B)(4).

The contractor shall not assume that the person proposed as ECC will be accepted by the Department merely because the experience and education requirements listed herein have been met.

After approval, the contractor shall designate the ECC as a duly authorized representative of the contractor in accordance with, and as defined in, the CGP. Documentation of the delegation of a duly authorized representative shall be included as part of the SWPPP.

The ECC shall be capable of identifying existing and predictable effects of the contractor's operations, and shall have complete authority to direct the contractor's personnel and equipment to implement the requirements described herein, including prompt placement of corrective measures to minimize or eliminate pollution and damage to downstream watercourses. Corrective measures shall be completed in the timeframe required by the CGP and included in the SWPPP as required by the CGP.

The ECC shall at all times be aware of the contractor's work activities, schedule, and effect of the work on the environment. Should the ECC not be present at the project site on a full-time basis, the contractor shall establish procedures to ensure that its ECC is promptly notified of any damage or displacement of the required erosion control measures, whether from construction, vandalism, or other causes.

The contractor bears all risks and liabilities for the failure of its ECC to properly implement the requirements of the CGP.

Failure of the contractor to properly maintain the Control Measures required in the approved SWPPP may be cause for the Engineer to reject the ECC and issue a stop work order, as specified in Subsection 104.09(B)(7).

(4) ECC Certification Requirements:

The ECC shall have successfully completed the mandatory two-day (16 hour) "Erosion Control Coordinator" training class (hereinafter referred to as the training class) provided by the Associated General Contractors (Arizona Chapter), phone (602) 252-3926. No other training can be substituted.

The training class certification is valid for three years. Within 60 days of the end of the three year period, in order to maintain the training class certification, the ECC shall successfully complete either a six-hour "Erosion Control Coordinator Refresher" class (hereinafter referred to as the refresher class), also provided by the Associated General Contractors (Arizona Chapter), or the two-day training class specified above. The refresher class will be required every three years thereafter, prior to the expiration date listed on the previous certificate. Should more than three years (and 60 day grace period) elapse from completion of either the training class or refresher class, the contractor's ECC will be required to successfully complete the two-day training class in order to again be eligible for consideration.

In addition, the contractor's ECC shall have documented experience equal to a minimum of one year from either of the following two categories:

(a) Experience in the implementation of SWPPPs. The ECC's experience shall demonstrate full-time responsibility for directly supervising construction personnel in the installation, inspection, and maintenance of pollution prevention measures.

(b) Experience in stabilization of disturbed areas in environments similar to those on the project.

The contractor's documentation shall provide details indicating the types of relevant experience and shall provide the number of months of each type of experience to be considered for approval.

The contractor's documentation shall also indicate that the proposed ECC has completed the training class or refresher class. To be considered for approval, the contractor's documentation shall include a copy of the proposed ECC's certification.

(5) Acceptance of ECC and SWPPP:

The contractor shall submit documentation indicating the qualifications of the ECC to the Engineer for approval no later than the pre-construction conference. The Engineer will review the proposed candidate's information within seven calendar days. The contractor may begin development of the SWPPP prior to approval of the ECC. However no clearing, grubbing, earthwork, or other work elements that may be subject to the requirements of the CGP shall be started until the ECC has been approved, the SWPPP finalized and implemented, the NOI completed and filed, and the CGP authorization received by the contractor and the Engineer. If sampling is required, the SWPPP and SAP shall also be reviewed and approved by ADEQ prior to ground disturbance by the contractor.

(6) Notice of Intent:

After the project SWPPP has been approved by the Engineer, the Engineer and the contractor will each complete separate Notice of Intent (NOI) forms for the project. The contractor shall submit the NOI to ADEQ as required by the CGP.

Unless notified otherwise by ADEQ, the contractor will be authorized to begin implementation of the approved SWPPP seven calendar days after acknowledgement of receipt of both NOIs by ADEQ or whenever an authorization certificate is issued by ADEQ, whichever occurs first.

(7) Non-Compliance:

The Engineer may reject the contractor's ECC if, in the opinion of the Engineer, the conditions of the CGP or the SWPPP are not being fulfilled. Rejection of the contractor's ECC shall be for failure to complete any of the following:

(a) Should the Engineer determine that the SWPPP is not being properly implemented; the contractor will be notified in writing of such deficiencies. The contractor's ECC shall fully implement, to the

satisfaction of the Engineer, the requirements of the approved SWPPP within three working days.

(b) Should any corrective measures required in the CGP not be completed within the time periods specified therein, the Engineer will notify the contractor in writing. The contractor's ECC shall complete all required corrective measures within two calendar days of such notification, except that direct inflows of sediment into a watercourse shall be corrected within 24 hours.

(c) Should the Engineer determine that routine maintenance of the project's Control Measures is not being adequately performed; the contractor will be notified in writing. Within three working days, the contractor's ECC shall demonstrate, to the satisfaction of the Engineer that such steps have been taken to correct the problem.

In the event of the ECC's failure to comply with the CGP or any of the above requirements, the Engineer will direct the contractor to stop all affected work and propose a new ECC as soon as possible. However, all Control Measures specified in the SWPPP shall be maintained at all times. No additional work on construction items affected by the SWPPP will be allowed until a new ECC has been approved by the Engineer. The contractor will not be allowed compensation or an extension of contract time for any delays to the work because of the failure of the contractor's ECC to properly fulfill the requirements of the SWPPP.

(8) Notice of Termination:

Upon written approval of the Engineer, the contractor shall complete and submit a Notice of Termination (NOT) to the Engineer for approval. After approval by the Engineer, the contractor shall submit the NOT to ADEQ.

The NOT shall be submitted as described in the CGP.

A copy of the SWPPP and the NOT shall be provided to the Engineer within seven days of the contractor receiving acknowledgement from ADEQ. The copies may be either electronic or hard copies.

(C) Aquifer Protection Requirements (Concrete Washout Facilities):

If the contractor's work requires the use of temporary concrete washout facilities, the contractor shall comply with the requirements of ADEQ's APP Type 1 Permit (APP 1.12). APP 1.12 covers wastewater to an impoundment from washing concrete from trucks, pumps, and ancillary equipment. The contractor shall address concrete washout activities in the project SWPPP.

(D) Measurement and Payment:

Measurement and payment for work specified in the SWPPP will be made in accordance with the requirements of Section 810. Control Measures specified in the contract which are

to be accomplished under any of the other various contract items will be paid for as specified under those items.

If a force account pay item for Control Measures is included in the bidding schedule, the contractor may be reimbursed for such additional Control Measures proposed by the contractor but not included with the plans or specifications. Such additional Control Measures must be approved in writing by the Engineer before use. Items for Control Measures approved by the Engineer will be paid in accordance with Subsection 109.04(D). No measurement or payment will be made for such additional items not approved by the Engineer.

No measurement or payment will be made to the contractor for time spent in preparing, reviewing, and revising the SWPPP, the SAP, or providing other required documentation, the cost being considered as included in the price of contract items. No measurement or payment will be made for inspections, training of personnel, the contractor's erosion control coordinator, the contractor's pollution prevention practices and requirements, or maintenance of the Control Measures during a suspension of work, the costs being considered as included in contract items.

No measurement or payment will be made, except as specified below for external laboratory testing, for labor, equipment, and materials required in the SAP, the cost being considered to be included in contract items.

If an item is included on the bidding schedule for Construction Monitoring (Laboratory Testing), the contractor will be reimbursed for those samples tested, as required in the approved SAP, by an accredited laboratory approved by the Arizona Department of Health Services. The contractor will be reimbursed for the invoice amount of each required test, plus an additional markup of ten percent of the invoice amount. No measurement or payment will be made for in-field testing and related equipment, the cost being considered to be included in contract items.

No measurement or payment will be made for temporary concrete washout facilities, the cost being considered to be included in contract items.

Unless otherwise specified, no measurement or payment will be made for maintenance of temporary and permanent Control Measures, the cost being considered as included in contract items.

104.10 Contractor's Responsibility for Work: of the Standard Specifications is revised to read:

The contractor shall implement the requirements of the CGP for pollution prevention due to stormwater runoff during construction, as specified above in Subsection 104.09, Prevention of Stormwater Pollution.

Until final written acceptance of the project by the Engineer, the contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements, or from any other cause, whether arising from the execution or from the nonexecution of the work. The contractor shall rebuild, repair, restore

and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance. No reimbursement shall be made for work necessary due to the contractor's failure to comply with the requirements of the SWPPP.

Except as specifically provided under Subsection 104.04, in case of suspension of work from any cause whatever, the contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project and provide for normal drainage. The contractor shall maintain Control Measures in working order during any stoppage of work. Based on the nature of the work stoppage, the contractor and the Engineer shall determine the maintenance requirements. The contractor shall comply with the CGP including inspection of the project.

(104ENVST, 09/19/24)

SECTION 104 SCOPE OF WORK:

104.16 Environmental Standard Work: of the Standard Specifications is hereby modified as follows:

(D) Work Within Waters of the United States: of the Standard Specifications is modified to add:

Clean Water Act, Section 404 Permit and 401 Water Quality Certification:

This project includes construction activities that impact waters of the United States (WOTUS) through the discharge of dredged or fill materials and therefore requires permits under Sections 404 and 401 of the CWA. The Section 404 permit and 401 Water Quality Certification documents are attached to the Special Provisions as **Appendix B**. The contractor shall comply with the requirements of the permits.

Construction operations in WOTUS are restricted to areas and activities authorized by the Corps of Engineers (Corps) in the 404 Permit. The contractor shall have prior written approval from the Engineer to conduct work within WOTUS that deviates from the scope approved by the Corps and described in the 404 Permit.

Fill (temporary or permanent) into WOTUS will not be allowed except as permitted and specified in the Corps permit. Where temporary fills are allowed, they shall be placed in a manner to maintain normal downstream flows. Upon completion of the work, all temporary fills shall be removed in their entirety and disposed of in an upland location outside of floodplains unless otherwise specified in the Corps permit.

Staging, storage, parking, waste disposal, material stockpiling, or any other construction support activity shall be located outside of WOTUS. Acceptable construction materials that may contact WOTUS are identified in the 404 Permit and associated 401 Water Quality Certification.

(E) The Biology Program: of the Standard Specifications is modified to add:

BIO-2: Migratory Bird Treaty Act (MBTA)

BIO-5: Sonoran Desert Tortoise:

Prior to construction activity the contractor's field personnel including the Project Manager, Assistant Project Manager, General Superintendent, and Project Superintendent shall review the Arizona Department of Transportation Environmental Planning "Sonoran Desert Tortoise Awareness Program Handout" flier, become familiar with the identification and avoidance of the Sonoran Desert tortoise, and follow the notification request, as applicable.

If any Sonoran Desert tortoises are encountered during construction, the contractor shall adhere to the Arizona Game and Fish Department "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects". If any tortoise is encountered during construction the contractor shall notify the Engineer to report the encounter.

The contractor shall report encounters with any Sonoran Desert tortoise (live, injured, or dead) during construction to the Engineer using the Arizona Department of Transportation Sonoran Desert Tortoise Observation Form. The final form shall be sent to Arizona Department of Transportation Environmental Planning Biology Team to the email address listed in **Appendix C** within 24 hours of the encounter. Photographs should be taken of tortoises encountered, and included in the report if possible.

(F) Specific Vegetation Protection Program: is hereby added to the Standard Specifications:

All disturbed soils that are not landscaped or otherwise permanently stabilized by construction shall be seeded in accordance with the requirements of Item 8050003 of these special provisions.

The contractor shall not disturb unpaved areas without the approval of the Engineer or as stated in the Environmental, Permits, Issues, and Commitments (EPIC) plan sheet 1F of the project plans. If any unpaved areas are disturbed as a result of the contractor's operation and without the approval of the Engineer, the contractor shall seed the areas with species native to the project vicinity. All seeded areas shall be covered by straw mulch with tacking agent. The contractor shall provide the seed mix to the Engineer for approval prior to placing any seeding. No measurement or payment will be made for seeding, the cost being considered as included in the price of contract items.

(107FS, 07/20/23)

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.12 Forest Protection: of the Standard Specifications is revised to read:

(A) General:

If a project or a material pit is located on land which is under the jurisdiction of the U.S. Department of Agriculture (USDA) Forest Service, the contractor shall comply with all applicable State and Federal laws, Federal rules and regulations, and the requirements of the National Forest in which the work is located.

Throughout this subsection, the term Forest Service Officer is used. This person shall be understood to be the District Ranger or any other person authorized or duly appointed to act in all matters affecting the Coronado National Forest lands, Santa Catalina Ranger District.

Forest Service Officers on this project are as follows:

	Name	Phone	
		Day	Night
District Ranger	Don DelMastro	(520) 749-8700	(520) 749-8700
Fire Dispatcher	Tucson Fire Dispatch	(520) 202-2710	911

The contractor shall comply with the following minimum requirements for activities within the National Forest:

(1) The contractor shall do everything reasonably within the contractor's power to prevent wildland fires and shall not dispose of material by burning without a written permit from the Forest Service.

(2) The contractor shall not cut timber or brush or commence work in any material pit unless a permit to do so has been obtained from the Forest Service.

(3) The contractor shall fully repair all damage caused by its operations and provide maintenance commensurate with the contractor's use of National Forest roads and trails.

(4) The contractor shall fully comply with all requirements regarding air quality.

(B) Fire Plan:

The contractor shall submit a Fire Plan for approval by the Engineer and the Forest Service Officer prior to any construction activities. The contractor shall prepare the Fire Plan considering the details outlined herein.

The following outlines the mutual responsibilities of the Forest Service, the Department and the contractor to ensure effective prevention and prompt suppression of all fires within the right-of-way and other work areas.

(1) General:

Fires discovered by the contractor and its employees shall be promptly reported to the Engineer and the Forest Service Officer. The contractor and its employees shall make reasonable attempts to control and extinguish fire without endangering life of contractor's personnel or public on any and all fires within the right-of-way and work areas and within a half-mile zone adjacent thereto. Fires shall be attacked promptly so as to control them while they are small. Fires shall not be abandoned until the Forest Service Officer declares the fire to be out or relieves the contractor and its employees.

The contractor shall place its equipment and employees at the disposal of the Forest Service Officer for the purpose of fighting fires in accordance with the approved Fire Plan.

Equipment shall be operated by employees of the contractor. The Forest Service Officer will assume no responsibility toward such equipment for ordinary wear or damage due to negligence, carelessness, or willful misconduct.

(2) Personnel:

The contractor shall designate at least one representative to train and supervise each construction crew and the individuals designated to perform the duties of fire guard for wildland fire prevention, detection, and suppression. Each such representative shall be named in the Fire Plan.

At contractor's discretion, fire guards may be trained to knowledge standards provided by free Federal Emergency Management Agency (FEMA) NWCG S-190 Introduction to Wildland Fire Behavior (fema.gov) and NWCG S-130 Wildland Firefighter Training (fema.gov) or equivalent training.

The contractor shall provide a list of trained fire guards in the Fire Plan, for all activities involving internal combustion engines and where power-driven equipment has been operated during the day.

The fire guards shall constantly perform their duties during the operating hours and for three additional hours after the construction operations ends for the day, when the proposed Fire Precaution Plan is Plan "B" or "C" as specified in Subsection 107.12(B)(14) of the specifications. The additional work hours of the fire guards will be compensated in accordance with the requirements specified in subsection 104.02 of the specifications. The fire guard may perform contract work in conjunction with fire guard duties during operating hours.

Fire guard on one operating area shall satisfy the requirements on adjacent areas if the travel time with available transportation to reach an adjacent area is not in excess of 10 minutes.

Each fire guard shall be physically able, vigilant, and trained to prevent, detect, and report any wildland fires and to promptly and efficiently take suppression action with available required firefighting equipment and personnel on any wildland fire within the project limits. Each fire guard shall be equipped with a vehicle and a fire tool cache consisting of a cache box, two 4-to-5 gallon backpack pumps filled with water, two size 0 shovels in good working condition, two Pulaskis, and two McLeod tools maintained in serviceable condition.

(3) Reimbursement:

Reimbursement to the contractor for equipment utilized, including operators, will be made by the Forest Service in accordance with rates which have been previously negotiated and agreed upon. These rates will be established prior to mobilization of personnel and equipment to be used for the suppression of fires.

The Forest Service will not reimburse the contractor, for the suppression of fires started by them.

The contractor, in suppressing fires caused by others, including lightning-caused fires, in work areas or within a half-mile zone of work areas will be reimbursed by the Forest Service for such suppression.

In emergencies, the contractor may be called upon to suppress fires on other National Forest lands outside the normal half-mile zone within the project proximity. The contractor will be reimbursed by the Forest Service for such suppression.

If the Forest Service requests that any equipment be made available on standby status, reimbursement to the contractor will be made at a rate established by negotiation.

The Department’s publication, Requirements for the Utilization of the Schedule of Equipment Rental Rates for Equipment Used on Force Account Work, will not be applicable when the contractor's equipment is being utilized under the direction of the Forest Service Officer in the suppression of fires.

(4) Tool Cache:

The contractor shall furnish and maintain at a minimum, one tool cache where tools are clean of rust and foreign material; with sharp cutting edges; in good working condition; and sanded and tightly fitted handles. A tool cache shall contain five long-handled, round point, size No. 0 or larger shovels; five McLeod tools; two double-bit axes; two brushhooks; two backpack sprayers of 3-5 gallon capacity and two Pulaskis with sheaths. These tools are required separate from, and in addition to, the tools required on equipment and tools under the possession of fire guards.

A proper tool mix shall be specified in the project’s Fire Plan for approval. Fire tools shall be located in the active operating area of the project or as stated in the approved Fire Plan.
The fire tools shall be used only for suppressing wildland fires. All personnel performing the contractor’s operations shall be equipped with at least one approved fire tool.

(5) Vehicles and Construction Equipment:

All passenger carrying vehicles, including light pickup trucks shall be equipped with one long-handled, round-pointed shovel in good working condition, and one ABC chemical fire extinguisher not less than 2-1/2 pounds capacity.

Each internal combustion fuel carrying truck, loader, skidder, heavy truck, tractor or any other type of equipment, including but not limited to, earth moving equipment, shall be provided with one long-handled round-pointed shovel in good working condition, and one 5-1/2 pound capacity ABC dry chemical fire extinguisher.

Shovels and fire extinguishers shall be so mounted as to be readily reached from the ground.

All internal combustion engines, including those on tractors, jammers or any stationary or mobile equipment, shall be equipped with a spark arrester qualified and rated under USDA Forest Services Standard 5100-1a, “Spark Arrester Guide” or the latest revision of Society of Automotive Engineers (SAE) recommended practice J350, "Spark Arrester Test Procedure for Medium Size Engines” unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger with no exhaust bypass.

(b) A multi-position engine which meets the performance levels set forth in SAE recommended practice J335B, "multi-positioned small engine exhaust fire ignition suppression” as now or hereafter amended.

(c) A passenger carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory designed muffler and an exhaust system in good working condition.

(d) A heavy duty truck, such as a dump truck, or other vehicles used for hauling, and used only on roads or established accesses and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Heavy equipment equipped with an exhaust driven turbocharger in good working order and with no exhaust bypass will qualify. A straight, mechanically driven supercharger does not qualify. Light trucks up to two-ton, pickups, jeeps, and passenger cars shall have effective mufflers and exhaust pipes comparable to the manufacturer's standard equipment installation.

All internal combustion engine driven vehicles and equipment will be inspected by the Forest Service Officer prior to initial operation. All such vehicles and equipment arriving on the work after the initial inspection shall be reported to the Forest Service Officer for inspection prior to operation. All equipment will be inspected periodically after the initial inspection to ensure that spark arresters or turbocharger are in working order. All operators shall submit their equipment to the Forest Service Officer for inspection upon request.

Vehicles and equipment not approved for use shall be repaired to meet the requirements specified herein, re-inspected, and approved by the Forest Service Officer prior to use.

All 1975 and later model passenger vehicles and pickups equipped with a catalytic converter shall have a sticker clearly displayed on the dashboard warning the driver of the fire hazard of driving the vehicle over or parking the vehicle where tall grass or other flammable materials can come in contact with the catalytic converter.

The contractor shall make daily inspections of all internal combustion engines, stationary and mobile, to ascertain that spark arresters and mufflers are whole and effective, and that there are no connections that can leak burning particles.

All crawler tractors, rubber-tired tractors, and equipment with power source that are suitable for wildland fire suppression work, shall be equipped with two factory type headlights and one backup light, or brackets mounted for portable self-contained battery operated lights. These portable lights shall be furnished and maintained by the contractor at a location approved by the Engineer.

Exhaust equipment described in this Subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

(6) Smoking:

There shall be no smoking while working. This requirement applies to those activities which require that work be performed in an uncleared area, such as clearing and fencing operations. Smoking shall be restricted to areas designated by the Forest Service Officer and such areas shall be a minimum of 2 feet in diameter which have been cleared to mineral soil. All smoking material shall be completely extinguished before leaving these areas.

There shall be no smoking when driving on National forest lands except when traveling on a graveled, oiled, or otherwise surfaced road. Smoking material shall be extinguished either in ash trays or on a spot cleared to mineral soil.

All smoking closures or other restrictions which may be put into effect shall be carefully observed.

(7) Power Saws and Power Equipment:

Power saws shall be equipped with an approved and serviceable spark arrester/muffler. The spark arrester shall be maintained in effective working order, meeting either Department of Agriculture, Forest Service Standard 5100.1a or appropriate Society of Automotive Engineers (SAE) recommended practice J335 and J350 [36 CFR 261.52(j)], as revised to the date of the opening of the proposals.

Power saws or power equipment shall be filled only in an area which has been cleared to mineral soil. They shall not be started at the place where they have been filled. Mufflers shall be kept in place at all times and the spark arrester screens shall be checked daily.

Broken or burned screens shall be promptly replaced. Power saws and power equipment shall be moved at least 10 feet from the place of fueling or refueling before use.

Power saw operators shall check the sawdust at each tree felled before leaving to make sure that no fires have been started. Each operator shall carry with their power saw; a size No. 1, long-handled, round-pointed shovel in good working condition; a fuel can; and a chemical pressurized fire extinguisher of not less than eight ounce capacity by weight.

(8) Burning:

No burning of slash, camp refuse, or other debris or any other burning will be permitted without a daily written permit from the Forest Service and a burn permit issued by the ADEQ, Office of Air Quality.

(9) Fires:

No camp or lunch fires will be permitted except in designated, cleared areas approved by the Forest Service Officer. Any request for lunch fires, warming fires or campfires at an area except those which have been approved shall be made in writing to the Forest Service Officer.

No fires will be allowed when the Fire Precaution Plan “C” or “D” as specified in the Subsection 107.12(B)(14) of the specifications is in effect within the project limits.

(10) Campsites, Parking and Storage Areas:

Campsites, parking, and storage areas on Forest lands shall be approved by the Forest Service Officer prior to use.

All campsites shall comply with all applicable Federal, State, County and City statutes and, ordinances concerning safety, health, and sanitation. Sites shall be cleared of brush, litter, grass or other flammable debris for a radius of 50 feet, maintained, and used in accordance with Forest Service regulations in order to keep the danger of fires to a minimum. The layout of buildings, tanks, trailers, sanitary facilities, etc., shall be approved by the Forest Service Officer.

All chimneys shall be equipped with 1/2-inch mesh screen for spark arrestors. Fire extinguishers approved by the Forest Service Officer shall be placed in readily accessible places in campsites and storage areas.

No fires except those as may be approved in writing by the Forest Service Officer will be permitted. When required by the Forest Service Officer, the contractor shall maintain a cleared fire line around campsites. Upon cessation of use of the campsite, the contractor shall clean up and restore the site to a condition satisfactory to the Forest Service Officer. Such restoration shall give consideration to the minimizing of erosion.

(11) Welding:

Welding shall be done only at sites which have been cleared to mineral soil. An area within 10-foot radius shall be cleared down to mineral soil before the commencement of the welding operations. Immediately following welding and metal cutting operations, and before leaving the site, careful inspections shall be made to detect and extinguish smoldering materials. A round pointed long handle shovel in good working condition, a 5 or 10-gallon container of water with pump, and a 5 pound fire extinguisher shall be available at each welding site.

A fire guard shall remain on duty during the welding process and at least one additional hour after the process is completed. If the additional work hours fall beyond the normal operating hours of the construction work shift, such additional work hours will be compensated in accordance with the requirements specified in Subsection 104.02 of the specifications. Welding is prohibited on projects when the proposed Fire Precaution Plan is “D” as specified in Subsection 107.12(B)(14) of the specifications.

(12) Blasting:

Electric caps shall be required; fuse caps are prohibited. Primer cord shall be understood to be an explosive and not fuse.

(13) Gas and Oil Storage, and Service Areas:

The location of equipment service areas and gas and oil storage shall be approved in writing by the Engineer. All areas shall be cleared of brush, litter, grass or other flammable debris for a radius of 50 feet.

(14) Emergency Fire Precautions:

The emergency fire precautions shall be in accordance with the requirements specified in CT7.22 “Emergency Fire Precautions (5/2008)” and as specified herein.

In case of an emergency, the contractor shall restrict the operations by following the Emergency Fire Precaution Schedule specified herein.

Staged restriction levels will be determined by the Forest Service Officer. The process will be a mix of quantitative and subjective measures considering local conditions and issues when deciding to implement fire restrictions and/or area closures.

In areas where emergency fire precautions are to be followed, the contractor shall provide a fire guard.

EMERGENCY FIRE PRECAUTION SCHEDULE	
FIRE RESTRICTION/CLOSURE "STAGE"	
"STAGED" RESTRICTION LEVELS	**FIRE PRECAUTION PLAN**
NO RESTRICTIONS	A
STAGE I	B
STAGE II	C
STAGE III PARTIAL/FOREST CLOSURE **	C or D
STAGE IV (TOTAL FOREST CLOSURE)	D
RED FLAG WARNING (Issued by National Weather Service)	D

The Fire Precaution Plans are described as follows:

Fire Precaution Plan	Description
A	The contractor shall comply with all the requirements specified in Subsection 107.12 of the specifications.
B	The contractor shall comply with all the requirements specified in Subsection 107.12 of the specifications except designated areas for smoking and warming or cooking fires will require a written permit from the Forest Service.
C	(i) All power tools shall not be used between 9:00 AM and 8:00 PM, except power tools may be used between 9:00 AM and 2:00 PM on areas cleared to mineral soil. (ii) Loading is authorized to continue between 12:00 Noon and 2:00 PM, on areas cleared to mineral soil. (iii) Hauling trucks shall be out of the Construction Area to a surfaced road by 2:00 PM. (iv) All mechanical equipment used for blasting; welding; metal cutting; and clearing and grubbing shall not be used between 12:00 Noon and 8:00 PM. (v) Operations on mineral soil involving road excavation, watering, grading, surfacing, rock crushing, and/or other equipment maintenance may continue with the approval of the Engineer and the Forest Service Officer. No smoking, warming or cooking will be permitted at any time.
D	The contractor shall shutdown all operations; except operations on mineral soil involving road excavation, watering, grading, gravel surfacing, and rock crushing may continue with special Forest Service permit.

The Forest Service Officer may adjust this Fire Precaution Plan for local weather conditions within the project limits.

The process to notify any change to the Fire Precaution Plan by the Forest Service Officer to the Engineer shall be discussed at the pre-construction conference or partnering meeting. These changes shall be approved by the Engineer and the Forest Service Officer through a written agreement.

The approved change to the Fire Precaution Plan will be communicated to the contractor by the Engineer through phone, email or in-person immediately and prior to the forthcoming work shift.

Projects which are outside the boundaries of the partial forest closure may continue to operate under Industrial Fire Precaution Plan “C” operating criteria as agreed upon between the Forest Service Officer and the Engineer in writing.

Projects within the boundaries of the proclaimed partial forest closure area shall operate under Fire Precaution Plan “D”.

(107LPAINS, 08/02/19)

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC:

107.14 Insurance: of the Standard Specifications is modified to add:

Arizona State Parks and Trails shall be named as an additional insured on the certificate of insurance.

(107UINSLMTS, 02/20/25)

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:

107.14 Insurance: the sixth paragraph of the Standard Specifications is revised to read:

Without limiting any liabilities or any other obligations of the contractor, the contractor shall provide and maintain, if commercially available, the minimum insurance coverage listed below until all obligations under this contract are satisfied:

(A) General Liability insurance with a minimum combined single limit of $1,000,000 each occurrence applicable to all premises and operations, and a minimum general aggregate limit of $2,000,000. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contractors, products and completed operations. Further, the policy shall include coverage for the hazards commonly referred to as XCU (explosion, collapse and underground). The products and completed operations coverage shall extend for one year past acceptance, cancellation or

termination of the work. The policy shall contain a severability of interests provision.

(B) Comprehensive Automobile Liability insurance with a combined single limit for bodily injury and property of not less than $1,000,000 each occurrence with respect to contractor's owned, hired, or non-owned vehicles, assigned to or used in performance of the work.

(C) Workers' Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the work, and Employers' Liability insurance with a minimum limit of $1,000,000. Evidence of qualified self-insured status will suffice for this subsection.

(107UTIL, 04/17/25)

SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:

107.15 Contractor's Responsibility for Utility Property and Services: of the Standard Specifications is modified to add:

Copies of existing ADOT permits, subject to availability, may be obtained from the ADOT Area Permit Supervisor as listed below:

SOUTHCENTRAL DISTRICT

(520) 388-4232
(520) 388-4200

1221 S. 2nd Avenue
Tucson, AZ 85713

Email address:
southcentralpermit@azdot.gov

UTILITIES GENERAL

The contractor shall call Arizona 811 for field locations of all utility facilities, pursuant to the “Blue Stake Law” Arizona Revised Statutes Chapter 2, Article 6.3, Sections 40-360.21 through 40-360.32.

The following utility company has facilities in conflict with the proposed construction. The contractor shall relocate the utilities as part of this project, as shown on the plans, and in accordance with the Special Provisions:

Arizona State Parks and Trails
Contact: Timothy Rastedt,
Project Manager Development Dept.
Phone: 480-220-4774 (Cell)
Email: Trastedt@azstateparks.gov

Arizona State Parks and Trails (ASTP) has an existing buried 6” PVC waterline paralleling the north side of the entrance road that is in conflict with the proposed box culvert construction. Plans, details, and specifications are included within this project for the contractor to complete the relocation of the waterline as part of this project.

After this project is complete, ASPT is proposing to install a sanitary sewer line within the project limits. While this future facility will not impact the contractors work, the facility is shown on the plans as a “Future, By Others” facility, with the intent that no other improvements are installed during construction such that they will conflict with this future facility.

The contractor shall contact Timothy Rastedt prior to any excavation or placement of box culvert structure to allow ASTP an opportunity to have a representative on site. It is the responsibility of the contractor to protect this facility in place, protecting the facility from excessive loads traveling over the pipe at all times.

The following utility has facilities in conflict which are to be relocated during construction of this project. The contractor shall coordinate his work to facilitate the work performed by the utility company, and shall remove the abandoned power cable that is in conflict with the box culvert wash improvements to avoid delays or conflicts.

Tucson Electric Power
Contact: Gabriela Bielecka
Phone: Cell 520-651-3833, Ofc 520-623-7711
Email: Gabriela.Bielecka@tep.com

Tucson Electric Power (TEP) has buried power lines located along the north side of the main park entrance road, adjacent to the proposed box culvert construction limits described below, serving the park facilities. TEP will relocate this facility in advance of the contractors work, as shown on the powerline relocation details included in the project plans. Following a pre-activity meeting with TEP, TEP will cut the ends of the abandoned line in conflict with the wash construction. The contractor shall remove and dispose of the abandoned powerline within the limits shown on project plans as part of the box culvert construction.

Between the west bank maintenance road and the Drive D campground entrance, TEP will be relocating their facilities as shown in the powerline relocation plans to avoid conflict with the proposed work by the contractor. These improvements are expected to be complete by October 1, 2026.

The existing buried powerline within the above limits will be de-energized, cut and abandoned in place by TEP. The contractor shall coordinate with TEP to arrange a Pre-Activity meeting to discuss how the contractor will remove and dispose of the abandoned powerline in conflict with the box culvert construction. The contractor shall provide a minimum of two weeks’ notice to TEP to arrange the Pre-Activity Meeting. During the meeting, TEP will confirm the abandoned facility is de-energized. The contractor shall remove and dispose of the abandoned portion of the powerline, and backfill the necessary excavation to complete this work to facilitate construction of the box culvert improvements.

The contractor shall contact Gabriela Bielecka prior to any excavation or disturbance within 5-ft of their power facilities to allow TEC an opportunity to have a representative on site.

Additional Utility Information:

It shall be the contractor's responsibility to determine the exact location of the utilities prior to any construction operations and to notify the above-mentioned utility companies at least two (2) working days prior to commencing any work on this project.

The project has a network of underground power lines. All work at, or in close proximity to, any utility lines shall be performed in accordance with all Federal, State, and local laws and regulations, including but not limited to:

1. Arizona law regarding "Underground Facilities" (A.R.S. 40-360.21 through .29).
2. Arizona law regarding "High Voltage Power Lines and Safety Restrictions" (A.R.S. 40-360.41-.45).
3. The Occupational Safety and Health Administration.
4. The National Electric Safety Code.

The contractor shall comply with all applicable laws regarding safe approach distances and protection of electrical facilities.

The contractor is cautioned to use care when operating near these facilities.

Railroad Statement:

There is no railroad within ½ mile of the project limits.

107.15(F) Sewage Discharge Damage Assessments: of the Standard Specifications is revised to read:

The Department will assess sanctions in accordance with the Table 107.15-1 below for each 24-hour period, or portion thereof, for each unplanned breakage that occurs in an active sanitary sewer line as a result of the contractor's operation. The rate of these sanctions is based on the type and quantity of effluent discharged as determined by the Engineer.

These sanctions do not relieve the contractor from any of its responsibilities under the contract, including any liquidated damages that may be assessed under Subsection 108.09 of the specifications for late completion of the project.

The sanctions specified in this subsection will be independent of any penalties imposed by others.

The contractor acknowledges that Regulatory agencies may assess or impose civil or criminal penalties on the contractor resulting from sewer discharges.

The Department will not be responsible for any civil or criminal penalties, fines, damages, or other charges imposed on the contractor by any regulatory agency or court for sewage discharges that are a result, directly or indirectly, of the contractor's work performed under this contract.

TABLE 107.15-1
SANCTIONS
(EACH 24-HOUR PERIOD, OR PORTION THEREOF)

Volume of Discharge	Raw Sewage or Industrial Wastewater	Treated Effluent
Less than 10,000 gallons	$5,000	$1,000
10,000 to 99,999 gallons	$10,000	$2,000
100,000 to 1 million gallons	$25,000	$3,000
Greater than 1 million gallons	$40,000	$5,000

These sanctions will be assessed for each 24-hour period, or portion thereof, until the contractor has completed all of the following tasks:

(1) Stopped the discharge;
(2) Repaired the damaged pipe;
(3) Restored normal service; and
(4) Fully cleaned and disinfected the site to the satisfaction of the Engineer.

Upon completion of tasks (1), (2), and (3) above, and prior to completion of Task (4), the sanctions for the current 24-hour period will be at the rate shown in Table 107.15-1. However, for each subsequent 24-hour period, the assessment will be 1/2 of the rate shown in Table 107.15-1.

The sanctions will continue at the reduced rate until the site has been fully cleaned and disinfected to the satisfaction of the Engineer.

As an example, the amounts assessed each 24-hour period for an unplanned discharge of 20,000 gallons of raw sewage, in which the contractor completes tasks (1), (2), and (3) within the second 24-hour period but does not complete full cleanup until the third 24-hour period, will be as follows:

First 24-hour period:	$10,000
Second 24-hour period:	$10,000
Third 24-hour period:	$5,000

For this example, the total sanction will be $25,000 ($10,000 + $10,000 + $5,000).

(108SUBLT, 10/20/22)

SECTION 108 PROSECUTION AND PROGRESS:

108.01 **Subletting of Contract:** the thirteenth paragraph of the Standard Specifications is revised to read:

If a subcontractor, of any tier, begins work on the contract prior to the contractor submitting the required documentation and receiving consent from the Engineer, the Department will retain $1,000 from monies due or becoming due the contractor. The money retained will be for each subcontractor, of any tier, that starts work without the consent of the Engineer. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

(108PRCN, 08/19/21)

SECTION 108 PROSECUTION AND PROGRESS:

108.03 **Preconstruction Conference:** the second paragraph of the Standard Specifications is revised to read:

At the preconstruction conference the contractor shall submit a progress schedule showing the order in which the contractor proposes to carry out the work, the dates on which the contractor and its subcontractors will start the work, including procurement of materials, equipment, etc.; the ordering of articles of special manufacture; the furnishing of drawings, plans and other data required under Subsection 105.03 of the specifications for the review and approval of the Engineer; the inspection of structural steel fabrication; and the contemplated dates for the completion. The schedule shall be in a critical path method format. No schedule activity shall be shorter than one day or longer than 20 days. The schedule must show interrelationships among the activities, and the controlling items of work throughout the project shall be identified. If requested by the Engineer, the contractor shall furnish information needed to justify activity time durations. Such information shall include estimated manpower, equipment, unit quantities, and production rates. The schedule shall illustrate the completion of the work not later than the contract completion date.

108.04 **Prosecution and Progress:** the third paragraph of the Standard Specifications is revised to read:

At a mutually convenient location and time, the contractor shall meet weekly with the Engineer to discuss construction activities; however, a meeting may be waived if mutually agreed to, due to weather conditions, work progress, or for other reasons. At the meetings, the contractor shall provide the Engineer with a detailed, written schedule of construction activities and phases of work for the current week, forthcoming three week period as well as the construction activities which were performed during the previous week. This schedule shall detail the anticipated start dates and anticipated completion dates of work activities. The weekly schedule should reflect, at a minimum, all activities from the most recently updated project schedule. For work which was completed during the previous week, this schedule shall detail the actual start and completion dates of work activities as well as indicate the status of major ongoing activities. Upon the second occurrence of the contractor failing to provide an accurate schedule as describe herein and after written notification by the Engineer of the first occurrence, the Department will deduct $500 from the contractor’s progress payment per each occurrence thereafter. Minutes of the weekly meetings will be kept by the Engineer and a copy given to the contractor for review and acceptance.

(108TIME, 10/15/20)

SECTION 108 PROSECUTION AND PROGRESS:

108.08 Determination and Extension of Contract Time: the first paragraph of the Standard Specifications is revised to read:

The time allowed for the completion of the work included in the contract will be **175** working days, and will be known as the "Contract Time."

(108RSLD, 06/19/2025)

SECTION 108 PROSECUTION AND PROGRESS:

108.09 Failure to Complete the Work on Time: the Schedule of Liquidated Damages table of the Standard Specifications is revised to read:

SCHEDULE OF LIQUIDATED DAMAGES			
Original Contract Amount		**Liquidated Damages Per Day**	
From More Than:	**To and Including:**	**Calendar Day or Fixed Date:**	**Working Day:**
$ 0	$ 500,000	$ 300	$ 1,000
$ 500,000	$ 1,000,000	$ 850	$ 1,700
$ 1,000,000	$ 2,000,000	$ 1,250	$ 2,650
$ 2,000,000	$ 5,000,000	$ 2,100	$ 3,800
$ 5,000,000	$ 10,000,000	$ 3,300	$ 6,850
$ 10,000,000	$ 30,000,000	$ 7,300	$ 10,550
$ 30,000,000	$ 60,000,000	$ 9,350	$ 17,750
$ 60,000,000	$ 90,000,000	$ 19,900	$ 27,850
$ 90,000,000	-------	$ 27,450	$ 38,400

(109RRBB, 04/18/24)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(3) Equipment: the first paragraph of the Standard Specifications is revised to read:

Equipment which the Engineer considers necessary for the performance of work will be eligible for payment at the established rates only during the hours that it is operated except as otherwise allowed elsewhere in these specifications. Equipment hours will be recorded to the nearest one-half hour. For the use of equipment owned by the contractor and approved by the Engineer, the contractor will be paid the rental rates, as modified herein, outlined in the Rental Rate Blue Book® (RRBB) for Construction Equipment which is updated by EquipmentWatch™, a division of Fusable, 3200 Rice Mine Road NE, Tuscaloosa, Alabama 35406, phone (888) 307-1713. All rate determinations will be based on the RRBB quarterly rate revisions that are applicable at the time equipment is being used.

(109FAEU, 08/15/24)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(3)(a) Rental Rates (Without Operators): the equation of the first paragraph of the Standard Specifications is revised to read:

The hourly equipment rental rate (HERR) will be determined by the following formula:

$$HERR = F \times \left[\frac{1.15 \times R}{176}\right] + HOC$$

Where: F= Adjustment Factor to R is 0.933
R= Current RRBB Monthly Rate
HOC= Hourly Operating Cost

(109WFADF, 05/15/25)

SECTION 109 MEASUREMENT AND PAYMENT:

109.04(D)(6) Statements: the title and text of the Standard Specifications is revised to read:

109.04(D)(6) Forms:

The contractor shall prepare the Weekly Force Account Detail form for each week of force account activity. The Weekly Force Account Detail form is a standardized, fillable form made available by the Department on the ADOT Construction Group's website.

The form shall detail the labor, equipment, and material charges utilized to accomplish the force account work along with all supporting documentation. The contractor shall furnish copies of original receipts (paid invoice cost) for materials, rental equipment cost, including freight and transportation charges, copies of rental rate blue book equipment sheets and certified payrolls.

If materials used on the force account work are not specifically purchased for such work but are taken from the contractor's stock, then instead of invoices, the forms shall contain or be accompanied by an affidavit of the contractor certifying that such materials were taken from

stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the contractor.

Force account work shall be tracked daily; however, the contractor shall compile no more than one full week's worth of daily records into a Weekly Force Account Detail form. Each reporting period runs from Saturday through Friday. The contractor shall submit the form within 30 calendar days of the respective week's force account performance. The completed form shall be submitted to the Engineer for review and approval. The Engineer will review the form and supporting documentation against the ADOT Inspector's Daily Force Account Reports, and will verify that the form is timely, complete, and accurate. Payment will not be made until the contractor has furnished applicable forms, detailing the costs of the force account work, including but not limited to the following information:

(a) Labor: name, classification, date, daily hours, hourly rate and fringe rate, and certified payrolls for each foreman and laborer.

(b) Equipment: dates, equipment number, description, operator name, hours used, approved stand-by hours, monthly rental rate, hourly operating cost and rental rate blue book sheets for each unit of equipment.

(c) Rental Equipment (Third Party): invoice, dates used, vendor name, description of equipment, operator name, hours used, invoice rate, hourly operating cost and rental rate blue book sheets for each rental equipment.

(d) Materials: invoice, date used, supplier name, description, quantity, unit of measure and unit cost.

(e) Transportation: freight and express charges on materials, FOB jobsite.

(109SUBPAY, 10/20/22)

SECTION 109 MEASUREMENT AND PAYMENT:

109.06(B)(5) Payment Reporting and Sanctions: the eighth paragraph of the Standard Specifications is revised to read:

For each month that the contractor fails to submit timely and complete payment information the Department will retain $5,000 as sanctions from the monies due to the contractor. After 90 consecutive days of non-reporting, the sanctions will increase to $10,000 for each subsequent month which the contractor fails to report until the information is provided. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

109.06(B)(8) Non-compliance: of the Standard Specifications is revised to read:

Failure to make prompt partial payment, or prompt final payment including any retention, within the time frames established above, will result in remedies, as the Department deems appropriate, which may include but are not limited to:

(a) Sanctions. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract:

(i) The Department will withhold two times the dollar amount not paid to each subcontractor;

(ii) If full payment is made within 30 days of the Department's payment to the contractor, the amount withheld by the Department will be released; and

(iii) If full payment is made after 30 days of the Department's payment to the contractor, the Department will release 75 percent of the funds withheld. The Department will retain the remaining 25 percent of the monies withheld as sanctions.

(b) Additional Remedies. If the contractor fails to make prompt payment for three consecutive months, or any four months over the course of one project, or if the contractor fails to make prompt payment on two or more projects within 24 months, the Department may, in addition, invoke the following remedies:

(i) Withhold monthly progress payments until the issue is resolved and full payment has been made to all subcontractors, subject to the sanctions described in paragraph (a) above;

(ii) Terminate the contract for default in accordance with Subsection 108.10 of the specifications; and/or

(iii) Disqualify the contractor from future bidding, temporarily or permanently, depending on the number and severity of violations.

