



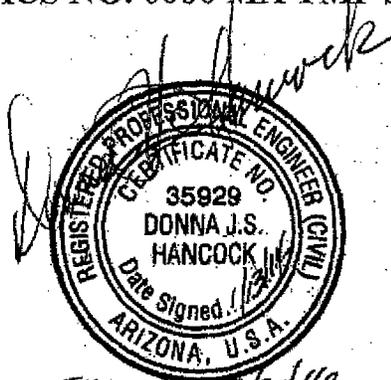
CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CONTRACT DOCUMENTS

FOR

RAILROAD CROSSING SAFETY IMPROVEMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET

PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C



Expires 3/31/10

APPROVED BY:

(FOR) Andrew H. Y. Goh, P.E.
Deputy Public Works Director/City Engineer

CITY COUNCIL MEMBERS

Mayor – Mark W. Mitchell

Onnie Shekerjian	Joel Navarro
Corey Woods	Robin Arredondo-Savage
Shana Ellis	Kolby Granville

CITY MANAGER

Andrew B. Ching

2014

CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

January 27, 2014

RAILROAD CROSSING SAFETY IMPROVMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET

PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C

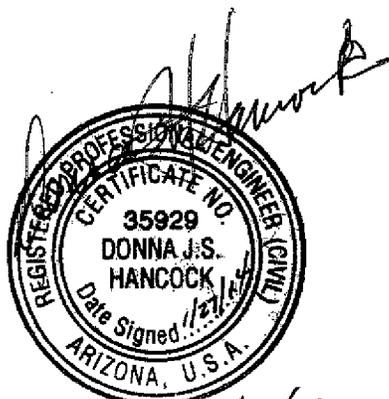
ADDENDUM NO. 4:

The original contract documents are modified or interpreted as stated herein. Receipt of this Addendum No. 4 shall be acknowledged by inserting its number and date in the space provided on the Bid form. Failure to acknowledge may subject bidder to disqualification.

This Addendum No. 4 consists of three (3) pages.

COMPETITIVE SEALED BID FORMS

Replace pages 2 and 3 of the bid forms, with the attached, revised bid form pages.



EXPIRES 3/31/16

(FOR) 
Andy Goh, P.E.
Deputy PW Director/City Engineer

City of Tempe

Project No. 5405371

Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street



Base Bid

Item No.	Item Name	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/ Demobilization	1	LS		
2	Traffic and Pedestrian Control Allowance	1	LS	\$25,000.00	\$25,000.00
3	Construction Surveying and As-built Allowance	1	LS	\$4,000.00	\$4,000.00
4	Stormwater Pollution Prevention Best Management Practice Allowance	1	LS	\$5,000.00	\$5,000.00
5	Permit Allowance	1	LS	\$4,000.00	\$4,000.00
6	Remove Existing Concrete Sidewalk	324	SF		
7	Sawcut and Remove Existing AC Pavement	154	SY		
8	Obliterate Existing Stripping by Slurry Seal	2498	SY		
9	Sawcut & Remove Existing Curb/Gutter	36	LF		
10	Install Concrete Sidewalk, MAG STD DTL 230	540	SF		
11	Install Vertical Concrete Curb and Gutter, MAG STD DTL 220-1, Type "A"	179	LF		
12	Install Asphalt Concrete Surface Course, Type D 1/2 2" Thick	123	SY		
13	Install Asphalt Concrete Base Course, Type A 1-1/2 4" Thick	123	SY		
14	Install Aggregate Base Course	123	SY		
15	Install Portland Cement Concrete Pavement, Class B, 3" Thick	526	SF		
16	Install Complete Warning Sign, Post, and Foundation	2	EA		

17	Install Concrete Ribbon Curb, MAG STD DTL 220-1, Type "B"	36	LF		
18	Install Detectable Warning Strip, City of Tempe STD DTL T-329	64	SF		
19	Install New Striping per Plan	3642	LF		
20	Install Chevron Striping	155	LF		
21	Install Railroad Crossing and Bike Lane Symbol	6	EA		
22	Railroad Flag Monitoring Allowance	1	LS	\$12,000.00	\$12,000.00
23	Off Duty Officer Allowance	1	LS	\$5,600.00	\$5,600.00
24	Utility Protection Allowance	1	LS	\$5,000.00	\$5,000.00
				Total Base Bid:	

CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

January 22, 2014

RAILROAD CROSSING SAFETY IMPROVMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET

PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C

ADDENDUM NO. 3:

The original contract documents are modified or interpreted as stated herein. Receipt of this Addendum No. 3 shall be acknowledged by inserting its number and date in the space provided on the Bid form. Failure to acknowledge may subject bidder to disqualification.