In determining whether the sanctions will be assessed, the extent of the sanctions, or additional remedies assessed, the State Construction Engineer will consider whether there have been other violations on this or other contracts, whether the failure to make prompt payment was due to circumstances beyond the contractor's control, and other circumstances. The contractor may, within 15 calendar days of receipt of the decision of the State Construction Engineer, escalate the decision to the State Engineer. If the contractor does not escalate the decision of the State Construction Engineer, in writing to the State Engineer, within 15 calendar days of receipt of the decision, the contractor will be deemed to have accepted the decision and there will be no further remedy for the contractor. If the contractor escalates the decision to the State Engineer, and the contractor does not agree with the State Engineer's decision, the contractor may initiate litigation, arbitration or mediation pursuant to Subsection 105.21(D) and (E) of the specifications.

(109LSUM, 02/10/20)

SECTION 109 MEASUREMENT AND PAYMENT:

109.10(A) General: the first paragraph of the Standard Specifications is revised to read:

If the Bidding Schedule contains items shown with an alpha suffix and the alpha suffix is listed herein (or in the Special Provisions), the contractor will be paid on a lump sum basis.

The structure(s) to be paid on the basis of a lump sum amount is (are):

(A) Catalina Bridge over Canada Del Oro Wash (ADOT Structure No. 07379)

109.10(D) Payment: the last paragraph of the Standard Specifications is revised to read:

Payments made for structural concrete will be adjusted, in accordance with the provisions of Subsection 1006-7.06(B), for material which fails to meet the required 28-day compressive strength when sampled in accordance with the requirements of Subsection 1006-7.

(109FUEL, 02/10/12)

SECTION 109 MEASUREMENT AND PAYMENT: of the Standard Specifications is modified to add:

109.12 Fuel Cost Adjustment:

(A) General:

The Department will adjust monthly progress payments up or down as appropriate for cost fluctuations in diesel fuel as determined in accordance with these special provisions.

A fuel cost adjustment will be made when fluctuations in the price of diesel fuel, in excess of 15 percent, occur throughout this contract. The Department will not provide such adjustments for fluctuations in the price of diesel fuel of 15 percent or less.

No adjustments will be made for fluctuations in the price of fuels other than diesel.

(B) Measurement:

The base index price of fuel will be determined by the Department from the selling prices of diesel fuel published by OPIS (Oil Price Information Service). The base index price to be used will be the price for Diesel fuel No. 2, Ultra Low Sulfur, PAD 5, City of Phoenix Rack. The reported average value for the Phoenix area will be used.

The base index price for each month will be the arithmetic average of the selling price for diesel fuel, as specified above, shown in the last four reports received prior to the last Wednesday of the month.

This price will be effective as of the last Wednesday of each month, and will be posted on the Department's website, at http://www.azdot.gov/Highways/cns/bitmat.asp, on or shortly after the last Wednesday of the month.

This price may also be obtained from Contracts and Specifications Services at (602) 712-7221.

This price will be deemed to be the "initial cost" (IC) for diesel fuel on projects for which bids are opened during the following month.

The current index price for diesel fuel in subsequent months will be the base index price, determined as specified above, for the current month. For example; an adjustment for diesel fuel used in May, if applicable, will be based on the “current price” (CP) for May as posted on the last Wednesday of May. The amount of adjustment per gallon will be the net difference between the "initial cost," adjusted by 15 percent, and the current index price. The monthly adjustment will be determined by the Engineer and included in the payment estimate as a fuel adjustment. For fluctuations in excess of 15 percent, fuel cost adjustments will only be made for current price index increases greater than 1.15 times the "initial cost" or for decreases less than 0.85 times the "initial cost." No calculation will be made for fluctuations in the current index price of 15 percent or less when compared to the "initial cost."

The number of gallons of diesel fuel used per month will be considered to equal 1.5 percent of the dollar amount of work reported by the contractor for each month. Such dollar amount will not include incentives earned by the contractor for pavement smoothness, thickness, or strength for Portland cement concrete pavements; for pavement smoothness or quality lots for asphaltic concrete pavements; for any other revenue derived from quality incentives; or for revenue accrued in the previous month for bituminous material cost fluctuations or diesel fuel price adjustments.

A monthly adjustment, if applicable, will be made on this quantity, as shown below:

$$S = \frac{0.015(Q)}{IC} \text{ x } (CP - AC)$$

Where; S = Monetary amount of the adjustment (plus or minus) in dollars
Q = Dollar amount of work completed for the month
CP = Current index price in dollars per gallon
AC = Adjusted "initial cost" (1.15 or 0.85 times IC) in dollars per gallon
IC = "Initial cost" as determined above, dollars per gallon

If adjustments are made in the contract quantities, the contractor shall accept any fuel adjustment as full compensation for increases or decreases in the price of fuel regardless of the amounts of overrun or underrun.

The value calculated above (plus or minus) will be adjusted to include sales tax and other taxes as applicable.

No additional compensation will be made for any additional charges, costs, expenses, etc., which the contractor may have incurred since the time of bidding and which may be the result of any fluctuation in the base index price of diesel fuel.

No adjustments will be made for work performed after Substantial Completion, as defined in Subsection 105.19, has been achieved.

(C) Payment:

Price adjustments will be shown on the monthly progress estimate, but will not be included in the total cost of work for determination of progress or for extension of contract time.

(109BITUMADJ, 06/19/25)

SECTION 109 MEASUREMENT AND PAYMENT: of the Standard Specifications is modified to add:

109.16 Bituminous Price Adjustment:

(A) General:

The term "bituminous material" as used herein shall include asphalt binder, asphalt rubber and emulsified asphalt.

The Department will adjust monthly progress payments as appropriate for market fluctuations in the price of bituminous material.

A price for bituminous material will be determined monthly by the Department based on the selling prices published by the Asphalt Weekly Monitor, a publication of Poten & Partners, Inc. The price will be the arithmetic average of the high and low selling prices for bituminous material shown in the previous four reports for the Arizona/Utah and Southern California regions.

This value will be effective as of the last Wednesday of each month, and will be posted on the ADOT Contracts and Specifications Group website, on or shortly after the last Wednesday of each month.

This price will be deemed the “initial cost” (IC) for bituminous material for projects on which bids are opened during the following month. This price will also be deemed the "current price" (CP) for bituminous material for the following month for projects in construction.

(B) Measurement:

For each item of bituminous material for which there is a specific pay item, and for the bituminous material used in Asphaltic Concrete mixes, an adjustment will be made for each month that a quantity of bituminous material was used on the project.

The IC for the month in which the project was bid will be compared with the CP for the appropriate current month. The CP will be as posted on the Department's website on the last Wednesday of each month, and will be used to adjust costs for bituminous material incorporated into the job during the following month (for example; bituminous material used in May will be adjusted, as specified herein, based on the CP for May as posted on the last Wednesday of April). Any difference in price between these two values will be applied to the quantity of eligible bituminous material incorporated into the work.

Determination of the eligible quantities of bituminous material for adjustment will be based on contractor-furnished invoices, except as described herein.

The tons of emulsified products to which the adjustment will be applicable will be the tons of the emulsified asphalt prior to dilution.

Adjustments in compensation for emulsified asphalts will be made at 60 percent of either the increase or decrease of IC. For emulsified asphalts containing polymer, adjustments in compensation will be made at 66 percent of either the increase or decrease.

The tons of Bituminous Material (Asphalt-Rubber) to which the adjustment is applicable will be 80 percent of the total quantity of the item used. The adjustment is not applicable to the 20 percent of the material which constitutes the crumb-rubber additive.

The tons of Bituminous Material (TR+) to which the adjustment is applicable will be 92 percent of the total quantity of the item used. The adjustment is not applicable to the 8 percent of the material which constitutes the crumb-rubber additive.

The tons of bituminous material in Asphaltic Concrete mixes, subject to price adjustment shall be calculated as follows, based on the approved mix design target values and the quantity of Asphaltic Concrete placed—regardless of the actual percentage of binder incorporated:

A monthly adjustment, if applicable, will be made on this quantity, as shown below:

$$PA = (CP - IC) \times ACP \times F$$

Where: PA = Price Adjustment monetary amount (plus or minus in dollars)
CP = Current index price (dollars per ton)
IC = Initial Cost at time of bid (dollars per ton)
ACP = Asphaltic Concrete Placed (tons)
F = Eligible Asphalt Cement %

The value calculated above (plus or minus) will be adjusted to include sales tax and other taxes as applicable.

(1) For mixes without reclaimed asphalt pavement (RAP):

F = Approved Mix Design Target Asphalt Cement %

(2) For mixes with RAP:
F = Approved Mix Design Target Asphalt Cement % – Mix Design RAP Asphalt Cement contribution %

(3) For mixes using PG TR+ Terminal Blend (8 % Crumb Rubber):

F = 0.92 x (Approved Mix Design Target Asphalt Cement %)

(4) For mixes using Asphalt-Rubber Blend (20 % Crumb Rubber):

F = 0.80 x (Approved Mix Design Target Asphalt Cement %)

(5) If the quantity of Asphaltic Concrete is measured by volume, the supplemental agreement establishing the method of measurement will specify the manner in which the tons of bituminous material eligible for the adjustment is determined.

(C) Payment:

Price adjustments will be shown on the monthly progress estimate, but will not be included in the total cost of work for determination of progress or for extension of contract time.

Price adjustments will be calculated using the measurement methods described above. Only the tons of virgin asphalt binder determined by those methods will be subject to a bituminous material price adjustment.

No price adjustment will be made for the RAP binder in the mix.

No price adjustment will be made for the 8% of binder comprising crumb rubber when (TR+) is used.

No price adjustment will be made for the 20% of binder comprising crumb rubber in the asphalt-rubber material blend.

No compensation will be made for changes that may have occurred since the time of bidding and which may be the result of any increase in the IC of bituminous material.

Adjustment in unit prices of items governed by this provision will be made in the next regular monthly progress payment following actual use or application of the bituminous material.

(201MTBRN, 10/18/10)

SECTION 201 CLEARING AND GRUBBING:

201-3.02 Removal and Disposal of Materials: the third paragraph of the Standard Specifications is revised to read:

Burning of trash, debris, plant material, wood, or any other waste materials will not be allowed.

(201PAY, 07/15/21)

SECTION 201 CLEARING AND GRUBBING:

201-5 Basis of Payment: of the Standard Specifications is modified to add:

When clearing and grubbing is not included as a contract pay item, full compensation for any clearing and grubbing necessary to perform the construction operations designated on the project plans or specified in the Special Provisions shall be considered as included in the price of contract item.

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS: the first paragraph of the Standard Specifications is hereby deleted:

ITEM 2020033 – REMOVE (CONCRETE FORD CROSSING)

Description:

The work under this item shall include removing existing concrete ford crossing, including the associated cutoff walls at the inlet and outlet edges of the structure and foundations, as shown on the plans.

Construction Requirements:

Remove and dispose of the existing ford crossing concrete structure in its entirety. Remove the materials in accordance with Section 202-3 of the Standard Specification. The void shall be filled with native soil and recompacted in accordance with Section 203-10.03 (B).

Before beginning concrete removal operations involving the removal of a portion of a monolithic concrete element, a saw cut approximately 1 inch deep shall be made to a true line along the limits of removal on all faces of the element which will be visible in the completed work.

Concrete shall be disposed of per the requirements specified in Subsection 202-3.03(A) of the specifications.

Method of Measurement:

ITEM 2020033 – REMOVE (CONCRETE FORD CROSSING) will be measured by the square yard.

Basis of Payment:

The accepted quantities of ITEM 2020033 – REMOVE (CONCRETE FORD CROSSING), measured as provided above, will be paid for at the contract unit price per square yard, which price shall be full compensation for the work, complete in place.

ITEM 2020050 – REMOVE (TEP BURIED POWERLINE)

Description:

The work under this item shall include removing and disposing of the abandoned buried powerline in conflict with the box culvert construction, that will be de-energized, cut and abandoned prior to construction, as shown on the plans.

Construction Requirements:

Tucson Electric Power (TEP) is relocating an existing buried powerline that is in conflict with the box culvert construction. TEP will complete their relocation of this line by October 1, 2026.

Before scheduling any work to remove this facility, provide at least 14-days notice to TEP to arrange a Pre Activity Meeting between the contractor and TEP to describe how the contractor proposes to expose, remove, and dispose of the abandoned powerline.

Following the Pre Activity Meeting, remove the abandoned powerline to the limits shown in the plans and dispose of the cable. Remove the materials in accordance with Section 202-3 of the Standard Specification. The void shall be filled with native soil and recompacted in accordance with Section 203-10.03 (B).

Method of Measurement:

ITEM 2020050 – REMOVE (TEP BURIED POWERLINE) will be measured as Lump Sum.

Basis of Payment:

The accepted quantities of ITEM 2020050 – REMOVE (TEP BURIED POWERLINE), measured as provided above, will be paid for at the contract unit price of lump sum, which price shall be full compensation for the work, complete in place.

ITEM 2020156 – REMOVE (SIGN ASSEMBLY):

Description:

The work under this item shall include removing existing sign assemblies as shown on the plans. A sign assembly shall include the sign panels, sign posts, and foundations.

Construction Requirements:

Unless otherwise permitted by the Engineer, the contractor shall not remove the existing signing until the contractor completely installs the new signing to the satisfaction of the Engineer. If the Engineer allows the contractor to remove the existing signing prior to the complete installation of the new signing, the contractor shall place temporary signing or shall position the existing or new sign panels on temporary supports at no additional cost to the Department. The contractor shall utilize the existing signing items instead of temporary signing at the locations of the existing signing as much as possible.

Except for the removals of the existing signing items indicated on the plans to be removed, the contractor shall not disturb the existing sign panels, sign posts, and foundations within the project limits. Any items that are damaged as a result of the construction shall be replaced at no additional cost to the Department. The contractor shall not be responsible for replacing any roadway sign panels, posts, and foundations which are damaged prior to the construction, but shall be responsible for identifying each damaged item to the Engineer prior to the construction operations.

The sign panels, posts, and foundations which are removed shall become the property of the contractor.

The contractor shall maintain a log of the removal of the signing items and give it to the Engineer upon the completion of the removal of the signing items. This log shall include an entry for each sign panel being removed. The entry shall contain the date the sign panel is removed and the bar code from the sign panel being removed or the bar code number for the sign panel being removed. After the contractor removes a sign panel, the contractor shall destroy the bar code from that sign panel unless the bar code accompanies the log. No measurement or payment will be made for this work, the cost being considered as included in the price of the contract items.

Method of Measurement:

Remove (Sign Assembly) will be measured per unit each for each location regardless of the number of posts, panels and foundations.

Basis of Payment:

The accepted quantities of Remove (Sign Assembly), measured as provided above, will be paid for at the contract unit price per each, which price shall be full compensation for the work, complete in place.

(203QCEW, 07/15/05)

SECTION 203 EARTHWORK: of the Standard Specifications is modified to add:

203-2.02 Contractor Quality Control:

The contractor shall perform the quality control measures described in Subsection 106.04(C). At the weekly meeting, the contractor shall be prepared to explain and discuss how the following processes will be employed:

(a) Backfill production, including crusher methods, pit extraction, and washing.

(b) Stockpile management, including stacking methods, separation techniques, stockpile pad thickness, and segregation prevention.

(c) Transporting and placing, including transport technique, lift thickness, processing and mixing technique, and compaction methods.

(d) Excavation and transporting, including method of excavation and transporting methods.

(e) Embankment, including method of mixing, compaction methods, unsuitable material control, waste site, and lift thickness.

The contractor shall obtain samples and perform the tests specified in the following table:

CONTRACTOR QUALITY CONTROL TESTING REQUIREMENTS			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Structural Backfill			
Gradation	ARIZ 201	Stockpile	1 per 500 CY per Source
PI	AASHTO T 89 AASHTO T 90		
Proctor Density	ARIZ 225 **ARIZ 226** **ARIZ 245**	Stockpile	1 per Source and as needed
Field Density	ARIZ 227 ARIZ 230 **ARIZ 232** ARIZ 235 **ARIZ 246**	In-place	1 per 200 CY, minimum 1 per lift
Subgrade			
Gradation	ARIZ 201	Roadway	1 per Soil Type
PI	AASHTO T 89 AASHTO T 90		

Proctor Density	ARIZ 225 **ARIZ 226** **ARIZ 245**	Roadway	1 per Soil Type
Field Density	ARIZ 227 ARIZ 230 **ARIZ 232** ARIZ 235 **ARIZ 246**	Roadway	1 per 1,000 feet
Natural Ground for Embankment Less than 5 Feet			
Proctor Density	ARIZ 225 **ARIZ 226** **ARIZ 245**	In-place	1 per Soil Type
Field Density	ARIZ 227 ARIZ 230 **ARIZ 232** ARIZ 235 **ARIZ 246**	In-place	1 per 1,000 feet
Embankment			
Proctor Density	ARIZ 225 **ARIZ 226** **ARIZ 245**	In-place	1 per Soil Type
Field Density	ARIZ 227 ARIZ 230 **ARIZ 232** ARIZ 235 **ARIZ 246**	In-place	1 per 1,000 feet per lift
Borrow Within Three Feet of Finished Subgrade Elevation			
Gradation	ARIZ 201	In-place	1 per 2,000 CY
PI	AASHTO T 89 AASHTO T 90		

SECTION 203 EARTHWORK:

203-3.03(A) General: the first paragraph of the Standard Specifications is revised to add:

The project geotech investigation has concluded that the new box culvert foundation be supported on a zone of engineered fill. The subgrade around the new box culvert structure shall be over-excavated by 3 feet below the footing base and to an area extending 3 feet outside the edge of the box culvert structure and replaced with compacted fill.

Similarly on the Drive A mainline road and detour road, the subgrade under these pavement sections shall be over-excavated a depth of 1 foot below existing ground and extending 1 foot outside each edge of the paved area and replaced with compacted fill.

(203STRBKFL, 10/21/21)

SECTION 203 EARTHWORK:

203-5.03(B)(1) Structure Backfill: the first paragraph of the Standard Specifications is revised to read:

Structure backfill material shall be selected from excavation or from a source selected by the contractor. It shall not contain frozen lumps, chunks of clay, or other objectionable material. Backfill material shall not contain salvaged asphaltic concrete materials. Backfill material to be used for metal piles or similar items of metal shall have a value of resistivity not less than 2,000 ohm-centimeters or the value shown on the plans. Backfill material shall have a pH value between 6.0 and 10.0, inclusive, when placed against metal installations, except aluminum. Backfill material shall have a pH value between 6.0 and 9.0, inclusive, when placed against aluminum installations. Backfill material shall have a pH value between 6.0 and 12.0, inclusive, when placed against installations other than metal. Tests for pH and resistivity shall be in accordance with the requirements of Arizona Test Method 236.

ITEM 2030401 – DRAINAGE EXCAVATION:

Description:

The work under this item shall consist of performing all operations necessary to excavate all materials in the drainage channel, regardless of character and subsurface conditions, stock pile the material on-site as directed by the Engineer, backfilling the excavated areas after completing the construction of the crossing structure and wingwalls, and disposing of any excess waste in accordance with the details shown on the plans and the requirements of these specifications.

Construction Requirements:

The work under this item includes overexcavating below the new slab foundation limits of the box crossing structure as shown in the plans to minimum depth of 36-inches, and then

furnishing and placing embankment material, and all grading, shaping and compacting of materials necessary to prepare the of subgrade under the structure to the lines and grades shown in the plans and in accordance with the requirements of these specifications.

Removing the existing concrete ford crossing and its associated cutoff walls is paid for under Item 2020009 - REMOVAL OF STRUCTURAL CONCRETE.

All work under this item shall conform to the requirements of Section 203 of the specifications. All excavated soil material that is suitable for backfilling shall be stockpiled onsite as directed by the Engineer. The excavated material shall be used to restore the wash bed to the original conditions prior to excavation.

After the completion of all grading, all waste materials are the property of the contractor and shall be removed from the site by the contractor.

Method of Measurement:

Drainage excavation will be measured for payment by the cubic yard based on the volume calculated between the drainage excavation limits shown on the plans and the cross-sections of original ground surveyed by the contractor prior to construction.

Basis of Payment:

The accepted quantities of drainage excavation, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be considered full compensation for the work, complete in place, including stockpiling the excavated material, placing the excavated material back on top of the concrete slab, grading, and removal of piles.

No additional measurement or direct payment will be made for excavation or grading required because of storm erosion, slides, cave-ins, silting or filling due to lack of support of sides, or the carelessness of the contractor.

(303RASBAB, 04/18/24)

SECTION 303 AGGREGATE SUBBASES AND AGGREGATE BASES:

303-2 Materials: of the Standard Specifications is revised to read:

Aggregate for the various classes of aggregate subbases and aggregate bases shall consist of stone, gravel or other approved inert material of similar characteristics, and shall be clean and free from vegetable matter and other deleterious substances.

Aggregate subbase and aggregate base material may be comprised of processed salvaged asphaltic concrete, processed salvaged aggregate base material, processed salvaged Portland Cement Concrete materials, virgin aggregate base materials or any combination of these materials meeting the requirements of Table 303-1. These materials may be from a specific project site or approved commercial source. Processed salvaged materials shall conform to the requirements specified in AASHTO M 319.

Aggregate subbases and aggregate bases shall conform to the requirements of Table 303-1:

TABLE 303-1

Class of Aggregate	Percent Passing Sieve (Inch or No.)									PI, Max.
	3	1-1/2	1	3/4	1/4	4	8	30	200	
1		100	90 - 100				35 - 55		0 - 8.0	3
2		100	90 - 100			38 - 65	25 - 60	10 - 40	3.0 - 12.0	3
3										
4	100				35 - 70				0 - 10.0	5
5	100				30 - 75				0 - 10.0	5
6										

Notes:

(1) The PI (Plasticity Index) will be determined in accordance with the requirements of AASHTO R 58, T 89, and T 90.

(2) Classes 1, 2 and 3 are bases; Classes 4, 5 and 6 are subbases.

(3) The requirements for Class 3 and for Class 6 will be specified in the Special Provisions.

(4) For Class 1 through Class 4 aggregate, the amount of one fractured face coarse aggregate particles shall be at least 50 percent.

(5) Resistance to abrasion for Class 1 through Class 4 aggregate will be determined in accordance with the requirements of AASHTO T 96 and shall meet the following requirements:

Maximum loss of 12 percent at 100 revolutions

Maximum loss of 40 percent at 500 revolutions

(6) When determining gradation of aggregate subbase or aggregate base material containing processed salvaged asphaltic concrete materials, drying to a constant weight shall be performed at a temperature of 140 ± 5 F, in accordance with the requirements of AASHTO T 265.

Aggregate subbase and aggregate base material not conforming to the requirements of Table 303-1 for gradation and/or PI may be accepted by the Engineer upon the contractor's submittal of testing results demonstrating that the R-Value is at least 79 when determined

by AASHTO T 190. At the contractor's option, the material may be reprocessed and re-compacted at no additional cost to the Department.

All metal reinforcement and expansion materials shall be removed from processed salvaged Portland Cement Concrete prior to its use in aggregate subbase and aggregate base material.

The contractor shall submit the testing information for the base and subbase materials which are intended to be used to the Engineer for approval. Any significant change in the materials shall be approved by the Engineer prior to use.

Mixing on grade shall be accomplished using a full depth reclamation machine or pulverizer, manufactured for this purpose. Motor graders, gannon boxes, auger scrapers, or other similar devices will not be allowed for mechanical mixing on grade.

If suitable in-place aggregate subbase or aggregate base materials are available, the contractor shall have the option of re-using such materials as processed salvaged aggregate base. Processed salvaged asphaltic concrete and salvaged Portland Cement Concrete materials may be blended with the processed salvaged aggregate subbase, processed salvaged aggregate base and virgin base aggregates. The blended material shall be homogenous mixture in which there is no segregation, crusts, lumps, or nesting, and shall be sampled and tested to meet the requirements specified herein.

303-3.01 Placement: of the Standard Specifications is modified to add:

When processed salvaged materials are utilized, either from in-place or from a commercial source, the Engineer may require a test section of 1000 feet be placed utilizing the processed materials and construction methods proposed for use by the contractor. Full operations shall not proceed until the test section has been tested and approved by the Engineer. The contractor shall use the same equipment, material processing, and construction methods for the remainder of the construction, unless adjustments made by the contractor are approved in advance by the Engineer.

303-3.02 Compaction: of the Standard Specifications is revised to read:

Each layer of aggregate subbase and aggregate base material shall be compacted to a density of not less than 100 percent of the maximum density determined in accordance with the requirements of the applicable test methods of the ADOT Materials Testing Manual, as directed and approved by the Engineer.

The moisture content shall be determined per AASHTO T 265 when determining density for aggregate subbase and aggregate base material containing processed salvaged asphaltic concrete and/or processed salvaged Portland Cement Concrete.

When AASHTO T 265 is utilized to determine moisture content, acceptance testing results for density will be furnished to the contractor up to 24 hours after performance of in-place density testing to allow sufficient time for moisture determination.

303-5 Basis of Payment: of the Standard Specifications is revised to read:

The accepted quantities of aggregate subbase and aggregate base, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be full compensation for the work, complete in place.

(404BITUM, 08/18/22)

SECTION 404 BITUMINOUS TREATMENTS:

404-1 Description: of the Standard Specifications is revised to read:

The work under this section shall consist of furnishing all materials and constructing or applying bituminous treatments at the locations designated on the plans and in accordance with the requirements of the specifications and in conformity to the lines shown on the project plans or established by the Engineer.

The bituminous treatments include one or a combination of prime coat, tack coat, and fog coat. The bituminous treatments also include emulsified asphalt chip seal and hot applied chip seal both either with or without fog coat.

When a “hot applied” chip seal is called for on the plans and specifications, it refers to a chip seal using a performance grade asphalt cement or a crumb rubber asphalt as the bituminous material.

404-2.02 Aggregate Materials:

(A) General: the second and third paragraphs of the Standard Specifications are revised to read:

With the exception of precoated cover material, aggregate material shall be sampled for gradation acceptance from the final stockpile prior to being incorporated into the work. The aggregate for the precoated material shall be sampled prior to precoating.

(B) Blotter Material: of the Standard Specifications is revised to read:

Blotter material shall be natural or manufactured sand, volcanic cinders, or other approved material and shall be free of deleterious materials or foreign substances.

The gradation shall meet the following requirements when tested in accordance with the requirements of Arizona Test Method 201:

Sieve Size	Percent Passing
3/8 inch	100
No. 4	80 - 100
No. 16	45 - 80
No. 200	0 - 5.0

(C) Cover Material: of the Standard Specifications is revised to read:

Aggregate for cover material shall be clean gravel or crushed rock, shall be free of clay, and shall not contain calcium carbonate, caliche, synthetic materials, organic matter, or foreign substances. Cover material shall not be obtained from sweepings of previously applied cover material.

The gradation shall meet the following requirements when tested in accordance with the requirements of Arizona Test Method 201.

Sieve Size	Percent Passing	
	Class 1	Class 2
3/4 inch	100	
1/2 inch	97 – 100	100
3/8 inch	70 – 100	97 – 100
1/4 inch	0 – 10	70 – 100
No. 8	0 – 5	0 – 5
No. 200	0 - 2.0	0 - 2.0

Cover material shall meet the following requirements:

Aggregate Characteristics	Test Method	Requirement
Abrasion	AASHTO T 96	100 Rev., Max 9% 500 Rev., Max 40%
Carbonates	Arizona Test Method 238	Maximum 20%
Fractured Coarse Aggregate Particles	Arizona Test Method 212	Minimum 75% one fractured face, determined on plus No. 8 material
Flakiness Index	Arizona Test Method 233	Maximum 20%
Bulk Oven Dry Specific Gravity	Arizona Test Method 210	2.350 – 2.850
Water Absorption	Arizona Test Method 210	0.0 – 2.5%

(D) Precoated Cover Material: of the Standard Specifications is revised to read:

For hot applied chip seals, the cover material shall be precoated with any grade of PG asphalt cement which meets the requirements of Section 1005 of the specifications. The precoating shall be accomplished by mixing at a central plant until the aggregate is evenly coated. The cover material shall have a minimum temperature of 250 degrees F at the time of precoating with asphalt cement. The cover material shall be precoated with approximately 0.40 to 0.60 percent asphalt cement, by weight of the aggregate. The final percentage of asphalt cement used for precoating will be as directed by the Engineer.

Precoated cover material shall be dust free upon completion of coating and shall remain dust free prior to being incorporated into the work.

The aggregate for precoated cover material shall meet the requirements in Subsection 404-2.02(C) of the specifications prior to precoating with bituminous material.

No precoated cover material shall be stockpiled following precoating with asphalt cement for more than five calendar days prior to placement, unless otherwise approved by the Engineer.

404-2.03 Bituminous Treatment Material Types and Application Rates: of the Standard Specifications is modified to add:

The type of bituminous material for tack coat and approximate application rate shall be as specified in Subsection 404-4.02 of the specifications.

The bituminous material application rates provided in this Subsection are approximate, and are to be used for bidding purposes, and shall be modified as required herein. Final application rates for all materials shall be those required to ensure the most favorable outcome, as approved by the Engineer.

404-3 Construction Requirements:

404-3.01 Seasonal and Weather Limitations: of the Standard Specifications is revised to read:

(A) General:

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the bituminous treatment.

Placement shall cease for the remainder of the day if sustained wind velocities in excess of 15 MPH occur at the project site.

(B) Prime Coat:

Bituminous material used for prime coats shall be applied to an existing aggregate surface only when the ambient temperature in the shade is at least 70 degrees F and when the existing aggregate surface is slightly damp.

(C) Fog Coat:

Bituminous material used for fog coats shall be applied to an existing pavement surface only when the surface is dry, the pavement surface temperature is at least 60 degrees F but does not exceed 175 degrees F, and the ambient temperature at the beginning of the application is at least 50 degrees F and rising but does not exceed 110 degrees F. The application of bituminous material shall be stopped when the ambient temperature is 55 degrees F or less and falling.

(D) Chip Seal:

The contractor's bid submittal and initial construction schedule shall adhere to the beginning and ending dates shown in Subsection 404-4.04(A) of the specifications. Bituminous material used for chip seal coats shall only be placed when the existing pavement surface is dry, the surface temperature is at least 85 degrees F, and the ambient temperature at the beginning of the application of bituminous material is at least 65 degrees F and rising. The application of bituminous material shall be stopped when the ambient temperature is 70 degrees F or less and falling.

No placement of bituminous material for chip seals shall occur if ambient temperatures are forecasted to be at or below 40 degrees F at any time during the day or night after placement.

For hot applied chip seals, no placement shall occur if ambient temperatures exceed, or are forecasted to exceed, 110 degrees F the day before, the day of, or the two days after placement.

404-3.02 Equipment:

(A) Distributor Truck: the first sentence of the first paragraph of the Standard Specifications is revised to read:

Distributor trucks shall be so designed, equipped, maintained and operated that bituminous material at the specified temperature may be applied uniformly on variable widths of surface at readily determined and controlled rates from 0.03 to 1.00 gallons per square yard, with uniform pressure, and with an allowable transverse variation from any specified rate not to exceed 10 percent or 0.02 gallons per square yard, whichever is less.

(A) Distributor Truck: the first sentence of the fourth paragraph of the Standard Specifications is revised to read:

Distributor truck spray bars shall be equipped with the appropriate size nozzles adjusted to the proper angle with the associated adjustment wrench to achieve maximum overlap of spray and an even application.

(B) Power Brooms: of the Standard Specifications is revised to read:

Power brooms shall be of the rotary or pickup type, capable of completely removing excess blotter material, and cleaning without gouging or tearing the surface.

(D) Aggregate Spreaders: of the Standard Specifications is revised to read:

The application of blotter material shall be accomplished by means of a sand slinger or other equipment approved by the Engineer.

The application of cover material shall be accomplished by means of a calibrated spreader. The spreader shall be a self-propelled, computerized rate-controlled unit capable of an application width of 14 feet or greater. The spreader shall be in good mechanical condition,

capable of applying the correct aggregate application rate uniformly across the spread width.

Chip spreader boxes shall be calibrated to ensure consistent discharge across all of the chutes except where the discharge is intentionally adjusted to compensate for site conditions and construction operations.

404-3.03 Traffic Control: of the Standard Specifications is hereby deleted.

404-3.04 Preparation of the Surface: of the Standard Specifications is revised to read:

The surface to be treated shall be thoroughly cleaned prior to applying bituminous material. Man holes, utility covers, and catch basins shall be protected prior to and during application of bituminous material. Self-propelled rotary power brooms, pickup brooms, and hand brooms shall be used immediately in advance of applying the bituminous material.

When a bituminous treatment is to be applied to an existing aggregate surface, the surface shall be uniformly smooth, firm and reasonably true to grades and cross sections as shown on the project plans, and shall be so maintained throughout the placing of the bituminous treatment. In no event shall a bituminous treatment be placed on a soft, uneven base. All holes, depressions or irregularities shall be repaired. All loose and unsuitable material shall be removed and replaced by suitable material, which shall be compacted to produce a dense uniform surface conforming to the adjacent area.

When required, the existing aggregate surface on which the bituminous treatment is to be placed shall be lightly bladed, watered and compacted immediately prior to the application of bituminous material. In extremely dry areas, additional light applications of water may be required prior to the application of the bituminous material to facilitate penetration of the bituminous material.

404-3.05 Application of Bituminous Material: the first, second and third paragraphs of the Standard Specifications are revised to read:

The types, grades, and approximate rates of application of bituminous material shall be as specified in Subsections 404-2.03 of the specifications. The application rates for chip seal coats shall be determined by the contractor in accordance with the requirements herein, subject to approval by the Engineer.

The rates to be applied may vary substantially because of different surface conditions within the project limits. The actual bituminous material application rate shall not vary more than 10 percent from the application rate specified or approved by the Engineer.

The bituminous material shall be uniformly applied to the prepared surface at the rate specified or approved by the Engineer and in one application.

404-3.05 Application of Bituminous Material: the seventh, eighth and ninth paragraphs of the Standard Specifications are revised to read:

In the event that any spots are missed in the application, or any areas develop that do not have a uniform spread or penetration, such areas shall be remedied without delay.

Care shall be taken to prevent the spraying or splattering of bituminous material on adjacent pavements, structures, curb, guardrail, vegetation, or any other object outside of the area designated for spraying.

Removal and disposal of unused bituminous material shall be the contractor's responsibility and at no cost to the Department.

404-3.06 Application of Blotter Material: of the Standard Specifications is revised to read:

The approximate application rate of blotter material, when required as a part of a bituminous treatment, shall be as specified in Subsection 404-2.03 of the specifications; however, the Engineer will specify the exact rate to be applied based on the characteristics of the bituminous treated surface. The specified application rates are based on the wet weight of material.

Blotter material, at the time of spreading, shall be wet but free from running water. Blotter material shall be spread uniformly to the treated surface in one or more applications for a total application rate as specified. Blotter material shall be applied at a time acceptable to the Engineer and before opening to traffic.

Any oversized aggregate or foreign material picked up during stockpiling or loading operations shall be eliminated before entering the spreader. Supplemental spreading or smoothing shall be done by hand methods where necessary.

Prior to final acceptance and when ordered by the Engineer, the contractor shall remove and dispose of any excess blotter material. Removal and disposal of excess blotter material shall be the contractor's responsibility and at no cost to the Department.

404-3.07 Joints: of the Standard Specifications is revised to read:

(A) General:

Transverse joints with the preceding work, at intersections, and at all existing pavements and structures shall be made by a method approved by the Engineer prior to the start of the work.

Longitudinal joints shall be overlapped between 2 to 6 inches.

Regardless of the width of the roadway to be sealed, the number of longitudinal joints shall be kept to a minimum. Longitudinal joints shall be located to the greatest degree obtainable to coincide with the painted lines between traffic lanes.

(B) Chip Seal:

Unless otherwise directed by the Engineer, transverse joints with the preceding work shall be made by placing building paper over the end of the previous application, and the joining application shall start on the building paper. Once the application process has progressed beyond the paper, the paper shall be disposed of as directed by the Engineer. Transverse joints at other locations shall be made by a method approved by the Engineer prior to the start of the work.

Joints shall be cleaned as deemed necessary by the Engineer prior to the application of bituminous material in the adjacent strip.

404-3 Construction Requirements: of the Standard Specifications is modified to add:

404-3.08 Opening to Traffic:

In the construction or application of bituminous treatments, no traffic or equipment will be permitted on the treated roadway surface until it has been established to the satisfaction of the Engineer that the treated roadway surface will not be damaged or marred under the action of traffic. No traffic of any description shall be allowed on any bituminous treatment until approved by the Engineer.

404-4 Prime Coat: the title and text of the Standard Specifications is revised to read:

404-4 Bituminous Surface Treatment:

404-4.01 Prime Coat:

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different base conditions.

When it is deemed necessary, areas having excess bituminous material shall be blotted with material as directed by the Engineer.

When directed by the Engineer, the surface of the completed prime coat shall be rolled with a pneumatic-tired roller.

The integrity of the prime coat shall be maintained at all times until the next course is placed or until final acceptance. In the event traffic has caused holes or breaks in the surface, such holes or breaks shall be repaired by the contractor.

404-4.02 Tack Coat:

Tack coat shall be applied prior to placing a bituminous mixture on a primed surface, an existing bituminous surface, or an existing Portland cement concrete pavement surface. Tack coat shall also be applied between each layer of bituminous mixtures. A light coat of

bituminous material shall also be applied to edges or vertical surfaces against which a bituminous mixture is to be placed.

The contractor shall choose the bituminous material to be used for tack coat. The Engineer must approve the contractor's choice of bituminous material prior to its use.

The rate of application for the specific usage will be specified by the Engineer. The following table shows approximate tack coat application rates:

Type of Bituminous Material	**Approximate Tack Coat Application Rates: Gallons / Square Yard**		**Payment Factor**
	Prior to Placing ACFC or AR-ACFC	**All Other Tack Coats**	
Emulsified Asphalt (Special Type) – See Note (1) Below.	Not Allowed	0.12	0.7
Emulsified Asphalt (Other than Special Type)	0.08	0.08	1.0
Asphalt Cement	0.06 to 0.08	0.06 to 0.08	1.0
Note: (1) Emulsified Asphalt (Special Type) shall consist of Type SS-1 or CSS-1 emulsified asphalt diluted with water to provide an asphalt content of not less than 26 percent.			

The Engineer may adjust the application rate.

If emulsified asphalt of any type is used, it shall have broken before the bituminous mixture is placed.

Tack coat shall be applied only as far in advance of the placement of the bituminous mixture as is necessary to obtain the proper condition of tackiness. All traffic on a tack coat surface shall be minimized to the greatest extent possible. In no event shall more tack coat be applied in one day than will be covered by the bituminous mixture during that same day.

404-4.03 Fog Coat:

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The material shall be diluted with one part water to one part bituminous material. The specified application rate is based on the diluted material. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different pavement conditions.

When specified in Subsection 404-2.03 of the specifications, blotter material shall be applied following the application of bituminous material.

404-4.04 Chip Seal Coat:

(A) General:

The contractor shall prepare their bid submittal and initial construction schedule, submitted at the Preconstruction Conference as described in Subsection 108.03 of the specifications, based on the following beginning and ending dates for placement of the chip seal.

Average Elevation of Project, Feet	Beginning and Ending Dates
0 – 3499	March 15 – May 31
0 – 3499	September 1 – October 31
3500 – 4999	May 1 – September 30
5000 and over	June 1 – August 31

Any proposed placement deviating from the beginning and ending dates shall be detailed in the written schedule of construction submitted at the weekly meeting described in Subsection 108.04 of the specifications. No contract time extension will be granted for placement outside of the beginning and ending dates. Any placement deviating from the beginning and ending dates shall be at the sole risk of the contractor.

The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 pf the specifications. The type of cover material shall be as specified in Subsection 404-2.03 of the specifications.

The contractor shall determine the application rates and corresponding quantities of bituminous material and cover material for chip seal coat in accordance with Arizona Test Method 819. Application rates are subject to approval by the Engineer. Areas and locations anticipated to require adjustment to the rate(s) shall also be identified.

The application rates and performance of emulsified asphalt chip seals shall be evaluated using the Sweep Test in accordance with ASTM D7000.

The performance of hot applied chip seals shall be verified using the Vialit Retention Test in accordance with EN 1272-3, modified as necessary to account for the specific characteristics of the proposed chip seal.

The actual application rate shall be such that the aggregate is embedded approximately 70 percent (80 percent above 4,000 feet elevation) and excessive tracking of bituminous material does not occur under construction equipment or when opened to traffic.

The actual rate of cover material to be applied shall be such that no more than 5 percent of the chips applied are removed during sweeping and approximately 20 percent void space exists between the aggregate particles once realigned after opening to traffic.

The proposed application rate(s), locations requiring adjustment, and the associated basis for each adjustment, shall be submitted to the Engineer for approval no later than five days following completion of the Pre-Activity Walkthrough as described in Subsection 404-4.04(B) of the specifications and at least five days prior to placement of the test strip.

The basis for any anticipated adjustments shall include use of one or more of the following:

(a) Sand Patch tests performed in accordance with *STP762 Pavement Surface Characteristics and Materials;* Haydon, C.E. (ASTM, 1982),

(b) Appendix B of Chip Seal Guide for Application and Construction; Pavement Preservation Committee of the Arizona Chapter of The Associated General Contractors (AGC-Arizona Chapter, 2013),

(c) Arizona Test Method 742 for mean macrotexture.

The approved application rate(s) and adjustments shall be clearly marked at the corresponding locations and remain visible to equipment operators prior to placement.

At least 10 days prior to chip seal placement, the contractor shall submit a minimum 75-pound sample of uncoated cover material to the Engineer for testing. In addition to the submitted cover material, the contractor shall also submit 3 full gallons of emulsion (5 to 8 gallons for hot applied) in 1-gallon cans in accordance with the requirements of Arizona Test Method 103. The contractor shall also submit 40 pounds of granulated rubber if included in the bituminous material.

(B) Pre-Activity Walkthrough:

Prior to placement, the contractor shall conduct a Pre-Activity Walkthrough with all parties expected to work on the chip seal.

Locations where adjustments in application rate may be appropriate shall be documented.

A location for a test strip, approximately 1,000 feet in length shall be identified. If additional test strip locations are desired due to varying surface conditions, these shall also be identified.

Other factors or site conditions such as turn or deceleration lanes, changes in surface characteristics, crack fill, and recent patchwork which may affect placement of the chip seal coat shall also be identified. A description of any affecting conditions and the corresponding locations and action to be taken to minimize their impact shall be documented.

In addition to the requirements herein, the items contained on the checklists provided in AGC-Arizona Chapter's Chip Seal Guide for Application and Construction shall be considered.

(C) Chip Seal Test Strip:

Prior to the start of placement, all equipment used in the placement of the chip seal coat shall be verified to be in satisfactory operating condition and in accordance with the requirements herein.

Cover material shall be verified to have appropriate moisture and be in a condition consistent with that in which it existed at the time initial acceptance samples were obtained. Bituminous material certifications shall be verified to indicate that the required type of

material is on hand. The bituminous material shall be at the proper temperature prior to application.

The chip seal test strip shall be a minimum of 500 linear feet. The existing pavement surface to receive the test strip shall be verified to have been adequately swept and cleaned and meeting the requirements herein. Anticipated application rates shall have been marked and clearly visible to equipment operators.

During placement of the test strip, all equipment shall be observed to confirm proper operation. The application rate of both the bituminous material and cover material shall be measured and verified using a catch-and-weigh “tarp” method. The application rate of the bituminous material shall also be measured and verified by means of a volume per area calculation using the distributor trucks calibrated thermometer and volume measuring gauge or device.

Rolling shall immediately follow placement of the cover material and be verified to be in conformance with the requirements herein.

For emulsion chip seals, the contractor shall broom the surface to remove excess cover material only after the emulsion has fully broken and cured sufficiently for maximum chip retention.

Prior to any subsequent placement, the test strip shall be observed to have adequate embedment of the cover material without excessive void space between the chips, stacking of chips, or accumulation of chips on the shoulders. If the condition of the test strip is not acceptable, adjustments shall be made as appropriate, and an additional test strip shall be performed.

(D) Application of Bituminous Material for Chip Seal:

The following bituminous material application requirements for chip seal are in addition to the requirements specified in Subsection 404-3.05 of the specifications.

Bituminous material shall not be applied a distance ahead of the chip spreader that results in excessive lag of the rollers allowing hot applied bituminous material to cool or emulsified bituminous material to break prior to achieving adequate embedment of the cover material.

When inclement weather is expected, only the amount of hot applied bituminous material which can receive adequately embedded cover material, or only the amount of emulsified asphalt that can receive adequately embedded cover material and has sufficiently broken, shall be placed prior to the start of inclement weather.

(E) Application of Cover Material:

Cover material shall be immediately and uniformly spread over the freshly applied bituminous material such that aggregate particles are securely adhered and will not roll, tumble, or be picked up during the rolling process. Any oversize aggregate or foreign material picked up during stockpiling or loading operations shall be eliminated before entering the aggregate spreader hopper. Supplemental spreading and smoothing shall be done by hand methods where necessary.

When emulsified asphalt is used, the cover material shall be at a saturated surface-dry condition at the time of spreading.

For hot applied chip seals, and when project conditions require, precoated cover material shall be at a sufficient temperature to facilitate adequate embedment.

(F) Rolling Cover Material:

Following the spreading of cover material, the surface shall be promptly rolled with self-propelled pneumatic-tired rollers. A minimum of three rollers shall be provided; however, a sufficient number of rollers shall be provided to cover the entire width of the material spread in one pass of the compactors and rolling shall continue until a minimum of three passes has been completed.

For chip seals with a hot applied bituminous material the first roller pass shall occur as soon as possible but no longer than 2 minutes after applying the aggregate. The third pass shall be completed quickly enough to embed the aggregate before the binder cools, and no longer than 15 minutes after the binder is applied.

(G) Removal of Loose Cover Material:

The cover material shall be removed by means of a power broom which shall be in good condition and of a design suitable for the work. The action of the broom shall be such that particles which are stuck to the bituminous material will not be dislodged.

For chip seals with an emulsified bituminous material, initial removal of all loose cover material shall not commence prior to two hours after placement or at such time that the Engineer has determined that the emulsion has sufficiently cured.

For chip seals with a hot applied bituminous material, the removal of loose cover material shall commence approximately 30 minutes after the final rolling is completed.

Initial removal of loose cover material shall occur prior to opening to traffic. All loose cover material shall be removed from the paved surface by brooming within 24 hours after application.

After the traffic free period as specified in Subsection 404-4.04(H) of the specifications, but prior to final removal of loose cover material, all traffic permitted by the Engineer shall not exceed 25 miles per hour.

If the Engineer determines that conditions are not conducive to obtaining the best results, brooming shall be discontinued until the Engineer has considered all conditions and has determined the best time for the removal of the cover material.

(H) Minimum Traffic-Free Period:

The minimum traffic-free period for a newly applied emulsion chip seal coat shall be three hours. The contractor's hauling equipment may use the new seal coat surface during the traffic free period at a speed not to exceed 15 miles per hour but shall not make sharp turns of brake abruptly.

(I) Fog Coat on New Chip Seals:

When specified in Subsection 404-2.03 of the specifications, a fog coat shall be placed on the new chip seal following the curing period. The type of bituminous material and the approximate application rate shall be as specified in Subsection 404-2.03 of the specifications. The material shall be diluted with one part water to one part bituminous material. The specified application rate is based on the diluted material. The Engineer may adjust the actual application rate based on specific trials and visual observations performed on test areas for different pavement conditions.

When specified in Subsection 404-2.03 of the specifications, blotter material shall be applied following the application of bituminous material.

(J) Contractor Quality Control:

The contractor shall be responsible for the chip seal design, performing quality control testing on materials, and designating an individual charged with constant observation and monitoring.

Need for an adjustment to application rates or a correction to process or equipment shall be communicated immediately to the necessary personnel.

The initial condition of equipment, materials, and the project and pavement surface conditions shall be documented. The performance and results of the test strip shall be documented. Observations of monitoring activities and quantification of application rates during the test strip and production shall be documented no less frequently than every other placement run.

The cause for any adjustments, including quantifying tests performed, the adjustments made, and the result of such adjustments with regard to acceptability and performance of the chip seal coat shall be documented.

404-5 **Tack Coat:** of the Standard Specifications is hereby deleted.

404-6 **Fog Coat:** of the Standard Specifications is hereby deleted.

404-7 **Chip Seal Coat:** of the Standard Specifications is hereby deleted.

404-8 **Method of Measurement:** the fourth paragraph of the Standard Specifications is revised to read:

The contractor shall be responsible to determine the amount of cover material that will be required to complete the work from the source(s) from which the cover material is obtained.

404-8 **Method of Measurement:** the sixth paragraph of the Standard Specifications is revised to read:

Measurement for payment will be made only for the quantity of bituminous material and for the quantity of aggregate material used in accordance with the requirements of the specifications.

404-9 Basis of Payment: of the Standard Specifications is revised to read:

The accepted quantities of the work under this section, complete in place, measured as provided above, will be paid for at the contract unit price as designated in the bidding schedule, except the contract unit price for the quantities of bituminous material will be adjusted on the basis of the test results in accordance with the requirements of Section 1005 of the specifications.

No measurement or direct payment will be made for precoating the cover material, material for precoating, rolling and removal of loose cover material, and removal of loose blotter material.

The contract unit price for each item of bituminous material except tack coat will be considered to include all costs for furnishing, hauling, handling, spreading, and mixing of the material as required.

The unit price for bituminous tack coat is deemed to be the cost to furnish, transport, and store asphalt cement or emulsified asphalt at the project location. Payment for bituminous tack coat will be made at the unit price multiplied by the respective payment factor listed under Subsection 404-4.02 of the specifications, and adjusted to the nearest dollar.

Unless otherwise specified, the accepted quantity of bituminous tack coat, measured as provided above, will be paid at the contract unit price per ton adjusted as provided above which price shall be full compensation for furnishing, transporting, and storing the exact type, grade or designation of bituminous tack coat specified by the Engineer.

Unless otherwise specified, the accepted quantity of time to apply bituminous tack coat, measured as provided above, will be paid for at the contract unit price per hour which payment shall be full compensation for applying bituminous tack coat.

The bidding schedule quantity for tack coat is based on an estimated application rate of 0.06 gallons per square yard for each application shown on the project plans.

The unit price of bituminous material will be adjusted in accordance with the requirements of Subsection 109.16 of the specifications based on the "initial cost" of bituminous material between the date of bid opening and the date that the material is used on the project.

No measurement or direct payment will be made for furnishing, applying and removing blotter material, furnished in conjunction with the application of a prime coat.

No measurement or direct payment will be made for the maintenance or repair of a prime coat surface.

(409ACMS, 06/19/25)

SECTION 409 ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL): of the Standard Specifications is revised to read:

409-1 Description:

The work under this section shall consist of constructing Asphaltic Concrete (Miscellaneous Structural), hereinafter asphaltic concrete, by furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, reclaimed asphalt pavement (RAP) if used, mineral admixture, and bituminous material (asphalt cement) to form a pavement course or to be used for other specified purposes, in accordance with the details shown on the project plans and the requirements of the specifications, and as directed by the Engineer.

The contractor shall acquire and make all arrangements for a source or sources of material, furnish a mix design which will meet the design criteria specified hereinafter, and provide all the equipment, materials, and labor necessary to complete the work.

409-2 Materials:

The bidding schedule quantity of asphaltic concrete is based on an estimated unit weight of 145 pounds per cubic foot.

409-2.01 Mineral Aggregate:

Mineral aggregate shall conform to the following requirements when tested in accordance with the applicable test methods.

Mineral Aggregate Characteristics	Test Method	Requirement
Combined Bulk Oven Dry Specific Gravity	Arizona Test Method 251	2.350 - 2.850
Combined Water Absorption	Arizona Test Method 251	0 – 3.0%
Abrasion	AASHTO T 96	100 Rev., Max 9% 500 Rev., Max 40%
Sand Equivalent	AASHTO T 176 (After thoroughly sieving the sample, no additional cleaning of the fines from the plus No. 4 material is required.)	Minimum 55
Fractured Coarse Aggregate Particles	AASHTO T 335	Minimum 70% (plus No. 4 material)
Carbonates (1)	Arizona Test Method 238	Maximum 20%

Notes:

(1) Testing for carbonates only applies if either of the following conditions exist:

(a) The asphaltic concrete is the designed final pavement surface normally used by traffic; or

(b) The asphaltic concrete, temporary or otherwise, will be subject to traffic for more than 60 days.

The gradation will be determined in accordance with AASHTO T 11 and AASHTO 27, and shall conform to the requirements given below.

Mix Design Grading Limits						
Sieve Size	Percent Passing					
	Lift Thickness Less Than 1½ Inches		Lift Thickness 1½ to 2 Inches		Lift Thickness Greater Than 2 Inches	
	Without Admixture	With Admixture	Without Admixture	With Admixture	Without Admixture	With Admixture
1 Inch					100	100
3/4 Inch			100	100	90-100	90-100
1/2 Inch	100	100	90-100	90-100	---	---
3/8 Inch	90-100	90-100	70-85	70-85	70-85	70-85
No. 8	41-55	42-56	41-51	42-52	41-51	42-52
No. 40	9-19	10-20	---	---	---	---
No. 200	2.0-5.0	3.0-6.5	2.0-5.0	3.0-6.5	2.0-5.0	3.0-6.5

409-2.02 Bituminous Material:

Asphalt cement shall be a performance grade (PG) asphalt binder, conforming to the requirements of Section 1005 of the specifications. The type of asphalt binder shall be **PG 64-22 PM**.

The percent of asphalt cement used shall be based on the weight of total mix (asphalt cement, mineral aggregate, and mineral admixture).

The contractor shall provide the laboratory mixing and compaction temperature ranges to the mix design laboratory for each PG asphalt binder used for mix design purposes. The laboratory mixing temperature range is defined as the range of temperatures where the un-aged asphalt binder has a rotational viscosity of 0.17 ± 0.02 Pascal·seconds, measured in accordance with AASHTO T 316. The laboratory compaction temperature range is defined as the range of temperatures where the un-aged asphalt binder has a rotational viscosity of 0.28 ± 0.03 Pascal·seconds, measured in accordance with AASHTO T 316. The testing required in AASHTO T 316 shall be performed at 275 degrees F and 350 degrees F, and a viscosity-temperature curve developed in accordance with ASTM D2493. The viscosity-temperature curve shall be included in the mix design report. For PG asphalt binders that have a maximum laboratory mixing temperature exceeding 325 degrees F or a maximum laboratory compaction temperature exceeding 300 degrees F, the laboratory mixing and compaction temperature ranges shall be specified in writing by the asphalt binder supplier. The laboratory mixing and compaction temperature ranges, as well as the actual laboratory mixing and compaction temperatures used, shall be reported on the mix design. The contractor shall ensure that the asphalt binder supplier information required in this paragraph is provided to all appropriate parties in a timely manner, and that copies are included in the mix design report. The laboratory mixing and compaction temperatures are for mix design purposes only. Field mixing and compaction temperatures are specified in Subsection 409-3 of the specifications.

409-2.03 Mineral Admixture:

Mineral admixture shall be either Portland cement, blended hydraulic cement, or hydrated lime conforming to the following requirements:

Material	Requirement
Portland Cement, Type I or II	ASTM C150
Blended Hydraulic Cement, Type IP or 1L	ASTM C595
Hydrated Lime	ASTM C1097

The mineral admixture content shall be 2.0 percent, by weight, of the mineral aggregate. However, a minimum of 1.0 percent mineral admixture may be used if the contractor submits test information showing a lowered percentage of mineral admixture produces mix design results for Index of Retained Strength of at least 60 percent and a Minimum Wet Strength of 150 pounds per square inch when tested in accordance with Arizona Test Method 802.

The certification and acceptance of Portland cement, blended hydraulic cement, and hydrated lime shall be in accordance with ADOT Materials Practice and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

409-2.04 Mix Design:

Utilizing mineral aggregate which has been crushed, processed, separated, and stockpiled, a mix design shall be formulated and submitted by the contractor to the Engineer. The mineral aggregate samples used for mix design purposes shall be representative of aggregate materials to be used during production.

The mix design shall be based on the mix design criteria and other requirements specified herein, utilizing asphalt cement and mineral admixture of the type and from the sources proposed for use in the production of asphaltic concrete.

Mix designs shall be developed utilizing a minimum ratio of three (3) for the lift thickness to nominal maximum aggregate size. The mix design shall be prepared by or under the direct supervision of a professional engineer experienced in the development of mix designs and mix design testing. Reclaimed asphalt pavement (RAP) may be used in the mixture if properly designed per Arizona Test Method 833. Limits for the usage of RAP shall be per ADOT Materials Practice and Procedure Directive No. 20, “Guidance on the Use of Reclaimed Asphalt Pavement (RAP) in Asphaltic Concrete”. The mix design engineer shall meet the requirements given in ADOT Materials Practice and Procedure Directive No. 4, “Asphaltic Concrete Mix Design Proposals and Submittals”. The mix design shall be provided in a format that clearly indicates all the mix design requirements and shall be sealed, signed, and dated by the mix design engineer.

The mix design shall be prepared by a mix design laboratory that has met the requirements of ADOT Materials Practice and Procedure Directive No. 19, “ADOT System for the Evaluation of Testing Laboratories”.

If approved by the Engineer, as an alternative to meeting the mix design requirements specified herein, a mix design meeting the requirements of the specifications for a Section 416 Asphaltic Concrete (End Product) (1/2 inch Special Mix), Section 416 Asphaltic Concrete (End Product) (3/4 inch Special Mix), Section 417 Asphaltic Concrete (SHRP) (End Product) (1/2 inch Mix), or Section 417 Asphaltic Concrete (SHRP) (End Product) (3/4 inch Mix) may be substituted for use. The type of asphalt binder used in the alternative mix design must be the same as that specified in Subsection 409-2.02 of the specifications. The alternative mix design may include reclaimed asphalt pavement (RAP) if properly designed per Arizona Test Method 833. If a mix design meeting the requirements of Section 417 is used, the number of gyrations for N-design used in the alternative mix design must be at least that which would be specified at the location where the Asphaltic Concrete (Miscellaneous Structural-Special Mix) is to be placed. The lift thickness for the alternative mix design shall conform to the following table.

Alternative Mix Design	Minimum Lift Thickness
Section 416 (1/2 Inch Special Mix)	1-1/2 Inches
Section 416 (3/4 inch Special Mix)	2 inches
Section 417 (1/2 inch Mix)	2 inches
Section 417 (3/4 inch Mix)	2-1/2 inches

The contractor may propose the use of a mix design that has been developed for a previous project. The proposed mix design shall meet the requirements of these specifications. The contractor shall provide evidence that the type and source of bituminous material, the type of mineral admixture, and the source and methods of producing mineral aggregate, and RAP material if applicable, have not changed since the formulation of the previous mix design. The contractor shall also provide current test results for all specified characteristics of the mineral aggregate, and RAP material if applicable, proposed for use. The Engineer will determine if the previously used mix design is suitable for the intended use and if the previous use of the mix design was satisfactory to the Department. The Engineer will either approve or disapprove the proposed mix design. Should the Engineer disapprove the use of the previously used mix design, the contractor shall prepare and submit a new mix design proposal in accordance with the requirements of these specifications.

A previously used mix design older than two years from the date it was formulated, sealed, signed, and dated shall not be allowed for use. Once approved for use on a project, a previously used mix design may be used for the duration of that project.

Test results used in the formulation of the mix design must be from testing performed no earlier than 45 days prior to the date the mix design is signed by the mix design engineer. Historical abrasion values may be supplied on sources provided the testing was conducted within the past two years.

The mix design shall be submitted to the Engineer under a cover letter signed by an authorized representative of the contractor.

The mix design shall be submitted to the Engineer for review a minimum of five working days prior to the start of production.

The mix design shall meet the following criteria when tested in accordance with the requirements of the following test methods:

Criteria	Requirement	Arizona Test Method
1.Voids in Mineral Aggregate: %, Range	14.5 - 18.5	(See Note 1)
2.Effective Voids: %, Range	3.8 - 4.2	(See Note 1)
3. Absorbed Asphalt: %, Range	0 - 1.0	(See Note 1)
Note: (1) For mixes without RAP, Arizona Test Method 815. For mixes with RAP, Arizona Test Method 833.		

The Engineer reserves the right to adjust the asphalt content during production from the mix design value without additional compensation to the contractor in order to obtain desirable effective voids.

409-2.05 Sampling and Testing:

Sampling and testing the materials and mixture for quality control purposes shall be the contractor's responsibility. The contractor shall perform sufficient testing to assure that mineral aggregate and asphaltic concrete are produced which meet all specified requirements. The Engineer reserves the right to sample and test the materials and mixture when necessary to determine that they reasonably conform to the requirements specified herein.

409-3 Construction Requirements:

409-3.01 General:

All courses of asphaltic concrete shall be compacted as required, smooth and true to the required lines, grades, and dimensions.

(A) The surface of the final lift of asphaltic concrete placed under this section of the specifications shall be tested and shall not vary by more than 1/8 inch from the lower edge of a 10-foot straightedge when it is placed in the longitudinal direction (including across transverse joints), and when it is placed in the transverse direction across longitudinal joints;

(B) The surface of any lift of asphaltic concrete placed under this section of the specifications, other than the final lift, shall be tested and shall not vary by more than 1/4 inch from the lower edge of a 10-foot straightedge when it is placed in the longitudinal direction (including across transverse joints), and when it is placed in the transverse direction across longitudinal joints; and

(C) All deviations exceeding the specified tolerances above shall be corrected by the contractor, to the satisfaction of the Engineer.

The asphaltic concrete hot plant shall conform to the requirements of Section 403 of the specifications.

No fine material which has been collected in the dust collection system shall be returned to the mixture unless the collected fines are accurately and uniformly metered into the mixture. The temperature of asphaltic concrete or mineral aggregate upon discharge from the drier shall not exceed 325 degrees F, unless a higher temperature is recommended in writing by the asphalt binder supplier and approved by the Engineer.

The moisture content of the asphaltic concrete immediately behind the paver shall not exceed 0.5 percent. The moisture content will be determined in accordance with the requirements of AASHTO T 329.

Asphaltic concrete shall be placed only when the temperature of the surface on which the asphaltic concrete is to be placed is at least 65 degrees F.

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the asphaltic concrete.

All wheels and tires of compactors shall be wetted with water, or if necessary soapy water, or a release agent in order to prevent the sticking of asphaltic concrete. All other equipment surfaces shall be treated when necessary with a release agent. Only release agents evaluated through AASHTO Product Evaluation & Audit Solutions (formerly NTPEP) are acceptable for use. The results from AASHTO Product Evaluation & Audit Solutions (formerly NTPEP) testing, when tested in accordance with AASHTO T 383, shall conform to the requirements shown in the table below:

RELEASE AGENT TEST	REQUIREMENT
Asphalt Stripping Test Diluted Non-Diluted (Full Strength)	 No Stripping No Stripping
Asphalt Performance Test	Less than or equal to 10.0% after the third cycle

Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent.

Asphaltic concrete immediately behind the laydown machine shall be in a thoroughly mixed, free-flowing, and workable condition, be free of lumps and crusts, and have a minimum temperature of 275 degrees F.

All courses of asphaltic concrete shall be placed and finished by means of self-propelled paving machines except under certain conditions or at certain locations where the Engineer deems the use of self-propelled paving machines impractical.

The speed of the paving machine shall be coordinated with the production of the plant and an adequate number of trucks for hauling asphaltic concrete shall be available in order to achieve, as far as practical, a continuous operation.

Self-propelled paving machines shall spread the mixture within the specified tolerances, without segregation or tearing, true to the line, grade, and crown indicated on the project plans. Pavers shall be equipped with hoppers and augers which will distribute the mixture uniformly in front of adjustable screeds.

Pavers shall be equipped with a screed for the full width being paved, heated if necessary, and capable of spreading and finishing all courses of asphaltic concrete.

Pavers shall be equipped with automatic screed controls with sensors for either or both sides of the paver, capable of sensing grade from an outside reference line, sensing the transverse slope of the screed, and providing the automatic signals which operate the screed to maintain the desired grade and transverse slope.

Failure of the control system to function properly shall be cause for the suspension of the placing of asphaltic concrete.

The base or subgrade upon which asphaltic concrete is to be placed shall be prepared and maintained in a firm condition until asphaltic concrete is placed. It shall not be frozen or excessively wet.

Before asphaltic concrete is placed, the surface to be paved shall be cleaned of all objectionable material and tacked with bituminous material in accordance with the requirements of Section 404 of the specifications.

Longitudinal joints of each course shall be staggered a minimum of 1 foot with relation to the longitudinal joint of any immediate underlying course. Longitudinal joints shall be located within 1 foot of the center of a lane or within 1 foot of the centerline between two adjacent lanes.

The contractor shall schedule its paving operations to minimize exposed longitudinal edges. Unless otherwise approved by the Engineer, the contractor shall limit the placement of asphaltic concrete courses, in advance of adjacent courses, to one shift of asphaltic concrete production. The contractor shall schedule its paving operations in such a manner to eliminate exposed longitudinal edges over weekends or holidays.

409-3.02 Compaction:

Compaction shall consist of an established sequence of coverage using specified types of compactors. A pass shall be defined as one movement of a compactor in either direction. Coverage shall be the number of passes as are necessary to cover the entire width being paved.

The rolling sequence, the type of compactor to be used and the number of coverages required shall be as follows:

Rolling Sequence	Type of Compactor		No. of Coverages	
	Option No. 1	Option No. 2	Option No. 1	Option No. 2
Initial	Static Steel	Vibrating Steel	1	1
Intermediate	Pneumatic Tired	Vibrating Steel	2 - 6*	2 - 4*
Finish	Static Steel	Static Steel	1 - 3	1 - 3
Note: * Based on the roller pattern which exhibits the best performance.				

The Engineer shall select the option for compaction and, when pneumatic-tired compactors are used, will designate the tire pressure.

Steel wheel compactors shall not be used in the vibratory mode for courses of 1 inch or less in nominal thickness nor when the temperature of the asphaltic concrete falls below 180 degrees F. Steel wheel compactors shall weigh not less than 8 tons.

Initial and intermediate compaction shall be completed before the temperature of the asphaltic concrete falls below 200 degrees F. All edges shall be rolled with a pneumatic tired compactor, or other methods approved by the Engineer, while the mixture is still hot.

Compaction will be deemed to be acceptable on the condition that the asphaltic concrete is compacted using the type of compactors specified, ballasted and operated as specified and with the number of coverages of the compactors as specified.

409-3.03 Acceptance:

Asphaltic concrete will be accepted complete in place, if, in the judgment of the Engineer, the asphaltic concrete reasonably conforms to the requirements specified herein. Asphaltic concrete that is not acceptable and is rejected shall be replaced to the satisfaction of the Engineer and at no expense to the Department.

409-4 Method of Measurement:

Asphaltic concrete will be measured by the ton for the mixture actually used, which will include the weight of mineral aggregate, bituminous material, and mineral admixture. Measurement will include any weight used in construction of intersections, turnouts, curbs, spillways and spillway inlets, ditches, catch basin entrances, median strips, sidewalks, or other miscellaneous items or surfaces.

409-5 Basis of Payment:

409-5.01 General:

The accepted quantities of asphaltic concrete, measured as provided above, will be paid for at the contract unit price per ton for the bituminous mixture complete in place.

No direct payment will be made for the bituminous material and mineral admixture in the asphaltic concrete, or the bituminous material for tack coat and application of tack coat, the price being considered as included in the price paid for asphaltic concrete.

Asphaltic concrete may be measured, by volume, upon the execution of a supplemental agreement which will specify the manner in which the volume is determined. The volume will include the volume of mineral aggregate, bituminous material, mineral admixture, and any necessary blending material.

409-5.02 Reduction for Noncompliance:

A reduction in payment to the contractor for asphaltic concrete will be made for quantities of asphalt cement (bituminous material) that do not meet the requirements of Section 1005 as determined by corresponding test results. Adjustments in payment will be made in accordance with the requirements of Table 1005-1.

(501PIPE, 01/20/22)

SECTION 501 PIPE CULVERTS AND STORM DRAINS:

501-3.02(A)(1) GENERAL: the last paragraph of the Standard Specifications is revised to read:

Bedding material for all metal pipe shall have a value of resistivity not less than 2,000 ohm-centimeters unless otherwise specified or approved by the Engineer. Bedding material shall have a pH value between 6.0 and 10.0, inclusive, for all metal pipe installations except aluminum. Bedding material for aluminum pipe installations shall have a pH value between 6.0 and 9.0, inclusive. Bedding material shall have a pH value between 6.0 and 12.0, inclusive, for all concrete or plastic pipe installations. Tests for pH and resistivity shall be in accordance with the requirements of Arizona Test Method 236.

ITEM 6015601 - CONCRETE SURFACE FORD (C-19.10)

Description:

The work under this item shall consist of furnishing all materials and labor for constructing the concrete surface ford and any associated grading including at the location shown on the plans, and in accordance with Standard Detail C-19.10, including but not limited to concrete, reinforcing steel, steel depth gauge sign structures (2 each), weep hole aggregates, forming materials, structural excavation and backfill.

Materials:

Materials such as concrete and reinforcing steel shall be provided in accordance with Subsection 601-2 of the Standard Specification.

Materials such as depth gauge posts and depth gauge signs shall be provided in accordance with Sections 607 and 608 of the Standard Specification.

Construction Requirements:

The concrete surface ford shall be constructed in accordance with Standard Detail C-19.10 for a concrete surface road with concrete walls and Subsection 601-3 of the Standard Specification.

All grading necessary to construct the ford crossing structure is to be included with this item. The ford crossing is to be constructed in accordance with Section 203 of the Standard Specification.

Method of Measurement

CONCRETE SURFACE FORD (C-19.10) depicted in Standard Detail C-19.10 for a concrete surface road with concrete walls and as shown in the project plans will be measured by the cubic yard of concrete placed and will include all materials and labor necessary for constructing and installing the structure, as well as any grading required as shown in the project plans.

Basis of Payment:

The accepted quantity of the CONCRETE SURFACE FORD (C-19.10) measured as provided above, will be paid for at the contract unit price per cubic yard of concrete complete in place.

(605STRF, 8/21/25)

SECTION 605 STEEL REINFORCEMENT:

605-3.01 **General:** the sixth paragraph of the Standard Specifications is revised to read:

Reinforcement shall be accurately fabricated and placed as shown on the plans and shall be firmly held in place by wire ties at all intersections and splices with 16 gauge or heavier tie wires and with precast mortar blocks or ferrous metal chairs, spacers, metal hangers, supporting wires, or other approved supports at the spacing necessary to maintain the specified clearance of the rei n forcing steel. The use of pebbles, broken stone, concrete masonry blocks, brick, metal pipe, or wood blocks will not be permitted for the purpose of spacing or support.

The contractor has the option to submit a request detailing the use of contract or buried bars, including supporting drawings, for review and approval by the Engineer.

For reinforcement spacing is greater than or equal to 12 inches in either the longitudinal or transverse directions, the reinforcement shall be tied at a minimum every alternate intersection.

Where reinforcement spacing is less than 12 inches in either the longitudinal or transverse directions, the reinforcement shall be tied at a minimum, every third intersection.

The contractor may submit a request detailing an alternative tying plan for review and approval by the Engineer.

(608 PANEL, 06/19/25)

SECTION 608 SIGN PANELS:

608-1 Description: of the Standard Specifications is revised to read:

The work under this section shall consist of furnishing and installing sign panels in accordance with the details shown on the plans and the requirements set forth herein.

The sign panels shall be of the following types:

(A) Extruded Aluminum Sign Panels with Direct-Applied, or Demountable Characters;

(B) Flat Sheet Aluminum Sign Panels with Direct-Applied, Electronic-Cut, or Screen-Printed Characters;

(C) Warning, Marker, and Regulatory Sign Panels;

(D) Route Shields for Installation on Sign Panels; and/or

(E) EXIT ONLY Panels for Installation on Sign Panels.

608-2.02 Extruded Aluminum Sign Panels with Direct-Applied, Digitally-Imaged, or Demountable Characters: the title and the third paragraph of the Standard Specifications are revised to read:

608-2.02 Extruded Aluminum Sign Panels with Direct-Applied or Demountable Characters:

The letters, numerals, symbols, borders and other features of the sign message shall be direct-applied, or demountable, and shall conform to the requirements of Subsection 608-2.08 or Subsection 608-2.09 of the specifications.

608-2.03 Flat Sheet Aluminum Sign Panels with Direct-Applied, Digitally Imaged, Electric-Cut or Screen-Printed Characters: the title and the fifth paragraph of the Standard Specifications are revised to read:

608-2.03 Flat Sheet Aluminum Sign Panels with Direct-Applied, Electronic-Cut, or Screen-Printed Characters:

Messages shall be reflectorized white or, if called for on the plans, opaque black, and shall be produced by either screen printing, direct-applying, or electronic cutting, as specified under Subsections 608-2.09 of the specifications.

608-2.05 Route Shields (For Installation on Sign Panels): The first paragraph of the Standard Specifications is revised to read:

Route shields may be demountable or direct-applied.

608-2.06 EXIT ONLY Panels (For Installation on Sign Panels): the first paragraph of the Standard Specifications is revised to read:

EXIT ONLY panels may be demountable or direct-applied. Demountable EXIT ONLY panels shall be attached to the sign panel with self-plugging aluminum blind rivets.

608-2.10 Digitally-Imaged Characters: the title and the text of the Standard Specifications are revised to read:

608-2.10 Digital Printing of Signs:

Digital printing of signs shall utilize a matched component system, including appropriate software and drivers in accordance with an APL certified retroreflective sheeting manufacturer's warranty requirements. Finished signs shall consist of a UV-protective clear overlay applied to the entire face of the sign. Any overlays shall also be compatible with the retroreflective sheeting manufacturer's matched component system and warranty. Digitally printed signs shall conform to the requirements of ASTM D4956 for daytime and nighttime requirements, as well as the requirements of the Department's Traffic Engineering Guidelines and Processes (TGP) 380 and Section 1007 of the specifications.

ITEM 6080110 – REMOVE AND REINSTALL SIGN:

Description:

This work consists of removing and reinstalling the existing sign panel, in accordance with the project plans, and the requirements of the specifications.

Construction Requirements:

The existing signs shall be removed, relocated and reinstalled during construction such that the signs are visible and appropriately located as shown on the plans. The sign panel shall be installed on new foundations and sign posts per the project plans or as directed by the Engineer.

All sign removals shall be in accordance with the requirements of Subsection 202-3.06 of the Standard Specifications. All removed sign panels, posts, foundations and hardware that are not to be relocated on the project shall become the property of the contractor and disposed of offsite in accordance with Subsection 107.11 of the Standard Specifications. Backfill and compaction shall be in accordance with Subsection 202-3.01 of the Standard Specifications. The contractor shall restore any landscape disturbance by the sign removals at the location of the sign removal.

Any sign panels damaged by the contractor during removal, storage or reinstallation shall be replaced by the contractor at no additional cost to the Department.

Method of Measurement:

Remove and Reinstall Sign will be measured as a unit for each sign panel removed and reinstalled, complete in place.

Basis of Payment:

The accepted quantities of Remove and Reinstall Sign, measured as provided above, will be paid for at the contract unit price, which price shall be full compensation for the work described and specified herein and on the project plans, including the installation of new foundations and posts, complete and in place.

(701LUMPSUM, 03/20/25)

SECTION 701 MAINTENANCE AND PROTECTION OF TRAFFIC:

701-1 **Description:** the first paragraph of the Standard Specifications is revised to read:

The work under this section shall consist of providing flagging services and pilot trucks, and furnishing, installing, maintaining, moving and removing barricades, warning signs, lights, signals, cones, temporary pavement markings and other traffic control devices to provide safe and efficient passage through and/or around the work and to protect workers in or adjacent to the work zone. The work shall be done in accordance with the requirements of Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the associated Arizona Department of Transportation supplement. When referred to herein, these documents will be referred to as MUTCD and associated ADOT Supplement.

701-1 **Description:** the third paragraph of the Standard Specifications is revised to read:

Any traffic control plan included in the project plans shall govern unless an alternate plan, acceptable to the Engineer, is submitted by the contractor. If no traffic control plan is provided or if the contractor desires to deviate from the provisions for maintaining traffic as described in this section, it shall submit to the Engineer for the approval of a proposed sequence of operations and a compatible method of maintaining traffic.

701-3.01 **General:** of the Standard Specifications is modified to add:

At the preconstruction conference the contractor shall submit a log of all existing signs within the limits of the construction zone. The Department will verify the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the contractor in accordance with Subsection 701-3.11 of the specifications.

The contractor shall coordinate all traffic control work on this project with any adjoining or overlapping projects during the construction activities. This may include barricade placement necessary to provide uniform traffic progress.

701-4.01 **General:** the first paragraph of the Standard Specifications is revised to read:

The Department will reimburse the contractor for the work of maintaining and protecting traffic on a lump sum basis except for the following Elements of Work:

1) Changeable Message Boards
2) Temporary Impact Attenuation Devices
3) Temporary Concrete Barrier
4) Specialty Signs
5) Local Enforcement Officers
6) DPS Officers
7) Civilian Flaggers
8) Pilot Vehicles
9) Truck-Mounted and Trailer-Mounted Attenuators

No additional measurement for payment to the contractor will be made for any Elements of Work other than those listed above.

701-4.01 **General:** the first sentence of the third paragraph of the Standard Specifications is revised to read:

Elements of Work except those reimbursed under the lump sum item will be measured for payment as follows:

701-4.03(E) **Limitation of Measurement:** the second paragraph of the Standard Specifications is revised to read:

For all items except those reimbursed under the lump sum item, measurement will be made after the initial installation and once weekly thereafter for items in continuous use and at any other times changes are made in the use of traffic control elements listed under Subsection 701-4.01(B) of the specifications. The contractor shall notify the Engineer when any changes are made in the use or location of traffic control elements.

701-4.04 **Measurement of Work Elements:** Sub-paragraphs (D), (G), (H), (J), (K), (L), and (N) of the Standard Specifications are hereby deleted.

701-5 **Basis of Payment for Elements of Work (Complete–in-Place):** of the Standard Specifications is modified to add:

All elements of work necessary for the work of maintaining and protecting traffic, excluding Elements of Work listed in Subsection 701-4.01 of the specifications, shall be reimbursed as a single, complete item of work, which price shall be considered full compensation for the work, complete in place, including furnishing, removing, setting up, relocating, taking down, maintaining, and storing the devices.

Lump sum traffic control will be paid according to the schedule shown in Table 701-5 of the specifications.

Table 701-5
Payment Schedule for Lump Sum Traffic Control

Percent of Total Contract Amount Earned (Excluding Mobilization and Traffic Control)	Allowable Percent of Lump Sum Price for Maintenance and Protection of Traffic
5	20
25	40
50	60
75	80
90*	100
*Or substantial completion	

If the Engineer determines that the final contract amount earned will fall between 75 and 100 percent of the original contract amount, lump sum traffic control will be compensated at 100 percent once final acceptance is achieved.

In the event the Department revises the contract in accordance with Subsection 104.02 of the specifications due to a significant change in the character of work, and the revisions impact the Maintenance and Protection of Traffic, the lump sum price for Maintenance and Protection of Traffic will be adjusted as part of the contract revision under the relevant supplemental agreements.

No adjustments to the lump sum price for Maintenance and Protection of Traffic will be made for suspension of work for seasonal restrictions.

Revisions in the phasing of construction or maintenance of traffic control operations, requested by the contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. Such revisions or modifications to the traffic control plans shown in the contract shall be submitted by the contractor for approval by the Engineer. No additional payment will be made for the revised plans requested by the contractor.

701-5.03 **Temporary Preformed Markings for Pavement:** of the Standard Specifications is hereby deleted.

701-5.05 **Obliterate Pavement Marking:** of the Standard Specifications is hereby deleted.

701-5.06 **Temporary Pavement Markers and Chip Seal Pavement Markers:** of the Standard Specifications is hereby deleted.

701-5.07 Obliterate Pavement Markers: of the Standard Specifications is hereby deleted.

701-5.08 Temporary Delineators: of the Standard Specifications is hereby deleted.

701-5.10 Temporary Removal or Covering of Signs: of the Standard Specifications is hereby deleted.

701-6.01 Quantity Variances: of the Standard Specifications is revised to read:

Payment for variances in quantities of items listed in Subsection 701-4.01 of the specifications shall be in accordance with Subsection 104.02 of the specifications, except that, for decreases in quantities, Temporary Concrete Barrier (In-Use) will be considered as a major item.

701-6.03 Channelization Devices: of the Standard Specifications is hereby deleted.

701-6.04 Temporary Signs: of the Standard Specifications is hereby deleted.

701-6.06 Flashing-Arrow Panels, and Changeable Message Boards: the title and text of the Standard Specifications are revised to read:

701-6.06 Changeable Message Boards:

The accepted quantities of changeable message boards, measured as provided above, will be paid for at the unit bid price per day, which price shall be full compensation for the work, complete, including any grading and furnishing, operating, maintaining, and relocating the boards on the work site.

(701FLGSV, 03/20/25)

SECTION 701 MAINTENANCE AND PROTECTION OF TRAFFIC:

701-3.13 Flagging Services: of the Standard Specifications is revised to read:

Flagging services shall consist of 1) Department of Public Safety (DPS) officers with agency vehicles, 2) local enforcement officers with agency vehicles, 3) local enforcement officers without agency vehicles, and 4) civilian flaggers. Local enforcement officers and DPS officers include those who meet the requirements of a Peace Officer under ARS Title 38, generally including anyone certified by the Arizona Peace Officer and Training Board. If available, DPS officers shall be used on Interstate Highways and Urban Freeways. Local enforcement officers will include uniformed officers from local police, tribal police, sheriff departments, or any other agencies that meet the requirements of a Peace Officer under ARS Title 38, generally including anyone certified by the Arizona Peace Officer and Training Board. An agency vehicle is defined as an agency-issued vehicle that meets the requirements of ARS Title 28. If local enforcement officers do not have access to an agency vehicle, a personal vehicle may be used, but it shall have a make and model similar in

appearance of an agency vehicle, and shall be equipped with front and rear-facing red and blue lights. The personal vehicle, when applicable, shall be presented to the Engineer for acceptability prior to its use on the project by local enforcement officers. Approval of the personal vehicle will be at the sole discretion of the Engineer.

The contractor shall be responsible to procure DPS officers, local enforcement officers, and civilian flaggers. The Engineer will determine the types and the number of hours of flaggers as needed based on the project needs. Quantities shown on the traffic control plans and/or bidding schedule are approximate only and prepared for bidding purposes. When procuring DPS officers and local enforcement officers, the contractor shall contact the relevant agency at least two days, excluding weekends and holidays, before flagging services will be required. Such contact must be made between the hours of 7:00 A.M. and 5:00 P.M. (M.S.T.).

In the event that local enforcement officers or DPS officers are temporarily unable to provide flagging services, the contractor shall ensure that traffic control is maintained and all personnel are protected, either by providing civilian flaggers or through other means as approved by the Engineer. No adjustments to the contract will be allowed for any delays resulting from the unavailability of local enforcement officers or DPS officers.

Local enforcement and DPS officers shall not work more than 12 consecutive hour work shift without the permission of the State Construction Engineer unless an emergency situation exists which, in the opinion of the Engineer, requires that the officer remain in the capacity of a flagger.

The contractor shall furnish verification to the Engineer that all civilian flaggers have completed a recognized training and certification program. Flaggers certified by the American Traffic Safety Services Association (A.T.S.S.A.) or by the National Safety Council will be acceptable. Certification through other programs offering flagger training may be allowed upon by the State Construction Engineer’s approval. Flagger certification must be current and updated at least once every four years.

701-6.07 Pilot Services, and Flagging Services: of the Standard Specifications is revised to read:

The accepted quantities of pilot vehicles, measured as provided above, will be paid for at the unit bid price for pilot vehicles with driver, which price shall be full compensation for the work, complete in place including, but not limited to, furnishing and maintaining the vehicle and furnishing the driver. Any hour worked after the eight-hour regular time will be considered straight-time and will not be paid as overtime pay.

The accepted quantities of flagging services provided by the local enforcement officers (with agency vehicle), DPS officers, and civilian flaggers, measured as provided above, will be paid for at the contract unit price, which price shall be full compensation for the work, complete in place, including the agency vehicle. Any hour worked after the eight-hour regular time will be considered straight-time and will not be paid as overtime pay.

The accepted quantities of flagging services provided by the local enforcement officers without an agency vehicle, measured as provided above, will be paid for at the contract unit

price, which price shall be full compensation for the work complete in place. Any hour worked after the eight-hour regular time will be considered straight-time and will not be paid as overtime pay. No measurement or payment will be paid for the vehicle, regardless of the type of vehicle is an agency vehicle or not, the cost being considered as included in the price of the contract item.

In addition, the Department has estimated an additional two hours of travel time per officer per day in the quantities shown in the bid schedule. However, if more than two hours of travel time per day is required, such additional hours will be compensated in accordance with the requirements of Subsection 104.02 of the specifications if approved by the State Construction Engineer. Travel time is considered to be supplementary to the hours worked by the officer during a work shift.

(704TPMF, 10/17/24)

SECTION 704 THERMOPLASTIC PAVEMENT MARKINGS:

704-2.02(C) Filler: of the Standard Specifications is revised to read:

The filler shall be a white calcium carbonate or equivalent filler.

(706REFPMR, 11/21/24)

SECTION 706 RAISED PAVEMENT MARKERS:

706-2.02 Reflective Pavement Markers: the title and text of the Standard Specifications is revised to read:

706-2.02 Raised Retroreflective Pavement Markers:

The type of raised retroreflective pavement markers shall be as shown on the plans.

Permanent raised retroreflective pavement markers shall conform to the performance requirements of ASTM D4280, Type A, B, or E, and shall meet the ASTM D4280 requirements for pavement markers with designation H for abrasion resistance and designation F for flexural strength. A list of approved permanent raised retroreflective pavement markers is shown on the Department’s Approved Products List. Copies of the most recent version of the APL are available on the internet from the ADOT Research Center, through its Product Evaluation Program.

Temporary raised retroreflective pavement markers shall conform to the performance requirements of ASTM D4280, Type A, B, or E. Temporary raised retroreflective pavement markers, or permanent raised retroreflective pavement markers used as temporary, shall not be required to meet the ASTM D4280 designation H requirements for abrasion resistance.

706-2.03 Non-Reflective Pavement Markers and Reflectorized Dagmars: the title and text of the Standard Specifications is revised to read:

706-2.03 Non-Reflective Pavement Markers and Retroreflectorized Channel Markers:

Non-reflective pavement markers shall be of the following types:

Type	Color
A	White
AY	Yellow
M	White
MY	Yellow

Retroreflectorized Channel Markers shall be of the following types:

Type	Color
J	White
JY	Yellow

Non-reflective pavement markers and retroreflectorized channel markers shall consist of a heat-fired, vitreous ceramic base and a heat-fired, opaque glazed surface which will produce the required properties. Markers shall be produced from any suitable combination of intimately mixed clays, shales, flints, feldspars, or other inorganic material which will meet the properties herein required. Markers shall be thoroughly and evenly matured and free from defects which will affect appearance or serviceability.

The top surface of the marker shall be in reasonably close conformity with the configuration shown on the plans. Markers shall be convex and the radius of curvature shall be between 3-1/2 and 6 inches, except that the radius of the 1/2 inch nearest the edge may be less. All edges shall be rounded and any change in curvature shall be gradual. The top and sides shall be smooth and free of mold marks, pits, indentations, air bubbles, or other objectionable marks or discolorations.

Non-reflective pavement markers and retroflectorized channel markers shall meet the following requirements:

Glaze Thickness: Inches	0.005 Minimum
Moh Hardness:	6 Minimum
Directional Reflectance: (White Only) Glazed Surface Body of Marker	 75 Minimum 70 Minimum
Yellowness Index: (White Only) Glazed Surface Body of Marker	 0.07 Maximum 0.12 Maximum
Color (Yellow Only): Purity: percent, range Dominant Wave Length: mu, range Total Luminous Reflectance (Y valve)	 75 - 96 579 - 585 0.41 Minimum
Compressive Strength: pounds	1,500 Minimum
Water Absorption: percent	2.0 Maximum
Autoclave	Glaze shall not spall, craze or peel

Retroreflectorized channel markers shall have encapsulated lens reflectors conforming to standard manufacturing practices.

706-2.05 Bituminous Adhesive: of the Standard Specifications is revised to read:

The bituminous adhesive for pavement markers shall be a hot-melt adhesive, and shall conform to the requirements of ASTM D4280, Annex A1. A list of approved adhesives is shown on the Department's Approved Products List (APL). Copies of the most current version of the APL are available on the internet from the ADOT Research Center, through its Product Evaluation Program.

706-4 Method of Measurement: of the Standard Specifications is revised to read:

Raised pavement markers will be measured as a unit for each marker furnished and placed.

706-5 Basis of Payment: of the Standard Specifications is revised to read:

The accepted quantities of raised pavement markers, measured as provided above, will be paid for at the contract unit price for the type designated in the bidding schedule, complete in place, including adhesive and surface preparation.