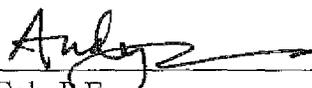
This Addendum No. 3 consists of three (3) pages.

COMPETITIVE SEALED BID FORMS

Replace pages 2 and 3 of the bid forms, with the attached, revised bid form pages.



EXPIRES 3/31/16
SPECIAL PROVISIONS
ONLY


Andy Goh, P.E.
Deputy PW Director/City Engineer

City of Tempe



Project No. 5405371

Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street

Base Bid

Item No.	Item Name	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/ Demobilization	1	LS		
2	Traffic and Pedestrian Control Allowance	1	LS	\$25,000.00	\$25,000.00
3	Construction Surveying and As-built Allowance	1	LS	\$4,000.00	\$4,000.00
4	Stormwater Pollution Prevention Best Management Practice Allowance	1	LS	\$5,000.00	\$5,000.00
5	Permit Allowance	1	LS	\$4,000.00	\$4,000.00
6	Remove Existing Concrete Sidewalk	324	SF		
7	Sawcut and Remove Existing AC Pavement	154	SY		
8	Obliterate Existing Stripping by Slurry Seal	2498	SY		
9	Sawcut & Remove Existing Curb/Gutter	36	LF		
10	Install Concrete Sidewalk, MAG STD DTL 230	540	SF		
11	Install Vertical Concrete Curb and Gutter, MAG STD DTL 220-1, Type "A"	179	LF		
12	Install Asphalt Concrete Surface Course, Type D 1/2 2" Thick	123	SY		
13	Install Asphalt Concrete Base Course, Type A 1-1/2 4" Thick	123	SY		
14	Install Aggregate Base Course	123	SY		
15	Install Portland Cement Concrete Pavement, Class B, 3" Thick	526	SF		
16	Install Complete Warning Sign, Post, and Foundation	2	EA		

17	Install Detectable Warning Strip, City of Tempe STD DTL T-329	36	LF		
18	Install Detectable Warning Strip, City of Tempe STD DTL T-329	64	SF		
19	Install New Striping per Plan	3642	LF		
20	Install Chevron Striping	155	LF		
21	Install Railroad Crossing and Bike Lane Symbol	6	EA		
22	Railroad Flag Monitoring Allowance	1	LS	\$12,000.00	\$12,000.00
23	Off Duty Officer Allowance	1	LS	\$5,600.00	\$5,600.00
24	Utility Protection Allowance	1	LS	\$5,000.00	\$5,000.00

Total Base Bid:

**CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING**

January 17, 2013

**RAILROAD CROSSING SAFETY IMPROVEMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET**

**PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C**

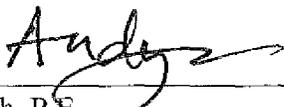
ADDENDUM NO. 2:

The original contract documents are modified or interpreted as stated herein. Receipt of this Addendum No. 2 shall be acknowledged by inserting its number and date in the space provided on the Bid form. Failure to acknowledge may subject bidder to disqualification.

This Addendum No. 2 consists of **nine** (9) pages.

WAGE DETERMINATION

Replace Exhibit 8.19, Wage Determination, with the revised and current applicable rates, which consist of eight (8) pages. Contractors are to use the current rates in the attached pages.



Andy Goh, P.E.
Deputy PW Director/City Engineer

General Decision Number: AZ140008 01/17/2014 AZ8

Superseded General Decision Number: AZ20130008

State: Arizona

Construction Type: Highway

Counties: Coconino, Maricopa, Mohave, Pima, Pinal, Yavapai and Yuma Counties in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/17/2014

CARP0408-005 10/01/2012

	Rates	Fringes
CARPENTER (Including Cement Form Work).....	\$ 23.58	9.49

ENGI0428-001 07/29/2013

	Rates	Fringes
OPERATOR: Power Equipment		
Group 1.....	\$ 20.99	9.05
Group 2.....	\$ 24.26	9.05
Group 3.....	\$ 25.34	9.05
Group 4.....	\$ 26.37	9.05