(708 PTVCT, 07/17/25)

SECTION 708 WATERBORNE PAVEMENT MARKINGS:

708-2.01(D) Quantitative Requirements of Mixed Paints: the viscosity row of the Table 708-1 of the Standard Specifications is revised to read:

Table 708-1		
	White	Yellow
Viscosity: Krebs Units at 77 ± 1˚ F, ASTM D562	70 - 95	70 - 95

ITEM 8050003 — SEEDING (CLASS II):

The work under this item shall consist of furnishing all materials, preparing the soil, applying Class II seed, establishing, and maintaining the seeded areas along with final mulch cover.

Areas to be seeded are those disturbed or unvegetated areas listed herein, shown on the plans, called for in the contractor's erosion/sediment control plan, Nonpoint Source (NPS) pollution control plan, Stormwater Quality Protection Plan (SQPP), Stormwater Runoff Pollution Control Plan, Decentralized Stormwater Management Plan, Stormwater Runoff Mitigation Plan, Stormwater Management Plan (SWMP), Biotechnical Erosion Control Plan, Post-Construction Stormwater Management Plan (PCSMP), Integrated Vegetation Management Plan (IVMP), Functional Landscape Ecological Restoration Plan, Assisted Migration Plan (AMP), or designated by the Engineer. All construction support activities disturbed unpaved temporary construction access, unpaved on-site staging, unpaved on-site material storage, and unpaved on-site stockpiling areas shall ultimately be seeded unless otherwise stabilized by equivalent permanent stabilization measures. If not seeded, the equivalent permanent stabilization measures shall be evaluated by a Construction Professional Landscape Architect (PLA) and approved by the Engineer. Unless otherwise prohibited by environmental permit, seeding is required to stabilize the unpaved disturbed dry area within the Waters of the U.S. Seeding area below the Ordinary High-Water Mark (OHWM) shall exclude any definable low flow channel(s). The seeding area below the OHWM shall also exclude the area directly under bridge(s).

Seeding may be included as part of a landscape project as specified in Section 807 or used for erosion control as part of a Storm Water Pollution Prevention Plan (SWPPP) as specified in Subsection 104.09 of the specifications, or both.

In either case, seeding shall be accomplished in two (2) stages. The first stage shall consist of tillage; furnishing and applying compost, chemical fertilizer, and sulfur; furnishing and planting the contract-specified seed mix; and furnishing, applying and affixing final mulch cover. The second stage, beginning after the first stage has been accepted by the Engineer, shall be a 45-calendar-day period during which time the contractor shall be responsible for maintaining and stabilizing the seeded and mulched areas, and restoring damaged or eroded areas.

Seeding construction shall be completed before Substantial Completion. The 45-calendar-day seeding maintenance period, including any re-seeding work if required after Initial Seeding Construction Acceptance, shall be completed before project Final Acceptance.

Seeding used as part of a SWPPP shall be completed before Substantial Completion, or sooner as required in the SWPPP. The 45-calendar-day seeding maintenance period, including any re-seeding work if required after Initial Seeding Construction Acceptance, shall be completed before project Final Acceptance.

No time extension will be granted for seeding not completed as specified herein.

Seeding areas below the OHWM shall be exempted from the 45-calendar-day maintenance period requirement.

An on-site pre-activity seeding construction meeting shall be coordinated by Construction PLA. The necessity of half-acre (0.5 acre) sample demonstrative area of Class II Seeding shall be verified for the seeded areas greater than five (> 5) acres excluding shoulder build-up areas (edge of pavement build-up areas). The contractor shall guarantee in writing to furnish all suitable equipment for soil tillage, seeding, and mulching during pre-activity seeding construction meeting as evaluated by a Construction PLA, as well as approved by the Engineer.

2.0 Materials:

2.01 General:

The contractor shall avoid persistent herbicide residues contamination in the soil. Soil sterilant herbicides, especially bare-ground herbicides with long-lasting Soil Persistence, shall be prohibited to use for all unpaved project areas that will be seeded. Pre-emergence herbicides shall be prohibited from unpaved project areas that will eventually be seeded.

Appropriate documentation, as specified below, shall be submitted to the Engineer a minimum of 30 calendar days before the start of a scheduled seeding activity. No materials shall be delivered to the site until the documentation has been approved by the Engineer.

Unless otherwise specified, Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be provided for all materials.

The contractor shall also provide tests from accredited laboratories for all materials, as specified herein. Should the contractor perform its own testing, such test results shall also be provided to the Engineer.

2.02 Seed:

(A) General Requirements:

The species, variety, and strain of seed (designated elsewhere herein as contract-specified seed) shall be as shown on the plans or as specified herein. The contract-specified seed shall be obtained from seed suppliers through harvesting of wildland collections, or field-grown seeds grown prior to or during the contract period.

A Certificate of Analysis for each seed species shall be furnished to the Engineer at least four (4) weeks prior to the seeding construction. No seed shall be furnished to, or delivered

to, the project until approved by the Engineer and Roadside Development. The Certificates of Analysis shall contain the following information for each seed sample: the test results of the Fifty States Noxious Weed list, all seeds including weed seeds listed, purity and germination, tetrazolium test results, when used and any pathology found to be present. The sample testing, when available for the native plant species, shall use the rules for testing seeds published by the "Association of Official Seed Analysts" or the "Society of Commercial Seed Technologists."

If the samples indicate species listed as noxious, restricted, or invasive, the lot will be rejected or evaluated for use on the project. The list of noxious, restricted, or invasive species is located at Roadside Development and linked to the following website:

http://www.azdot.gov/business/engineering-and-construction/roadway-engineering/roadside-development

Within 30 calendar days after the award of contract, the contractor shall submit the name of the seeding subcontractor to be used, along with written confirmation from seed suppliers and/or collectors, on their letterhead, that the source(s) for the contract-specified seed has been secured. A minimum of three (3) separate confirmation letters from seed suppliers, providers, and/or collectors shall be presented through the Engineer for a Construction PLA's evaluation within the context of reliable sources. If any of the contract-specified seed is expected to be unavailable prior to the time specified for seeding, in accordance with Subsection 2.02(B) below, the contractor shall notify the Engineer at this same time.

The seed shall be delivered to the project site unmixed in standard, sealed, undamaged containers for each seed species. Each container shall be labeled in accordance with the appropriate provisions of the Arizona Revised Statutes and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Labels shall indicate the scientific genus, species, subspecies/varieties or strains of seed, the percentage of germination, purity, weed content, and testing information. Unless otherwise approved by Roadside Development Section through the Engineer, the date of analysis for Tetrazolium Test (TZ) shall not be more than 15 months prior to the delivery date from a seed provider/supplier. A Certificate of Analysis from an accredited seed-testing laboratory, and conforming to Subsection 106.05 of the specifications, shall accompany each container of seed.

Unless otherwise approved by Roadside Development through the Engineer, weed content of the contract-specified seed mix shall not exceed 0.5 percent (≤ 0.5%).

In addition to Federal Seed Act Regulations, unless otherwise approved by Roadside Development through the Engineer, the contamination of seed lots from the following noxious / invasive plant species shall not be permitted.

NOXIOUS / INVASIVE WEEDS WATCH LIST FOR THE CONTAMINATED SEED LOTS	
SCIENTIFIC NAME	**COMMON NAME**
Amaranthus retroflexus	Redroot Amaranth / Redroot Pigweed / Red-Rooted Pigweed / Rough Pigweed
Bassia scoparia (syn. *Kochia scoparia*)	Kochia / Fireweed
Bothriochloa bladhii (syn. *Andropogon bladhii / Andropogon caucasicus / Andropogon intermedius / Bothriochloa caucasica / Bothriochloa intermedia*)	Caucasian Bluestem
Bothriochloa ischaemum	Yellow Bluestem
Brassica tournefortii	Sahara Mustard / Mediterranean Mustard / Mediterranean Turnip / Prickly Turnip
Bromus tectorum	Cheatgrass / Downy Brome / Broncograss / Downy Chess / Soft Chess / Drooping Brome
Cynodon dactylon (syn. *Capriola dactylon*)	Bermudagrass / Devilgrass
Centaurea melitensis	Malta Star-thistle / Napa Star Thistle / Tocalote
Cenchrus spinifex (syn. *Cenchrus incertus / Cenchrus pauciflorus / Cenchrus parviceps*)	Field Sandbur / Coastal Sandbur / Common Sandbur
Chorispora tenella	Crossflower / Purple Mustard / Blue Mustard / Musk Mustard / Beanpodded Mustard / Tenella Mustard
Cuscuta spp.	Dodder / Angel Hair / Devil's Hair / Devil's Ringlet / Goldthread / Hairweed / Lady's Laces / Strangleweed / Witch's Hair / Amarbel
Eragrostis lehmanniana	Lehmann Lovegrass
Euphorbia esula	Leafy Spurge / Green Spurge / Wolf's Milk
Euphorbia prostrata (syn. *Chamaesyce prostrata / Euphorbia chamaesyce*)	Prostrate Spurge / Prostrate Sandmat / Ground Spurge / Blue Weed
Onopordum acanthium	Scotch Thistle / Cotton Thistle
Pennisetum ciliare (syn. *Cenchrus ciliaris*)	Buffelgrass / African Foxtail Grass
Physalis spp.	Ground Cherry / Jerusalem Cherry / Strawberry Tomato
Salsola kali subsp. *tragus* (syn. *Salsola iberica*)	Russian Thistle / Tumbleweed
Setaria faberi	Japanese Bristlegrass / Giant Foxtail
Setaria pumila (syn. *Chaetochloa glauca / Chaetochloa lutescens / Panicum glaucum / Setaria glauca*)	Yellow Foxtail / Pigeon Grass / Yellow Bristlegrass
Setaria viridis	Green Bristlegrass / Pigeon Grass / Wild Millet / Green Foxtail

NOXIOUS / INVASIVE WEEDS WATCH LIST FOR THE CONTAMINATED SEED LOTS	
SCIENTIFIC NAME	**COMMON NAME**
Solanum physalifolium (syn. *Solanum physalifolium / Solanum sarachoides / Solanum villosum*)	Hoe Nightshade / Argentine Nightshade / Green Nightshade / Hairy Nightshade

The contractor shall provide all seed tag labels to the Engineer. No payment will be made for seeds until tag labels and Certificates of Analysis from all seeds to be used on the project have been submitted as specified.

Both the contractor and the seed supplier shall store seed under dry conditions, at temperatures of between 35 °F and 120 °F, and out of direct sunlight. Prior to using the seed, the contractor, as well as seed supplier, shall both provide a certification letter to the Engineer verifying that the seed was stored as specified herein.

Legume seed shall be inoculated with appropriate bacteria cultures approved by the Engineer, in accordance with the culture manufacturer's instructions.

Tetrazolium staining shall be acceptable to test for germination and hard seed. Cut or fill testing will not be allowed. As directed by the Engineer, seeds with an expiration date past the acceptable test date or not meeting the specified conditions for storage shall be retested by the contractor. The Engineer may perform random sampling of seeds throughout the project. Mixing of the specified seed at the project site shall be under the supervision of the Engineer.

Application rates of seed as specified are for Pure Live Seed (PLS). PLS is determined by multiplying the sum of the percent germination of seeds, including hard or dormant seeds, by the percent purity.

Diversified seed mix species and the PLS rates are shown in Table 1 below**:**

TABLE 1			
DIVERSIFIED SEED MIX—for All Unpaved Disturbed Areas, Unvegetated Areas, Receiving Pervious Areas (RPA), Decentralized Stormwater Management Areas, and/or Designated Areas			
Botanical Name	**Common Name**	**PLS Rate (Pounds Per Acre)**	**Per Pound Value for Substitution (see text)**
Aristida purpurea	Purple Threeawn	3	$40
Aster tanacetifolius	Purple Prairie Aster	1	$45
Asclepias tuberosa	Butterfly Milkweed	2	$250
Bothriochloa barbinodis	Cane Beardgrass	1	$50
Bouteloua curtipendula	Sideoats Grama	1	$20

TABLE 1			
cv. Vaughn *			
Bouteloua gracilis cv. Hachita	Blue Grama	1	$15
Baileya multiradiata	Desert Marigold	2	$80
Bouteloua rothrockii	Rothrock Grama	0.5	$56
Calliandra eriophylla	Fairy Duster	3	$90
Coreopsis tinctoria	Plains Coreopsis	2	$20
Digitaria californica	Arizona Cottontop	0.5	$50
Dalea purpurea	Violet Prairie Clover	2	$50
Distichlis stricta (syn. Distichlis spicata)	Desert Saltgrass	3	$65
Encelia farinosa	Incienso Brittlebush	4	$35
Encelia frutescens	Button Brittlebush	1	$30
Ericameria laricifolia	Turpentine Bush	0.2	$60
Gaillardia aristata	Blanket Flower	2	$20
Gaillardia pulchella	Firewheel	0.5	$20
Hilaria berlangeri	Curly Mesquitegrass	3	$55
Kallstroemia grandiflora	Arizona Poppy	0.5	$90
Lesquerella gordonii	Gordon's Bladderpod	1	$40
Lupinus bicolor	Miniature Lupine	2	$65
Lupinus sparsiflorus	Desert Lupine	1	$90
Lupinus succulentus	Arroyo Lupine	3	$30
Nassella pulchra (syn. Stipa pulchra)	Purple Needlegrass	3	$90
Oryzopsis hymenoides (syn. Achnatherum hymenoides)	Indian Ricegrass	3	$10
Psilostrophe cooperi	Paper Flower	0.3	$100
Penstemon parryi	Parry's Beardtongue	2	$90
Pascopyrum smithii	Western Wheatgrass	2	$15
Senna covesii	Coues' Cassia	4	$50
Sporobolus airoides	Alkali Sacaton	0.3	$30
Sporobolus cryptandrus	Sand Dropseed	0.1	$10
Setaria macrostachya	Plains Bristlegrass	1	$25
Zinnia acerosa	Dwarf White Zinnia	0.5	$150
Estimated Per Acre Subtotal Value for Seeds Only			**$ 3,210.00**

* Niner may be furnished if Vaughn is determined by Roadside Development as unavailable from seed sources.

(B) Seed Substitution:

No substitution of the contract-specified seed will be allowed unless evidence is submitted documenting that the contractor has made a diligent effort to obtain the contract-specified seed from either seed suppliers or collectors, and that the contract-specified seed will not become available prior to the time specified for seeding in the contractor's approved construction schedule.

The contractor may also request a substitution if the lowest price available for the contract-specified seed is greater than two (2.0) times the value shown in Table 1. The contractor shall provide documentation from a minimum of three (3) seed suppliers or collectors supporting such a request. Documentation shall include copies of the invoices from each supplier or collector. Only those invoices obtained within three (3) weeks of the time specified for seeding in the contractor's approved construction schedule will be acceptable.

Should a substitution of the contract-specified seed be requested for one of the two (2) reasons specified above, and the contractor's documentation is approved by the Engineer, the Department's Roadside Development Section will specify an alternate seed within five (5) working days of the Engineer's approval of the contractor's documentation. The alternate seed will only be allowed when there is an insufficient quantity of the contract-specified seed, as determined in the previous two (2) paragraphs, for the areas to be seeded as called for herein or as required for erosion control. The contractor shall obtain and apply the alternate seed, as required, to all such remaining areas. Unless otherwise approved by the Engineer, the approved alternate seed will only be allowed until such time that contract-specified seed meeting the availability and price requirements specified herein can be provided.

For each pound of contract-specified seed not provided by the contractor, the value indicated in Table 1 will be deducted from the contract amount. The price per pound for the alternate seed selected by the Department, as specified above, will be determined in accordance with Subsection 109.04(D)(2) of the specifications. No additional adjustments will be made for substituting the alternate seed, the costs being considered as included in the contract item for seeding.

No payment will be made for areas seeded with unapproved seed. No payment will be made for areas seeded until the entire approved seed mix (including all authorized seed substitutions/adjustments) is executed.

2.03 Tacking Agent:

Tacking agent shall be a naturally occurring organic compound and shall be non-toxic. The tacking agent shall be a product typically used for binding soil and mulch in seeding or erosion control operations. Approved types shall consist of mucilage or gum by dry weight as active ingredient obtained from guar or plantago. The tacking agent shall be labeled indicating the type and mucilage purity.

The contractor shall have the tacking agent swell volume tested by an approved testing laboratory using the USP method. The standard swell volume shall be considered as 30 milliliters per gram. Material shall have a swell volume of at least 24 milliliters per gram. Certified laboratory test results for homogenous consistency shall be furnished to the Engineer for each shipment of tacking agent to be used on project areas. Tacking agent rates shall be adjusted to compensate for swell volume variation. Material tested with lesser swell volume shall have the tacking agent rate increased by the same percentage of decrease in swell volume from the standard 30 milliliters per gram. Material tested with greater volume may reduce tacking agent rates by the same percentage of increase in swell volume from the standard 30 milliliters per gram. Tacking agent shall be pure material without starches, bentonite, or other compounds that would alter the swell volume test results of mucilage, or the effectiveness of the tacking.

2.04 Thermally-Refined Wood Fiber:

Wood cellulose fiber mulch shall conform to the requirements of Subsection 805-2.03 of the Standard Specifications, except as modified herein, and shall be from thermo-mechanically processed wood, processed to contain no growth germination inhibiting factors. The mulch shall be from virgin wood, manufactured and processed so the fibers will remain in uniform suspension in water under agitation to form homogenous slurry. Paper products will not be considered as virgin wood. The thermally-refined wood fiber mulch shall have the properties shown in Table 2 below:

TABLE 2	
Virgin Wood Cellulose Fiber	90% min.
Recycled Cellulose Fiber	10% max.
Ash Content	0.8% +/-0.3%
pH	4.5 +/-1.0
Water Holding Capacity	10 : 1 (water : fiber) Min.

2.05 Weed Free Straw Mulch:

(A) General:

Straw mulch including barley straw shall conform to the requirements of Subsection 805-2.03 of the Standard Specifications, except as modified herein, and shall be from the current season's crop. A letter of certification from the supplier shall be required stating that the straw was baled less than twelve (12) months from the delivery date. Additionally, a bill of sale for straw material shall be presented for a Construction PLA’s evaluation within context from reliable sources through the Engineer.

All straw, including hydraulically applied straw, shall be free from noxious weeds in compliance with the standards and procedures of the North American Weed Management Association (NAWMA) or the Arizona Crop Improvement Association (ACIA). The contractor shall provide documentation, including a transit certificate, and appropriate labels and/or marking twine, from the ACIA or NAWMA that straw materials to be used for mulch are free of noxious weeds. The straw shall be accompanied by the certification, labels and/or

marking twine at the time of delivery to the project site. Straw delivered to the project without such information will be rejected and promptly removed from the project.

Rye straw and oat straw will not be acceptable.

(B) Weed Free Straw Mulch for Hydraulic Application:

Hydraulically applied straw mulch shall be wheat, barley, or rice straw processed into various particle sizes, mixed with water and tacking material, and applied as a non-clogging slurry using a hydroseeder. A minimum of 70 percent (70%) of wheat, barley, or rice straw in the mix shall be not less than 1⁄2 inch ± 1⁄4 inch in length. Straw particles may be longer provided that the particles can be used with the selected hydroseeder without clogging. Hydraulically applied straw mulch, as furnished by the manufacturer, may contain up to ten (10) percent paper or cotton materials in dry weight. Hydraulically applied straw mulch shall also contain 20 percent (20%) of wood fiber in dry weight. The combined dry weight percentage of paper, cotton, and wood fiber materials together shall be not less than 15 percent (15%) nor more than 30 percent (30%) of the hydraulically applied straw mulch. The date of installation of hydraulically applied straw mulch cover shall be less than twelve (12) months from the date of production. The date of production of hydraulically applied straw mulch material shall be presented for a Construction PLA's verification through the Engineer. All hydraulically applied straw mulch material shall also meet the requirements of Subsection 805-2.05 (A) stated above.

2.06 Slow-release Chemical Fertilizer and Sulfur:

Chemical fertilizer shall conform to the requirements of Subsection 805-2.06 of the specifications and shall be the kind hereafter specified. Fertilizer shall be composed of a mixture of one part sulfur-coated urea 25-4-8, one-part monoammonium phosphate 11-52-0-, and one-part methylene urea 38-0-0. The sulfur-coated urea, a blended fertilizer 25-4-8, shall have approximately 80 percent (80%) of the nitrogen defined as slow release, and contain five percent (5%) Iron, ten percent (10%) sulfur and trace amounts of zinc and manganese. The result shall be a 24-18-2 chemical blended fertilizer, as specified herein.

In addition to the fertilizer mixture, agricultural sulfur compounds, comprised of between 80 percent (80%) and 96 percent (96%) sulfur, shall be applied at the rate specified in Section 3.02. Chemical fertilizer and sulfur shall not be applied to the seeding area below the OHWM.

2.07 Water:

Water shall be free of oil, acid, salts or other substances which are harmful to plants. All non-potable water shall be tested for its suitability for seeding/planting with the water quality-related concerns of salinity, pathogens and contaminants. The water quality testing result shall be presented for a Construction PLA's evaluation through the Engineer. An Arizona Guide to Water Quality and Uses (web link: *https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1610.pdf*) Figure 8, Water Quality and Uses Triangle shall be considered as reference for testing result evaluation and approval.

Water Quality Standards for seeding on construction projects that reach or exceed one-contiguous-acre (≥ 1 contiguous acre) permit threshold soil/ground disturbance defined under current Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit (CGP) and/or National Pollutant Discharge Elimination System (NPDES) CGP:

(A) On Arizona Non-Native Americans Land (Non-Tribal), water quality for seeding construction within 0.25-mile buffer zones of Impaired and/or Outstanding Arizona Waters (OAWs) shall meet the standards of current AZPDES CGP, as well as requirements of these Special Provisions.

The web link of ADEQ's eMaps within the State of Arizona:
https://www.azdeq.gov/emaps

(B) Water quality for seeding construction within Arizona Native Americans Land (Tribal) shall meet the standards of EPA-established or approved Total Maximum Daily Loads (TMDLs) under current NPDES CGP, as well as requirements of these Special Provisions.

The web link of EPA-established or approved TMDLs within the State of Arizona:
https://www.epa.gov/npdes/epas-stormwater-discharge-mapping-tools

The source of water shall be approved by a Construction PLA through the Engineer prior to use.

2.08 Compost:

Compost in bulk or furnished in containers or bags, shall consist of composted organic vegetative materials, and may contain worm castings. No animal manures or city biosolids shall be used in the composting or added to the compost. Prior to being furnished on the project, compost samples shall be tested for the specified microbiological and nutrient conditions, including maturity and stability, by a testing laboratory approved for testing organic materials. During pre-activity seeding construction meeting, compost test written results submitted to the Engineer for approval shall be within nine (9) months from the date of the official lab test.

Compost material shall be dark brown in color with the parent material composted and no longer visible. The structure shall be a mixture of fine and medium size particles and humus crumbs. The maximum particle size shall be within the capacity of the contractor's equipment for application to the constructed slopes. The odor shall be that of rich humus with no ammonia or anaerobic odors.

Bulk Compost shall also meet the requirements of Table 3:

TABLE 3	
Cation Exchange Capacity (CEC)	Greater than 45 meq/100 g
Carbon : Nitrogen Ratio (C : N)	Less than 20 : 1
pH (of extract)	5.0 – 8.5
Organic Matter Content	Greater than 30%
Total Nitrogen (not added)	Greater than 1%
Micronutrients (added)	S, Ca, Mg, Na, Fe, Al, Mn, Cu, Zn, B
Maturity Index	Greater than 50% on Maturity Index at a 10 : 1 ratio
Stability Indicator, CO_2 Evolution: Biologically Available C (BAC)	Less than 4mg CO_2-C/g OM/day is desirable. From 4 through 8mg CO_2-C/g OM/day is acceptable. Greater than 8mg CO_2-C/g OM/day is not acceptable.
The CEC lab testing method shall refer to EPA9081 at the web link: *http://epa.gov/osw/hazard/testmethods/sw846/pdfs/9081.pdf*	

Bulk compost is preferred and shall be applied to areas designated for seeding at the specified rate of 15 cubic yards per acre prior to final tillage for incorporation into the soil seedbed. Unless otherwise approved by the Engineer, bulk compost shall be engaged to all areas where equipment can be operated for final tillage in order to incorporate into the soil seedbed. Bulk compost may be substituted with hydraulically applied compost for small sized projects that cover less than five (< 5) acres of Class II Seeding as evaluated by a Construction PLA, as well as approved by the Engineer.

The volume of bulk compost shall be measured and documented for Construction PLA's verification and approval through the Engineer.

In areas where bulk compost cannot be applied by broadcast methods, compost shall be applied hydraulically as per the approval of the Engineer. Hydraulically applied compost shall be applied at the rate of 5 cubic yards (or 135 cubic feet) per acre to mini-benched slopes or on other approved areas for incorporation into the soil seedbed. For seeding areas 3:1 and flatter where bulk compost cannot be employed, hydraulically applied compost shall be utilized at the rate of 5 cubic yards (or 135 cubic feet) per acre as per the approval of the Engineer. Hydraulically applied compost may also be combined with seed, soil amendments and fertilizer in the same slurry prior to the final mulch cover with the approval of the Engineer.

The volume of hydraulically applied compost shall be measured and documented for Construction PLA's verification and approval through the Engineer.

Hydraulically applied compost shall meet the requirements of Table 4 below:

TABLE 4	
Cation Exchange Capacity (CEC)	Greater than 40 meq/100 g *
Carbon : Nitrogen Ratio (C : N)	Less than 20 : 1
pH (of extract)	5.0 – 8.5
Organic Matter Content	Greater than 35%
Total Nitrogen (not added)	Greater than 1%
Micronutrients (added)	S, Ca, Mg, Na, Fe, Al, Mn, Cu, Zn, B
Stability Indicator, CO_2 Evolution: Biologically Available C (BAC)	Less than 4mg CO_2-C/g OM/day is desirable. From 4 through 8mg CO_2-C/g OM/day is acceptable. Greater than 8mg CO_2-C/g OM/day is not acceptable.
Moisture Content by Weight	From 15% through 25%
The CEC lab testing method shall refer to EPA9081 at the web link: *http://epa.gov/osw/hazard/testmethods/sw846/pdfs/9081.pdf*	

* When CEC is from 50 meq/100 g through 55 meq/100 g, in order to be approved, the contractor may add 100 pounds additional Hydraulically Applied Compost per acre to compensate for the lower-than-standard CEC value.

Compost shall not be applied to the seeding area below the OHWM. The choice between bulk compost and hydraulically applied compost shall be evaluated, as well as coordinated by a Construction PLA according to specific project conditions with the approval of the Engineer.

2.09 Soil Conditioners:

Soil conditioners, when required, will be as shown in the Special Provisions.

3.0 Construction Requirements:

3.01 General:

Seeding Operations:

At least two (2) weeks prior to beginning seeding, the contractor shall complete and submit a batch mix and seed application form to the Engineer for approval. The batch mix form will be supplied by the Engineer.

After acceptance of the form stated above, the Engineer and contractor in coordination with Construction PLA shall determine a half-acre (0.5 acre) sample demonstrative area to be seeded and mulched prior to applying seed to the remainder of the project. Both regular straw mulch and hydraulically applied straw mulch shall be applied to the sample demonstrative area, as determined during on-site pre-activity seeding construction meeting. Both straw mulches shall be representative of the materials proposed for use on the project. If the seeding and mulching procedures, as well as outcomes, are acceptable by

Construction PLA, the contractor shall begin seeding operations as specified herein. Photographic Documentation of half-acre (0.5 acre) sample demonstrative seeded/mulched area shall be recorded and submitted to a Construction PLA, as comparative standard representation (mandatory visual reference) for Seeding Acceptance under Subsection 3.07 stated below.

The contractor shall notify the Engineer at least two (2) days prior to commencing any phase of seeding operations for the remainder of the project.

The equipment and methods used to distribute seeding materials shall provide an even and uniform application of seed, mulch, and other materials at the specified rates.

It is the contractor's responsibility to furnish all suitable equipment for soil tillage, seeding, and mulching at no additional cost to the Department.

Unless specified otherwise in the Special Provisions, seeding operations shall not be performed on undisturbed soil outside the clearing and grubbing limits of the project or on steep rock cuts.

The contractor shall coordinate the seeding operations with the grading operations to determine mobilization frequency as embankment and cut slopes are finished throughout the duration of the project. Seeding shall be done during suitable weather and soil conditions (soil–water and soil–temperature regimes) for tillage and placement of materials. Seeding operations shall not be performed below 35 degrees Fahrenheit (°F). Seeding operations shall not be performed when wind exceeds ten (10) miles per hour or, in the opinion of the Engineer, conditions would prevent uniform application of materials or would carry seeding materials into areas not designated for seeding. If wind exceeds ten (10) miles per hour, the seeding operation shall be evaluated by a Construction PLA and approved by the Engineer. If approved, the contractor shall perform seeding operation close to the ground surface with a hydro-seeding hose and hand-held hose-end sprayer nozzle or other equivalently effective seeding methods to guarantee all seeding materials are applied on the target area without being blown away by wind. The contractor is responsible for protecting ambient air and water quality during the seeding operation.

The contractor shall not expose an area greater than 750,000 square feet (≤17.22 acre) at any one location within the project limits until the seeding proposed for that portion of the project has been installed and accepted by the Engineer. Seeding shall be accomplished within 14 days after slopes and disturbed areas have been completed. Seeding operations shall comply with Subsection 104.09 and the applicable portions of Section 203 of the specifications, and as directed by the Engineer.

Frequent mobilizations may be required to accomplish seeding as specified herein. The Department will consider the cost of such multiple mobilizations to be included in the price bid for the seeding. No adjustments will be made to the contract for the number of seeding mobilization activities. Should the contractor fail to provide seeding for a sub-area as specified herein, the Engineer will immediately notify the contractor of such non-compliance. Should the contractor fail to immediately remedy the unstabilized area, the Engineer may suspend work until such seeding stabilization has been completed or proceed to provide the necessary seeding stabilization. The entire cost of such work will be deducted from the

monies due or to become due to the contractor. In addition, no adjustment to the contract time will be made for suspensions resulting from the contractor's failure to provide seeding for a sub-area within the time periods specified herein.

3.02 Tillage:

Where equipment can operate, the area to be seeded shall be prepared with a ripper bar, chisel plow, or with other devices to provide thorough soil cultivation to the depth specified below. It is the contractor's responsibility to furnish all suitable equipment for soil tillage at no additional cost to the Department.

Where equipment is not suitable for operation, hand tillage and/or other manual methods shall be utilized as approved by the Engineer. Tillage depth shall follow the requirements specified herein in accordance with assessment/measurement from a Construction PLA, as well as acceptance by the Engineer.

For areas too steep to be prepared for seeding after the slope has been completed, as determined by the Engineer, tillage shall be accomplished with appropriate equipment as the slope is being constructed. On slope areas, all tillage shall be horizontal and parallel to the contours of the areas involved in order to create a roughened surface condition to reduce stormwater runoff velocity and volume. All seeding areas suitable for tillage shall be pre-tilled to promote on-site stormwater infiltration and alleviate stormwater surface runoffs, as a part of stormwater peak flow and Volume Reduction Approaches (VRAs). All seeding areas suitable for tillage shall be adequately pre-tilled to minimize pollutant loads anticipated in nonpoint source stormwater runoffs. All project areas eroded shall be restored to the specified condition, grade, and slope as directed prior to seeding.

Cut slopes shall be prepared with ridges and deep tillage or shall be mini-benched so as to detain rainwater/moisture close to its source. On fill slopes, the operations shall be conducted in such a manner as to form minor ridges thereon to assist in retarding runoff associated erosion/pollution and favor germination of the seed through detaining rainwater/moisture close to its source.

Except as specified herein, slopes shall be constructed in accordance with Subsectio(B) of the specifications. Cut slopes flatter than 3:1 (horizontal to vertical) shall be tilled a minimum of 12 inches in depth, and fill slopes flatter than 3:1 shall be tilled to a six-inch minimum depth. All slopes steeper than 3:1, and areas which could potentially be affected by underground utilities, shall be tilled to a minimum six (6) inches in depth, and left in a roughened surface condition as they are constructed.

Track-walking or imprinting of rocky new fill slopes through mechanical methods in lieu of tillage may be allowable if accepted by a Construction PLA, through the Engineer. All final impression marks generated by track-walking or imprinting shall be horizontal and parallel to the contours of slope areas involved in order to create a roughened surface condition and reduce stormwater runoff velocity, enhance erosion/sediment control, as well as energy/velocity dissipation.

Tillage shall be a minimum of two (2) inches in depth for the first ten (10) feet from the toe of AC wedge including shoulder build-up areas (edge of pavement build-up areas) or from the outside edge of curb and gutter.

Care shall be taken during the seeding operations to prevent damage to existing trees and shrubs in the seeding area in accordance with the requirements of Subsection 107.11 of the specifications.

Tillage may require passing the equipment over the area several times to provide thorough soil cultivation. Furrows from the village shall be no more than 12 inches apart. No work shall be done when the moisture content of the soil is unfavorable to tillage.

All competitive vegetation shall be uprooted prior to seeding and the soil shall be left in a friable roughened surface condition free of clods or large stones over four (4) inches in any dimension, and other foreign material that would interfere with the seeding operation. Exposed stones larger than four (4) inches shall be removed and disposed of in an approved manner prior to grading and seeding. Invasive and non-native weed species shall be eradicated according to the MISCELLANEOUS WORK (CONTROL OF NOXIOUS PLANTS) of these Special Provisions whenever applicable.

All disturbed soil areas covered with existing chipped wood materials and/or native plant residues, which will not interfere with the tillage operation, shall be tilled for incorporation into the soil along with chemical fertilizer, as well as soil amendments (sulfur and compost) prior to final tillage and seeding.

Regardless of the method of seeding application, all areas prepared with tilling shall have chemical fertilizer and soil amendments (sulfur and compost) uniformly applied and incorporated (disked) into the soil prior to final tillage and seeding.

Chemical fertilizer and sulfur shall be applied at the rate of 200 pounds each per acre. Bulk compost shall be applied at the rate of 15 cubic yards per acre.

Unless otherwise approved by the Engineer, bulk compost shall be applied using broadcast methods to all areas where equipment can be operated. For areas where bulk compost cannot be applied by broadcast methods, as evaluated by a Construction PLA and determined by the Engineer, compost shall be applied hydraulically at the rate specified in Section 2.08 above. Hydraulically applied compost shall not be combined with final mulch cover in the same slurry. However, seed, sulfur and fertilizer may be utilized together with hydraulically applied compost in the same slurry with the approval of the Engineer. Final mulch cover shall be installed on top of all seeded areas as a separate construction sub-phase.

Slopes 3:1 and flatter shall have fertilizer, sulfur, and compost tilled/disked into a minimum of the top four (4) inches of the surface. Slopes steeper than 3:1 shall have fertilizer, sulfur, and compost uniformly broadcast for incorporation into the soil as directed by the Engineer. Unless otherwise operated together with hydraulically applied compost for the approved locations, fertilizer and sulfur shall not be applied hydraulically to areas for seeding.

Tillage shall not be applied for the seeding area below the OHWM.

For mini-benched slopes, fertilizer, compost, and sulfur shall be applied at the specified rates with no tillage or incorporation.

Seeding shall not initiate until all tillage areas and/or mini-benched slopes are accomplished as approved by a Construction PLA through the Engineer.

3.03 Seeding:

(A) General:

Drill seeding with straw mulch shall be considered as the preferred method of seed application when practicable. Unless otherwise approved by the Engineer, drill seeding shall be used for all areas with slopes of 3:1 or less.

Hydroseeding shall be the alternative method for seed distribution for slopes in excess of 3:1, and where drill seeding is not practicable or suitable for soil conditions and seed types, as determined by the Engineer.

Seeds not suitable for drill seeding and hydroseeding methods shall be broadcast manually. Areas to be seeded manually shall be completed after the final soil tillage and prior to any drill or hydroseeding.

Regardless of the seeding method(s), the contractor is responsible to guarantee intimate seed-soil contact. Seed application on top of straw mulch cover or hydraulically applied straw mulch cover shall be rejected. To guarantee intimate seed-soil contact, seed application on top of existing exposed chipped wood materials and/or plant residues ground cover shall be rejected.

Final straw mulch cover or hydraulically applied straw mulch cover shall be applied on all seeded areas, as specified in Sections 3.04 and/or 3.05, within 24 hours of seed application. The seeding application shall be accomplished prior to installation of straw mulch cover or hydraulically applied straw mulch cover. Combining the seed application process with the mulching process will not be acceptable. By implementing Low Impact Development (LID) source-control measure, the contractor shall install a final straw mulch cover or hydraulically applied final straw mulch cover to minimize raindrop splash erosion and wind erosion/dust, as close as possible at the source of disturbance to protect all seeded areas. Thermally-refined wood fiber shall not be utilized solely as final mulch cover to protect all seeded areas. Seeds shall be neither exposed nor visible after the installation of straw mulch cover or hydraulically applied straw mulch cover.

Unless otherwise specified in the Special Provisions, Class II seeding areas shall not be watered after planting.

(B) Drill Method:

After the tillage and incorporation of fertilizer, sulfur, and compost is completed and accepted by the Engineer, seed shall be planted with a drill seeder capable of accurately

metering the specific seed mix. Use of a drill seeder shall not damage the prepared seedbed and shall provide a soil cover over the planted seed.

Seed shall be planted approximately 1⁄4 inch deep, with a maximum depth of 1⁄2 inch. The distance between the furrows produced using the drill process shall not be more than eight (8) inches. If the furrow openers on the drill exceed eight (8) inches, the area shall be drilled twice. Seeding shall be done with grass seeding equipment with double disc openers, depth bands, packer wheels or drag chains, rate control attachments, seed boxes with agitators and separate boxes for small seeds. Seed of different sizes shall be sowed from at least two (2) separate boxes adjusted or set to provide the planting rate as specified.

(C) Hydroseed Method:

Areas and seed types not suitable for drill-seeding, as determined by the Engineer, shall be hydroseeded. The contract-specified seed shall be applied in a slurry containing 200 pounds of thermally-refined wood fiber and a minimum of 40 pounds tacking agent per acre. Seed shall not be in the slurry for more than 30 minutes. Hydroseeded areas shall have 100 percent (100%) coverage from all directions as evaluated by a Construction PLA, as well as approved by the Engineer. Hydroseeded areas shall also be mulched, as specified in Sections 3.04 or 3.05, within 24 hours of application of the seed.

(D) Manual Application:

Manually applied seeds shall be broadcast evenly to produce uniform distribution over the seeded areas.

3.04 Applying Straw Mulch as Final Mulch Cover on Top of Seeded Areas:

(A) General:

Within 24 hours after each area is planted, straw mulch shall be uniformly applied at the minimum rate of 2 1⁄2 tons per acre for areas to be crimped and tacked, and minimum two (2) tons per acre for tacked-only areas. Except for edge of pavement build-up areas, and unless otherwise specified by the Engineer, straw mulch shall be applied to all seeded areas. Areas to receive hydraulically applied straw mulch, if directed by the Engineer, shall be mulched in accordance with Section 3.05.

During seeding and mulching operations, care shall be exercised to prevent drifting and displacement of materials. Mulch material, which is placed upon trees and shrubs, roadways, structures, and upon any areas where mulching is not specified, or which is placed in excessive depths on mulching areas, shall be removed as directed. Mulch materials which are deposited in matted condition shall be loosened and uniformly spread to the specified depth over the mulching areas. Any unevenness in materials shall be immediately corrected by the contractor. In addition, the contractor shall minimize production of dust or other airborne particulate matter during application of straw mulch, either by moistening the straw, modifying equipment with misters, or through other means approved by the Engineer.

Except as specified in the next paragraph, straw mulch applied to seeded areas shall be immediately affixed by crimping and tacking after application. No mulch shall be applied to seeding areas which cannot be crimped and/or tacked by the end of each day. Any drifting or displacement of mulch before crimping and/or tacking shall be corrected by the contractor at no additional cost to the Department.

Crimping shall not be required for areas that are steeper than 3:1. Crimping may also be waived, when specifically directed by the Engineer, for drill seeded or hydroseeded areas with rocky conditions or other areas deemed unsuitable by the Engineer for crimping. Straw mulch applied to such areas shall only be tacked, as specified in Subsection 3.04(C) below.

Prior to the application of a tacking agent, protective covering shall be placed on all structures and objects where stains would be objectionable. All necessary precautions shall be taken to protect the traveling public and vehicles from damage due to drifting spray.

(B) Anchorage by Crimping:

Except as specified above in 3.04(A), crimping shall be required for all straw mulched areas. Straw mulch shall be anchored into the soil with a heavy disc. Discs shall be flat and serrated, with at least 1/4-inch thickness having dull edges, and spaced no more than nine (9) inches apart. Straw mulch shall be anchored to a depth of at least two (2) inches and shall not be covered with an excessive amount of soil. Anchoring operations shall be across the slopes where practical, with no more than two (2) passes of the anchoring equipment. Immediately following the crimping operation, the crimped area shall be tacked as specified in Subsection 3.04(C) below.

(C) Anchorage by Tacking:

Straw mulch shall be anchored by tacking, using a slurry consisting of a minimum of 150 pounds of tacking agent, 500 pounds of thermally refined wood fiber mulch, and 300 gallons of water per acre. The contractor may increase the quantities of components to ensure the stability of the straw mulch to provide erosion control during the 45-calendar-day maintenance period at no additional cost to the Department.

3.05 Hydraulically Applied Straw Mulch with Tacking Agent as Final Mulch Cover on Top of Seeded Areas:

Areas seeded but not practical for straw mulch, as determined by the Engineer, shall have hydraulically applied straw mulch with tacking agent applied at the variable rates shown in Table 5 below.

TABLE 5			
Slope (H:V)	Hydraulically Applied Straw Mulch (pounds per acre – dry weight)	Tacking Agent (pounds pure mucilage per acre – dry weight)	Thermally-Refined Wood Fiber (pounds per acre – dry weight)
Flat to 6:1	2,000	150	400
From greater than 6:1 to 3:1	2,500	150	500
Greater than 3:1	3,000	200	600
Erosive Soil Slopes or Highly Erosive Areas*	3,500	250	700
* As determined by Engineer			

The contractor shall submit a batch (tank) mix quantity schedule for mulch application to the Engineer for approval prior to mixing hydraulically applied straw mulch, thermally-refined wood fiber, and tacking agent in a slurry. Batch mixing and coverage will be monitored throughout the seeding operations. The contractor shall coordinate the mixing and application operations with the Engineer in advance of all mixing. Fertilizer or seed shall not be mixed into any slurry for temporary erosion control mulch application. To guarantee intimate seed-soil contact, seed shall not be mixed into any slurry with hydraulically applied straw mulch as final mulch cover.

3.06 Shoulder Build-up Areas — Edge of Pavement Build-up Areas:

Seeding shall be applied to all new earthen and milled asphaltic concrete edge of pavement build-up areas. Edge of pavement build-up areas shall be tilled two (2) inches deep from the toe of AC wedge to the toe of the edge of pavement build-up area prior to seeding.

After the two-inch tillage is complete, compost, fertilizer, seeding, and mulching shall be done in three (3) separate steps. For the first step, fertilizer and compost shall be broadcast evenly over both types of edge of pavement build-up areas. For the next step, seed shall be applied by hydroseeding for both types of areas. For the third step, seeded edge of pavement build-ups comprised of milled asphaltic concrete shall have hydraulically applied straw mulch and tacking agent applied, and earthen edge of pavement build-up areas shall have straw mulch or hydraulically applied straw mulch applied, with a tacking agent in either case. No crimping shall be required.

The application rate of hydraulically applied straw mulch and tacking agent shall be as specified in Table 5 above.

3.07 Seeding Acceptance:

After application, the Engineer will inspect seeded areas or sub-areas for conformance to the contract requirements. The contractor shall correct, to the satisfaction of the Engineer, any areas not conforming to the specifications. The 45-calendar-day seeding maintenance

period will begin upon Initial Seeding Construction Acceptance of an area by a Construction PLA through the Engineer.

The contractor shall maintain and stabilize each area or sub-area, including edge of pavement build-up area(s), for a minimum period of 45 calendar days, after Initial Seeding Construction Acceptance, as evaluated by a Construction PLA, as well as approved by the Engineer. Any areas damaged from erosion, or those that have less than 90 percent (< 90%) of the remaining final mulch cover, shall be re-seeded, re-mulched, and re-tacked at no additional cost to the Department. The Construction PLA shall assess the seeded area in comparison to the pre-established half-acre (0.5 acre) sample demonstrative area for Class II Seeding to determine the necessity of re-seeding, re-mulching, and re-tacking.

A new 45-calendar-day maintenance period for an area is not required after re-seeding work, however the initial or original period remains in effect.

4.0 Method of Measurement:

Seeding (Class II) will be measured by the acre, to the nearest one acre of ground surface seeded. Measurements will be along the ground surface for the areas seeded and mulched, as approved by the Engineer.