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: A-frame boom truck, air compressor, Beltcrete, boring bridge and texture, brakeman, concrete mixer (skip type), conductor, conveyor, cross timing and pipe float, curing machine, dinky (under 20 tons), elevator hoist (Husky and similar), firemen, forklift, generator (all), handler, highline cableway signalman, hydrographic mulcher, joint inserter, jumbo finishing machine, Kolman belt loader, machine conveyor, multiple power concrete saw, pavement breaker, power grizzly, pressure grout machine, pump, self-propelled chip spreading machine, slurry seal machine (Moto paver driver), small self-propelled compactor (with blade-backfill, ditch operation), straw blower, tractor (wheel type), tripper, tugger (single drum), welding machine, winch truck

GROUP 2:

ALL COUNTIES INCLUDING MARICOPA: Aggregate Plant, Asphalt plant Mixer, Bee Gee, Boring Machine, Concrete Pump, Concrete Mechanical Tamping-Spreading Finishing Machine, Concrete Batch Plant, Concrete Mixer (paving & mobile), Elevating Grader (except as otherwise classified), Field Equipment Serviceman, Locomotive Engineer (including Dinky 20 tons & over), Moto-Paver, Oiler-Driver, Operating

Engineer Rigger, Power Jumbo Form Setter, Road Oil Mixing Machine, Self-Propelled Compactor (with blade-grade operation), Slip Form (power driven lifting device for concrete forms), Soil Cement Road Mixing Machine, Pipe-Wrapping & Cleaning Machine (stationary or traveling), Surface Heater & Planer, Trenching Machine, Tugger (2 or more drums).

MARICOPA COUNTY ONLY: Backhoe < 1 cu yd, Motor Grader (rough), Scraper (pneumatic tired), Roller (all types asphalt), Screed, Skip Loader (all types 3<6 cu yd), Tractor (dozer, pusher-all).

GROUP 3:

ALL COUNTIES INCLUDING MARICOPA: Auto Grade Machine, Barge, Boring Machine (including Mole, Badger & similar type directional/horizontal), Crane (crawler & pneumatic 15>100 tons), Crawler type Tractor with boom attachment & slope bar, Derrick, Gradall, Heavy Duty Mechanic-Welder, Helicopter Hoist or Pilot, Highline Cableway, Mechanical Hoist, Mucking Machine, Overhead Crane, Pile Driver Engineer (portable, stationary or skid), Power Driven Ditch Lining or Ditch Trimming Machine, Remote Control Earth Moving Machine, Slip Form Paving Machine (including Gunnert, Zimmerman & similar types), Tower Crane or similar type.

MARICOPA COUNTY ONLY: Backhoe<10 cu yd, Clamshell < 10 cu yd, Concrete Pump (truck mounted with boom only), Dragline <10 cu yd, Grade Checker, Motor Grader (finish-any type power blade), Shovel < 10 cu yd.

GROUP 4: Backhoe 10 cu yd and over, Clamshell 10 cu yd and over, Crane (pneumatic or crawler 100 tons & over), Dragline 10 cu yd and over, Shovel 10 cu yd and over.

All Operators, Oilers, and Motor Crane Drivers on equipment with Booms, except concrete pumping truck booms, including Jibs, shall receive \$0.01 per hour per foot over 80 ft in addition to regular rate of pay

Premium pay for performing hazardous waste removal \$0.50 per hour over base rate.

* IRON0075-004 01/01/2014

COCONINO, MARICOPA, MOHAVE, YAVAPAI & YUMA COUNTIES

	Rates	Fringes
Ironworker, Rebar.....	\$ 26.52	21.02
Zone 1: 0 to 50 miles from City Hall in Phoenix or Tucson		
Zone 2: 050 to 100 miles - Add \$4.00		
Zone 3: 100 to 150 miles - Add \$5.00		
Zone 4: 150 miles & over - Add \$6.50		

LAB00383-002 11/01/2013

	Rates	Fringes
Laborers:		
Group 1.....	\$ 17.61	4.35
Group 2.....	\$ 18.63	4.35
Group 3.....	\$ 19.42	4.35
Group 4.....	\$ 20.51	4.35
Group 5.....	\$ 21.49	4.35

LABORERS CLASSIFICATIONS:

GROUP 1: All Counties: Chipper, Rip Rap Stoneman. Pinal County Only: General/Cleanup Laborer. Maricopa County Only: Flagger.

GROUP 2: Asphalt Laborer (Shoveling-excluding Asphalt Raker or Ironer), Bander, Cement Mason Tender, Concrete Mucker, Cutting Torch Operator, Fine Grader, Guinea Chaser, Power Type Concrete Buggy

GROUP 3: Chain Saw, Concrete Small Tools, Concrete Vibrating Machine, Cribber & Shorer (except tunnel), Hydraulic Jacks and similar tools, Operator and Tender of Pneumatic and Electric Tools (not herein separately classified), Pipe Caulker and Back-Up Man-Pipeline, Pipe Wrapper, Pneumatic Gopher, Pre-Cast Manhole Erector, Rigger and Signal Man-Pipeline

GROUP 4: Air and Water Washout Nozzleman; Bio-Filter, Pressman, Installer, Operator; Scaffold Laborer; Chuck Tender; Concrete Cutting Torch; Gunite; Hand-Guided Trencher; Jackhammer and/or Pavement Breaker; Scaler (using boson's chair or safety belt); Tamper (mechanical all types).

GROUP 5: AC Dumpman, Asbestos Abatement, Asphalt Raker II, Drill Doctor/Air Tool Repairman, Hazardous Waste Removal, Lead Abatement, Lead Pipeman, Process Piping Installer, Scaler (Driller), Pest Technician/Weed Control, Scissor Lift, Hydro Mobile Scaffold Builder.

PAIN0086-001 04/01/2013

	Rates	Fringes
PAINTER		
PAINTER (Yavapai County only), SAND BLASTER/WATER BLASTER (all Counties).....	\$ 19.35	4.75

ZONE PAY: More than 100 miles from Old Phoenix Courthouse
\$3.50 additional per hour.

SUAZ2009-001 04/20/2009

	Rates	Fringes
--	-------	---------

CEMENT MASON.....	\$ 19.28	3.99
ELECTRICIAN.....	\$ 22.84	6.48
IRONWORKER (Rebar)		
Pima County.....	\$ 23.17	14.83
Pinal County.....	\$ 20.27	8.35
LABORER		
Asphalt Raker.....	\$ 15.49	3.49
Compaction Tool Operator.....	\$ 14.59	2.91
Concrete Worker.....	\$ 13.55	3.20
Concrete/Asphalt Saw.....	\$ 13.95	2.58
Driller-Core, diamond, wagon, air track.....	\$ 16.94	3.12
Dumpman Spotter.....	\$ 14.99	3.16
Fence Builder.....	\$ 13.28	2.99
Flagger		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 12.35	1.59
Formsetter.....	\$ 16.09	3.97
General/Cleanup Laborer		
Coconino, Maricopa, Mohave, Pima, Yavapai & Yuma.....	\$ 14.54	3.49
Grade Setter (Pipeline).....	\$ 17.83	5.45
Guard Rail Installer.....	\$ 13.28	2.99
Landscape Laborer.....	\$ 11.39	
Landscape Sprinkler Installer.....	\$ 15.27	
Pipelayer.....	\$ 14.81	2.96
Powderman, Hydrasonic.....	\$ 16.39	2.58
OPERATOR: Power Equipment		
Asphalt Laydown Machine.....	\$ 21.19	6.05
Backhoe < 1 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.37	3.85
Backhoe < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Clamshell < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Concrete Pump (Truck Mounted with boom only)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 19.92	7.10
Crane (under 15 tons).....	\$ 21.35	7.36
Dragline (up to 10 cu yd)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Drilling Machine (including Water Wells).....	\$ 20.58	5.65
Grade Checker		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 16.04	3.68
Hydrographic Seeder.....	\$ 15.88	7.67
Mass Excavator.....	\$ 20.97	4.28
Milling Machine/Rotomill.....	\$ 21.42	7.45

Motor Grader (Finish-any type power blade) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 21.92	4.66
Motor Grader (Rough) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 20.07	4.13
Oiler.....	\$ 18.15	8.24
Power Sweeper.....	\$ 16.76	4.44
Roller (all types Asphalt) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.27	3.99
Roller (excluding asphalt)..	\$ 15.65	3.32
Scraper (pneumatic tired) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.69	3.45
Screed Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.54	3.72
Shovel < 10 cu yd Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Skip Loader (all types <3 cu yd).....	\$ 18.28	5.30
Skip Loader (all types 3 < 6 cu yd) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.64	4.86
Skip Loader (all types 6 < 10 cu yd).....	\$ 20.15	4.52
Tractor (dozer, pusher - all) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.26	2.65

PAINTER

Coconino, Maricopa, Mohave, Pima, Pinal & Yuma..	\$ 15.57	3.92
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TRUCK DRIVER

2 or 3 Axle Dump or Flatrack.....	\$ 16.27	3.30
5 Axle Dump or Flatrack.....	\$ 13.97	2.89
6 Axle Dump or Flatrack (< 16 cu yd).....	\$ 17.79	6.42
Belly Dump.....	\$ 14.67	
Oil Tanker Bootman.....	\$ 22.03	
Self-Propelled Street Sweeper.....	\$ 13.11	5.48
Water Truck 2500 < 3900 gallons.....	\$ 18.14	4.55
Water Truck 3900 gallons and over.....	\$ 15.92	3.33
Water Truck under 2500 gallons.....	\$ 15.94	4.16