5.0 Basis of Payment:

During pre-activity construction meeting, the contractor in conjunction with Engineer shall verify and be in agreement with the quantity of seeding areas as evaluated by a Construction PLA. The quantity of areas to be seeded shall be in compliance with environmental requirements.

The accepted quantities for Seeding (Class II), measured as provided above, will be paid in two (2) phases corresponding to the application stage and the 45-calendar-day maintenance stage.

Upon completion of the application stage through evaluation by a Construction PLA and acceptance by the Engineer in the presence of contractor, the contractor will be paid 70 percent (70%) of the contract bid price per acre for the completed work. Such price will be considered full compensation for furnishing and applying the contract-specified seed mix, fertilizers, soil amendments, tillage, mulch materials, and tacking agent, all required testing, as well as all equipment and labor required to complete the work as specified herein.

Upon completion of the 45-calendar-day seeding maintenance stage, and acceptance by a Construction PLA through the Engineer, the contractor will be paid the remaining 30 percent (30%) of the contract bid price per acre for the completed work. Such price will be considered full compensation for seeding maintenance, including all equipment, labor, and materials required to correct deficiencies in seeded, mulched areas, as specified herein.

No measurement or payment will be made for any of the mobilizations required to apply and stabilize the seeding for each area or sub-area, as specified herein, the cost being considered as included in the contract price for Seeding (Class II).

No measurement or payment will be made for traffic control for work during the 45-calendar-day seeding maintenance period.

An adjustment to the contract will be made if a contractor-requested seed substitution is approved as specified in Subsection 2.02(B) above.

SECTION 808 - WATER DISTRIBUTION:

808-1 Description: of the Standard Specifications is modified to add:

The work under this section shall consist of furnishing all materials and relocating the Park water main, including excavation and backfill, in conformance with the project plans and the requirements of these Special Provisions. The work includes installing pipe, valves, fittings, bends, pressure testing, flushing, disposing of nuisance water, trenching, and other related work as shown on the project plans or as may be required to complete the work.

ITEM 8080221 – GATE VALVE (6”)

Description:

The work under this bid item shall consist of furnishing all materials, labor, and equipment to install gate valves, including valve box and cover, excavation and backfilling at the locations shown on the plans and in accordance with the requirements of the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023, and these Special Provisions.

Materials:

All gate valves shall conform to the latest revisions of AWWA standards and shall be provided with low-zinc stems.

Construction Requirements:

Installation of the gate valve and valve box shall be in accordance with the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023.

Method of Measurement:

Gate valves will be measured as a single unit for each valve and box installed.

Basis of Payment:

The accepted quantity of gate valves measured as provided above, will be paid at the contract unit price, complete in place, including excavation, and backfill.

ITEM 8080642 – VALVE BOX FRAME AND COVER, TYPE A
ITEM 8080646 – RESET FRAME AND COVER FOR VALVE BOX

Description:

The work under these bid items shall consist of furnishing all materials, labor, and equipment to install new or reset the existing water valve box frame and cover at the locations shown on the plans and in accordance with the requirements of the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023, and these Special Provisions.

Materials:

All concrete shall be Class B in accordance with Section 1006 of the ADOT Standard Specifications.

Construction Requirements:

Installation of the new, or removal and installation of the existing valve box shall be in accordance with MAG Standard Detail 391, and the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023.

Method of Measurement:

Valve Box Frame and Cover, Type A installation or Reset Frame and Cover for Valve Box adjustments will be measured as a single unit of each for valve box frame and cover installed or each reset frame and cover for valve box adjusted.

Basis of Payment:

The accepted quantity of these items, measured as provided above, will be paid at the contract unit price, complete in place.

ITEM 8080287 – PIPE (6”)(PVC)(CLASS 200)

Description:

The work under this item consists of furnishing all materials, equipment, and labor required to remove the existing Park water main and replace it with 6” PVC Class 200 pipe, including all fittings, excavation and backfill, in conformance with the project plans and the requirements of these Special Provisions. The work includes installing pipe, valves, fittings, bends, pressure testing, flushing, disposing of nuisance water, trenching, and other related work as shown on the project plans or as may be required to complete the work.

Materials:

Pipe and fittings shall be in accordance with Section 750 of the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023.

Construction Requirements:

Installation of 6” PVC Class 200 pipe and fittings shall be in accordance with Sections 610 and 750 the MAG Uniform Standard Specifications and Details for Public Works Construction, 2020 Edition, revised January 2023.

All joints shall be restrained in accordance with MAG Standard Details 303-1 and 303-2.

The contractor shall install blue polyethylene locating tape above the new water main.

Install bedding and cover material in accordance with Section 808-3.04 of the Standard Specification. The bedding and cover material for PVC piping shall conform to the following gradation requirements when tested in accordance with Arizona Test Method 201:

PVC Bedding and Cover	
Sieve Size	**Percent Passing**
No. 4	100
No. 16	30 - 80
No. 50	0 - 30
No. 100	0 - 25
No. 200	0 - 20

Testing of the installed water features shall be performed at a hydrostatic pressure of 150-pounds per square inch (psi) for a minimum of 2 hours.

Method of Measurement:

Pipe will be measured by the linear foot installed.

Do not measure separately the removal of the existing pipe, that work being included with this item.

Basis of Payment:

The accepted quantity of pipe measured as provided above, will be paid at the contract unit price, complete in place. Payment shall also include removal and disposal of the existing pipe, all required fittings, restrained joints, locating tape, testing, disinfection, and other incidental materials required to make the relocation work complete in place. Gate valves will be paid for as part of other contract items.

SECTION 810 — EROSION CONTROL AND POLLUTION PREVENTION

810-2.03 Riprap and Rock Mulch of the Standard Specifications is revised to read:

Gradation C Rock Mulch (fractured/crushed rocks in angular shape)	
Sieve Size	**Percent Passing**
3.75 Inch	100
3 Inch	65 — 75
2.5 Inch	45 — 55
2 Inch	25 — 35

ITEM 8101018 — EROSION CONTROL (STABILIZED CONSTRUCTION ENTRANCE/ EXIT GRAVEL PAD)

Description:

The installation of Erosion/Sediment Control Gravel Pad Best Management Practice (BMP) for Stabilized Construction Entrance/Exit shall be employed to assist in controlling and minimizing the transportation of debris/soil/dust from the disturbed project site onto the adjacent roadways/surface streets or Waters of the US. The fractured/crushed Gradation C rocks and associated Nonwoven Very High Survivability Fabric will be required to be completely removed at the completion of the project. The contractor, in conjunction with the Engineer, shall evaluate and determine the locations, as well as quantities of the construction entrance/exit gravel pads in spite of what is proposed in the plans and/or details. Stabilized Construction Entrance/Exit Gravel Pads may be relocated at no additional cost to the Department, with the approval of the Engineer, as the project progresses.

Materials:

Rock materials shall be sound and durable, clean and washed angular shape aggregate/gravel materials and free of silt/dust, seams as well as free of coatings, and of such characteristics that they will not disintegrate when subjected to the action of water. The contractor shall not impair air and stormwater quality through selecting and installing rock materials to maximum extent practicable (MEP). Sedimentary rocks and/or rock materials that will naturally generate excessive fine particles shall not be allowed.

Rock materials shall also conform to the requirements specified on the plans and these Special Provisions. The Bulk Specific Gravity (Saturated Surface Dry – SSD) shall be determined in accordance with the requirements of the Sub-section 913—2.01 (A). Rock materials installed in place shall be well graded, angular crushed rocks. Control for the rock gradation will be by visual inspection of the Engineer. The source from which the rock materials will be obtained shall be selected well in advance of the time when it will be required in the work. In addition, the acceptability of the rock materials shall be according to the Sub-section 913—2.01 (A).

Construction Requirements:

The bed for the rock mulch shall be shaped and leveled to provide even surfaces and at a depth to accommodate the rock size as well as depth of rock materials specified on the plans.

The finished surface rock materials may be placed by dumping and spreading in layers by bulldozers or other suitable equipment. Placement depth shall be six (6) to twelve (12) inches based on the necessities of construction vehicle/equipment as per the evaluation of the contractor as well as approval of the Engineer.

Install nonwoven fabric when water is applied for construction vehicle/equipment cleaning on gravel pad. Edge treatment trenching and nonwoven fabric shall not be required if no wash water is used for vehicle/equipment cleaning. If installed, fabric used below the angular crushed rocks shall comply with Sub-section 1014-4.04 for Nonwoven Very High Survivability Fabric.

Bury the edge of Nonwoven Very High Survivability Fabric in the installation trench along perimeter of gravel pad as shown in the Detail. The section of the trench shall be a minimum of 18" (depth) X 12" (width). Bury Nonwoven Very High Survivability Fabric along the sides and bottom of the trench to form a "U".

The contractor shall remove and legally dispose from the site all rock materials and fabric associated with this element of work within the time frame as approved by the Engineer.

The contractor may propose alternative methods of the Stabilized Construction Entrance/Exit Erosion/Sediment Control Measure (CM) at no additional cost to the Department. If applied, shop drawings shall be submitted to the Engineer for approval.

Method of Measurement:

Item 8101018—EROSION CONTROL (STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD) will be measured by the Square Yard installed. Measurement will not include any separate measurement of the nonwoven separation fabric or removal and disposal of materials which are being considered an included cost to this item of work.

Basis of Payment:

The accepted quantities of Item 8101018—EROSION CONTROL (STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD) measured as provided above, will be paid for at the contract price per Square Yard (Yd^2). Price shall be full compensation for the work, complete in place, including grading area to accept rocks, excavating, furnishing and placing material, relocating, removing and disposing of all materials and backfilling, and re-compacting, as well as all other work specified shall be considered as included in the unit cost.

SECTION 905 — GUARDRAIL:

905-2 Materials:

Upon completion of the guardrail, contractor shall apply a stain product in accordance with the manufacturers recommendations to all sides of galvanized barrier elements such that the completed barrier system has the appearance of weathered steel in conformance with section 1002 of these Special Provisions.

SECTION 913 - BANK PROTECTION: of the Standard Specifications is revised to read:

913-1 Description:

The work under this section shall consist of furnishing all materials and constructing bank protection in accordance with the details shown on the plans and the requirements of the specifications.

Bank protection shall be dumped riprap, grouted riprap, wire tied riprap, riprap in wire baskets or gabions, soil-cement, and other types of bank protection and shall be constructed at the locations and as shown on the plans.

913-2 Materials:

913-2.01 Riprap Bank Protection:

(A) Rock:

Rock shall be sound and durable, free from clay or shale seams, cracks or other structural defects.

The bulk (SSD) specific gravity of the rock shall be a minimum of 2.4 as determined in accordance with the requirements of Arizona Test Method 210.

Rock used to construct dumped riprap shall be angular in shape. Rock used to construct other types of bank protection may be rounded stones or boulders. Rock shall have a least dimension not less than one-third of its greatest dimension and a gradation in reasonable conformity with that shown herein for the various types of bank protection. Control of the gradation will be by visual inspection.

When a source of rock is designated by the Department, it shall be the contractor's responsibility to negotiate for the material, obtain the right-of-way, and pay all royalties and damages.

The acceptability of the rock will be determined by the Engineer by visual inspection and/or testing. If testing is required, suitable samples of rock shall be taken in the presence of the Engineer at least 25 days in advance of its expected use. The approval of some rock fragments from a particular quarry site shall not be construed as constituting the approval of all rock fragments taken from that quarry.

During construction of the bank protection, the contractor shall provide two samples of rock for the intended use. The amount of each sample for dumped riprap and riprap (slope mattress) shall be at least five tons. The amount of each sample for grouted riprap, wire tied riprap, gabions, and rail bank protection shall be at least 500 pounds. One sample shall be provided at the construction site and may be a part of the finished bank protection. The other sample shall be provided at the quarry. These samples will be used as a frequent reference for judging the gradation of the rock supplied. Any difference of opinion between the Engineer and the contractor shall be resolved by checking the gradation of two random samples of the rock.

Material that is deemed unacceptable by the Engineer shall be replaced with acceptable material at no additional cost to the Department.

(1) Grouted Riprap:

Gradation of the rock for grouted riprap shall be as specified in the Special Provisions or as shown on the plans.

(2) Wire Tied Riprap:

Rock for wire tied riprap shall be well graded with at least 95 percent exceeding the least dimension of the wire mesh opening. The maximum size rock, measured normal to the mat, shall not exceed the mat thickness.

(3) Dumped Riprap:

Gradation of the rock for dumped riprap shall be as shown on the plans or as specified in the Special Provisions.

All equipment, sorting sites, and labor needed to check gradation shall be provided by the contractor at no additional cost to the Department.

(4) Gabions:

Rock for gabions shall be well graded, varying in size from 4 to 8 inches.

(5) Riprap (Slope Mattress):

Rock for slope mattress shall be well graded with 70 percent exceeding three inches. The maximum dimension of a single rock shall not exceed the least dimension of the gabion.

(6) Rail Bank Protection:

Rail bank protection rock shall be well graded, varying in size from 4 to 12 inches.

(B) Metal Items:

(1) Wire Fabric:

Welded wire fabric shall be galvanized and shall conform to the requirements of AASHTO M 336, except that the minimum weight of the zinc coating shall be 0.15 ounces per square foot of actual surface.

Woven wire fabric shall be galvanized and shall conform to the requirements of ASTM A116, except that the minimum weight of the zinc coating shall conform to the requirements of ASTM A641, Class 3.

Wire fabric shall be of the diameter, spacing, pattern, and dimensions shown on the plans. The selvage on each sheet of mesh shall be galvanized steel wire with a minimum diameter 25 percent larger than that used in the body of the mesh.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted to the Engineer.

(2) Miscellaneous Fittings and Hardware:

Miscellaneous fittings and hardware shall be of the type and size provided by the manufacturer of the major item to which they apply and shall be galvanized in accordance with the requirements of AASHTO M 232.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted to the Engineer.

(3) Tie Wires:

Tie wires shall be of good commercial quality and the size shall be as shown on the plans, except that the minimum weight of the zinc coating shall conform to the requirements of ASTM A641, Class 3. The contractor may use approved wire fasteners on gabions, slope mattresses, or wire fabric in lieu of tie wires.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted to the Engineer.

(4) Steel Cable:

Steel cable shall be zinc-coated steel structural wire rope conforming to the requirements of ASTM A475, seven-wire strand, Class A, for the diameter shown on the plans.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted to the Engineer.

(5) Railroad Rail:

Railroad rails may be new or used. If used rails are furnished, they shall be free from rust and equal to at least 95 percent of the original section.

(6) Soil Anchor Stakes:

Soil anchor stakes shall be made of steel and of the length shown on the plans. When not specified to be railroad rails, the following items may be used: crane rails with a weight of at least 40 pounds per linear foot, 2-inch diameter steel pipe conforming to the requirements of ASTM A53, or 3-inch by 3-inch by 3/8-inch structural steel angles conforming to the requirements of ASTM A36. Used rails, pipes or angles may be used provided the material is not rusted or damaged to the extent that the strength of the item is reduced to less than 90 percent of a new item of the same type and size.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted to the Engineer.

(C) Bedding Material:

Bedding material shall consist of granular material having a maximum dimension of 2 inches and shall be free of clay or organic material.

(D) Grout:

Grout shall consist of Portland cement, aggregate, and water. It may also contain supplementary cementitious material. Portland cement, aggregate, water, and supplementary cementitious material shall conform to the requirements of Section 1006 of the specifications. Chemical admixtures may be used and shall conform to the requirements of Subsection 1006-2.04 of the specifications, except no admixtures containing chlorides or nitrates shall be used. Air-entraining admixtures, conforming to the requirements of Subsections 1006-2.04 and 1006-3.01(E) of the specifications, shall be required for grout placed at elevations of 3000 feet or above.

The grout shall meet the requirements shown in table 1:

Table 1			
Minimum Cementitious Material Content: Lbs per CY (See Note 1)	**Maximum Water/Cementitious Material Ratio (w/cm): Lb./Lb.**	**Slump: Inches** (See Note 2)	**Air Content: Percent** (See Note 3)
850	0.60	9 ± 2	0 – 8

Notes:

(1) A maximum of 25 percent of the cementitious material, by weight, may consist of an approved Class F fly ash, conforming to the requirements of ASTM C618.

(2) The slump shall be in the appropriate range to permit gravity flow into the interstices with limited spading and brooming. The consistency of the grout shall be as approved by the Engineer.

(3) For placement of grout at elevations of 3000 feet or above, the air content shall be a minimum of 4 percent and a maximum of 8 percent.

The mix shall consist of fine aggregate; however, the contractor may use No. 8 coarse aggregate in the grout. If No. 8 coarse aggregate is used, the volume shall be a maximum of 35 percent of the total aggregate volume.

For plant-mixed grout, the proportioning, mixing, and placing shall be in accordance with the applicable requirements in Section 1006 of the specifications.

For on-site mixing, grout that has been mixed more than one hour shall not be used.

Retempering of grout will not be permitted.

(E) Bank Protection Fabric:

Fabric shall be supplied in accordance with and conform to the material requirements of Subsections 1014-1 and 1014-5 of the specifications, respectively. Special attention shall be given to the required survivability of the fabric.

The identification, packaging, handling, and storage of the geotextile fabric shall be in accordance with ASTM D4873. Fabric rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to placement. Each roll shall be labeled or tagged to provide product identification sufficient to determine the product type, manufacturer, quantity, lot number, roll number, date of manufacture, shipping date, and the project number and name to which it is assigned. Rolls shall be stored on-site or at another storage location in a manner which protects them from the elements. If stored

outdoors, rolls shall be elevated and protected with a waterproof, light colored, opaque cover. At no time, shall the fabric be exposed to sunlight for a period exceeding 14 days.

(F) Sacked Concrete:

Sacked concrete shall be utility concrete conforming to the requirements of Section 922 of the specifications, except that the minimum cement content shall be 376 pounds per cubic yard; the slump shall be from 3 to 5 inches; and the aggregate shall conform to the gradation requirements shown in table 2 when tested in accordance with the requirements of Arizona Test Method 201:

Table 2	
Sieve Size	**Percent Passing**
2 inch	100
1/4 inch	45 - 89
No. 200	0 -12

Sacks for sacked concrete riprap shall be made of at least AASHTO M 182, Class 3, burlap and shall be approximately 19-1/2 by 36 inches measured inside the seams when the sack is laid flat, with an approximate capacity of 1-1/4 cubic feet. Sound, reclaimed sacks may be used.

913-2.02 Soil-Cement Bank Protection:

(A) Hydraulic Cement, Fly Ash, and Water:

Hydraulic cement, fly ash, and water shall conform to the requirements of Subsection 1006-2 of the specifications.

(B) Soil-Aggregate:

The source of soil-aggregate materials shall be the responsibility of the contractor. The contractor shall be solely responsible for the construction of the stockpile(s), including monitoring for quality and uniformity of the material placed therein. The soil-aggregate used in the soil-cement mixture shall consist of stones, gravel or other approved inert material of similar characteristics, and shall be clean and free from vegetable matter and other deleterious substances. Soil-cement aggregate shall conform to the gradation requirements shown in table 3 when tested in accordance with Arizona Test Method 201:

Table 3	
Soil-Cement Aggregate	
Sieve Size	**Percent Passing**
1-1/2 in	98 - 100
No. 4	60 - 90
No. 200	5 - 15

Class 2 ABC may be used in-lieu of aggregate meeting the requirements of the table 3. The contractor may submit a request to use alternate material to the Engineer for review and approval.

The Plasticity Index shall be a maximum of seven when tested in accordance with the requirements of AASHTO T 90.

Clay lumps larger than 1 inch shall be removed.

When soil-aggregates are stored on the ground, the sites for the stockpiles shall be clear of all vegetation and level. The bottom six inch layer of aggregate stored on the ground shall not be disturbed or used.

The debris or waste material resulting from the clearing and preparing of the site shall be disposed of in accordance with Subsection 201-3.02 of the specifications.

(C) Mix Design Requirements for Soil-Cement Bank Protection:

Utilizing soil-aggregate, cementitious material, and water, a mix design conforming to the requirements specified herein shall be formulated and submitted by the contractor to the Engineer for approval prior to incorporating any of the material into the work.

The amount of cement shall be determined by laboratory testing by the contractor in accordance with Arizona Test Method 220. For mix design purposes only, the cement content of the soil-cement mixture shall be determined as the cement content which yields a seven day compressive strength of 1250 psi for the soil-cement mixture.

The percent of cement to be used in the mix shall be calculated to be the weight of cement divided by the total weight of the dry compacted soil-cement.

Included in the mix design data shall be the grade of cement, brand of fly ash, and the source of aggregate. A new mix design shall be submitted for approval any time the contractor requests a change in soil-aggregate source from that given in the approved mix designs.

913-3 Construction Requirements:

913-3.01 Riprap Bank Protection:

Areas on which bank protection is to be constructed shall be cleared, grubbed, and excavated or backfilled in accordance with the requirements of the appropriate sections of Division II to produce a ground surface in reasonable conformance with the lines and grades shown on the plans or established by the Engineer.

Placement through water will not be permitted unless otherwise approved by the Engineer.

Areas which are excavated for installation of rail bank protection shall be backfilled to original ground or to the lines and grades shown on the plans.

(A) Bank Protection Fabric:

When fabric is required, it shall be placed in the manner and at the locations shown on the plans. The surface to receive the fabric shall be free of obstructions, depressions and debris. The fabric shall be loosely laid and not placed in a stretched condition.

The strips shall be placed to provide a minimum 24 inches of overlap for each joint. On horizontal joints, the uphill strip shall overlap the downhill strip. On vertical joints, the upstream strip shall overlap the downstream strip. The fabric shall be protected at all times during construction from extensive exposure to sunlight.

When the maximum size of the rock to be placed on fabric exceeds 18 inches, the fabric shall be protected during the placement of the rock by a layer of bedding material. The bedding material shall be spread uniformly on the fabric to a depth of 4 inches and shall be free of mounds, dips or windrows. Compaction of the bedding material will not be required.

Rock shall be carefully placed on the bedding material and fabric in such a manner as not to damage the fabric. If, in the opinion of the Engineer, the fabric is damaged or displaced to the extent that it cannot function as intended, the contractor shall remove the rock, regrade the area if necessary, and replace the fabric.

(B) Dumped Riprap:

The rock shall be placed to its specified thickness in one operation and in a manner which will produce a reasonably well graded mass with a minimum amount of voids and with the larger rock evenly distributed throughout the mass.

No method of placing the rock that will cause segregation will be allowed. Hand placing or rearranging of individual rock may be necessary to obtain the specified results.

(C) Wire Tied Riprap:

After installation of the lower portion of the wire mesh, rock shall be placed in accordance with the requirements of Subsection 913-3.01(B) of the specifications.

After placement of the rock, the upper portion of the wire mesh shall be placed, laced, and tied in accordance with the details shown on the plans.

(D) Grouted Riprap:

Rock for grouted riprap shall be placed in accordance with the requirements of Subsection 913-3.01(B). The stones shall be thoroughly moistened and any excess of fines shall be sluiced to the underside of the stone blanket before grouting.

The grout may be delivered to the place of final deposit by any means that will ensure uniformity and prevent segregation of the grout. If penetration of grout is not obtained by gravity flow into the interstices, the grout shall be spaded or rodded to completely fill the voids in the stone blanket. Pressure grouting shall not unseat the stones, and during placing by this method, the grout shall be spaded or rodded into the voids.

Penetration of the grout shall be to the depth specified on the plans. When a rough surface is specified, stones shall be brushed until 25 to 50 percent of the depth of the maximum size stone is exposed. For a smooth surface, grout shall fill the interstices to within 1/2 inch of the surface.

Grout shall not be placed when the descending air temperature falls below 40 degrees Fahrenheit nor until the ascending air temperature rises above 35 degrees Fahrenheit. Temperatures shall be taken in the shade away from artificial heat.

Curing of the grout shall be in accordance with the requirements of Subsection 912-3.09 of the specifications.

The contractor may use shotcrete conforming to the requirements of Section 912 of the specifications in lieu of grout.

(E) Slope Mattress Riprap:

The mattress bed shall be excavated to the width, line and grade as shown on the plans. The mattress shall be founded on this bed and laid to the lines and dimensions required.

Excavation for toe or cut-off walls shall be made to the neat lines of the wall.

Mattresses shall be fabricated in such a manner that the sides, ends, lid and diaphragms can be assembled at the construction site into rectangular units of the specified sizes. Mattresses are to be of single unit construction, the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit in such a manner that strength and flexibility at the point of connection is at least equal to that of the mesh.

All perimeter edges of the mattresses are to be securely selvaged or bound so that the joints formed by tying the selvages have at least the same strength as the body of the mesh.

Mattresses shall be placed to conform to the details shown on the plans. Stones shall be placed in close contact within the unit so that maximum fill is obtained. The units may be filled by machine with sufficient hand work to accomplish the requirements of this specification.

Broken concrete shall not be used in slope mattresses.

Before the mattress units are filled, the longitudinal and lateral edge surfaces of adjoining units shall be tightly connected by means of wire ties placed every four inches or by a spiral tie having a complete loop every four inches. The lid edges of each unit shall be connected in a similar manner to adjacent units. The slope mattress shall be anchored as shown on the plans. Each anchor stake shall be fastened to the cover mesh with a tie wire.

(F) Gabions:

The gabion bed shall be excavated to the width, line and grade as shown on the plans. The gabions shall be founded on this bed and laid to the lines and dimensions required.

Excavation for toe or cut-off walls shall be made to the neat lines of the wall.

Gabions shall be fabricated in such a manner that the sides, ends, lid and diaphragms can be assembled at the construction site into rectangular units of the specified sizes. Gabions are to be of single unit construction, the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit in such a manner that strength and flexibility at the point of connection is at least equal to that of the mesh.

Where the length of the gabion exceeds its horizontal width, the gabion is to be equally divided by diaphragms, of the same mesh type as the body of the gabions, into cells whose length does not exceed the horizontal width. The gabion shall be furnished with the necessary diaphragms secured in proper position on the base section in such a manner that no additional tying at this juncture will be necessary.

All perimeter edges of gabions are to be securely selvaged or bound so that the joints formed by tying the selvages have at least the same strength as the body of the mesh.

Gabions shall be placed to conform to the details shown on the plans. Stones shall be placed in close contact in the unit so that maximum fill is obtained. The units may be filled by machine with sufficient hand work to accomplish requirements of this specification.

The exposed face or faces shall be hand-placed using selected stones to prevent bulging of the gabion cell and to improve appearance. Each cell shall be filled in three lifts.

Two connecting tie wires shall be placed as shown on the plans between each lift in each cell.

Care shall be taken to protect the vertical panels and diaphragms from being bent during filling operations.

The last lift of stones in each cell shall be level with the top of the gabion in order to properly close the lid and provide an even surface for the next course.

All gabion units shall be tied together each to its neighbor along all contacting edges in order to form a continuous connecting structure.

Empty gabions stacked on filled gabions shall be laced to the filled gabion at the front, side and back.

(G) Sacked Concrete Riprap:

The sacks shall be filled with concrete, loosely packed so as to leave room for folding or tying at the top. Approximately one cubic foot of concrete shall be placed in each sack.

Immediately after filling, the sacks shall be placed according to the details shown on the plans and lightly trampled to cause them to conform with the earth face and to adjacent sacks in place.

The first two courses shall provide a foundation of double thickness. The first foundation course shall consist of a double row of stretchers laid level and adjacent to each other in a neatly trimmed trench. The trench shall be cut back into the slope a sufficient distance to enable proper subsequent placement of the riprap. The second foundation course shall consist of a row of headers placed directly above the double row of stretchers. The third and remaining courses shall consist of a double row of stretchers and shall be placed in such a manner that joints in succeeding courses are staggered.

All dirt and debris shall be removed from the top of the sacks before the next course is laid thereon. Stretchers shall be placed so that the folded ends will not be adjacent. Headers shall be placed with the folds toward the earth face. Not more than four vertical courses of sacks shall be placed in any tier until initial set has taken place in the first course of any such tier.

When there will not be proper bearing or bond for the concrete because of delays in placing succeeding layers of sacks, a small trench shall be excavated back of the row of sacks already in place, and the trench shall be filled with fresh concrete before the next layer of sacks is laid. The size of the trench and the concrete used for this purpose shall be approved by the Engineer. The Engineer may require header courses at any level to provide additional stability to the riprap.

Sacked concrete riprap shall be cured by being covered with a blanket of wet earth or by being sprinkled with a fine spray of water every two hours during the daytime for a period of four days.

(H) Rail Bank Protection:

Excavation, where required for rock fill, shall be performed in reasonably close conformity to the lines and grades established or shown on the plans.

Rails shall be driven at the locations and to the minimum penetrations shown on the plans. Driving equipment shall be capable of developing sufficient energy to drive the rails to the specified minimum penetration and be approved by the Engineer.

If hard material is encountered during driving before minimum penetration is reached and it has been demonstrated to the satisfaction of the Engineer that additional attempts at driving would result in damage to the rails, the Engineer may order additional work to be performed, such as jetting or drilling, in order that minimum penetration may be obtained or the Engineer may order the minimum penetration to be reduced as required by the conditions encountered.

Wire fabric shall be securely fastened to the rails, placed in the trenches and laid on the slopes. The rock backfill shall then be carefully placed so as not to displace the wire fabric or rails. The wire fabric shall entirely enclose the rock backfill.

The completed rock fill shall be backfilled as necessary and the waste material disposed of as directed by the Engineer.

913-3.02 Soil-Cement Bank Protection:

Soil-cement bank protection construction shall include excavating, backfilling, and grading the wash bed and banks to the lines, grades and cross sections shown on the plans or established by the Engineer; furnishing and mixing aggregate, cement, fly ash and water; and spreading, compacting, and curing the mixture.

The contractor shall investigate for ground water as soon as possible. If there is a need for dewatering, the contractor shall provide to the Engineer for review a comprehensive dewatering plan a minimum of two weeks before construction starts. The dewatering plan shall address any water quality requirements of the Corps of Engineers permit and ADEQ certification. Dewatering activities shall not begin until the Engineer has approved the plan.

The dewatering shall comply with all laws and permit requirements.

If changes to the approved dewatering plan are required, the contractor shall submit a revised plan to the Engineer for approval.

For soil-cement bank protection, the contractor shall be responsible for quality control as necessary to meet the requirements established herein. The contractor shall monitor the complete mix during construction of soil-cement, including the amounts of cement and fly ash used.

(A) Required Contractor Submittals:

Two weeks prior to the start of the soil-cement bank protection construction, the contractor shall submit in writing to the Engineer for approval, the following items:

(1) The type of spreading and compaction equipment to be used.

(2) The number and type of watering equipment to be used.

(3) The method used to keep surfaces continuously moist until subsequent layers of soil-cement are placed.

(4) The method used to cure permanently exposed surfaces.

(5) The proposed source of soil-aggregate.

(6) The proposed source(s) of Portland cement and fly ash (if used).

(7) The approximate length of soil-cement bank protection or area of soil-cement to be placed each day prior to starting placement and compaction operations, on a daily basis.

(8) The soil-cement mix design.

Such submittals shall not relieve the contractor of the responsibility for achieving the desired result of constructing sound soil-cement, free from defects, according to the specifications and plans, or as directed by the Engineer. Changes in the source(s) of cement or fly ash will not be permitted without the prior approval of the Engineer.

(B) Preparation of Subgrade:

Before placement of the soil-cement, the area to be treated shall be graded and shaped to the lines and grades as shown on the plans. The subgrade shall be compacted to a minimum of 95 percent of the maximum dry density determined in accordance with Arizona Test Method 225. The subgrade shall be compacted at a moisture content within two percentage points of the optimum moisture content determined in accordance with Arizona Test Method 225.

When the embankment material is composed predominantly of rock such that these compaction control procedures will not indicate the density achieved, the Engineer will determine the amount of compaction required and the adequacy of equipment used in obtaining the required compaction. Immediately prior to placement of the soil-cement mixture, the subgrade within the lines and grades of the plans shall be moistened and any soft or yielding subgrade shall be corrected and made stable before construction proceeds in accordance with requirements of Subsection 203-5.03(A) of the specifications. Any additional subgrade reparations required outside of the lines and grades shown on the plans, as determined by the Engineer, shall be repaired by the contractor and paid for by Force Account.

(C) Mixing Plant:

Aggregate and cementitious materials for the soil-cement shall be proportioned and mixed in a central mixing plant. The mixing plant shall be either of the batch-mixing type using revolving blade, rotary drum mixers, or of the continuous mixing type using a stationary twin shaft pug mill mixer. The aggregate, fly ash, and cement shall be proportioned by weight. The mixing plant shall be designed, coordinated, and operated to produce a soil-cement mixture of the proportions specified within required tolerances.

If the soil-cement temperatures measured at the mixer are 85 degrees Fahrenheit or less, the placing and compaction shall be completed within 1-1/2 hours of the batch time. If soil-cement temperatures measured at the mixer are greater than 85 degrees Fahrenheit but less than 96 degrees Fahrenheit, placing and compaction shall be completed within 1 hour of the batch time. If soil-cement temperatures are 96 degrees Fahrenheit or greater when measured at the mixer, the contractor shall take immediate steps to lower the batch plant mix temperature to 95 degrees Fahrenheit or below, and follow the above time limits as mix temperature dictates, prior to further placement and compaction of soil-cement materials.

The water shall be proportioned by weight or volume and there shall be means by which the Engineer may readily verify the amount of water utilized per batch or the rate of water flow utilized for continuous mixing.

(1) Measuring Devices:

The mixing plant shall record the quantity of the material, shall have a digital readout, and shall provide daily printed record such that the total discharged quantity per hour and the cumulative total quantity are displayed.

Measuring devices shall be calibrated and approved by the Engineer.

Each weight measuring device shall be calibrated to an accuracy of 0.2 percent and shall be inspected and calibrated as often as the Engineer deems necessary to assure their accuracy.

Each volume measuring device shall be calibrated to an accuracy of ± 1.5 percent and shall be inspected and calibrated as often as the Engineer deems necessary to assure their accuracy.

(2) Batch Mixing:

The mixer shall be equipped with a sufficient number of paddles of a type and arrangement to produce a uniformly mixed batch. The mixer shall be equipped with a timing device which will indicate, by a definite audible or visual signal, the expiration of the mixing period. The device shall be accurate to within two seconds. The allowable tolerance for weight batching of aggregates and cementitious material shall be two percent and 0.5 percent, respectively, for each batch.

The batch mixing plants shall provide sampling facilities which are satisfactory to the Engineer and which allow representative samples of the soil-aggregate mixture prior to the addition of water and cementitious material to be obtained easily and safely. Samples of the soil-aggregate will be taken at this point to determine conformance to the gradation and plasticity requirements listed in Subsection 913-2.02(B) of the specifications.

(3) Continuous Mixing:

Aggregates shall be drawn from the storage facility by a feeder or feeders which will continuously supply the correct amount of soil-aggregate in proportion to the cementitious material.

A control system shall be provided that will automatically close down the plant when material in any storage facility approaches the strike off capacity of the feed gate. The plant will not be permitted to operate unless this automatic control system is in good working condition. The feeder for the soil-aggregate shall be mechanically or electrically driven.

Continuous mix plants shall provide sampling facilities which are satisfactory to the Engineer and which allow representative samples of the soil-aggregate mixture prior to the addition of water and cementitious material to be obtained easily and safely. Samples of the soil-aggregate will be taken at this point to determine conformance to the gradation and plasticity requirements listed in Subsection 913-2.02(B) of the specifications.

(4) Blending of Cement and Fly Ash:

The blending procedure shall be sufficient to provide a uniform, thorough, and consistent blend of cement and fly ash. The blending method and operation shall be approved by the Engineer prior to the commencement of soil-cement production. During blending of the cementitious materials, the percent of fly ash content shall not vary by more than ± 0.5 percent of the content approved by the Engineer.

Weight measuring devices are required at both the cement and fly ash feeds. At the direction of the Engineer, an additional measuring device may also be required when the cement and fly ash are pre-blended at the site. In the production of the soil-cement mixture, the percent of cementitious material shall not vary by more than ± 0.5 percent of the contents approved by the Engineer.

Silos and feeders shall be equipped and operated so as to provide uniform rates of feed and prevent caking. The charge in the batch mixer or rate of feed to the continuous mixer shall not exceed that which will permit complete mixing of all the mix material. Provisions shall be made to allow for ready sampling of the cementitious materials.

(D) Transporting, Spreading, and Compaction:

The soil-cement mixture shall be transported from the mixing plant to the construction site in clean hauling equipment vehicles outfitted with suitable covers to protect the mixture in unfavorable weather.

Spreading of the soil-cement mixture shall be accomplished using equipment that will produce uniform layers of the width and thickness necessary to provide for adequate compaction in conformance with the required dimensions shown on the plans for completed soil-cement layers. Where the soil-cement is to be placed in confined areas, the lifts may be spread by other methods as approved by the Engineer.

The layers of soil-cement shall not exceed 12 inches after compaction, or be less than four inches thick after compaction, unless the contractor can demonstrate the ability to place thicker layers with the equipment being utilized in the control strip. If potholing is performed to allow testing of each lift, the recompacted material used to repair the pothole shall also be tested and meet the requirements of this specification. Each successive layer shall be placed as soon as practicable after the preceding layer is completed, and approved by the Engineer. The maximum depth of compacted soil-cement that shall be placed per day in each location is four feet, unless approved by the Engineer.

Prior to spreading new material on a previously compacted lift which has cured for more than 1-1/2 hours, or if the surface has dried due to temperature and/or wind effects, scarification of the lift shall be performed parallel with the direction of placement using equipment approved by the Engineer. The scarification shall be performed to a depth of at least two inches, spaced between 18 and 24 inches. The Engineer may waive requirements for scarification if compaction is performed by means which provide an appropriate surface for bonding with the subsequent layer.

All construction equipment, including water spray trucks, shall be restricted from entering scarified surface areas during the interim between spreading and compaction operations.

If the surface cannot be scarified, the surface shall have cement grout slurry applied to ensure a proper bonding between lifts. The cement slurry shall have a water/cement ratio between 0.70 and 0.80 and be approved for use by the Engineer prior to placement of any additional soil-cement mixture.

All soil-cement surfaces that will be in contact with succeeding layers of soil-cement shall be kept continuously moist by fog spraying until placement of the subsequent layer, provided that the contractor will not be required to keep such surfaces continuously moist for a period longer than seven days. Mixing and placing shall not proceed when the soil-aggregate or the area on which the soil-cement is to be placed is frozen. Soil-cement shall be mixed and placed when the air is at least 40 degrees Fahrenheit and rising.

(E) Monitoring Moisture Content in the Field:

Control of water content by the contractor in the field shall be accomplished in two ways:

(1) The moisture-density relationship for the soil-cement mixture shall be determined in accordance with Arizona Test Method 221 on a routine basis, or when any significant gradation shift or rock content change occurs.

(2) The actual moisture content of the mixture at the time of compaction, or shortly thereafter, shall be determined in accordance with Arizona Test Method 235 to determine if the optimum moisture content as determined by Arizona Test Method 221 is being maintained. The water content in the soil-cement mixture is to be continuously monitored, and the mixing water shall be adjusted at the plant as necessary to achieve the compressive strength and compaction requirements specified herein.

(F) Quality Control Compaction Testing:

Soil-cement shall be uniformly compacted to a minimum of 98 percent of the maximum dry density determined in accordance with Arizona Test Method 221. A running average of five consecutive in place density tests shall not be less than 100 percent of maximum density as monitored by nuclear density tests in accordance with Arizona Test Method 235. Compaction shall be performed within 2 percentage points of the optimum moisture content as determined in accordance with Arizona Test Method 221. Quality control density and moisture tests shall be performed in accordance with Arizona Test Method 235 at a minimum frequency as specified in table 4:

Table 4	
Quality Control Minimum Requirements for Compaction	
Moisture/Density	1 test / 500 sy/lift

(G) Control Strips:

A control strip shall be constructed at the beginning of work on the soil-cement to be compacted. The control strip construction shall be required to establish equipment and procedures required to attain densities for the specified course.

Each control strip, constructed to acceptable density and surface tolerances shall remain in place and become a section of the completed embankment. Once control strip is complete and accepted, production may begin on the same shift for the remainder of project.

Unacceptable control strips shall be corrected or removed and replaced at the contractor's expense. A control strip shall have an area of approximately 100 square yards and shall be of the same depth specified for the construction of the course which it represents.

The materials used in the construction of the control strip shall conform to the specification requirements. They shall be furnished from the same source and shall be of the same type used in the remainder of the course represented by the control strip. The underlying surface upon which a control strip is to be constructed shall have prior approval of the Engineer.

The equipment used in the construction of the control strip shall be approved by the Engineer and shall be of the same type and weight to be used on the remainder of the course represented by the control strip.

Compaction of control strips shall commence immediately after the course has been placed to the specified thickness, and shall be continuous and uniform over the entire surface. Compaction of the control strip shall be continued until no discernable increase in density can be obtained by additional compaction effort.

Upon completion of the compaction, the mean density of the control strip will be determined by averaging the results of ten nuclear density tests taken at randomly selected sites within the control strip.

If the mean density of the control strip is less than 100 percent of the density of laboratory compacted specimens as determined by testing procedures appropriate for the material being placed, the Engineer may order the construction of another control strip.

A new control strip may also be ordered by the Engineer or requested by the contractor when:

(1) A change in the material or mix design is made.

(2) A control strip density is not representative of the material being placed.

(H) Power Tampers and Small Vibratory Rollers:

Small vibratory rollers which are capable of operating within 6 inches of a vertical face shall be used for compaction adjacent to the guide banks, next to the utilities and drainage conduit; at transitions to constructed levee protection, and at other areas where larger

vibratory rollers cannot maneuver. The amount of rolling and tamping required shall be whatever is necessary for the particular equipment to provide the same degree of compaction as would be attained with larger self-propelled vibratory rollers. Standby replacement equipment shall be available within 1 hour if needed.

(I) Finishing/Trimming:

After compaction, the soil-cement shall be further shaped, if necessary, to the required lines, grades, and cross-sections and rolled to a reasonably smooth surface. Shaping of the face of the soil-cement bank protection shall be conducted daily at the completion of each day's production.

The exposed face of the soil-cement bank protection shall be trimmed to a neat line as shown on the plans. The resulting soil-cement bank protection width shall not be less than 8 feet after trimming unless specified on the plans.

(J) Curing:

Whenever the atmospheric temperatures are expected to drop below 30 degree Fahrenheit, the soil-cement shall be protected from freezing for seven days, after its construction by a covering of straw, earth, or other suitable material approved by the Engineer.

Temporarily exposed surfaces shall be kept moist as previously set forth. Care must be exercised to ensure that no curing material other than water is applied to the soil-cement surface that will be in contact with succeeding layers.

Permanently exposed surfaces shall be kept in a moist condition for seven days, or they may be covered with bituminous curing material, subject to the Engineer's approval. Any damage to the protective covering within seven days shall be repaired to the satisfaction of the Engineer at no additional cost to the Department.

Regardless of the curing material used, the permanently exposed surfaces shall be kept moist until the protective cover is applied. Such protective cover is to be applied as soon as practicable, with a maximum time limit of 24 hours between the finishing of the surface and the application of the protective cover or membrane.

(K) Backfill:

Backfill shall not be placed against the soil-cement until the contractor has achieved the compaction requirement.

(L) Maintenance:

The contractor shall maintain and protect the soil-cement in good condition until all work is completed and accepted. Maintenance shall include immediate repairs of any defects that may occur. This work shall be done at no cost to the Department and repeated as often as necessary. Faulty work shall be replaced for the full depth of the layer. The contractor shall take all necessary precautions to avoid damage to the completed soil-cement by equipment, and to avoid the deposition of raw earth or foreign materials between layers of soil-cement.

Where ramps are constructed over soil-cement layers which are not to grade, all foreign materials and the uppermost one inch of the previously placed soil-cement mixture must be removed prior to continuation of the soil-cement construction.

(M) Construction Joints:

Construction joints are to be provided at the end of each day's work or when work is to be halted for 90 minutes or more. The joints shall be trimmed to a 15 degree minimum skew, transverse construction joint shall be formed by cutting back into the completed work to form a vertical face to the full depth of the previous lift. Before resuming placement of new material, the joints shall be roughened and loose material shall be removed by power broom.

(N) Acceptance of Soil-Cement:

The Engineer will cast, transport, cure, and test specimens in accordance with Arizona Test Method 241 for each 1,500 cubic yards of soil cement placed. Three cylinders will be tested at seven days. The average compressive strength of the three cylinders shall achieve a minimum compressive strength of 750 psi.