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====
 Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

January 16, 2014

RAILROAD CROSSING SAFETY IMPROVEMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET

PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C

ADDENDUM NO. 1 TO THE CONTRACT DOCUMENTS:

The original contract documents are modified or interpreted as stated herein. Receipt of this Addendum No. 1 shall be acknowledged by inserting its number and date in the space provided on the Bid Form. Failure to acknowledge may subject bidder to disqualification.

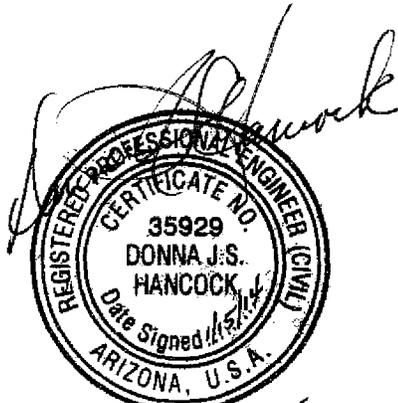
This Addendum No. 1 consists of 17 pages.

SPECIAL TERMS AND CONDITIONS:

Due to Federal regulations, the City will use an independent quality assurance materials tester to verify the testing done by the Bidder's internal quality control materials tester. The Bidder's quality control test results will be required for City verification. Add the following section to the contract documents:

3.28. **MATERIALS SAMPLING AND TESTING**

Bidder shall comply with the ADOT Materials Quality Assurance Program requirements as outlined in the attached Appendix A.



EXPIRES 3/31/16
SPECIAL PROVISIONS
ONLY


Andy Goh, P.E.
Deputy PW Manager/City Engineer

APPENDIX A

**ARIZONA DEPARTMENT OF
TRANSPORTATION
LOCAL PUBLIC AGENCY
CERTIFICATION ACCEPTANCE
QUALITY ASSURANCE
REQUIREMENTS**

APPENDIX A

ARIZONA DEPARTMENT OF TRANSPORTATION
LOCAL PUBLIC AGENCY
CERTIFICATION ACCEPTANCE
QUALITY ASSURANCE REQUIREMENTS

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A1. SCOPE

It is the objective of this document for the Arizona Department of Transportation (ADOT) to define the Quality Assurance requirements for any Local Public Agency (LPA) that has been granted Certification Acceptance (CA) status to administer Federal-Aid construction projects. The LPA Quality Assurance requirements described herein have been developed by ADOT Materials Group, Quality Assurance Section to provide consistent implementation and supporting documentation in accordance with the Code of Federal Regulations (23 CFR 637, Subpart B), "Quality Assurance Procedures for Construction" (See Appendix D). Appendix A has been developed with the understanding that significant portions of the Phoenix and Tucson metropolitan areas will be designated as part of the National Highway System (NHS) under Federal Authorization MAP-21.

The LPA Quality Assurance process is composed of the following main components:

- Qualification of Testing Personnel
- Qualification of Laboratories
- Pre-Construction Approval by ADOT of the LPA Materials Sampling and Testing Plan
- Acceptance Sampling and Testing
- Independent Assurance (I.A.) Sampling and Testing
- Certificates of Compliance and Certificates of Analysis
- Buy America Requirements for Steel and Iron Products
- Final Certification of Materials
- Records Retention and Audit Requirements

To determine compliance with applicable regulations, the contractual relationship between the acceptance laboratory, sampling/testing personnel, contractor, and LPA must be clearly defined.

A2. LIST OF ABBREVIATIONS

AAP	AASHTO Accreditation Program
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADOT	Arizona Department of Transportation
ATTI	Arizona Technical Testing Institute
CA	Certification Acceptance
CFR	Code of Federal Regulations
I.A.	Independent Assurance Sampling and Testing Program
LPA	Local Public Agency
MAP-21	"Moving Ahead for Progress in the 21st Century" Act
NHS	National Highway System

A3. LIST OF FIGURES

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGE</u>
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Figure A7	Final Certification of Materials Flow Chart	14

A4. QUALIFICATION OF SAMPLING AND TESTING PERSONNEL

All field and laboratory personnel performing sampling or testing of construction materials on a LPA construction project must have the certifications shown in Figure A1, as applicable for the scope of the project.