Any early strength testing for the purpose of correlating seven day strength results to provide an early indicator of potentially low strength material shall be the responsibility of the contractor.

913-4 Method of Measurement:

Riprap, except gabions and sacked concrete, will be measured by the cubic yard of protection constructed by computing the surface area measured parallel to the protection surface and the total thickness of the riprap measured normal to the protection surface.

Riprap (gabions) will be measured by the cubic yard by computing the volume of the rock-filled wire baskets used.

Riprap (sacked concrete) will be measured by the cubic yard of concrete placed in the completed work. The measurement will be based on mixer volumes.

Rail bank protection will be measured by the linear foot. Measurement will be made from top of rail to top of rail (longest rail where rails of two or more lengths are used) and the distance measured will be from end rail to end rail.

Where two parallel rows of vertical rails are used, the measurement for payment will be the average of the distance along the two rows. Rail bank protection will be measured along the bank protection control line from end rail to end rail.

Soil-cement will be measured per square yard of soil-cement furnished and placed per the specified lines, grades, and cross-sections shown on the plans.

913-5 Basis of Payment:

The accepted quantities of riprap and rail bank protection, measured as provided above, will be paid for at the contract unit price per cubic yard or linear foot, which price shall be full compensation for the work, complete in place, including excavation; preparing the ground area; furnishing and installing the rock, filter fabric, bedding material, metal items, concrete, sacks and grout; and backfilling as required.

Materials, labor and equipment necessary to perform additional work such as jetting or drilling, as specified under Subsection 913-3.01(H) of the specifications, will be paid for in accordance with the provisions of Subsection 109.04 of the specifications.

The accepted quantities of soil-cement, measured as provided above, will be paid for at the contract unit price per square yard of soil-cement bank protection. Such payment shall constitute full reimbursement for all work necessary to complete the soil-cement bank protection including:

(1) Surface Preparation;
(2) Providing and Stockpiling Soil-Aggregate;
(3) Cementitious Material, Watering, Mixing;
(4) Placing;
(5) Compacting;
(6) Shaping and Finishing;
(7) Curing;
(8) Quality Control Testing; and
(9) Other Incidental Operations.

Any waste and non-compacted soil-cement material not used on the final soil-cement bank protection will not be measured for payment.

Excavation and backfill associated with the soil-cement construction will be measured and paid under the Structural Excavation and Structure Backfill items respectively.

Construction of Gabion Mattress associated with the soil-cement work will be measured and paid under the Riprap (Gabion Mattress) item.

Payment for additional excavation, where determined by the Engineer to remove unsuitable material, per the requirements of Subsection 203-5.03(A) of the specifications, will be made in accordance with the provisions of Subsection 109.04 of the specifications.

Payment for Dewatering will be made on a Force Account basis in accordance with the requirements of Subsection 109.04 of the specifications.

ITEM 9130401 – SOIL CEMENT BANK PROTECTION:

Description:

Soil-cement bank protection construction shall include excavating, backfilling, and grading the wash bed to the lines, grades and cross sections shown on the plans or established by the Engineer; furnishing and mixing aggregate, cement, fly ash and water; and spreading, compacting, and curing the mixture.

This item also includes providing steel reinforcement between the soil cement bank protection and the adjacent concrete box culvert and concrete ford crossing structures, as detailed in the plans.

For soil-cement bank protection, the contractor shall be responsible for quality control as necessary to meet the requirements established herein. The contractor shall monitor the complete mix during construction of soil-cement, including the amounts of cement and fly ash used.

Material Requirements:

The materials for soil cement shall conform to the requirements of Special Provision Subsection 913-2.02.

An alternative to soil cement is to provide lean concrete generally meeting the requirements of Class B concrete but having a lower minimum strength of 1500 psi.

Construction Requirements:

The construction requirements for soil cement shall conform to the requirements of Special Provision Subsection 913-3.02.

Method of Measurement:

Soil Cement Bank Protection will be measured to the nearest square yard of soil-cement furnished and placed per the specified lines, grades, and cross-sections shown on the plans.

Basis of Payment:

The accepted quantity of Soil Cement Bank Protection, measured as provided above, will be paid for at the contract unit price per square yard, which price shall be full compensation for the work, complete in place.

Payment shall also include steel reinforcement anchors and other incidental materials required to make the work complete in place.

ITEM 9240112 - MISCELLANEOUS WORK (BRIDGE STEEL RAILING):

Description:

The work under this item shall consist of furnishing and installing steel bridge railing located between the Combination Pedestrian-Traffic Bridge Concrete Barriers.

Material Requirements:

Bridge Steel Railing shall conform to the material requirements as shown on the plans and in conformance with section 604 of the Specification for steel structures.

Upon completion of the bridge steel railing installation, apply a stain product in accordance with the manufacturers recommendations to all galvanized barrier elements such that the completed barrier system has the appearance of weathered steel in conformance with Section 1002 of these Special Provisions.

Construction Requirements:

Bridge Steel Railing construction shall conform to the requirements 604 of the Specification for steel structures.

Method of Measurement:

Bridge Steel Railing will be measured to the nearest linear foot from the beginning of the top tube to the end of the top tube installed as specified herein and shown on plans. The measurement will be made along the centerline on the top of the railing.

Basis of Payment:

The accepted quantity of Bridge Steel Railing, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place.

(924CQC, 09/17/20)

ITEM 9240170 - CONTRACTOR QUALITY CONTROL:

Description:

The work under this item shall consist of furnishing all personnel, materials, supplies, facilities and equipment necessary to perform all certification of test equipment, sampling, testing, and other control actions. The work shall also include the preparation of linear control charts, Weekly Quality Control Reports, and other reports and records as described in Subsection 106.04(C) of the Specifications.

Method of Measurement:

Contractor quality control will be measured for payment on a lump sum basis as a single unit of work.

Basis of Payment:

(A) General:

The accepted quantities of contractor quality control, measured as provided above, will be paid at the contract lump sum price, which price shall be full compensation for the work, complete, as described and specified herein.

Partial payments under this item will be made in accordance with the following provisions:

(1) The first partial payment price will be the lesser of 25 percent of the contract lump sum price for contractor quality control, or 1 percent of the original total contract bid amount.

(2) The remaining portion of the lump sum price will be prorated over the duration of the original contract on a monthly basis, and monthly progress payments will be made.

If adjustments to pay items covered under Contractor Quality Control are approved by supplemental agreement, an equitable adjustment to the lump sum amount for Contractor Quality Control may be made. Any adjustment to Contractor Quality Control shall be included in the supplemental agreement and the adjusted amount, less previous payments, will be prorated equally over the remaining contract period, including any related time extensions.

(B) Delinquent Reports:

Failure of the contractor to submit complete and accurate Weekly Quality Control Reports, current to the most recent Wednesday submittal date, will be grounds for the Engineer to deduct monies from the contractor's progress payment.

For each Weekly Quality Control Report that is not complete and accurate, and not submitted to the Engineer by the Wednesday submittal date specified in Subsection 106.04(C)(6), the Department will deduct $2,500.00 from the progress payment for the current month.

For each delinquent Weekly Quality Control Report submitted to the Engineer within 10 days, excluding weekends and holidays, of the original Wednesday due date, $2,000.00 will be returned on the next regular estimate, provided all of the requirements specified herein and in Subsection 106.04(C)(6) have been met, and the report is complete and accurate. No deducted monies will be returned for reports submitted more than 10 days, excluding weekends and holidays, beyond the original Wednesday due date.

All deducted monies which are retained by the Department, as specified above, are liquidated damages.

(925SRVY, 08/16/19)

SECTION 925 CONSTRUCTION SURVEYING AND LAYOUT:

925-5 Basis of Payment: the fourth paragraph of the Standard Specifications is revised to read:

If additional staking and layout are required as a result of additional work ordered by the Engineer, such work will be paid under items listed in the table below.

ITEM	PREDETERMINED RATE
9250101-ONE-PERSON SURVEY PARTY	$110 per hour
9250102-TWO-PERSON SURVEY PARTY	$150 per hour
9250103-THREE-PERSON SURVEY PARTY	$190 per hour
9250106-SURVEY MANAGER	$175 per hour
9250105–OFFICE SURVEY TECHNICIAN	$85 per hour

(1001MATL, 06/17/21)

SECTION 1001 MATERIAL SOURCES: of the Standard Specifications is revised to read:

1001-1 Description:

The work under this section shall consist of the procuring of borrow, topsoil, subbase and base materials, mineral aggregates for concrete structures, surfacing, and landscape plating, from sources either designated on the project plans or in the Special Provisions or from other sources.

1001-2 General:

The contractor shall determine for itself the type of equipment and work required to produce a material meeting the requirements of the specifications.

Sites from which material has been removed shall, upon completion of the work, be left in a neat and presentable condition. Where practicable, borrow pits, gravel pits, and quarry sites shall be located so that they will not be visible from the highway.

The contractor shall provide an environmental analysis, as specified in Subsection 104.12 of the specifications, for any source proposed for use regardless of whether a previously approved environmental analysis exists for the site.

In accordance with Subsection 104.12 of the specifications, the contractor may utilize an existing environmental analysis approved after January 1, 1999, provided that the analysis is updated as necessary to be in compliance with current regulations and with the contractor's planned activities.

It shall be the responsibility of the contractor to conduct any necessary investigations, explorations, and research, on-site and otherwise, before and after submitting the bid proposal, to satisfy itself that the specified quantity and/or quality of material exists in any proposed material source.

The contractor shall not produce material for the project, mobilize crushing equipment or clear a worksite prior to approval of the environmental analysis.

The contractor shall comply with the requirements of the landowner or agency having jurisdiction over the land.

The Department makes no representation regarding quality or quantity of materials in any source.

1001-2.01 Information Available:

The Department maintains a listing of materials sources for which a completed environmental analysis is available and the landowner has allowed the source to be placed on the list. Further information on material sources is available at https://azdot.gov/business/environmental-planning/material-source-guidance.

1001-2.02 Material Sources in Floodplains:

Any development of a material source that is determined to be in a flood plain must meet the requirements of the appropriate local, state, and federal agencies, including as applicable, the U.S. Army Corps of Engineers, Section 404 of the Clean Water Act, ADEQ or Tribal 401 Water Quality Certification, and the National or Arizona Pollutant Discharge Elimination System (NPDES/AZPDES).

If the contractor wishes to procure a material source within a floodplain, the contractor or

material supplier shall submit a Floodplain Use Permit application to the appropriate floodplain management agency. The contractor shall submit to the Department documentation that the Floodplain Use Permit for the material source was approved and signed by the appropriate agency's Floodplain Administrator. The contractor or material supplier shall comply with all the requirements of the Floodplain Use Permit, including renewal of the Permit as needed or required.

The Department will require an engineering report if the material source is situated in the 100 year floodplain of any stream or watercourse, and located within one mile upstream and two miles downstream of any highway structure or surfaced roadway crossing. The engineering report shall be prepared by a professional engineer with expertise in hydrology, hydraulics, river mechanics, and fluvial geomorphology. The engineering report shall address the effects of the potential for structural damages following a 100 year flood event.

All other permits required to obtain a material source shall be furnished to the Department upon request.

Surplus material from agency administered flood control management projects may be used as borrow material only if the contractor submits written evidence to the Engineer that the flood control agency project was fully designed and funded.

Material sources in floodplains located on Native American Tribal Lands will be considered for use on an individual analysis. The analysis shall include a review of applicable land use plans, floodplain management plans, environmental plans, applicable laws and regulations pertaining to Native American Tribal Lands, and an engineering analysis of the effects on any highway facility or structure. The contractor shall obtain from the Bureau of Indian Affairs (BIA) and the Native American Tribal Council all permits, licenses, and approvals for the Department to review.

1001-2.03 Protection and Restoration:

The contractor shall comply with the requirements of Subsections 107.11 and 107.12 of the specifications for protecting and restoring the material source. The contractor shall assume full responsibility to protect and rehabilitate the material source to the satisfaction of the Department and in compliance with the requirements of the Federal Land Management Agency (FLMA) having jurisdiction or by the owner of the material source.-

1001-3 Proposed Source:

1001-3.01 Approval Requirements:

(A) General:

The contractor shall notify the Engineer prior to or at the preconstruction conference as to the source that it proposes to use.

The contractor acknowledges that all the conditions set forth in this subsection shall be met prior to the source being approved for use.

Other than sampling and testing, the requirements of this subsection shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source.

Regulatory changes, specification changes, or other reasons may preclude the approval of a materials source. The contractor acknowledges that the Department may refuse to approve a material source even if the Department had approved the source for other projects.

(B) Specific Conditions for Approval:

The use of a source will require written approval by the Engineer. No approval will be given until the contractor has complied with the following conditions:

(1) The contractor has submitted an environmental analysis, as specified in Subsection 104.12 of the specifications, of the source proposed for use and the Department has reviewed the analysis and satisfied itself that the use of such source will not have an adverse social, economic or environmental impact. The requirements of Subsection 1001-3.01 of the specifications shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source.

(2) The contractor has furnished the Engineer with evidence that he has secured the rights to the source, including ingress and egress.

(C) Historical and Cultural Resources:

The archaeological survey report of the proposed material source shall be prepared by the contractor's archaeological consultant and shall conform to the requirements of Subsection 104.12 of the specifications.

In the event that prehistoric or historic structures and prehistoric or historic artifacts are encountered during any activity related to the construction of the material source, the contractor shall immediately cease operations within a 50 foot radius of the discovery location and notify the Engineer. In the event that an unmarked human burial and/or funerary remains are encountered during any activity related to the construction of the material source, the contractor shall immediately cease operations within a 100 foot radius of the discovery location and notify the Engineer. The Engineer will contact the Environmental Planning – Historic Preservation Team so that appropriate notification of the discovery is made per state and federal regulations.

After notifying the Engineer, the contractor shall, within good faith, secure the area and take all reasonable measures to protect the historical and cultural resources. No activity shall resume unless authorized by the Engineer. The Engineer will not authorize resumption of any activity until receiving confirmation from the Environmental Planning – Historic Preservation Team that the contractor may commence work.

If the Department determines that the proposed use will have major adverse impact on cultural or historic resources, the Department will not allow the use of the source.

(D) Permit from Navajo Nation:

For projects located on the Navajo Reservation, the Navajo Nation has adopted a permitting system for any sources, regardless of whether on or off the Navajo reservation, which are to supply material for projects located within its boundaries. No material source will be approved until the contractor submits a copy of the permit from the Navajo Nation allowing materials from the proposed source to be used on the project. For information concerning the permit, the contractor shall contact the Navajo Nation Historic Preservation Office.

(E) Bureau of Land Management Material Sources:

If the contractor elects to pursue the use of material sources on BLM land under Title 30 Code of Federal Regulations, it is at the contractor's sole risk, and the Department bears no responsibility for any delays or costs associated with the request to use material sources on BLM Land.

The Department will not request or pursue any "free-use permit" under Title 23 Code of Federal Regulations or any other arrangement with BLM on this project.

1001-4 Special Access within Right Of Way:

The contractor may submit a request to the District Engineer to approve special access to a controlled access highway if special access is not shown on the project plans.

The request by the contractor shall be accompanied by an environmental analysis and by documents which specify the point(s) of access, the acquisition of right of way, the manner in which access will be attained, the traffic control plan, and crossovers, along with all other appropriate data which will allow the District Engineer to evaluate its request. If the request is approved, a supplemental agreement shall be entered into.

All costs associated with the special access requested by the contractor shall be borne by the contractor, including, but not limited to, cattle guards, fences, gates and restoration work.

When access is not being utilized, gates shall be closed and locked. Upon completion of all operations, the area within the right of way that has been disturbed shall be restored to the condition existing prior to the contractor's operations.

The decision by the District Engineer to deny a request by the contractor will be considered to be final.

1001-5 Fences and Cattle Guards:

Where the haul roads to material sources cross existing fence lines in areas where there is livestock of any kind, temporary cattle guards shall be installed by the contractor at each crossing.

The livestock operator or owner shall be contacted prior to the beginning of any operations and effective measures shall be taken and means provided by the contractor to prevent

livestock from straying.

In operations where conditions will exist that are dangerous to livestock of any kind, temporary cattle guards and fence shall be installed around the pit area by the contractor to protect livestock.

Temporary cattle guards and fence installed by the contractor shall be removed and existing fence disturbed shall be replaced or reconstructed and all fence shall be left in as good condition as it was prior to the beginning of work.

(1002PAINT, 06/19/25)

SECTION 1002 PAINT: of the Standard Specifications is revised to read:

1002-1 General Requirements:

All paints specified herein shall be ready-mixed at the manufacturer's plant, except for inorganic zinc rich primer, which shall be mixed by the fabricator or at the project site just prior to application. All paints shall be standard paint products of the manufacturer with published product data sheets and shall comply in all details with the specifications.

Ready-mixed paint shall be homogeneous, free of contaminants, and shall be of a consistency suitable for the use for which it is specified. The pigment shall be finely ground and properly dispersed in the vehicle, according to the requirements for the type of paint, and this dispersion shall be such that the pigment does not settle appreciably, does not cake or thicken in the paint container, and does not become granular, jelled, or curdled. Any settlement of pigment in the paint shall be easily dispersed with a paddle so as to produce a smooth uniform paint of the proper consistency. The manufacturer shall include in the paint the necessary additives for control of sagging, leveling, drying, drier absorption, and skinning.

Lead, lead compounds, soluble barium compounds, or hexavalent chromium compounds shall not be used as raw materials in the paint formulas specified under this section, and shall not be added to any paint formulas specified under this section.

The use of halogenated solvents is not permitted.

Paint shall be furnished in new, unopened air-tight containers, which are clearly labeled with the exact title of the paint, Federal Specification number when applicable, name and address of the manufacturer, product code, date of paint manufacture, and the lot or batch number. The containers shall meet U.S. Department of Transportation Hazardous Materials Shipping Regulations. Precautions concerning the handling and the application of the paint shall be shown on the label of the paint containers.

All of the paints of any coating system consisting of individual paints (such as a primer, intermediate coat, and topcoat), shall be made by the same manufacturer, and shall be designed and sold to be used together as a system.

Only paints and paint systems approved in accordance with Subsection 1002-3 of the specifications and shown on the Department's Approved Products List (APL) will be allowed for use. Copies of the most current version of the APL are available on the Department's website from the ADOT Research Center, through its Product Evaluation Program. Paint supplied by an approved manufacturer with a different product code from that which was previously evaluated and approved will require evaluation to determine if it is acceptable.

The contractor shall submit to the Engineer a Certificate of Compliance for each lot or batch of paint supplied, in accordance with Subsection 106.05 of the specifications, prior to its use. Product data sheets listing the paint constituents and their proportions as well as Materials Safety Data Sheets (MSDS) are required for each paint material supplied prior to its use.

All applicable governmental environmental regulations shall be adhered to during cleanup and for the disposal of unused paint.

1002-2 Paint Types:

1002-2.01 Three-Paint Coating System:

(A) General:

A three-paint coating system shall be for use on metallic surfaces, and shall include a primer (Paint Number 1), intermediate coat (Paint Number 2), and topcoat (Paint Number 3) from the same system. All three paints shall be water-based, 100 percent acrylic (acrylic latex) paints, unless a non water-based primer is specified, in which case, the topcoat and intermediate coat must be a water-based acrylic paint.

Each individual paint shall conform to all of the chemical and physical characteristics and properties as declared on the manufacturer's product data sheet. In addition, the paint color shall be as specified in the project plans, and the consistency shall be in accordance with the manufacturer's recommendations. The contractor shall use the checking and calibration procedures found in ASTM D4212 and verify the paint consistency with the Engineer prior to each application.

Each coating is intended for spray application. Limited application can be made by brushing or rolling if approved by the Engineer.

(B) Paint Number 1 - Primer:

This paint shall be used on blast cleaned steel surfaces for the first coat of a three-paint coating which must include Paint Number 2 and Paint Number 3 from the same system.

(C) Paint Number 2 - Intermediate Coat:

This paint for intermediate coats shall be used on primed steel surfaces as the second coat of a three-paint coating system which must include Paint Number 1 and Paint Number 3 from the same system. The paint shall be appropriately tinted to contrast with the prime coat.

(D) Paint Number 3 - Topcoat:

Paint for topcoats shall be used as the third coat of a three-paint coating system which must include Paint Number 1 and Paint Number 2 from the same system.

For topcoats, the gloss shall be as specified on the project plans. The available colors for topcoats shall provide visual matches to the colors given in the Federal Standard No. 595. The colors shall be available in high-gloss enamels, if required.

1002-2.02 Zinc Rich Primer:

Zinc-rich primer shall be a solvent based, one-part, epoxy ester, zinc-rich coating made to contain no less than 89 percent by weight of zinc dust in the dried film. Zinc-rich primer is suitable for limited use on cuts, welds, or damaged galvanized surfaces, as needed to restore the continuity of cathodic protection. Zinc-rich primer shall be certified by the manufacturer to be compatible with any suitable water-based acrylic finish paint.

Zinc-rich primer shall be used where zinc paint is called for elsewhere in the specifications.

1002-2.03 Inorganic Zinc-Rich Primer:

Inorganic zinc-rich primer shall be a solvent-based three-component, inorganic, ethyl silicate, zinc-rich coating for use on steel surfaces which will be exposed to severely corrosive environments. The primer shall be mixed in accordance with the manufacturer's directions by the fabricator or at the project site just prior to application. Inorganic zinc-rich primer shall be made to contain no less than 80 percent by weight of zinc dust in the dried film, and shall be certified by the manufacturer to form a strong bond to properly cleaned and prepared steel surfaces, either sandblasted or galvanized. This primer shall also be certified by the manufacturer to be compatible with any suitable water-based acrylic finish paint.

1002-2.04 Alkyd Primer:

Alkyd primer shall be solvent-based, and shall be designed for ferrous metal surfaces where there are rusting issues which rule out the use of a water-based primer. Such surfaces may include ornamental iron, tanks, fabricated parts, handrails, and objects referred to as "black steel." Alkyd primer shall be certified by the manufacturer to be compatible with any suitable water-based acrylic finish paint.

1002-2.05 Direct-to-Metal (DTM) Combination Primer and Finish Paint:

This paint shall be a water-based acrylic paint specially designed for use as a direct-to-metal (DTM) primer or combination primer and finish. The product shall be certified by the manufacturer to form a strong bond to properly cleaned and prepared surfaces of structural steel and other metallic products such as metal buildings, tanks, and pipes. It shall also be certified to bond with other properly cleaned and prepared surfaces such as galvanized steel, oil-based paints, and alkyd enamels. When used on ferrous metal surfaces where there are rusting issues, the paint shall be rust-inhibitive. Direct-to-metal combination

primer and finish paints shall be designed to be usable as a complete two or three coat system. When used as a primer only, the paint shall be certified by the manufacturer to be compatible with any suitable water-based acrylic finish paint.

1002-2.06 Acrylic Emulsion Paint:

Acrylic emulsion paint shall be used on concrete and masonry surfaces, and shall be a water-based, 100 percent acrylic (acrylic latex) paint.

This paint may be tinted by using “Universal” or “all purpose” concentrates.

The color of the final coat of paint shall be as indicated on the project plans. If no color is specified on the plans, the paint color shall approximate that of paint color chip No. 30318, as specified by Federal Test Standard Number 595, when applied to either a concrete test specimen measuring 2 feet by 2 feet, or to the surface of the concrete structure to be painted.

The Engineer will determine color acceptance by visual inspection.

1002-3 Sampling and Testing:

(A) General:

Any lot or batch of paint may, at any time, be sampled and tested for conformance to the specifications and the chemical and physical characteristics and properties as declared by the manufacturer on the product data sheets submitted with the original samples used in the evaluation and approval of the product. Also, complete coating system samples may be required at any time for follow-up evaluation using the performance test method employed in the original evaluation for approval of the system.

(B) Coating Systems for Structural Steel and Other Metallic Surfaces :

Coating systems composed of the paints specified in Subsections 1002-2.01 through 1002-2.05 of the specifications will be tested as complete systems applied to steel panels and weathered in accordance with ASTM G154, and exposure cycle number 4 of ASTM D4587, in the Q-U-V Accelerated Weathering Tester, utilizing UVB 313 lamps. Each system shall have an evaluation rating of 100 or greater after 2000 hours of weathering. The procedure is as follows:

(1) Paint coatings will be applied to cold rolled steel panels (ASTM D609, Type 3, ASTM A366). The paint will be thinned to 75 ± 2 Ku consistency using demineralized water. Three coats, each approximately 2 mils thickness are applied to each of four panels according to ASTM D823. The fourth coated panel from each set will be inscribed with an “X” cut to the steel substrate and extending across the entire coated area;

(2) The exposure cycle used with the weathering tester shall be D = 8 h UV/60 degree C followed by 4 h CON/45 degree C. One panel from each set of

four shall be removed at 1000 hours and another at 1500 hours. The last two panels shall be removed at 2000 hours;

(3) Paint systems will be evaluated on the basis of six measures of degradation which may be found to occur under the conditions of exposure. For each measure, a rating scale of one to five points will be applied. A rating of one point indicates the poorest performance and five points indicate the best performance. The rating from each measure is multiplied by a weighting factor which represents the relative importance of that measure. The product is a score for that measure. The sum of the scores for all measures is the overall score for the system. To be acceptable, paint systems shall have an overall score of 100 or higher;

(a) Cracking/Flaking: ASTM D660, ASTM D661, and ASTM D772 are used in combination to determine the rating scale. A weighting factor of three will be applied to the results of these tests;

(b) Blistering/Flaking: ASTM D714 and ASTM D772 are used in combination to determine the rating scale. A weighting factor of three will be applied to the results of these tests;

(c) Corrosion: A rating scale is derived from ASTM D610 for evaluating the degree of rusting. A weighting factor of three will be applied to the results of this test;

(d) Chalking/Erosion: ASTM D4214 and ASTM D662 are used in combination to determine the rating scale. A weighting factor of three will be applied to the results of these tests;

(e) Adhesion: The tape test is based on ASTM D3359 and the rating scale is from the Classification of Adhesion Test Results under Test Method B. A weighting factor of five will be applied to the results of this test; and

(f) Flexibility: ASTM D522, using a 1-1/4 inch mandrel, is employed to determine flexibility. The degree of cracking observed after bending is used to determine the rating scale. A weighting factor of five will be applied to the results of this test.

(C) Paint for Concrete and Masonry Surfaces:

Paint for concrete and masonry surfaces will be tested in accordance with the following procedures:

(1) Resistance to Accelerated Weathering:

The paint will be applied to concrete mortar panels and weathered in a Q-U-V accelerated weathering tester, according to ASTM G154, for 2000 hours utilizing UVB-313 lamps, and exposure cycle number 4 of ASTM D4587. The paint weathered in this manner shall show no appreciable change in color or appearance due to fading, chalking, or material reaction.

(2) Adhesion:

The paint shall be applied to a concrete or masonry test surface approved by the Engineer, in accordance with the application plan specified in Subsection 610-3.03 of the specifications. After a minimum period of 30 days of outdoor exposure, the adhesion of the paint will be measured. Testing will be performed in accordance with the requirements of ASTM D4541, Method E, with a strength of at least 100 pounds per square inch being required. In addition, testing will also be performed in accordance with the requirements of ASTM D3359, Method A, with a rating of 3A or higher being required.

SECTION 1002 PAINT:

1002-2 Paint Types: of these Special Provisions is revised to add:

1002-2.07 Weathering Stain

A weathering agent that colors galvanized surfaces to a brownish earth tone, and contains no pigments shall be provided and applied to all barriers. The material shall contain chemical components that have no adverse reactions or effects on soils, plants, and animals. The material cannot contain corrosive by-products once the product has been applied.

Natina® products are acceptable for staining these galvanized barrier surfaces. Identification by brand name is intended to be descriptive, not restrictive, and is intended to indicate the quality and characteristics of products that will be satisfactory. Contractor shall submit “or equal” products meeting the following salient characteristics to the Engineer for approval:

(a) A soluble solution that contains organic acids and natural oxidizers.

(b) All coloring developed through a reactionary process that etches surfaces, producing a finish that is resistant to fading from exposure to sunlight, with an expected performance life exceeding 10 years in nonaggressive climates.

(c) A product that causes negligible zinc coating losses when applied to galvanized surfaces.

(1003REBAR,12/17/20)

SECTION 1003 REINFORCING STEEL: of the Standard Specifications is revised to read:

1003-1 General Requirements:

Reinforcing steel shall be furnished in the sizes, shapes, and lengths shown on the plans and in conformance with the requirements of the specifications.

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted for epoxy coated reinforcing bars, as well as uncoated reinforcing bars, wire, and welded wire fabric. In addition, for epoxy coated reinforcing bars, Certificates of Compliance shall be submitted from the coating manufacturer and Certificates of Analysis shall be submitted from the coating applicator.

When reinforcing steel is delivered to the project site, the contractor shall furnish the Engineer with a copy of all shipping documents. Each shipping document shall show the sizes, lengths, and weights of the reinforcing steel separately for each structure.

Reinforcing steel shall be free of dirt, oil, paint and grease and shall conform to the requirements of Section 605 of the specifications. Reinforcing steel shall be protected at all times from damage. All reinforcing steel shall be free of dirt, oil, paint and grease. Rust, surface irregularities, or mill scale will not be the cause for rejection, provided the weight, dimensions, cross-sectional area, and tensile properties of a manually wire brushed test specimen are not less than the requirements of the specifications.

1003-2 Reinforcing Bars:

Except when used for wire ties or spirals, steel bars used as reinforcement in concrete shall be deformed and shall conform to the requirements of ASTM A615 for Grade 60 steel. Unless otherwise specified, steel bars meeting the requirements of ASTM A706 may be substituted for ASTM A615 steel bars. When ASTM A706 bars are used, tack welding of the reinforcement will not be permitted unless approved by the Engineer.

Samples of reinforcing bars taken at the supplier's or fabricator's place of business shall be defined as pre-shipment samples, while those samples obtained from stockpile or shipment at the project shall be defined as project samples. A shipment shall be considered any amount of reinforcing bars delivered to a project on any given day, of one transported load.

Reinforcing bars sizes No. 4, No. 5, and No. 6 will be accepted with the submission of a Certificate of Compliance. All other reinforcing bar sizes shall be subject to pre-shipment and project sampling as outlined below.

1003-2.01 Pre-Shipment Sampling:

Prior to shipment of reinforcing bars to the project, the supplier or contractor shall contact Materials Group, Structural Materials Testing Section to obtain a laboratory number referenced to the project number. A random sample shall be taken at the supplier’s place of business and delivered to the Structural Materials Testing Section. For bar size No. 14, the sample shall be one piece not less than 42 inches in length, selected at random for each shipment up to 30 tons. For bar size No. 18, the sample shall be one piece not be less than 42 inches in length, selected at random for each shipment up to 50 tons. For all other bar sizes, the sample shall be one piece not less than seven feet in length, selected at random for each shipment up to 20 tons. Samples shall be submitted for each bar size, grade, heat number, and manufacturer in the shipment. The pre-shipment bars that are obtained from

the supplier or fabricator must be accompanied by a Certificate of Compliance. The information shown on the certificate must match the bar identification marks. If no Certificate of Compliance is available or the information shown on the certificate is incomplete or inaccurate, the bars will not be accepted for testing.

When the supplier or fabricator makes a shipment to a project, a Certificate of Compliance shall be furnished stating that the material in the shipment is from the same stock as the pre-shipment sample covered by the laboratory number assigned by the Structural Materials Testing Section. Reinforcing bars represented by the pre-shipment sample failing to comply with the specification requirements shall not be used on any project.

1003-2.02 Project Sampling:

The Engineer reserves the right to sample reinforcing bars at any time. Project samples shall consist of one sample bar not less than seven feet in length for all bar sizes. Placement of the reinforcing bars shall not be delayed while the contractor is awaiting test results.

Concrete placement operations shall not begin until satisfactory test results of the project sample bars are obtained.

When the supplier or fabricator makes a shipment to a project from outside the Phoenix or Tucson areas, or not otherwise subjected to pre-shipment sampling, the shipment shall be accompanied by a Certification of Compliance. Before any reinforcing bars from a shipment is to be incorporated into the project work, a project sample shall be taken, tested, and approved by the Structural Materials Testing Section. A project sample shall be taken as soon as practical upon arrival at the job site. A different project sample that is representative of each bar size, grade, heat number, and manufacturer from that shipment will be required. The sampling requirements described for pre-shipment sampling for the Phoenix or Tucson areas shall be used.

1003-3 Wire:

Steel wire used as spirals or ties for reinforcement in concrete shall conform to the requirements of AASHTO M 336. Wire shall be deformed or cold drawn (smooth).

1003-4 Welded Wire Fabric:

Welded wire fabric for concrete reinforcement shall conform to the requirements of AASHTO M 336.

1003-5 Epoxy Coated Reinforcing Bars:

1003-5.01 Steel:

Reinforcing bars shall conform to the requirements of Subsection 1003-2 of the specifications.

Epoxy coated reinforcing bars will be sampled and tested in the same manner as uncoated reinforcing bars. The coating and flexibility of the epoxy coated reinforcing bars will also be tested by the Department for acceptance.

1003-5.02 Epoxy for Coating:

A list of powdered epoxy resins which have passed prequalification tests, as described in ASTM A775, “Epoxy Coated Steel Reinforcing Bars”, is maintained on the Department’s Approved Products List (APL). The powdered epoxy resins selected by the contractor and furnished by the manufacturer shall be of the same material and quality as the resins listed on the APL, and shall be applied and cured in the same manner used to coat the test bars in the original powder prequalification test. Copies of the most current version of the APL are available on the internet from the ADOT Research Center through its Product Evaluation Program.

Prequalification testing may be performed by the National Bureau of Standards, State laboratories, or qualified private laboratories.

The Certificate of Compliance from the coating manufacturer shall properly identify the batch and/or lot number, material, quantity of batch, date of manufacture, name and address of manufacturer, and a statement that the material is the same composition as the initial sample prequalified for use. The certificate shall also state that production bars and prequalification bars have been identically prepared and applied with epoxy powders.

Patching or repair material, compatible with the coating and inert in concrete shall be made available by the epoxy coating manufacturer. This material shall be suitable to repair areas of the coating which were damaged during fabrication or handling in the field.

1003-5.03 Application of Coating:

The coating applicator’s facility shall be subject to approval by the Department. Applications for approval of facilities shall be made to the Department by the coating applicator.

The surface to be coated shall be blast cleaned in accordance with the requirements of the Society for Protective Coatings, Surface Preparation Standard SSPC-SP10, Near White Blast Cleaning.

The powdered epoxy resin coating shall be applied to the cleaned surface as soon as possible after cleaning and before visible oxidation occurs. In no case shall more than eight hours elapse between cleaning and coating.

The protective epoxy coatings shall be applied by the electrostatic spray method or the electrostatic fluidized bed method in accordance with the recommendations of the coating manufacturer. The epoxy coating may be applied before or after fabrication of the reinforcing bars.

The epoxy coating shall be applied as a smooth uniform coat. After curing, the coating thickness shall be in accordance with the requirements of ASTM A775. Coating thickness shall be controlled by taking measurements on a representative number of bars from each production lot. Coating thickness measurements shall be conducted by the method outlined in the Society for Protective Coatings Paint Application Standard SSPC-PA2.

The coating shall be checked visually after cure for continuity. It shall be free from holes, voids, contamination, cracks and damaged areas.

The coating shall not have more than two holidays (pinholes not visible to the naked eye) in any linear foot of the coated item. A holiday detector shall be used, in accordance with the manufacturer's instructions, to check the coating for holidays.

The flexibility of the coating shall be evaluated on a representative number of bars selected from each production lot. The coated bar shall be bent 120 degrees (after rebound) around a six-inch diameter mandrel. The bend shall be done at a uniform rate and may take up to one minute to complete. The test specimens shall be at thermal equilibrium between 68 and 85 degrees F at the time of testing. No cracking of the coating shall be visible to the naked eye on the outside radius of the bent bar.

The contractor shall furnish a Certificate of Analysis from the coating applicator with each shipment of coated steel. In addition to the requirements of Subsection 106.05 of the specifications, the Certificate of Analysis shall state that the coated items and coating material have been tested in accordance with the requirements of this subsection and that the entire lot is in a fully cured condition.

The coating applicator shall be responsible for performing quality control and tests. This will include inspection and testing to determine compliance with the requirements of this subsection for the coating thickness, continuity of coating, coating cure, and flexibility of coating.

The Department reserves the right to have its authorized representative observe the preparation, coating, and testing of the reinforcing bars. The representative shall have free access to the plant, and any work done when access has been denied will be automatically rejected.

If the representative elects, lengths of coated bars may be taken from the production run on a random basis for test, evaluation, and check purposes by the Department.

1003-5.04 Shop Repair:

Epoxy coated reinforcing bars which do not meet the requirements for coating thickness, continuity of coating, coating cure, or flexibility of coating shall not be repaired.

Reinforcing bars with these defects shall be replaced, or alternately stripped of epoxy coating, recleaned and recoated in accordance with the requirements of this specification.

Coating breaks due to fabrication and handling shall be repaired with patching material if the defective area exceeds 2 percent of the surface area of the bar in a one-foot length and the damaged spot is larger than 1/4 inch by 1/4 inch.

The repair of coating breaks shall be limited to bars on which the total of the defective coating areas does not exceed 5 percent of the surface area of the reinforcing bar. Bars with greater than 5 percent damage shall be replaced, or alternately stripped of epoxy coating, recleaned and recoated in accordance with the requirements of this specification.

1003-6 Prestressing Reinforcing Steel:

Prestressing reinforcing steel shall conform to the requirements of Section 602-2.01 of the specifications.

Prestressing steel shall be high-tensile steel wire, high-tensile seven-wire strand or high-tensile alloy bars, as shown in the plans.

High-tensile steel wire shall conform to the requirements of AASHTO M 204.

High-tensile seven-wire strand shall conform to the requirements of AASHTO M 203 for Grade 270. In addition to the 0.5-inch diameter prestressing steel typically shown on the plans, 0.6-inch diameter seven-wire strand may be used for cast-in-place prestressed structures.

High-tensile alloy bars shall conform to the requirements of AASHTO M 275.

All prestressing steel shall be satisfactorily protected from damage by abrasion, moisture, rust, or corrosion and shall be free of dirt, rust, oil, grease, or other deleterious substances.

For every five reels of prestressing steel furnished, one sample not less than six feet long, will be tested by the Engineer. Samples of the furnished reels with the manufacturer’s Certificate of Compliance, a mill certificate, and a test report may be shipped directly by the manufacturer to the Engineer.

1003-7 Dowel Bars for Portland Cement Concrete Pavement:

Dowel bars shall be round, plain steel bars of the dimensions shown on the plans conforming to the requirements of AASHTO M 254 with Type B coating. The core material shall conform to the requirements of ASTM A615, Grade 60.

Epoxy coated dowel bars shall also conform to the requirements of Subsection 1003-5 of the specifications.

The Contractor shall furnish a Certificate of Compliance that properly identifies the coating material, the number of each batch of coating material used, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating material meets the requirements of AASHTO M 254 with Type B coating.

(1005PG, 06/19/25)

SECTION 1005 BITUMINOUS MATERIALS:

1005-3 Bituminous Material Requirements:

1005-3.01 Asphalt Cement: of the Standard Specifications is revised to read:

Asphalt cement shall be a performance grade (PG) asphalt binder conforming to the requirements of AASHTO M 320. Air blown/oxidized asphalt, Polyphosphoric acid (PPA) modification and re-refined/recycled engine oil bottom (REOB) will not be accepted. The pressure aging temperature for all binders, including Terminal Blend rubberized binder and Polymer modified asphalt binder shall be as specified below:

PG Asphalt Binder	Pressure Aging Temperature
PG 70-XX and above	110 ºC
PG 64-XX and below	100 ºC

If, during asphaltic concrete production, it is determined by testing that asphalt cement fails to meet the requirements for the specified grade, the asphaltic concrete represented by the corresponding test results shall be evaluated for acceptance. Should the asphaltic concrete be allowed to remain in place, the contract unit price for asphaltic concrete will be adjusted by the percentage shown in Table 1005-1. Should the asphalt cement be in reject status, the contractor may, within 25 days of receiving notice of the reject status, supply an engineering analysis of the expected performance of the asphaltic concrete in which the asphalt cement is incorporated. The engineering analysis shall detail any proposed corrective action and the anticipated effect of such corrective action on the performance. Within three working days, the Engineer will determine whether or not to accept the contractor's proposal. If the proposal is rejected, the asphaltic concrete shall be removed and replaced with asphaltic concrete meeting the requirements of the specifications at no additional expense to the Department. If the contractor's proposal is accepted, the asphaltic concrete shall remain in place at the applicable percent of contract unit price allowed, and any necessary corrective action shall be performed at no additional cost to the Department.

1005-3.03 Emulsified Asphalt: the fourth paragraph of the Standard Specifications is revised to read:

Emulsified asphalts shall be homogeneous. If emulsified asphalt has separated, it shall be thoroughly mixed to insure homogeneity. If emulsified asphalt has separated due to freezing, it shall not be used. Emulsified asphalt shall not be used after 30 days from production.

1005-3.04 Emulsified Asphalt (Special Type): of the Standard Specifications is revised to read:

Emulsified asphalt (special type) shall consist of Type SS-1 or CSS-1 diluted with water to provide an asphalt content not less than 26 percent. The water used shall be potable. Potable water obtained from public utility distribution lines will be acceptable. The water used shall be free of injurious amounts of oil, acid, alkali, clay, vegetable matter, silt, or other harmful matter. The material shall not be diluted in the field.

1005-3.07 Other Requirements: the tables 1005-1, 1005-1a, and 1005-1b of the Standard Specifications are revised to read:

TABLE 1005-1
ASPHALT BINDER ADJUSTMENT TABLE

Test Property	AASHTO Test Method	Test Result	Percent of Contract Unit Price Allowed
Dynamic Shear of Original Binder: G*/Sin δ, kPa	T 315	≥ 1.00 0.90-0.99 0.70-0.89 < 0.70	100 98 95 88 (1)
Dynamic Shear of RTFO Binder: G*/Sin δ, kPa	T 315	≥ 2.20 2.00-2.19 1.60-1.99 < 1.60	100 98 95 88 (1)
Dynamic Shear of PAV Binder: G*Sin δ, kPa	T 315	≤ 5000 5001-5500 5501-7000 7001-8000 > 8000	100 98 95 89 87 (1)
Creep Stiffness of PAV Binder: S, Mpa	T 313	≤ 300 301-330 331-450 451-600 > 600	100 98 95 89 87 (1)
m-value at 60 sec.	T 313	≥ 0.300 0.270-0.299 0.230-0.269 < 0.230	100 98 90 87 (1)

TABLE 1005-1
ASPHALT BINDER ADJUSTMENT TABLE

Notes:

(1) Reject Status: The pay adjustment applies if allowed to remain in place.

(2) Specified properties in AASHTO M 320 for flash point, viscosity at 135 °C, and mass loss are not considered performance related. Specification deficiencies for these properties shall be cause for a work stoppage until specification properties are met, but will not be cause for a pay adjustment.

(3) Should the bituminous material be deficient on more than one property, the pay adjustment will be the greatest reduction to the contract unit price specified considering individual test results.

(4) The information presented in this table does not apply to asphalt cement used for tack coats.

TABLE 1005-1a
Terminal Blend rubberized binder (XX-XXTR+)

Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility, %, minimum	ASTM D7553 or ASTM 2042	98	-----	-----
Elastic Recovery, @ 10 ºC, %, minimum	AASHTO T 301	75	75 70 - 74 < 70	100 89 87 (1)

(1) Reject Status: The pay adjustment applies if allowed to remain in place.

Notes:

In case of dispute, ASTM D2042 shall be used to determine the Solubility.

The asphalt binder shall contain a minimum of 8 percent crumb rubber and a minimum of 3 percent SBS (styrene-butadiene-styrene) polymer.

The crumb rubber shall be derived from processing whole scrap tires or shredded tire materials. The tires from which the crumb rubber is produced shall be taken from automobiles, trucks, or other equipment owned and operated in the United States. The processing shall not produce, as a waste product, casings or other round tire material that can retain moisture when stored or disposed of above ground.

Modified binders shall be blended at the source of supply and delivered as a homogenous mixture to the job site.

Modified Binders stored at the asphalt concrete mixing plant for more than two weeks or beyond the supplier recommended shelf life, whichever is less, shall be sampled and tested.

TABLE 1005-1b
Polymer Modified Asphalt Binder (XX-XXPM)

Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility, %, minimum	ASTM D7553 or ASTM D2042	98	-----	-------
Elastic Recovery @ 10°C, %, minimum	AASHTO T 301	75	≥ 75 70 - 74 < 70	100 89 87 (1)

(1) Reject Status: The pay adjustment applies if allowed to remain in place.

Notes:

In case of dispute, ASTM D2042 shall be used to determine the Solubility.

Asphalt binder shall contain a minimum of 3 percent SBS (styrene-butadiene-styrene) polymer.

Modified binders shall be blended at the source of supply and delivered as a homogenous mixture to the job site.

Modified Binders stored at the asphalt concrete mixing plant for more than two weeks or beyond the supplier recommended shelf life, whichever is less, shall be sampled and tested.

1005-3.07 **Other Requirements:** the table 1005-1c of the Standard Specifications is hereby deleted.

1005-3.07 **Other Requirements:** the table 1005-3 of the Standard Specifications is revised to read:

TABLE 1005-3
EMULSIFIED ASPHALTS

Tests On Emulsion	Test Method	Requirement					
		RS-1	CRS-1	RS-2	CRS-2	SS-1	CSS-1
Viscosity: Saybolt Furol, seconds, range 77 °F 122 °F	AASHTO T 59	20-100	20-100	50-400	50-400	20-100	20-100
Settlement: 5 days, %, maximum	AASHTO T 59	5	5	5	5	5	5
Sieve: Retained on No. 20, %, maximum	AASHTO T 59 (1)	0.10	0.10	0.10		0.10	0.10
Particle Charge	AASHTOT 59		Pos.		Pos.		Pos. (2)
Demulsiability: 35 mL, 0.02 N calcium chloride %, minimum	AASHTO T 59	60		60			
Classification: Uncoated particles, %, minimum	Arizona Test Method 502				55		
Residue: (3) Residue, %, minimum (4)		55	60	63	65	57	57

Notes:

(1) Distilled water shall be used. Two percent sodium oleate solution will not be accepted.

(2) If the Particle Charge Test result is inconclusive, material having a maximum PH value of 6.7 will be acceptable.

(3) Residue will be obtained in accordance with the requirements of Arizona Test Method 504 and shall conform to all the requirements of AASHTO M 320 for PG 64-16, except that for CRS-2 the dynamic shear ($G^*/\sin\delta$) on the original residue shall be a minimum of 1.00 kPa and a maximum of 1.50 kPa.

(4) Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used.

1005-3.07 **Other Requirements:** the note (2) of Table 1005-3a of the Standard Specifications is revised to read:

(2) Testing shall be performed on residue by distillation. Testing on residue by oven evaporation will not be accepted.

1005-3.07 **Other Requirements:** the table 1005-5 of the Standard Specifications is revised to read:

TABLE 1005-5

EMULSIFIED RECYCLING AGENTS

Tests on Emulsified Recycling Agent	Test Method	Requirement			
		ERA-1	ERA-5	ERA-25	ERA-75
Viscosity: Saybolt Furol, 77 °F, seconds range	AASHTO T 59	15 - 40	15 - 100	15 - 100	15 - 100
Miscibility	AASHTO T 59	Passes	Passes	Passes	Passes
Sieve Test: %, maximum	AASHTO T 59 (1)	0.10	0.10	0.10	0.10
Particle Charge	AASHTO T 59	Positive	Positive	Positive	Positive
Residue: (2) Residue, %, minimum	(3)	60	60	60	60

Notes:

(1) Distilled water shall be used. Two percent sodium oleate solution will not be accepted.

(2) Residue will be obtained in accordance with the requirements of Arizona Test Method 504 and shall conform to the requirements specified in Table 1005-4.

(3) Residue by evaporation may be determined in accordance with the requirements of Arizona Test Method 512; however, in case of dispute, AASHTO T 59 will be used.

1005-3.07 Other Requirements: the Paving Asphalt row of the table 1005-6 of the Standard Specifications is modified to add:

TABLE 1005-6
OTHER REQUIREMENTS

Grade of Asphalt Specification Designation	Range of Temperatures for Application by Spraying, °F (Not applicable for Plant Mixing)	Range of Aggregate Temperatures for Plant Mixing, °F	Basis of Conversion, Average Gallons Per Ton at 60 °F
Paving Asphalt	275 - 400	------	
PG 76-22 PM			231
PG 70-22 PM			232
PG 64-28 PM			233

(1006PCC, 01/20/22)

SECTION 1006 PORTLAND CEMENT CONCRETE:

1006-2.01(A) General: of the Standard Specifications is revised to read:

Cementitious material is defined as an inorganic material or a mixture of inorganic materials that sets and develops strength by chemical reaction with water by formation of hydrates and is capable of doing so under water. In this specification, cementitious materials are defined as hydraulic cement (Portland cement, Portland-pozzolan cement or Portland-limestone cement) and supplementary cementitious materials (fly ash, natural pozzolan, or silica fume).

1006-2.01(B) Hydraulic Cement: the first paragraph of the Standard Specifications is revised to read:

Hydraulic cement shall consist of Portland cement, Portland-pozzolan cement or Portland-limestone cement.

1006-2.01(B) Hydraulic Cement: of the Standard Specifications is modified to add:

Portland-limestone cement shall conform to the requirements of ASTM C595 for blended hydraulic cement with moderate sulfate resistance, Type IL (MS).

1006-2.01(C)(2) Flyash and Natural Pozzolan: of the Standard Specifications is revised to read:

Fly ash and natural pozzolan shall conform to the requirements of ASTM C618 for Class C, F, or N.

TABLE 1006-5 Design Criteria: the column heading of the third column of the Standard Specifications is revised to read:

		Cementitious Material Content: Lbs. per Cu Yd. Minimum - Maximum		

1006-3.02(C) Mix Design Submittal Requirements: the items (16) and (18) of the Standard Specifications are revised to read:

(16) Volume of each material measured to the nearest hundredth of a cubic foot;

(18) Total volume measured to the nearest hundredth of a cubic foot;
(19)

(1006QCPC, 07/12/05)

SECTION 1006 PORTLAND CEMENT CONCRETE:

1006-4.01 General Requirements: of the Standard Specifications is modified to add:

1006-4.01(A) Contractor Quality Control:

The contractor shall perform the quality control measures described in Subsection 106.04(C). At the weekly meeting, the contractor shall be prepared to explain and discuss how the following processes will be employed.

(a) Aggregate Production, including crusher methods, pit extraction, and washing.

(b) Stockpile Management, including stacking methods, separation technique, plant feed technique, stockpile pad thickness, and segregation prevention.

(c) Mixing and Transport, including mixing time and revolutions, water and concrete temperature, integrity of mixing equipment, sight glass for water, slump meters, batch ticket, and travel time.

(d) Proportioning, including scale calibration, water added, water meter moisture correction, and bin loading.

The contractor shall obtain samples and perform the tests specified in the following table:

CONTRACTOR QUALITY CONTROL TESTING REQUIREMENTS			
TYPE OF TEST	TEST METHOD	SAMPLING POINT	MINIMUM TESTING FREQUENCY
Fine Aggregate for PCC (Class S or Class P)			
Gradation	ARIZ 201	Crusher Belt or Stockpile	1 per 750 CY of Concrete
Sand Equivalent	AASHTO T 176		
Coarse Aggregate for PCC (Class S or Class P)			
Gradation	ARIZ 201	Crusher Belt or Stockpile	1 per 750 CY of Concrete
Class S Portland Cement Concrete			
Entrained Air	AASHTO T 152	At Point of Discharge	1 per 40 CY of Concrete
Slump	AASHTO T 119		

(1010PIPE, 03/16/23)

SECTION 1010 DRAINAGE PIPE:

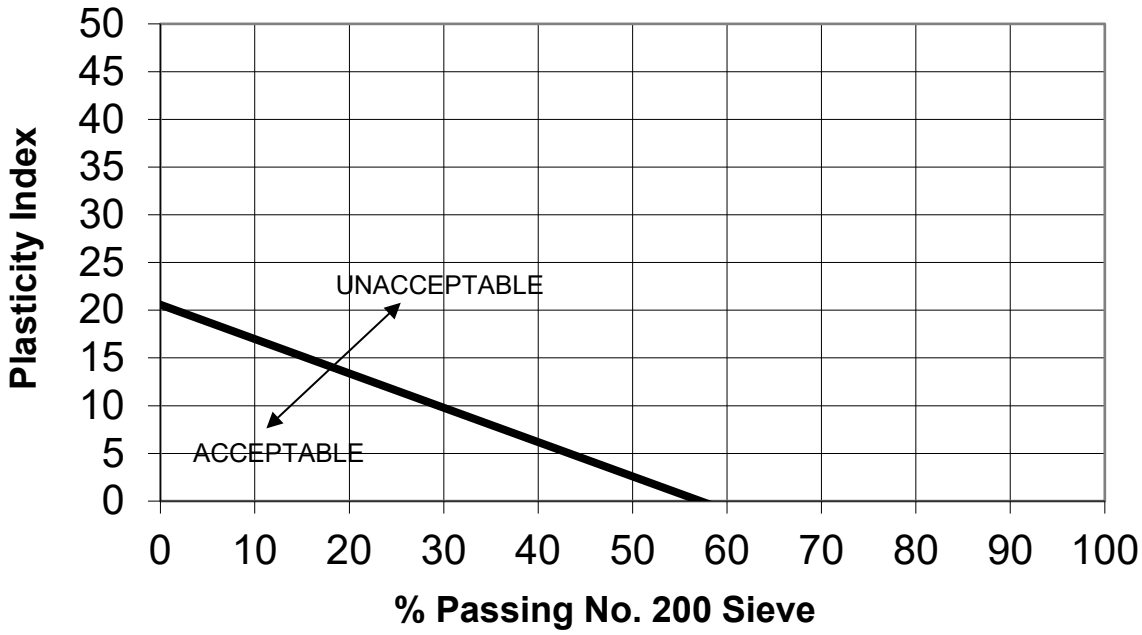
1010-6 Reinforced Concrete Pipe: the sixth paragraph of the Standard Specifications is revised to read:

Precast, reinforced concrete flared end sections shall conform to the requirements of the previously cited specifications to the extent to which they apply. The area of steel reinforcement per linear foot of the flared end section shall be at least equal to the minimum steel requirement for the reinforcemen`1t in that portion of the flared end section which abuts the pipe. Flared end sections may utilize in lieu of steel reinforcement a minimum of 5.0 pounds of macro fibers, conforming to ASTM C1116, per cubic yard of concrete mix.

Appendix- A

Subgrade Acceptance Chart

SUTHERLAND AND CANADA DEL ORO WASH CROSSING
SUBGRADE ACCEPTANCE CHART



Design R-Value = 45
Construction Control R-Value = 45
X = 58

* SEE PLANS FOR LOCATIONS AND APPLICATIONS

SOURCE: EPS, DIBBLE, JACOBS, 08/24.

FIGURE A-2

SUBGRADE ACCEPTANCE CHART

SUTHERLAND WASH AND CANADA DEL ORO WASH CROSSING
CATALINA STATE PARK
TUCSON, ARIZONA

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

607775001 | 3/26

bsm file no: 8242sec0925b

Appendix - B

Section 404 Permit and Section 401 Water Quality Certification Documents

FS-2700-23 (09/2020)
OMB No. 0596-0082

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
AMENDMENT FOR

SPECIAL USE AUTHORIZATION

NUMBER 3

This amendment is attached to and made a part of special use authorization for resort, SAN2111, issued to **ARIZONA STATE PARKS & TRAILS** on 07/27/2023, which is hereby amended as follows:

Construction of an all-weather crossing consisting of a 183-foot-long box culvert with seven 26-foot wide, 7-foot-tall cells.

Prior to Construction, to complete Design:

- **Drill and backfill two 8-10 inches wide and 30 feet deep holes adjacent to the existing road for geotechnical foundation analysis (disturbance area approximately 20 feet x 40 feet for maneuvering).**
- **Drill utility location holes for validating power and water utilities buried in the vicinity of the water crossing.**

Construction Phase:

- **Replace the 200-foot-long ford crossing with a 183-foot-long box culvert with seven 26-foot wide, 7-foot-tall cells on which the following will be constructed:**
  - **one 12-foot lane of travel in each direction and 6-foot paved shoulders on both sides to accommodate non-motorized multi-use traffic**
  - **1-foot-6-inch curb and bridge railing barrier will be placed on both sides of the culvert**
  - **pedestrian paths on both sides of the wash crossing structure**
- **Construct wingwalls varying between 14 and 35 feet.**
- **Construct a scour floor on the downstream side of the road consisting of lean concrete and measuring 182 feet long x 36.5 feet wide x 12 feet deep.**
- **Construct an additional 1,000 feet of temporary road abutting the scour floor to serve as a temporary bypass road including temporary concrete barrier on the north side.**
  - **Remove the detour road (leaving the scour floor) after construction is complete**
- **Make improvements to the intersection with Drive D to improve cross drainage.**
- **Install between 13-32 feet by 100-foot-long riprap apron on both sides of the scour pad.**
- **Clear and grub approximately five acres within the construction footprint both inside and outside of the wash channel.**
  - **Remove vegetation and sand/debris island restricting flows within the wash**
- **Grade the channel from bank to bank to improve drainage.**
- **Construct bank stabilization such as riprap armoring and gabion walls to protect the channel.**
- **Add two pipe culverts with riprap, one under the CDO maintenance road and the other under Drive A, to pass local drainage flows under the profiles of these raised roadways.**
- **Add concrete swale (valley gutter) on Drive D/Equestrian Road that allows water to cross the road without affecting the pavement.**
- **Using the materials excavated from the channel improvements, build berms upstream and downstream of the wash crossing to help confine the CDO flows to the main channel alignment.**
- **Erect advance signage up to 2 miles on either side of the project limits, replace existing roadway signage as needed.**
- **Implement erosion control measures, including use of wattles and placement of gravel.**
- **Disturbed surfaces outside of the roadways and CDO channel will be seeded to restore vegetation and control erosion (approximately three acres).**
- **Relocate, if necessary, buried electric and water utilities possibly in conflict with the new wash crossing structure.**

During construction, traffic will be diverted onto a temporary bypass road that will be constructed downstream and adjacent to the existing road. No other detours will occur. Trees and other vegetation approximately 500 feet

north and 300 feet south of the roadway within the CDO Wash will be removed (approximately five acres). Vegetation, including up to approximately ten trees, immediately adjacent to the roadway will also be removed to construct the detour road, CDO maintenance road, and pedestrian path. Staging and stockpiling areas will be located at the helipad west of the surveyed area and outside of the ordinary high water mark limits of any potential Waters of the U.S. Culverts will be installed, and the wash will need to be realigned to accommodate drainage and pavement runoff and erosion. The total disturbed area of the construction footprint (including staging area) is approximately 12.72 acres. The action area for the project extends 400 feet from both the construction footprint and the staging area to account for noise and vibration impacts, resulting in a total disturbance area of up to 70.5 acres.

Construction Equipment: Channel work will include the use of excavators, dozers, loaders, and graders. Roadway and site work will include the use of excavators, scrapers, graders, compactors, pavement laydown machines, rollers, and watering trucks. The structure will require cranes, material lifts, concrete pumps, and concrete mixers.

Construction Schedule: It is anticipated construction will begin in early fall of 2025 and take approximately eight months to complete and is anticipated to be completed by late spring 2026, in advance of the monsoon season.

The Permit Holder shall adhere to the following design features:

Heritage

- **Monitoring by an SOI-qualified archaeologist is required for the initial ground disturbing activities within the project area outside of the wash.**
- **In the event that previously unreported cultural resources are encountered during ground-disturbing activities, all work must immediately cease within 100 feet until a qualified archaeologist has documented the discovery.**

Invasive Species

- **To prevent the spread of non-native species, see EO 13112 below. The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents.**

Wildlife

- **If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. Avoidance areas, if necessary, will be marked in the field with temporary fencing or t-post with flagging. The engineer will confer with the Environmental Planning Biologist to determine the appropriate avoidance strategy until the nestlings have fledged from the nest and the nest is no longer active.**
- **If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact the Environmental Planning Biologist to evaluate the situation.**
- **If any Sonoran Desert tortoises are encountered during construction, the contractor shall adhere to the attached Arizona Game and Fish Department "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects". If any tortoise is encountered during construction the contractor shall notify the Engineer to report the encounter.**
- **The contractor shall report encounters with any Sonoran Desert tortoise (live, injured, or dead) during construction to the Engineer using the attached Arizona Department of Transportation Sonoran Desert Tortoise Observation Form. The final form shall be sent to Arizona Department of Transportation Environmental Planning (email: bioteam@azdot.gov) within 24 hours of the encounter. Photographs should be taken of tortoises encountered and included in the report if possible.**

Watershed

- **Design the crossing to pass the normal range of flows for the site.**
- **Orient the stream crossing perpendicular to the channel to the extent possible.**
- **Keep approaches to stream crossings to as gentle a slope as practicable.**
- **Consider natural channel adjustments and possible channel location changes over the design life of the structure.**
- **Design the crossing structure to have sufficient capacity to convey the design flow without appreciably altering streamflow characteristics.**

- Install stream crossings to sustain bankfull dimensions of width, depth, and slope and maintain streambed and bank resiliency and continuity through the structure.
- Use site conditions and local requirements to determine design flood flows.
- Use suitable measures to protect fill from erosion and to avoid or minimize failure of the crossing at flood flows.
- Use suitable measures to provide floodplain connectivity to the extent practicable.
- Use suitable measures to avoid or minimize scour and erosion of the channel, crossing structure, and foundation to maintain the stability of the channel and banks.
- Construct at or near natural elevation of the streambed to avoid or minimize potential flooding upstream of the crossing and erosion below the outlet.
- Install culverts long enough to extend beyond the toe of the fill slopes to minimize erosion.
- Use suitable measures to avoid or minimize culvert plugging from transported bedload and debris.
- Regularly inspect culverts and clean as necessary.
- Avoid construction activities when wet soil conditions are present.

Recreation

- Projects will adhere to guidance in the Coronado National Forest Scenery Management Guidelines and implementation guide to minimize negative effects to the scenic integrity and attractiveness of NFS lands. These include:
  - Keeping fill slopes 3:1 or flatter (for successful revegetation) where terrain allows, naturalizing disturbed areas (by ripping, seeding, and/or planting).
  - Avoiding light-colored riprap and boulders, avoiding of visible drill holes.
  - Using the recommended amount of integral colorant to new concrete structures.
  - Applying desert varnish to freshly exposed rock faces which contrast with landscape colors.
- Keep the public informed on project activities prior to and during implementation. Notification methods may include posting warning signs and project information in developed sites and along trails, putting announcements on the CNF website or social media, and/or writing a news release for media publication.
- Ensure safety of all non-motorized recreation users, including cyclists and equestrians, when users are diverted to bypass road. This may include signage, announcements, pilot cars, or other safety measures developed by ADOT.
- Limit full road closure as much as possible during construction.

This Amendment is accepted subject to all its terms, including any attachments.

Holder: ROBERT BROSCHEID, DIRECTOR
ARIZONA STATE PARKS & TRAILS

9-5-25
Date

Authorized Officer: KERWIN S. DEWBERRY

FOREST SUPERVISOR
Title

9/8/2025
Date

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. Response to this collection of information is mandatory. The authority to collect the information is the Organic Administration Act, 16 U.S.C. 551. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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based on race, color, national origin, religion, sex, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the State or Local agency that administers the program or USDA through the Telecommunication Relay Service at 711 (voice or TTY). Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Mail Stop 9410, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS LOS ANGELES DISTRICT
3636 NORTH CENTRAL AVENUE SUITE 900
PHOENIX, AZ 85012-1939

May 26, 2026

SUBJECT: Regional General Permit (RGP) Reverification

Jeremy Moore
Arizona Department of Transportation
1221 S Second Ave
Tucson, Arizona 85713

Dear Mr. Moore:

I am responding to your request dated May 7, 2026, for a Department of the Army (DA) permit for your proposed project, Catalina State Park Entrance Rd Project (File No. SPL-2024-00983). The proposed project is located in Canada del Oro Wash in Catalina State Park, Pima County, Arizona (Latitude 32.4207°, Longitude -110.9261°).

Because this project would result in a discharge of dredged and/or fill material into waters of the U.S., a Department of the Army permit is required pursuant to Section 404 of the Clean Water Act (33 USC 1344; 33 CFR parts 323 and 330).

I have determined construction of your proposed project, if constructed as described in your application, would comply with RGP 96: Routine Transportation Activities - Arizona. Specifically, and as shown in the enclosed figure, you are authorized to:

1. Excavate and remove approximately 4,565 cubic yards (CY) of native material and existing concrete ford crossing from 0.96 acre of Canada del Oro Wash.

2. Permanently discharge 752 CY of concrete into approximately 0.36 acre of Canada del Oro Wash for the construction of a detour road with concrete ford crossing and a new seven-cell concrete box culvert with associated riprap protection.

3. Temporarily impact 0.26 acre of CDO Wash for grading associated with construction access and vehicle maneuvering.

For this RGP verification letter to be valid, you must comply with all of the terms and conditions stated in the enclosed copy of the RGP. Furthermore, you must comply with the non-discretionary Special Conditions listed below:

1. The permittee shall provide notification, either written or verbal, to the Corps of Engineers at least one week prior to the start of work, as to the anticipated

beginning and ending dates of construction. The permittee shall allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished within the terms and conditions of the permit.

2. The permittee shall clearly mark the limits, at a minimum the four corners of waters of the U.S., of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. and riparian habitat areas. 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.

3. A copy of this letter and its attachments shall be on the job site at all times during construction. The permittee shall provide a copy of this permit to all construction representatives. The permittee shall require that all construction representatives read this authorization in its entirety and acknowledge they understand its contents and their responsibility to ensure compliance with all general and special conditions contained herein.

This verification is valid through May 6, 2031. If on May 6, 2031, you have commenced or are under contract to commence the permitted activity you will have an additional twelve (12) months to complete the activity under the present RGP terms and conditions. A RGP does not grant any property rights or exclusive privileges. Additionally, it does not authorize any injury to the property, rights of others, nor does it authorize interference with any existing or proposed Federal project. Furthermore, it does not obviate the need to obtain other Federal, state, or local authorizations required by law.

Thank you for participating in our regulatory program. If you have any questions, please contact Jesse Rice at (602) 230-6854 or via email at Jesse.M.Rice@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

Jeniffer Aleman-Zometa
Senior Project Manager
Regulatory Division

Enclosures

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, Los Angeles District, Regulatory Office. Link to fillable form: https://www.publications.usace.army.mil/Portals/76/Eng_Form_6285_2024%20Dec%20FINAL.pdf

The certification can be submitted by email at Jesse.M.Rice@usace.army.mil or CESPL-REG@usace.army.mil.

(Please do not send hard copies unless coordinated with the Corps Project Manager).

Corps Action Number: *SPL-2024-00983*

Permit Type: General Permit

General Permit Number and Name (*if applicable*): RGP096-ADOT Routine Transportation Activities (PCN)

Name of Permittee: Jeremy Moore, Arizona Department of Transportation (ADOT)

Project Name: Catalina State Park Entrance Rd Project

Project Location (*physical address*): Catalina State Park, Arizona

PERMITTEE'S CERTIFICATION

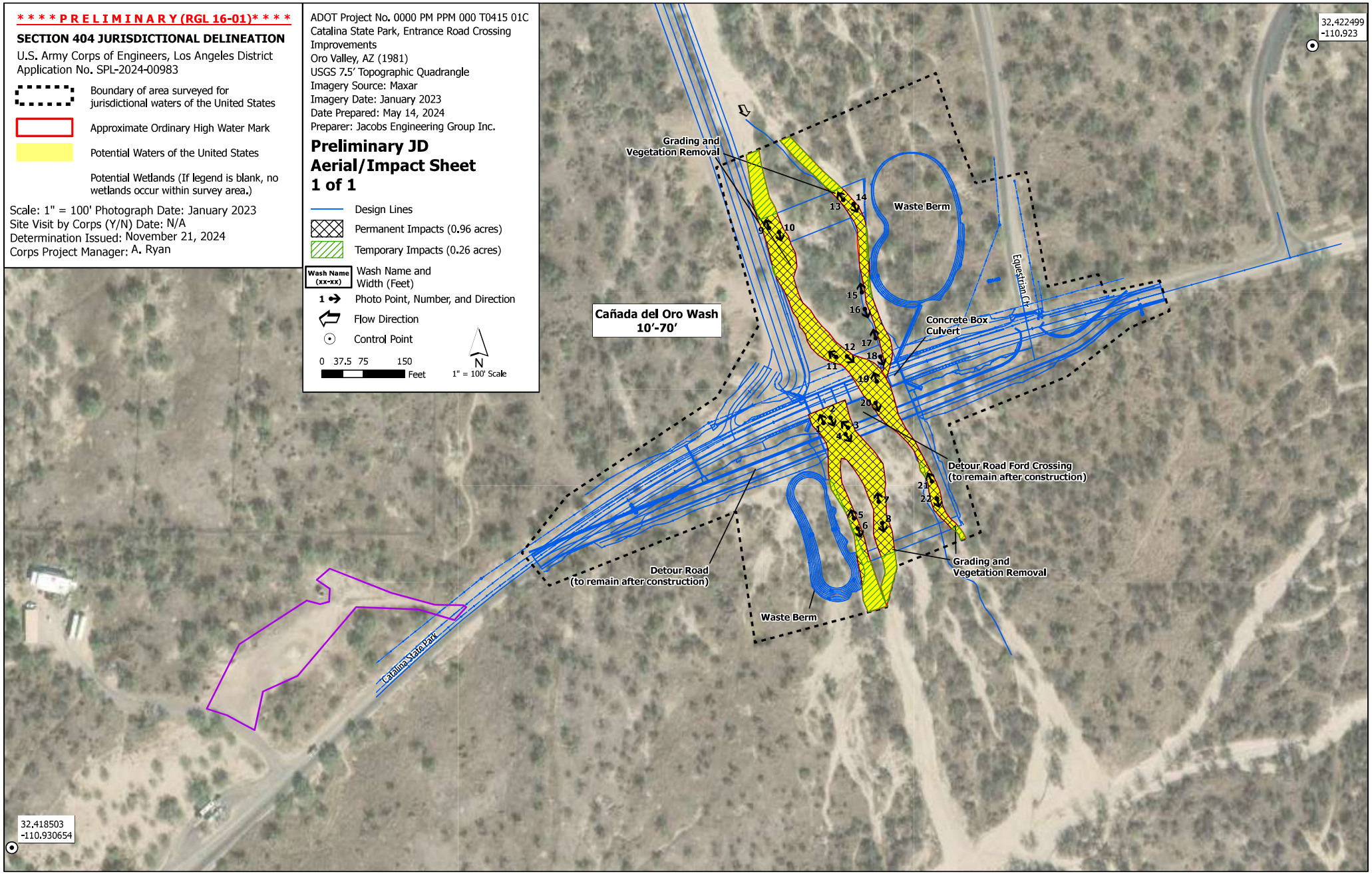
Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature


**** PRELIMINARY (RGL 16-01)****
SECTION 404 JURISDICTIONAL DELINEATION
U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2024-00983
Boundary of area surveyed for jurisdictional waters of the United States
Approximate Ordinary High Water Mark
Potential Waters of the United States
Potential Wetlands (If legend is blank, no wetlands occur within survey area.)
Scale: 1" = 100' Photograph Date: January 2023
Site Visit by Corps (Y/N) Date: N/A
Determination Issued: November 21, 2024
Corps Project Manager: A. Ryan
ADOT Project No. 0000 PM PPM 000 T0415 01C
Catalina State Park, Entrance Road Crossing Improvements
Oro Valley, AZ (1981)
USGS 7.5' Topographic Quadrangle
Imagery Source: Maxar
Imagery Date: January 2023
Date Prepared: May 14, 2024
Preparer: Jacobs Engineering Group Inc.
Preliminary JD Aerial/Impact Sheet 1 of 1
Design Lines
Permanent Impacts (0.96 acres)
Temporary Impacts (0.26 acres)
Wash Name (xx-xx)
Wash Name and Width (Feet)
Photo Point, Number, and Direction
Flow Direction
Control Point
0 37.5 75 150
Feet
N
1" = 100' Scale
32.422499
-110.923
32.418503
-110.930654
Grading and Vegetation Removal
Waste Berm
Equestrian Ct
Cañada del Oro Wash
10'-70'
Concrete Box Culvert
Detour Road Ford Crossing
(to remain after construction)
Detour Road
(to remain after construction)
Grading and Vegetation Removal
Waste Berm
Catalina State Park

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US Army Corps of Engineers

DEPARTMENT OF THE ARMY REGIONAL GENERAL PERMIT NO. 96

Routine Transportation Activities ARIZONA

A. General Information

The District Engineer, Los Angeles District, U.S. Army Corps of Engineers hereby reissues Regional General Permit (RGP) No. 96.

Permittee: RGP 96 applies to state or federally funded activities occurring in Waters of the U.S. (Waters) in the State of Arizona within an Arizona Department of Transportation (ADOT) right-of-way or easement (including temporary construction easements) (ADOT ROW/EASEMENT) through non-tribal lands. This RGP also applies to Local Public Agency projects which are federally funded by Federal Highway Administration (FHWA) that are bid and administered by ADOT (LPA ROW/EASEMENT), also through non-tribal lands. Projects that require the acquisition of minor amounts of new ROW or easement directly adjacent to existing ADOT ROW/EASEMENT or LPA ROW/EASEMENT are authorized by this RGP; however, this RGP does not authorize the construction of new alignments or activities which have been evaluated under an Environmental Impact Statement that was prepared as a part of the National Environmental Policy Act (NEPA) process.

Permit Number: SPL-2014-00625
Issuing Office: Los Angeles District
Effective Date: May 6, 2026 **Expiration Date:** May 6, 2031

Introduction: This RGP affords ADOT a means to accomplish categories of activities that are similar in nature and cause minimal individual and cumulative impacts to the aquatic environment while eliminating unnecessary duplication of regulatory control. Certain activities required for crossings of Waters that impact 1 acre or less of Waters, or 0.10 acre or less of special aquatic sites would be eligible for this RGP. For projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of RGP authorization. This RGP recognizes ADOT's assumption of responsibility from the Federal Highway Administration (FHWA) for environmental reviews, consultations, and other actions required by applicable Federal laws on certain projects that are federally funded.

Project Location: Arizona statewide Waters occurring within ADOT ROW/EASEMENT and LPA ROW/EASEMENT through non-tribal lands.

Key Sections:

B. Activities Covered by the Regional General Permit 2
C. Maximum Limitations 5
D. Notification Requirements 5
E. Permit Conditions 7
F. Further Information 14
G. Signatures 15
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B. Activities Covered by the Regional General Permit

This RGP authorizes the following with the associated limitations and requirements (see Notification Requirements in Section D for definitions):

AUTHORIZED ACTIVITIES	NON-NOTIFICATION	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
(a) Maintain Structure – repair or replacement of an existing structure or fill	**There are no activity-specific acreage threshold requirements for notification.** However, maximum impact thresholds for authorization under this RGP would apply (See Section C). **Other notification requirements may apply for projects that may impact:** • **Special aquatic sites (including wetlands)** • **Proximity to Outstanding Arizona Waters (OAWs)** • **Endangered Species Act (ESA)** • **National Historic Preservation Act (NHPA)** • **Structures or Works Built by the U.S. requiring Section 408 review/permission** Refer to the Notification Requirements in Section D to determine which type of notification is required.		
(b) Sediment/Debris Removal – no greater than 200 linear feet from existing structure			
(c) Erosion Repair – fill placed within 100 linear feet of existing structure			
(d) Emergency Activity – repairs must occur within 3 years of the damage caused by a discrete event			
(e) Geotechnical Activities*	< 0.10 acre of total impacts (i.e. temporary and permanent) to each Waters	≥ 0.10 acre and < 0.5 acre of total impacts (i.e. temporary and permanent) to each Waters	≥ 0.5 acre, up to 1 acre, of total impacts (i.e., temporary and permanent) to each Waters
(f) Bed Stabilization* - stream bed stabilization adjacent to an existing structure or fill	< 0.10 acre of total impacts (i.e. temporary and permanent) to each Waters	≥ 0.10 acre and < 0.5 acre of total impacts (i.e. temporary and permanent) to each Waters	≥ 0.5 acre, up to 1 acre, of total impacts (i.e., temporary and permanent) to each Waters
(g) Bank Stabilization* - permeable bank stabilization methods	≤ 1,000 linear feet total impact and up to 2 cubic yards of material per running foot below the ordinary high water mark (OHWM)	>1,000 linear feet and ≤ 2,000 linear feet total impact and up to 2 cubic yards of material per running foot below the OHWM	• > 2,000 linear feet, up to 3,000 linear feet total impact (i.e., temporary and permanent); or • > 2 cubic yards of material per running foot below the OHWM
(h) Bank Stabilization* – impermeable bank stabilization methods	≤ 600 linear feet total impact and up to 2 cubic yards of material per running foot below the OHWM	>600 linear feet and ≤ 1,200 linear feet total impact and up to 2 cubic yards of material per running foot below the OHWM	• > 1,200 linear feet, up to 2,400 linear feet total impact (i.e., temporary and permanent); or • > 2 cubic yards of material per running foot below the OHWM
(i) Routine Linear Transportation Projects*	< 0.10 acre permanent impacts and up to 1 acre temporary impacts to each Waters	≥ 0.10 acre and < 0.5 acre of permanent impacts and up to 1 acre temporary impacts to each Waters	≥ 0.5 acre, up to 1 acre, of permanent impacts or greater than 1 acre temporary impacts to each Waters

* In addition to threshold exceedance, these activities may require notification due to impacts associated with ESA or NHPA or impacts to special aquatic sites, OAWs, or 408 Projects. Refer to Section D for notification requirements.

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The following activities do not have acreage threshold requirements for notification. Refer to the Notification Requirements in Section D below to determine if PCN is required. Impact limitations apply to all projects authorized by this RGP; refer to Maximum Impacts in Section C below.

Maintain Structure – Repair or replacement of an existing structure or fill
Activities include the repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill to maintain the structural integrity and operational capacity of the previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, for adequate drainage, flood hazard reduction, and overall public safety. For the purposes of this RGP, currently serviceable structure or fill is defined as an existing structure and its associated fill. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. Because these activities would primarily occur on previously authorized structures or fill, loss of Waters are not anticipated with this activity.

Maintenance activities that include only the cutting and removal of vegetation above the ground (e.g., mowing, rotary cutting, chain sawing, etc.), where the activity does not substantially disturb the root system and does not involve mechanized pushing, dragging, or a similar activity that would redeposit soil, are not regulated activities under Section 404 of the Clean Water Act; therefore notification to the Corps Regulatory Division for these activities is not required.

Sediment/Debris Removal
Activities include removal of sediment, debris, woody and herbaceous vegetation, and other obstructions in the vicinity of existing structures which compromise the integrity of the structure and/or impede flows. This activity can be used to re-establish design flow carrying capacity in a watercourse for public safety when flow events do not sufficiently flush those materials completely through the system, which may result in flooding or erosion of adjacent property. Sediment/debris removal may be achieved using a hydrovac system or mechanical equipment (e.g. dozer, backhoe, blade, etc.). The activity shall occur within ADOT ROW/EASEMENT and/or LPA ROW/EASEMENT but no greater than 200 linear feet upstream or downstream of the existing structure. Removed materials shall be removed from the watercourse to an upland site.

Erosion Repair
Activities include the removal of accumulated sediment (i.e. fill material) from eroded uplands and/or bank to be utilized for repairing erosion cuts in the banks or bed of Waters. Accumulated sediments used to repair erosion damage in Waters must be placed within 100 feet from where the accumulated sediment is originally removed within Waters. The use of the accumulated sediments to repair erosion damage must occur simultaneously with removal activities and accumulated sediments may only be temporarily stockpiled in the channel while removal/replacement activities are concurrently occurring. All excess material not used within that 100 feet shall be removed from the watercourse to an upland site.

Emergency Activity - Maintenance activities or repairs within 3 years of a discrete event including repairs of uplands.
Activities include the emergency repair, rehabilitation, or replacement of those currently serviceable structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within three years of the date of their destruction or damage. For the purposes of this RGP, currently serviceable structure or fill is defined as an existing structure and its associated fill. This activity allows for disturbance to Waters for the emergency repair of uplands damaged by discrete events provided the work is

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commenced or under contract to commence within three (3) years of the damage.

The following activities have acreage threshold requirements for notification in addition to what it described in the Notification Requirements in Section D below. Impact limitations apply to all projects authorized by this RGP; refer to Maximum Impacts in Section C below.

Geotechnical Activities
Activities include core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, test pits, potholing and sampling. Material may be removed offsite or used as backfill if no other state or federal regulation would prohibit that activity. Plugging of bore holes with grout to prevent groundwater contamination is authorized if required by state or local requirements. Temporary access and construction of temporary pads is authorized under this activity. Waters must be restored to its pre-construction elevation upon completion of the work and must not drain Waters. Thresholds for notification would include:

- Non-notification: less than 0.10 acre of total impacts (i.e., temporary and permanent) in each Waters. Impacts that occur as a result of gaining access to bore sites count toward the acreage threshold.
- SV: greater than and equal to 0.10 acre and less than 0.5 acre of total impacts (i.e., temporary and permanent) in each Waters. Impacts that occur as a result of gaining access to bore sites count toward the acreage threshold.
- PCN: greater than and equal to 0.5 acre and up to 1 acre of total impacts (i.e., temporary and permanent) in each Waters. No more than 0.10 acre temporary impact to special aquatic sites, such as wetlands. Impacts that occur as a result of gaining access to bore sites count toward the acreage threshold.

Bed Stabilization - Stream bed stabilization of an existing structure or fill
Activities for bed stabilization include construction of new bed stabilization adjacent to an existing structures/fill to maintain the structural integrity and operational capacity of the structures/fill for adequate drainage, flood hazard reduction, and overall public safety. Examples of bed stabilization include stabilized piers, scour pads and cutoff walls (i.e. culvert outlets and outfalls). Temporary access, and temporary fill associated with the construction of bed stabilization is authorized under this activity. Thresholds for notification would include:

- Non-notification: less than 0.10 acre of total impacts (i.e., temporary and permanent) to each Waters.
- SV: greater than and equal to 0.10 acre and less than 0.5 acre of total impacts (i.e., temporary and permanent) in each Waters.
- PCN: greater than and equal to 0.5 acre, up to 1 acre, of total impacts (i.e., temporary and permanent) to each Waters. No more than 0.10 acre permanent or temporary impact to special aquatic sites, such as wetlands.

Bank Stabilization
Activities would include construction of new bank stabilization. Bank stabilization may be constructed of permeable materials such as riprap, gabion mattresses, and bioengineered techniques (or equivalent) or impermeable materials such as shotcrete, concrete, or cement stabilized alluvium (or equivalent). Thresholds for notification would include:

a. Permeable Bank Stabilization Methods
    - Non-notification: less than and equal to 1,000 linear feet total impact and up to an average of 2 cubic yards of material per running foot below the OHWM.
    - SV: greater than 1,000 linear feet and less than or equal to 2,000 linear feet total impact and up to an average of 2 cubic yards of material per running foot below the OHWM.

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- PCN: greater than 2,000 linear feet up to 3,000 linear feet total impact or greater than 2 cubic yards of material per running foot below the OHWM.

b. Impermeable Bank Stabilization Methods
- Non-notification: less than and equal to 600 linear feet total impact and up to an average of 2 cubic yards of material per running foot below the OHWM.
- SV: greater than 600 linear feet and less than or equal to 1,200 linear feet total impact and up to an average of 2 cubic yards per running foot below the OHWM.
- PCN: greater than 1,200 linear feet up to 2400 linear feet total impact or greater than 2 cubic yards of material per running foot below the OHWM.

Routine Linear Transportation Projects
Activities would include the construction of new transportation facilities or modifications to existing facilities within existing ADOT ROW/EASEMENT and/or LPA ROW/EASEMENT. Examples include new construction features, replacement, or modifications of bridge piers and shafts, culverts, ditches, erosion protection measures, bridge scour retrofit, or roadway fill. Projects that require the acquisition of minor amounts of new ROW or easement directly adjacent to existing ADOT ROW/EASEMENT or LPA ROW/EASEMENT are authorized; however, the RGP does not authorize the construction of new alignments. Bridge scour retrofit activities would include stockpiling of native material to be backfilled below the OHWM, without impeding flows. Tracked vehicle maneuvering within Waters would be considered temporary impacts. Thresholds for notification would include:
- Non-notification: less than 0.10 acre permanent impacts and up to 1 acre temporary impact to each Waters.
- SV: greater than and equal to 0.10 acre and less than 0.5 acre of permanent impacts and up to 1 acre temporary impact to each Waters.
- PCN: greater than and equal to 0.50 acre, up to 1 acre permanent impact; or greater than 1 acre temporary impact to each Waters. No more than 0.10 acre permanent or temporary impact to special aquatic sites, such as wetlands.

C. Maximum Limitations

Activities authorized by this RGP can be combined on a single and complete project provided the maximum impact thresholds are not exceeded by a single and complete project. For projects crossing a single waterbody more than one time at separate and distant locations, or projects crossing multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of RGP authorization. Geotechnical activities that occur before design are also considered a single and complete project. The following impact limitations apply to all projects authorized by this RGP:
- 1 acre permanent impact to Waters per drainage crossing
- 0.10 acre total impacts (i.e. permanent and temporary) to special aquatic sites, such as wetlands
- 1 acre total impacts (i.e. temporary and permanent impact) to Waters from geotechnical activities
- 1 acre total impacts (i.e. temporary and permanent) to each Waters impacted by bed stabilization
- 3,000 linear feet total impact from permeable bank stabilization methods
- 2,400 linear feet total impact from impermeable bank stabilization methods

D. Notification Requirements

This RGP 96 authorizes non-notification for simple, limited transportation activities, Self-Verification for routine transportation activities that would result in no more than minimal environmental effects, and PCN for large routine transportation activities or those activities which have potential to result in more than minimal direct and cumulative impacts. Any activity which exceeds the PCN threshold for any covered activity shall require a Section 404 individual permit

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unless authorized by another general permit.

Non-Notification: Requires no advance notification to the Corps prior to commencement of the activity. This notification type does not allow any work to occur in special aquatic sites or within certain distances of designated OAWs See PCN requirements below). Those limited transportation projects would be typified by removal of sediment from a culvert to restore its design flow carrying capacity, the removal of storm debris, or the replacement of small amounts of rock rip rap to repair or arrest erosion damages. Usually, the removal of partially buried storm debris or culvert cleaning projects requires manual labor to dig out the accumulated material from the culvert and then a second step to properly dispose of that material. These types of projects, although often labor intensive, do not usually involve much equipment activity (if any) in the watercourse and only the temporary presence of small quantities of trans-located sediments. This could include hydro vacuuming as long as the impact is temporary. Small additions of rock riprap to address erosion issues are often initiated from outside of the watercourse. Refer to Section B for a full description of the non-notifying activities authorized by this permit.

Endangered Species Act (ESA): ADOT has been delegated responsibility by the FHWA for environmental reviews, consultations, and other actions required by federal law for federally funded projects. This delegation and assumption of responsibility is documented in a memorandum of understanding between ADOT and FHWA pursuant to 23 USC 326 and 23 USC 327 (commonly known as NEPA assignment). Therefore, any federally funded, non-notification project which may affect any threatened or endangered species or modify any designated critical habitat of a threatened or endangered species may proceed under non-notification after ADOT follows its procedures for compliance with the ESA. If the project is state funded and may affect any threatened or endangered species or modify any designated critical habitat of a threatened or endangered species, the applicant shall provide a PCN to the Corps and shall not begin work on the activity until notified by the Corps that the requirements of the ESA have been satisfied, and that the activity is authorized.

National Historic Preservation Act (NHPA): ADOT has been delegated responsibility by the FHWA for environmental reviews, consultations, and other actions required by federal law for federally funded projects. This delegation and assumption of responsibility is documented in a memorandum of understanding between ADOT and FHWA pursuant to 23 USC 326 and 23 USC 327 (commonly known as NEPA assignment). Furthermore, ADOT has been designated to act as the lead federal agency for the Corps through a state-wide programmatic agreement for Section 106 compliance on federally funded projects. Therefore, any federally funded activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places (NRHP) is allowed to proceed under non-notification after ADOT follows its procedures for compliance with Section 106 of the NHPA. If the project is state funded and may affect historic properties listed or eligible for listing in the NRHP, the applicant shall provide PCN to the Corps and shall not begin work on the activity until notified by the Corps that Section 106 requirements have been satisfied, and that the activity is authorized.