Soils and Aggregate	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) "Field" certification.	Arizona Technical Testing Institute (ATTI) "Laboratory Soils/Aggregate" certification.
Asphaltic Concrete	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Testing Institute (ATTI) "Field" certification.	Arizona Technical Testing Institute (ATTI) "Asphalt" certification.
Concrete	
<u>Field</u>	<u>Laboratory</u>
American Concrete Institute (ACI) "Concrete Field Testing Technician Grade I" certification.	American Concrete Institute (ACI) "Concrete Strength Testing Technician" certification.

REQUIREMENTS FOR SAMPLING AND TESTING TECHNICIANS

Figure A1

A5. QUALIFICATION OF LABORATORIES

ADOT recognizes the AASHTO Accreditation Program (AAP) in conjunction with AASHTO R 18, "Establishing and Implementing a Quality Management System for Construction Materials Laboratories", for a laboratory to demonstrate competency in the performance of specific tests on construction materials. All laboratories that perform construction materials testing on LPA construction projects must be AAP accredited in the testing procedures performed.

A6. PRE-CONSTRUCTION APPROVAL OF THE LPA MATERIALS SAMPLING AND TESTING PLAN

The LPA will submit the following documents to the ADOT Materials Group, Quality Assurance Engineer for approval prior to beginning construction:

1. Bid Schedule that shows the Item Number, Item Description, Unit, and Quantity of project construction materials and activities. Figure A2 shows an example Bid Schedule.

2. Materials Sample Checklist that details the scope of the proposed sampling and testing. The materials that are to be sampled and tested, as well as the frequency at which the sampling and testing are to be performed, is to be shown on the Materials Sample Checklist. Figure A3 shows an example Materials Sample Checklist.

3. Materials Certificate Log that lists Certificates of Compliance and Certificates of Analysis that will be required during construction. An example Materials Certificate Log is shown in Figure A4.

4. Statement that details the contractual relationship between the acceptance laboratory, independent assurance laboratory, field sampling/testing personnel, contractor, and the LPA. If the acceptance laboratory or the independent assurance laboratory receives payment from the contractor, that relationship must be clearly defined.

A flow chart showing the process listed above is given in Figure A5.

A7. ACCEPTANCE SAMPLING AND TESTING

Acceptance Sampling and Testing is separate from Independent Assurance Sampling and Testing.

It is the responsibility of the Local Public Agency to develop a Sampling Guide which outlines the requirements for Acceptance Sampling and Testing. The guide shall be submitted to the ADOT Materials Quality Assurance Engineer for review and approval.

An LPA Central Laboratory may perform both Acceptance Sampling and Testing and Independent Assurance Sampling and Testing on a particular project. However, the same individual shall not perform both the Acceptance Sampling and Testing and the Independent Assurance Sampling and Testing.

A laboratory other than an LPA Central Laboratory shall not perform both Acceptance Sampling and Testing and Independent Assurance Sampling and Testing on a particular project.

BID SCHEDULE

Project Number: (_____)

Item No.	Item Description	Unit	Quantity	Unit Price	Extended Amount
4040116	APPLY BITUMINOUS TACK COAT	HOUR	260		
4040125	FOG COAT	TON	2		
4040163	BLOTTER MATERIAL	TON	10		
4040264	ASPHALT BINDER (PG 64-22)	TON	2,260		
4090003	ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)	TON	1,350		
4140040	ASPHALTIC CONCRETE FRICTION COURSE (ASPHALT-RUBBER)	TON	9,350		
4140042	ASPHALT RUBBER MATERIAL (FOR AR-ACFC)	TON	890		
4140044	MINERAL ADMIXTURE (FOR AR-ACFC)	TON	85	\$90.00	\$7,650.00
4160002	ASPHALTIC CONCRETE (3/4" MIX) (END-PRODUCT)	TON	45,200		
4160031	MINERAL ADMIXTURE	TON	430	\$90.00	38,700.00
6070060	FOUNDATION FOR SIGN POST (CONCRETE)	EACH	40		
7015041	TEMPORARY PAINTED MARKING (ARROW, SYMBOL OR LEGEND)	EACH	6		
70115042	TEMPORARY PAINTED MARKING (STRIPE)	L. FT.	231,000		
70116030	BARRICADE (TYPE II, VERT. PANEL, TUBULAR MARKER)	EACH-DAY	2,250		

EXAMPLE BID SCHEDULE

Figure A2

**LOCAL PUBLIC AGENCY
MATERIALS SAMPLE CHECKLIST**
(Date)

PROJECT LOCATION: () PROJECT NUMBER: ()

ITEM NUMBER	MATERIAL	PLAN QUANTITY	ACTUAL QUANTITY IF VARIES FROM PLAN QUANTITY	NUMBER OF SAMPLES		NUMBER OF SAMPLES TESTED		
				RECOMMENDED		PROJECT		LPA CENTRAL LABORATORY OR INDEPENDENT LABORATORY
				A C C P	I A S	ACCP SAMPLES TAKEN BY PROJECT	ACCP SAMPLES TESTED BY PROJECT	I A S
4040264	Asphalt Binder (PG 64-22)	470 T		5				
4140040	Asphaltic Concrete Friction Course (Asphalt-Rubber)							
	AR-ACFC	2,650 T		4				
	Mineral Aggregate for AR-ACFC	2,438 T		5	1			
4140042	Asphalt Rubber Material (for AR-ACFC)	240 T		2				
	Binder for Asphalt Rubber Material	200 T		2				
	Rubber for Asphalt Rubber Material	40 T		1				
41600004	Asphaltic Concrete (End-Product) (Special Mix)	9,400 T		20	1			
	Mineral Aggregate for AC (End Product) (Special Mix)	8,836 T		4	1			

EXAMPLE MATERIALS SAMPLE CHECKLIST

Figure A3

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS CERTIFICATE LOG

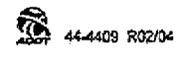
PROJECT NO. Local Public Agency

CONTRACTOR Prime

SHEET 1 OF 1

DESCRIPTION / IDENTIFICATION OF MATERIAL	TYPE OF CERT. REQ'D.	DATE CERT. REC'D	CHECKLIST						DATE MATERIAL CHECKED AGAINST CERT.	CERT. ACCEPTABLE (Y/N)	INSPECTOR	COMMENTS
			DESCRIPTION OF MATERIAL	QUANTITY REPRESENTED	MATL. IDENTIFICATION	COMPLIANCE STATEMENT	AUTH. SIGNATURE/DATE	TEST RESULTS (CERT. OF ANALYSIS)				
Raised Pavement Markers (Type D)	Compl.											
Permanent Paint	Compl.											
Erosion Control Sediment Logs	Compl.											
Barbed Wire Fence (type II)	Compl.											
409 Tack Coat	Compl.											
411 Friction Course Admix (lime)	Compl.											
411 PG Asphalt Binder	Compl.											

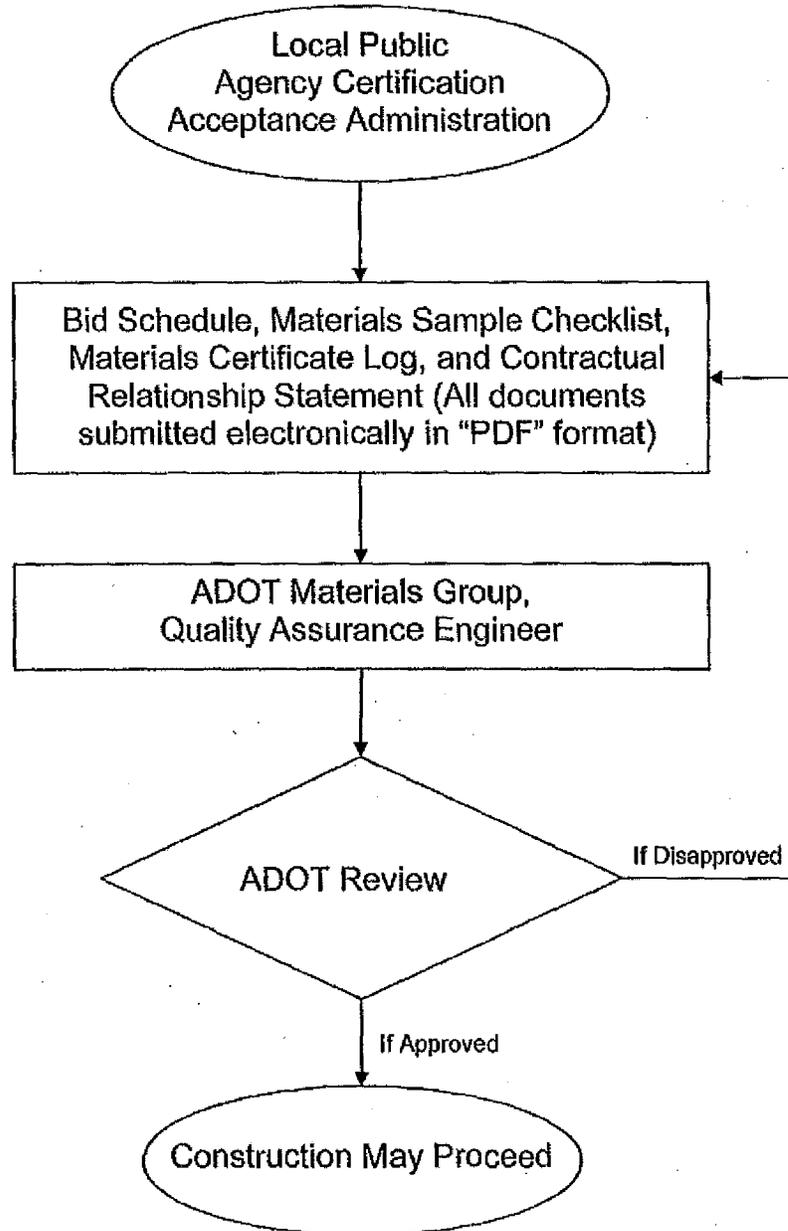
RESIDENT ENGINEER _____ (Signature) DATE _____