Self-Verification (SV): SV notification allows up to 0.5 acre of total (temporary and permanent) impacts per drainage crossing within Waters but does not authorize a permanent loss of Waters (conversion to dry land or complete loss of aquatic function) greater than 0.10 acre. This notification type does not allow any work to occur in special aquatic sites or within certain distances of designated OAWs (See PCN requirements below). The complete RGP 96 SV Form and project drawings shall be submitted to the local Corps representative no less than 14 calendar days prior to the commencement of work. The Corps will review the project summary information, request additional information as needed, and formally acknowledge RGP 96 SV eligibility in writing within 14 calendar days of receipt. SV submissions shall also include consultation documentation when the work is federally funded. State funded activities which may affect threatened or endangered species or designated critical habitat or may affect historic properties listed or eligible for listing in the NRHP are not eligible for SV. If 14 calendar days have passed from the district engineer's receipt of the complete SV form and the prospective

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permittee has not received written concurrence from the district or district engineer, the prospective permittee may presume concurrence.

Pre-Construction Notification (PCN): Requires advance notification to the Corps prior to commencement of the activity. The RGP 96 Notification Form shall be completed and submitted to the local Corps regulatory representative. The Corps shall attempt to complete the verifications for PCN projects within 30 calendar days from the date the notification is complete but may extend this as warranted by other requirements such as Section 7 of the ESA or Section 106 NHPA consultations. In these situations, work may not commence until the Corps has received consultation documentation from ADOT when the project is federally funded, or until the Corps has consulted with the USFWS and the SHPO/THPO.

A PCN is required for the following:

- Impacts exceeding non-notification thresholds listed in Section B
- Impacts exceeding 0.5 acre total impact in Waters
- Impacts exceeding 0.1 acre permanent loss of Waters
- Impacts in special aquatic sites (e.g. wetlands), up to 0.10 acre of total impact (i.e. permanent and temporary) per drainage crossing
- Impacts in waters designated by the Arizona Depart of Environmental Quality as an Outstanding Arizona Water (OAW), within 1600 meters (1 mile) upstream and/or 800 meters (1/2 mile) downstream of a designated OAW, and on tributaries to OAWs within 1600 meters (1 mile) of the OAW (see https://www.azdeq.gov/OAW)
- State funded activities which may affect any threatened or endangered species or modify any critical habitat of a species listed under the ESA
- State-funded activities which may affect a historic property listed or eligible for listing in the NRHP
- Impacts to Structures or Works Built by the U.S. requiring Section 408 review/permission

Refer to Special Conditions 1 and 2 for a description of the information required for a complete PCN.

E. Permit Conditions

General Conditions:

1. Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Permittee must undertake the activities authorized by this permit in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if the existing structure/facility/fill in Waters is abandoned. Should the permittee wish to cease to maintain the existing structure/facility/fill or should permittee desire to abandon it without a good faith transfer, a modification must be obtained from this office, which may require restoration of the area.
3. When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, the new permittee shall sign on the Transferee block located on the signature page of this permit. By signing the signature block, the Transferee acknowledges receipt of a complete copy of this permit and agrees to comply with all terms and conditions of this permit.

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4. The permittee shall allow representatives from this office to inspect the authorized activities at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of this permit.
5. The permittee shall comply with all requirements and conditions in the letter of Clean Water Act Section 401 Certification from the Arizona Department of Environmental Quality issued on April 22, 2026. These certifications demonstrate that the permittee has complied with Section 401(a) of the Clean Water Act. A copy of the letter is enclosed.

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

Project Planning Requirements

1. **Preconstruction Notification.** The activities described in Section B that require Preconstruction Notification (PCN) shall be submitted to the Corps Regulatory Division at least 30 days prior to initiation of construction or maintenance activity. Verification from the Corps must be received prior to initiation of the activity. The PCN shall include the following for the Corps Regulatory Division to determine if the proposed activities comply with the terms and conditions of this permit:

    a. A complete Request for Jurisdictional Determination (JD) or an aquatic resource delineation. This includes: project location (i.e., latitude/longitude coordinates of the approximate center point of the project in degrees/minutes/seconds format); U.S.G.S. 7.5 minute quadrangle name, location maps and delineation maps prepared using the USACE Recommended Minimum Standards for Aquatic Resource Delineation Reports (ARDR) (https://www.usace.army.mil/Media/Announcements/Article/4262089/1-august-2025-us-army-corps-of-engineers-enhances-aquatic-resource-delineation/), wetland delineation report (if applicable), and any other site condition documentation. Per Regulatory Guidance Letter (RGL) 16-01, the Corps will only provide a JD when one is requested; For JD requests, RGL 16-01 Appendix 1 (Request for Corps JD) should be provided. Otherwise, a complete aquatic resource delineation may be provided with the PCN if a JD is not being requested.

    b. The RGP 96 Notification Form shall be used and include the following:

        i. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and observed characteristics associated with an OHWM (e.g. bed and bank, wrack line, or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the associated vegetation community (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information.
        ii. A brief description of the existing design features of the structure/facility/fill, proposed activities in Waters, an estimate of temporary impacts, an estimate of permanent impacts and permanent loss (if any), an estimate of excavation/fill quantities (in cubic yards), and type of materials proposed to maintain or repair the structure/facility/fill. Permanent and temporary impacts may be provided in acres, square feet, or linear feet (for bank protection).
        iii. A narrative or drawings of the methods to divert water/dewater.
        iv. A brief analysis of the proposed impacts to the waterbody which would include a written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to Waters. Refer to 40 CFR 230, Subparts C-F for the examples of adverse effects which

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may be associated with a discharge.

v. Drawings and or plans (when available) clearly depicting the location, size, and dimensions of the proposed activity as well as the location of delineated Waters on the site.
vi. Measures taken to avoid and minimize losses, including other methods of constructing the proposed project.
vii. A description of post-construction site restoration/revegetation.
viii. A statement of the proposed activities' potential to affect cultural resources and a description of compliance with applicable federal regulations which protect these resources. See Special Condition 2a.
ix. A statement of the proposed activities' potential to affect federally listed endangered or threatened species or designated critical habitat. See Special Condition 2b.
x. A mitigation plan describing how the unavoidable losses are proposed to be compensated, in accordance with 33 CFR Part 332. Alternatively, a statement may be submitted describing why mitigation should not be required.

2. **Preconstruction Notification Requirements for Activities which may affect Historic Properties or Endangered Species.** Pursuant to 23 USC 326-327 and a Memorandum of Agreement dated April 16, 2019 between the permittee and the Federal Highway Administration, the permittee has assumed responsibility for the environmental review and consultation required by applicable environmental laws for federally funded transportation projects (commonly known as NEPA assignment). Recognizing the permittee's assumption of this responsibility, the following conditions will appy for ESA and Section 106:

   a. **Historic Properties:** No activity is authorized under this RGP which may have the potential to cause effect to properties listed, or eligible for listing, in the National Registor of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (Section 106) have been satisfied.

      For federally funded projects, the permittee has been designated as the lead agency for Section 106 Compliance under NEPA assignment and the *Programmatic Agreement Pursuant to Section 106 of the National Historic Preservation Act Regading Implementation of Federal-Aid Transportation Projects in the State of Arizona*. For projects subject to these agreements, the permittee will follow their own procedures for compliance with Section 106 and a PCN is not required for covered activities unless triggered by other requirements of this RGP. If a PCN is required, the permittee shall provide Section 106 compliance documentation in the submittal for the Corps to review.

      For state funded projects, a PCN must be submitted for any project which may have the potential to affect historic properties listed (or eligible for listing) on the NRHP. Prior to the submittal of a PCN, the applicant shall conduct a Phase I (Class III) Survey of the project site in accordance with all applicable standards and requirements. This survey shall be provided as an attachment to the required PCN. The permittee should request approval via email of their scope of work prior to initiation of the survey. If, based on the review of this information by the Corps, it is determined that the project has the potential to cause effects to a property that is listed or eligible for listing on the NRHP, the Corps will complete all coordination required by Section 106 of the NHPA prior to making a decision as to whether the project can proceed under this RGP 96.

   b. **Endangered Species:** No activity is authorized under this RGP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or species proposed for such designation, as identified under the ESA, or which will directly or indirectly destroy or adversely modify designated

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critical habitat or critical habitat proposed for such designation. See 50 CFR 402.02 for the definition of ‘‘effects of the action’’ for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding ‘‘activities that are reasonably certain to occur’’ and ‘‘consequences caused by the proposed action.’’ In order to legally take a listed species, separate authorization under the ESA (e.g. Section 10 permit, or a Biological Opinion under Section 7, with "incidental take" provisions with which you must comply) is required. No activity is authorized under this RGP until the requirements of the Endangered Species Act are met.

For federally funded projects, the permittee has been designated the lead agency for the Corps for compliance with Section 7 of the ESA pursuant to NEPA assignment and any programmatic consultations which may be applicable to the activity. For federally funded/covered projects where the permittee is the lead agency, the permittee shall follow their own procedures for complying with the requirements of the ESA and a PCN is not required unless triggered by other requirements of this RGP. If a PCN is required for a federally funded project, the permittee shall provide Section 7 Consultation documentation in the submittal for the Corps to review.

For state funded projects, a PCN must be submitted for any project which may effect a threatened or endangered species (or species proposed for listing) or designated or proposed critical habitat. The permittee shall include with the PCN the results from the U.S. Fish and Wildlife Service’s Information for Planning and Consultation (IPaC) Report, results from the Arizona Game and Fish Online Environmental Review Tool, and/or a biological evaluation which references these items. If, based on the review of this information by the Corps, it is determined that the project has the potential to affect a listed species or critical habitat, the Corps will complete Section 7 consultation with the U.S. Fish and Wildlife Service.

3. **Activities Affecting Structures or Works Built by the United States.** If an activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a federally authorized Civil Works project (a “Corps project”), the prospective permittee must submit a PCN. An activity that requires section 408 permission and/or review is not authorized until the Los Angeles District issues the section 408 permission or completes its review to alter, occupy, or use the Corps project, and the district engineer issues an authorization to the permittee. Reference the Los Angeles District Permitting Webpage (https://www.spl.usace.army.mil/Missions/Permitting/) to determine if a project authorized by this RGP may require Section 408 Permission.

4. **Mitigation.** The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). Routine transportation activities authorized under this permit are expected to involve temporary impacts to Waters, including special aquatic sites, and adjacent riparian areas, and permanent impacts may occur. Temporary and permanent impacts to Waters and special aquatic sites, if not avoided or minimized, shall be mitigated in accordance with the Corps Mitigation Rule (33 CFR 332, April 2008). Temporary and permanent mitigation proposals shall be approved by the Corps Regulatory Division prior to initiating routine transportation activities in Waters.

5. **Use of Multiple Permits.** This RGP cannot be combined with other Section 404 authorizations including Nationwide Permits, other RGPs, or individual permits to increase scope of work, the area of impacts to Waters, or the limits to the discharge of fill material at a specific or proximal location for a single and complete project. Geotechnical activities (i.e. survey activities), when required for project design, are considered a single and complete

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project.

6. **Permit Availability.** The permittee shall provide a copy of this permit to all field staff, contractors, subcontractors, and equipment operators. Copies of this permit shall always be readily available at the work site during periods of active work and shall be presented to any Corps Regulatory Division personnel upon request.

Project Implementation:

7. **Project Boundaries.** Prior to initiating construction activities in Waters, the permittee shall clearly mark the work area limits by at a minimum marking the four corners of the OHWM with flagging or similar measures to ensure mechanized equipment and personnel do not enter Waters, special aquatic sites and adjacent riparian areas outside of the permitted work area for the duration of routine transportation activities in or adjacent to Waters Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial compensatory mitigation requirements.

8. **Sediment Removal.** Sediment removal activities authorized under this RGP 96 shall not occur more than once annually per location unless severe flow events result in a public safety issue. The applicant shall provide a written justification to the Corps with the appropriate notification level due to acreage impacts if public safety issues exceed this condition. All sediment removal activities shall be completed within 90 calendar days of onset of the activity at a specific location.

9. **Suitable Materials.** No debris, soil, sand, bark, slash, sawdust, rubbish, cement or washings thereof, asphalt, oil or petroleum products, or any other material that may be harmful to fish or wildlife, that results from routine transportation activities and associated activities shall be allowed to enter or be placed where it may be washed by rainfall or runoff into Waters. Secured features and structures that are intended for shoring or control of erosion and sediment may remain in Waters for the necessary duration of project activities. When project activities are completed, all excess materials, and/or debris shall be removed from the work area to an approved off-site disposal area, outside of Waters.

10. **Management of Water Flows.** Appropriate measures, including but not limited to temporary dewatering practices and temporary diversion dams, must be taken to maintain near normal downstream flows and to minimize flooding only during project activities in Waters. Flows shall not be diverted outside of the OHWM of any Waters unless approved by the Corps on a case-specific basis. Fill materials must be of a type and be placed in a manner that will not result in erosion by high flows.

11. **Staging and Stockpiling.** Staging and storage areas for equipment and construction materials shall be located in uplands and where possible, a minimum of 100 feet away from Waters. Storage areas located less than 100 feet from Waters shall be approved by the Corps Regulatory Division, and these areas shall be shown on construction plans. Temporary stockpiling in Waters is authorized only where it is specifically stated in the covered activities; all temporary stockpiling shall be removed within two weeks of completion of the activity (i.e. erosion repair and bridge scour retrofits).

12. **Temporary Fills in Special Aquatic Sites.** Temporary fills in special aquatic sites are not allowed unless specifically authorized by the Corps Regulatory Division. Following completion of the routine transportation activity, temporary fills must be entirely removed to an upland location, outside Waters, and the affected area must be restored to the pre-project condition in accordance with the provision of the Corps Mitigation Rule (33 CFR 332).

13. **Sediment and Erosion Control.** The permittee is authorized to perform the work described

in this RGP 96 provided that upstream and downstream Waters are not degraded by such activities. Routine transportation activities may include, but are not limited to, the repair of bridge piers, bridge abutments, and repair or replacement of inlet and outlet structures. Where temporary water diversion, grading, filling, or excavation occurs as part of the repair or replacement, the permittee shall ensure standard Best Management Practices are in place to minimize turbidity within the affected waterbody. Standard BMPs are provided in the *ADOT Erosion and Pollution Control Manual for Highway Design and Construction*, available on the ADOT website.

14. **Low Flow Conditions.** Work in streams or rivers with ephemeral or intermittent flows shall be performed during periods when the channel is dry or flows are absent or minimal. Work within waterways with perennial flow shall be performed during the driest period of the year and during low flow conditions, generally April through June. When work in flowing or standing water is unavoidable, standard best management practices shall be implemented to minimize turbidity within the affected waterbody, and appropriate measures must be taken to minimize flooding and erosion on adjacent properties. Equipment working in wetlands shall be placed on mats (or equivalent) to minimize soil disturbance and compaction.

Resource Protection:

15. **Discovery of Previously Unknown Artifacts or Remains.** Pursuant to 36 C.F.R. Section 800.13, if previously unidentified archaeological or architectural properties are discovered, or unanticipated effects to known properties occur during construction, the permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The permittee shall not resume work in the area surrounding the potential cultural resources until the Corps re-authorizes project activities if the project is State Funded. If the project is Federally Funded, per 23 USC 326 and 23 USC 327 please contact the ADOT Historical Preservation Team and do not commence work until you have been so authorized. In addition, the following procedures shall be followed for State Funded projects:

    a. If the discovery is on state, county, municipal, or private lands, and does not include human remains, the permittee shall notify the State Historic Preservation Office at 602-542-4009 and the Corps of Engineers' Archaeology Staff (Danielle Storey (213) 452-3855) within 24 hours. If the discovery is on state, county, or municipal land, ADOT shall also notify the Director of the Arizona State Museum (ASM) per ARS § 41-844.
    b. If the discovery is on state, county, municipal, or private lands, and does include human remains or objects of national or Tribal patrimony, the permittee shall notify the State Historic Preservation Office at 602-542-4009, the Director of ASM, and the Corps of Engineers' Archaeology Staff (Danielle Storey (213) 452-3855) within 24 hours and shall follow the requirements of ARS § 41-844 for state, county, or municipal lands or ARS § 41-865 for private lands, as applicable. The permittee shall also notify the state agency or local government with jurisdiction, if any.
    c. If the discovery is on federal land and does not include human remains, the permittee shall notify the State Historic Preservation Office at 602-542-4009, the federal land manager, and the Corps of Engineers' Archaeology Staff (Danielle Storey (213) 452-3855) within 24 hours.
    d. If the discovery is on federal land and includes human remains or objects of national or Tribal patrimony, the permittee shall notify the State Historic Preservation Office at 602-542-4009, the federal land manager, and the Corps of Engineers' Archaeology Staff (Danielle Storey (213) 452-3855) and shall follow the provisions of any Native American Graves and Repatriation Act (NAGPRA) Plan of Action (POA) that is in effect.

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16. **Vegetation Removal.** Native trees with a diameter at breast height (dbh) of six inches or greater shall not be removed from Waters unless they are no longer upright or present a significant flow obstruction or safety hazard.

17. **Migratory Bird Treaty Act.** The permittee is responsible for ensuring that an action authorized by this RGP complies with 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 what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

18. **Invasive and Noxious Plant Species.** Invasive and noxious plant species removed during routine transportation activities shall be disposed at an approved off-site location, outside Waters Plants to be controlled shall include those listed in the State and Federal Noxious Weed and the State Invasive Species list in accordance with State and Federal Laws and Executive Orders.

19. **Water Quality.** Work undertaken by this project shall not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream or increase flooding on adjacent properties or downstream of the proposed routine transportation activity. Any work undertaken shall not excavate, fill, or grade in the watercourse outside of the minimum area needed to accomplish the activity and shall not exceed the limits provided by this RGP 96.

20. **Hazardous Material Spills.**The Corps Regulatory Division project manager shall be notified within 12 hours of detection of any accidental spill of hazardous materials to Waters. Notification may be in the form of an electronic mail message, telephone, or facsimile. Notification shall include the reason for the spill, the exact location of the spill, the type and approximate quantity of the materials spilled, and the extent of measures taken to control and clean up the spilled materials. The permittee shall immediately scoop and remove any accidental spill of hazardous materials to Waters without prior permit authorization.

Other Requirements:

21. **Permit Expiration.** If on the expiration date of this permit you have commenced or are under contract to commence the permitted activity you will have an additional twelve (12) months to complete the activity under the present RGP 96 terms and conditions. However, if the Corps discovers noncompliance or unauthorized activities associated with the permitted activity the Corps may request the use of discretionary authority in accordance with procedures in 33 CFR § 330.4(e) and 33 CFR § 330.5(c) or (d) to modify, suspend, or revoke this specific verification at an earlier date.

22. **Annual Reporting.** Within three months of permit issuance, ADOT shall develop and maintain an internal tracking system that includes all completed non-notification construction and maintenance activities in Waters, or special aquatic sites, covered by this permit. Maintenance project documentation shall include activity description, the start and end dates of the work, and project coordinates. Examples of routine maintenance activities include sediment removal and repairs to existing structures for adequate drainage, flood hazard reduction, and overall public safety. Construction project documentation shall include that listed above for maintenance plus temporary and permanent impact amounts, site restoration/revegetation activities and date installed, if applicable, before and after photos of the construction and revegetation area, and a brief discussion of any problems and corrective measures taken. Examples of routine construction activities include culvert extensions due to roadway widening, scour protection, and new bank stabilization. Due to

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extended project durations and variability in scheduling, construction projects will be reported on a cumulative basis (i.e. the summary and status of all previously completed and ongoing construction projects will be carried over to each subsequent year's report). Beginning in 2026, ADOT shall provide a copy of the tracking system report to Corps Regulatory Division once per year, by September 30 for the period July 1 through June 30.

F. Further Information

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
   (X) Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403).
   (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
   ( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1314).

2. Limits of this authorization.
   a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
   b. This permit does not grant any property rights or exclusive privileges.
   c. This permit does not authorize any injury to the property or rights of others.
   d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or behalf of the United States in the public interest.
   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
   d. Design or construction deficiencies associated with the permitted work.
   e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

   a. Failure to comply with the terms and conditions of this permit.
   b. The information provided by the permittee in support of the permit application proves to have been false, incomplete, or inaccurate (See 4 above).
   c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.
   d. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such

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directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. Work/activities authorized under RGP 96 expire on the date noted in Section A. It is expected that the RGP can be reissued for an additional five years by sending the Corps a letter and requesting reissuance. To reissue the RGP, the Corps must determine if individual and cumulative impacts were and are expected to remain minimal.

G. Signatures

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

DocuSigned by:
Matt Moul
4277854F018B410...

5/6/2026

Matt Moul
Director, Project Delivery and Operations
Arizona Department of Transportation (ADOT)

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

01May2026

Aaron O. Allen, Ph.D.
Chief, Regulatory Division
(for the District Engineer)

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

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APPENDIX 1: DEFINITIONS

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States (Waters).

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year- round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR Part 60).

Intermittent stream: An intermittent stream has surface water flowing continuously during certain times of the year and more than in direct response to precipitation (e.g., seasonally when the groundwater table is elevated or when snowpack melts).

LPA ROW/EASEMENT: Local Public Agency projects federally funded by Federal Highway Administration that are bid and administered by Arizona Department of Transportation.

Ordinary High Water Mark: An ordinary high water (OHWM) mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Permanent Impact: Waters that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of permanent impacts to Waters is a threshold measurement of the impact to Waters for determining whether a project may qualify for the RGP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Permanent impacts to stream bed include the linear feet of stream bed that is

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filled or excavated. Waters temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of permanent impact. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating permanent impacts to Waters.

Permanent Loss: A type of permanent impact which results in the conversion of a Water to dry land or complete loss of aquatic functions. Examples include placement of road fill which converts a wetland to dry land or the piping/enclosure of a stream for considerable distances.

Special Aquatic Sites: A waterbody that is identified as a special aquatic site under subpart E of the 404(b)1 guidelines. Special aquatic sites covered by this RGP include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, and riffle and pool complexes. They are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

Stream bed: The substrate of the stream channel between the OHWMs. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the OHWM, are not considered part of the stream bed.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Temporary Impact: Waters temporarily affected by filling, flooding, excavation, or drainage because of the regulated activity. Temporary impacts include discrete impacts that may occur only once or occasionally during construction and extended temporary impacts that may occur for the duration of construction. Waters affected by temporary impacts are restored to pre-construction contours and elevations after construction.

Tribal lands: Any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or individuals; or (2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Waterbody: For purposes of this RGP 96, a waterbody is a jurisdictional Waters. If a wetland is adjacent to a waterbody determined to be a Waters, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 W. Washington St.
Suite 160
Phoenix, AZ 85007
602-771-2300

KATIE HOBBS
GOVERNOR

KAREN PETERS
DIRECTOR

Arizona Department of Transportation
Matt Moul
Project Delivery and Operations Director
1801 W. Jefferson St., Ste 120
Phoenix, AZ 85007

Via Electronic Mail

Re: Clean Water Act §401 Water Quality Certification for the proposed reissuance of Regional General Permit No. 96 for Routine Transportation Activities; U.S. Army Corps of Engineers File No.: SPL-2014-00625

Dear Mr. Moul:

On March 3, 2026, the Arizona Department of Environmental Quality (ADEQ) received the Arizona Department of Transportations (ADOT) §401 certification request for the reissuance of the Regional General Permit (RGP) 96 for Routine Transportation Activities in Arizona. Based on the activities and conditions in the §401 application and the associated U.S. Army Corps of Engineers (USACE) public notice dated February 5, 2026, ADEQ certifies the RGP96 with the following exceptions:

- Surface waters listed on the Clean Water Act § 303(d) list of impaired waters and lakes.
- Surface waters listed on the Clean Water Act § 303(d) list of not-attaining waters and lakes.
- Surface waters designated as Outstanding Arizona Waters in A.A.C. R18-11-112(G).

Activities within the waters listed above require an individual § 401 Water Quality Certification (WQC) from ADEQ.

Sincerely,

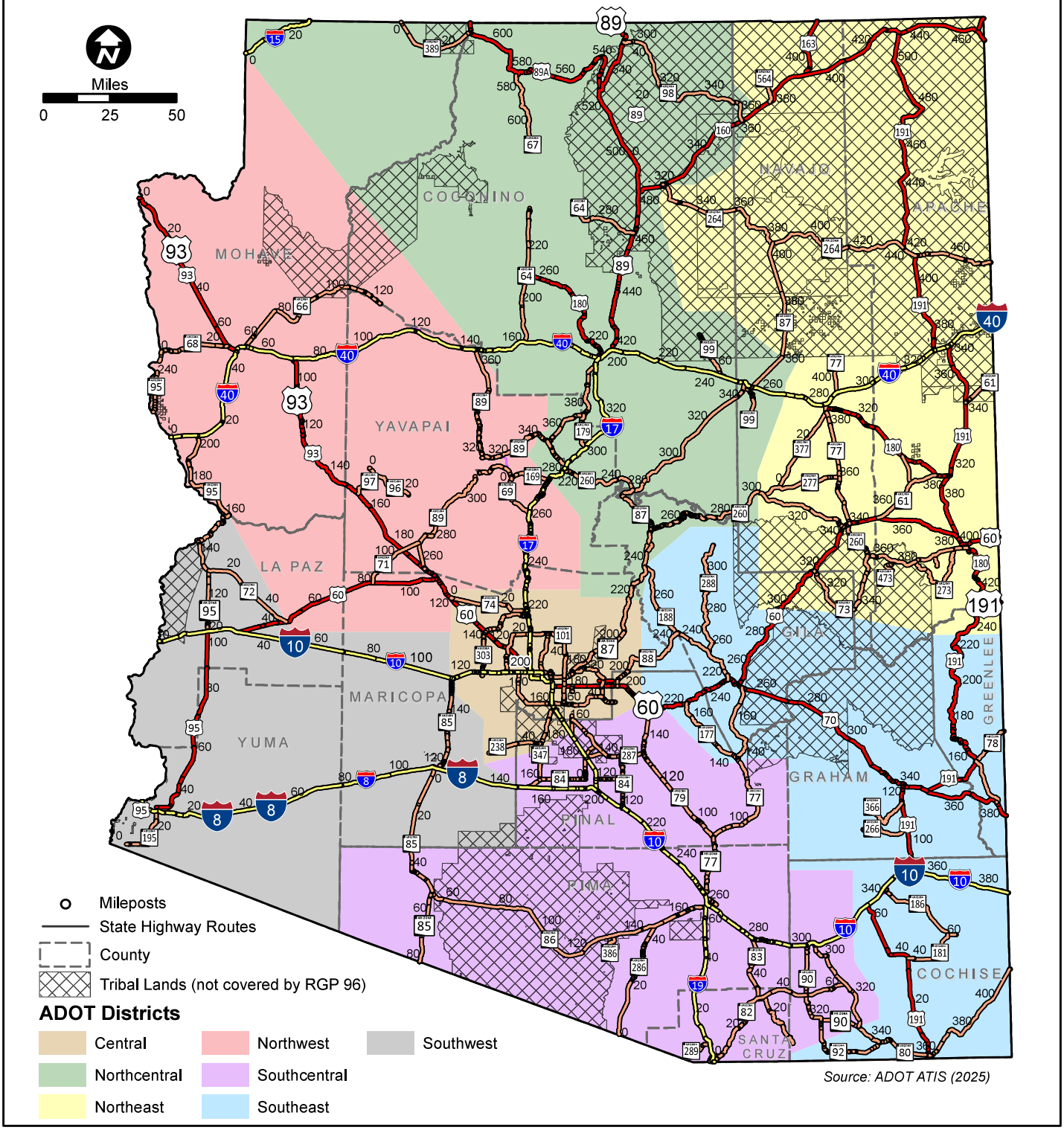
DocuSigned by:
Josephine Maressa
A5AF6048FAC8426...

Josephine Maressa
Deputy Director, Water Quality Division
Arizona Department of Environmental Quality

4/22/2026
Date

cc: ADOT, Attn.: Patricia Rees, Water Resources Biologist
USACE Regulatory Branch, Attn.: Alexandra Ryan
USACE Wetlands Regulatory Office

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Appendix - C

Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised September 22, 2014

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran desert tortoise occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40□Celsius (105□Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site or alternate burrow is unavailable within this distance, and ambient air temperature exceeds 40□Celsius (105□Fahrenheit), contact the Department for guidance. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, may be placed in the Department's tortoise adoption program. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting license from the Department to facilitate handling or temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- Use the Department's Environmental On-Line Review Tool Department during the planning stages of any project that may affect desert tortoise habitat.
- Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.
- Take is prohibited by state law.
- These guidelines do not apply to Mojave desert tortoises (north and west of the Colorado River). Mojave desert tortoises are listed as threatened under the Endangered Species Act, administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department.

Arizona Department of Transportation
Sonoran Desert Tortoise Observation Form

Date of Observation

Time

Observed By

Location- Route

Location- Milepost

ADOT District

Description of Encounter

Photo(s)

GPS (if available)

Email completed form
to: ADOT Biology Team
bioteam@azdot.gov

ARIZONA DEPARTMENT OF TRANSPORTATION
PROJECT DELIVERY AND OPERATIONS DIVISION
CONTRACTS AND SPECIFICATIONS GROUP

BID SCHEDULE

CONTRACT # 2023027

TRACS No.	Project No.	Item	County	District	Gross Length	Net Length	Prepared By:
0000 PM PPM T041501C	PPM-0-NFA	N/A	PIMA	SOUTHCENT	0		Mahdi Ghalib

Highway Termini	Location	Work Description
• PIMA COUNTY	• Catalina State Park	• System Enhancement (Engineering)

BID SCHEDULE

0000 PM PPM T041501C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
2010011	CLEARING AND GRUBBING	ACRE	5		
2020029	REMOVAL OF ASPHALTIC CONCRETE PAVEMENT	SQ.YD.	3,839		
2020033	REMOVE (CONCRETE FORD CROSSING)	SQ.YD.	761		
2020050	REMOVE (TEP BURIED POWERLINE)	L.SUM	1		
2020156	REMOVE (SIGN ASSEMBLY)	EACH	1		
2030301	ROADWAY EXCAVATION	CU.YD.	8,522		
2030401	DRAINAGE EXCAVATION	CU.YD.	10,750		
3030022	AGGREGATE BASE, CLASS 2	CU.YD.	833		
4090003	ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)	TON	1,250		
5012924	PIPE CULVERT, 24"	L.FT.	128		
5014024	FLARED END SECTION, 24" (C-13.25)	EACH	4		
6015601	CONCRETE SURFACE FORD (C-19.10)	CU.YD.	285		
6070038	SLIP BASE	EACH	2		
6070057	SIGN POST (PERFORATED) (2 1/2 T)	L.FT.	24		
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	EACH	2		

BID SCHEDULE

0000 PM PPM T041501C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
6080005	REGULATORY, WARNING, OR MARKER SIGN PANEL	SQ.FT.	9		
6080110	REMOVE AND REINSTALL SIGN	EACH	2		
7010005	MAINTENANCE AND PROTECTION OF TRAFFIC	L.SUM	1		
7015010	TEMPORARY CONCRETE BARRIER (INSTALLATION AND REMOVAL)	L.FT.	1,054		
7015020	TEMPORARY IMPACT ATTENUATORS (INSTALLATION AND REMOVAL)	EACH	2		
7016020	TEMPORARY CONCRETE BARRIER (IN USE)	L.FT.-DAY	115,940		
7016021	TEMPORARY IMPACT ATTENUATORS (IN USE)	EACH-DAY	220		
7016075	FLAGGING SERVICES (CIVILIAN)	HOUR	80		
7040072	PAVEMENT MARKING (TRANSVERSE) (THERMOPLASTIC) (ALKYD) (0.090")	L.FT.	85		
7060018	PAVEMENT MARKER, RAISED, TYPE G	EACH	10		
7080401	WATERBORNE-TYPE II PAVEMENT MARKING (PAINTED) (WHITE)	L.FT.	3,625		
7080402	WATERBORNE-TYPE II PAVEMENT MARKING (PAINTED) (YELLOW)	L.FT.	3,625		
8050003	SEEDING (CLASS II)	ACRE	3		

BID SCHEDULE

0000 PM PPM T041501C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
8080221	GATE VALVE (6")	EACH	1		
8080287	PIPE (PVC) (6") (CLASS 200)	L.FT.	445		
8080642	VALVE BOX FRAME AND COVER, TYPE A	EACH	1		
8080646	RESET FRAME AND COVER FOR VALVE BOX	EACH	3		
8101018	EROSION CONTROL (STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD)	SQ.YD.	358		
8101023	EROSION CONTROL (WATTLES) (12")	L.FT.	2,000		
9010001	MOBILIZATION	L.SUM	1		
9030134	CONCRETE VALLEY GUTTER	SQ.FT.	152		
9050006	GUARD RAIL, W-BEAM, SINGLE FACE	L.FT.	50		
9050023	GUARD RAIL TERMINAL	EACH	4		
9050410	APPROACH GUARD RAIL TO BRIDGE DADO OR CONCRETE BARRIER	EACH	8		
9130005	RIPRAP (GABIONS)	CU.YD.	150		
9130007	RIPRAP (DUMPED) (6-INCH)	CU.YD.	12		
9130008	RIPRAP (DUMPED) (8-INCH)	CU.YD.	425		

BID SCHEDULE

0000 PM PPM T041501C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
9130402	SOIL CEMENT BANK PROTECTION	SQ.YD.	770		
9240170	CONTRACTOR QUALITY CONTROL	L.SUM	1		
9250001	CONSTRUCTION SURVEYING AND LAYOUT	L.SUM	1		

BID SCHEDULE

0000 PM PPM T041501C

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
CATALINA STATE PARK IN PIMA, STR NO. 07379					
2030501 A	STRUCTURAL EXCAVATION	CU.YD.	1,945		
2030506 A	STRUCTURE BACKFILL	CU.YD.	180		
6010003 A	STRUCTURAL CONCRETE (CLASS S) (F'C = 3,500)	CU.YD.	726		
6010004 A	STRUCTURAL CONCRETE (CLASS S) (F'C = 4,000)	CU.YD.	19		
6010005 A	STRUCTURAL CONCRETE (CLASS S) (F'C = 4,500)	CU.YD.	341		
6011132 A	COMBINATION PEDESTRIAN-TRAFFIC BRIDGE RAILING	L.FT.	9		
6011150 A	SINGLE SLOPE BRIDGE CONCRETE BARRIER AND TRANSITION (38")	L.FT.	9		
6050002 A	REINFORCING STEEL	LB.	218,396		
9240112 A	MISCELLANEOUS WORK (BRIDGE STEEL RAILING)	L.FT.	358		

BID TOTAL :

PROPOSAL

TO THE ARIZONA DEPARTMENT OF TRANSPORTATION:

Gentlemen:

The following Proposal is made for constructing project

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

in the State of Arizona.

The following Proposal is made on behalf of _____

_____ and no others.
(NAME OF COMPANY, FIRM, OR CORPORATION)

The undersigned hereby certifies that (s)he has been duly authorized to submit a proposal on behalf of the company, firm, or corporation mentioned above; and further certifies, pursuant to Subsection 112(c) of Title 23, United States Code and Title 44, Chapter 10, Article 1 of the Arizona Revised Statutes, that neither (s)he nor anyone associated with the company, firm, or corporation mentioned above has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such project and furthermore that no member or employee of the Arizona Department of Transportation is personally or financially interested, directly or indirectly, in the Proposal, or in any purchase or sale of any materials or supplies for the work to which it relates, or in any portion of the profits thereof.

The undersigned certifies that the approved Plans, Standard Specifications, Special Provisions and forms of Contract and Bond authorized by the Arizona Department of Transportation and constituting essential parts of this proposal, have been carefully examined, and also that the site of the work has been personally inspected. The undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Specifications, Special Provisions, or conditions to be overcome, be plead. On the basis of Plans, Specifications, Special Provisions, and the forms of Contract and Bond proposed for use, the undersigned proposes to furnish all the necessary equipment, materials, machinery, tools, apparatus, and other means of construction, and labor to do all the work in the manner specified, and to accept, as full compensation therefor, the sum of the various products obtained by multiplying each unit price, herein bid for the work or materials, by the quantity thereof actually incorporated in the complete project, as determined by the State Engineer. The undersigned understands that the quantities mentioned herein are approximate only and are subject to increase or decrease and hereby proposes to perform all quantities of work as either increased or decreased, in accordance with the provisions of the Specifications, at the unit price bid in the Bidding Schedule.

The undersigned further proposes to perform all extra work that may be required on the basis provided in the Specifications and to give such work personal attention and to secure economical performance.

The undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bond within ten calendar days from the date of Notice of Award, time being of the essence. The undersigned further proposes to begin work as specified in the contract attached hereto, and to complete the work on or before expiration of the contract time as defined in the Specifications, and maintain at all times a Payment Bond and a Performance Bond, approved by the State Engineer, in an amount equal to one hundred (100) percent of the total bid. These bonds shall serve not only to guarantee the completion of the work on the part of the undersigned, but also to guarantee the excellence of both workmanship and material and the payment of all obligations incurred, until the work is finally accepted and the provisions of the Plans, Standard Specifications and Special Provisions fulfilled.

The undersigned hereby agrees to provide an electronic Proposal Guaranty in the amount and character named in the Advertisement for Bids. The Proposal Guaranty is submitted as a guaranty of the good faith of the bidder, and that the bidder will enter into written contract, as provided, to do the work, if successful in securing the award thereof, and it is hereby agreed that if at any time other than as provided in the Proposal there should be failure on the part of the undersigned to execute the Contract and furnish satisfactory Bond as herein provided, the State of Arizona, in either of such events, shall be entitled and is hereby given the right to retain the said Proposal Guaranty as liquidated damages.

If by a Corporation:

(Seal)

Corporate Name: _____

Corporate Mailing Address: _____ Zip Code: _____

Incorporated under the laws of the State of: _____

By (Signature): _____ Date: _____

President: _____

Secretary: _____

Treasurer: _____

If by a Firm or Partnership:

Firm or Partnership Mailing Name: _____

Firm or Partnership Address: _____

By (Signature): _____ Date: _____

Name and Address of Each Member: _____

_____

_____

_____

_____

If by an Individual:

Signature: _____ Date: _____

Mailing Address: _____

ARIZONA DEPARTMENT OF TRANSPORTATION

SURETY (BID) BOND

(Penalty of this bond must not be less than 10% of the bid amount)

KNOW ALL MEN BY THESE PRESENTS, THAT _____

_____

as Principal, hereinafter called the Principal, and _____

_____

a corporation duly organized under the laws of the state of _____ hereinafter called the Surety, holding a certificate of authority to transact surety business in this State issued by the Director of the Department of Insurance, are held and firmly bound unto the Arizona Department of Transportation, as Obligee, hereinafter called the Obligee, in the sum of Ten Percent (10%) of the amount of the bid of Principal, submitted by Principal to the Arizona Department of Transportation for the work described below, for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting its proposal for TRACS/Project No.

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

NOW THEREFORE, if the Obligee, acting by and through its Transportation board, shall accept the proposal of the Principal and the Principal shall enter into contract with the Obligee in accordance with the terms of such proposal, and give such bonds and certificates of insurance as may be specified in the contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such bonds and certificates of insurance, if the Principal shall pay to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect.

IN WITNESS WHEREOF, we hereunto set our hands and seals:

_____
Principal

_____
By

_____
Title

_____
Surety

_____
By Attorney-in-Fact

_____
Address Attorney-in-Fact

Subscribed and sworn before me
this _____ day of _____, 20 _____.

My Commission expires: _____

_____
Notary Public

R9/13

CERTIFICATION WITH REGARD TO THE

PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE

OF EXECUTIVE ORDER NO. 99-4 AND THE FILING OF REPORTS

AUGUST 1, 2000

The undersigned contractor or subcontractor, as appropriate, hereby certifies that he either has or has not, as indicated, participated in a previous contract or subcontract subject to the equal opportunity clause in Executive Order No. 99-4 of March 26, 1999, and furthermore that he either has or has not, as indicated, filed with the Highways Division, Arizona Department of Transportation, or the Arizona Civil Rights Division, all reports due under the filing requirements of the regulations of the Arizona Civil Rights Division.

Participated in previous contracts: Yes ☐ No. ☐

Filed Required reports: Yes ☐ No. ☐

_____
Print Contractor Name

_____
Signature

_____
Title

_____
Date

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

REVISED 05/02

CERTIFICATION WITH RESPECT TO THE

RECEIPT OF ADDENDA

In the submission of a bid and by the signing of the Proposal, this will certify that the following numbered addenda issued on this project have been brought to my personal attention and furthermore that I understand and agree that those will be made a part of the Contract.

Addendum No. _____, _____, _____, _____, _____

_____
PRINT NAME OF CONTRACTOR

_____
SIGNATURE

_____
TITLE

_____
DATE

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

REVISED 05/02

ARIZONA DEPARTMENT OF TRANSPORTATION

PARTICIPATION IN BOYCOTT OF ISRAEL CERTIFICATION FORM

Unless and until the District Court's injunction in Jordahl is stayed or lifted, the Anti-Israel Boycott Provision (A.R.S. § 35-393.0l(A)) is unenforceable and the State will take no action to enforce it. This attachment (Participation in Boycott of Israel) is no longer a mandatory part of the offer. Offers will not be evaluated based on whether this certification has been completed.

0000 PM PPM T041501C PPM-0-NFA
PIMA COUNTY
(CATALINA STATE PARK)

This Certification is required in response to legislation enacted to prohibit the State from contracting with companies currently engaged in a boycott of Israel. To ensure compliance with A.R.S. §35-393.01, this form must be completed and returned with the bid. The bidder understands that this response will become public record and may be subject to publicinspection.

As defined by A.R.S. §35-393.01:

1. "Boycott" means engaging in a refusal to deal, terminating business activities or performing other actions that are intended to limit commercial relations with Israel or with persons or entities doing business in Israel or in territories controlled by Israel, if those actions are taken either:
   (a) In compliance with or adherence to calls for a boycott of Israel other than those boycotts to which 50 United States Code section 4607(c) applies.
   (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.
2. "Company" means a sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, Limited Liability Company or other entity or business association, and includes a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate.
3. "Direct holdings" means all publicly traded securities of a company that are held directly by the state treasurer or a retirement system in an actively managed account or fund in which the retirement system owns all shares or interests.
4. "Indirect holdings" means all securities of a company that are held in an account or fund, including a mutual fund, that is managed by one or more persons who are not employed by the state treasurer or a retirement system, if the state treasurer or retirement system owns shares or interests either:
   (a) Together with other investors that are not subject to this section.
   (b) That are held in an index fund.
5. “Public entity" means this State, a political subdivision of this STATE or an agency, board, commission or department of this state or a political subdivision of this state.
6. “Public fund" means the state treasurer or a retirement system.
7. "Restricted companies" means companies that boycott Israel.
8. "Retirement system" means a retirement plan or system that is established by or pursuant to title38.

All Bidders must select one of thefollowing:

_____**The bidder does not participate in, and agrees not to participate in during the term of the contract a boycott of Israel in accordance with A.R.S. §35-393.01.**

_____The bidder **does** participate in a boycott of Israel as defined by A.R.S. §35-393.01.

By submitting this response, the bidder agrees to indemnify and hold the State, its agents and employees, harmless from any claims or causes of action relating to the State’s action based upon reliance on the above representations, including the payment of all costs and attorney fees incurred by the State in defending such an action.

Company Name	Signature of Person Authorized to Sign
Address	Printed Name
City State Zip	Title

ARIZONA DEPARTMENT OF TRANSPORTATION

Forced Labor of Ethnic Uyghurs Ban Certification Form

Forced Labor of Ethnic Uyghurs Ban

Please note that if any of the following apply to the Contractor, then the bidder shall select the "Exempt Contractor" option below:

- Contractor is a sole proprietorship;
- Contractor has fewer than ten (10) employees; OR
- Contractor is a non-profit organization.

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PIMA COUNTY
(CATALINA STATE PARK)

Pursuant to A.R.S. § 35-394, written certification is required to show that the company entering into a contract with a public entity does not use the forced labor, or use any contractors, subcontractors or suppliers that use the forced labor or any goods or services produced by the forced labor, of ethnic Uyghurs in the People's Republic of China.

Under A.R.S. §35-394:

1. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.

2. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

In compliance with A.R.S. §§ 35-394 et seq., all bidders must select <u>one</u> of the following:

☐	The bidder **<u>does not</u>** use, and agrees not to use during the term of the contract, any of the following: • Forced labor of ethnic Uyghurs in the People's Republic of China; • Any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; or • Any Contractors, Subcontractors, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China.
☐	The bidder **<u>does</u>** participate in use of Forced Uyghurs Labor as described in A.R.S. § 35-394.
☐	**Exempt Contractor.** Select all statements that applies to this Contractor: ☐ Contractor is a sole proprietorship; ☐ Contractor has fewer than ten (10) employees; and/or ☐ Contractor is a non-profit organization.

Company Name

Address

City State Zip

Signature of Person Authorized to Sign

Printed Name

Title