ADOT MATERIALS QUALITY ASSURANCE PROGRAM
 APPENDIX A

January 17, 2014

EXAMPLE MATERIALS CERTIFICATE LOG
 Figure A4



PRE-CONSTRUCTION APPROVAL OF THE LPA MATERIALS SAMPLING AND TESTING PLAN FLOW CHART

Figure A5

Acceptance Sampling and Testing may be performed by:

- Local Public Agency sampling and testing personnel.
- An independent consultant laboratory selected and compensated by the Local Public Agency.
- Contractor sampling and testing personnel.
- An independent consultant laboratory selected and compensated by the contractor.

A8. INDEPENDENT ASSURANCE (I.A.) SAMPLING AND TESTING

Independent Assurance Sampling and Testing is separate from Acceptance Sampling and Testing.

The LPA is responsible for administering the Independent Assurance Sampling and Testing.

An LPA Central Laboratory may perform both Independent Assurance Sampling and Testing and Acceptance Sampling and Testing on a particular project. However, the same individual shall not perform both the Independent Assurance Sampling and Testing and the Acceptance Sampling and Testing.

A laboratory other than an LPA Central Laboratory shall not perform both Independent Assurance Sampling and Testing and Acceptance Sampling and Testing on a particular project.

Independent assurance samples shall be obtained from project or processing facility by the LPA or by an independent consultant laboratory selected and compensated by the LPA.

If the acceptance testing is performed by the LPA, or an independent consultant laboratory which is selected and compensated by the LPA, the ratio of independent assurance sampling and testing is one I.A. per 20 acceptance tests.

If the acceptance testing is performed by the contractor, or an independent consultant laboratory which is selected and compensated by the contractor, the ratio of independent assurance sampling and testing is one I.A. per 5 acceptance tests.

Note: The increased frequency of I.A. sampling and testing when acceptance sampling and testing is performed by the contractor, or an independent consultant laboratory which is selected and compensated by the contractor, is utilized as verification of the contractor's acceptance testing.

When an LPA Central Laboratory does not perform both the independent assurance testing and the acceptance testing, each I.A. field sample shall be split between the laboratory performing the independent assurance testing and the laboratory performing the acceptance testing.

If the test results do not compare favorably, cooperative efforts to investigate and identify the cause of the discrepancy should commence immediately. As a minimum, these efforts should include a check of the test data, calculations, and results; an inspection of the equipment used to perform the testing; a discussion with the test operators regarding their knowledge of the procedure in question; retesting of samples; exchanging samples; and observation of each other's techniques. When the problem is isolated, the steps taken to resolve it shall be documented.

A9. CERTIFICATES OF COMPLIANCE AND CERTIFICATES OF ANALYSIS

Manufactured products that are accepted by the LPA through a Certificate of Compliance or Certificate of Analysis shall include, as a minimum:

- The current name, address, and phone number of the manufacturer or supplier of the material.
- A description of the material supplied.
- Quantity of material represented by the certificate.
- Means of material identification, such as label, lot number, or marking.
- A statement that the material complies in all respects with the requirements of the cited specifications.
- The name, title, and signature an individual has the legal authority to bind the manufacturer or the supplier of the material. The date of the signature shall also be given. In addition, a statement that the individual has such legal authority.

A10. BUY AMERICA REQUIREMENTS FOR STEEL AND IRON PRODUCTS

Steel and iron materials and products used shall comply with the current "Buy America" requirements of 23 CFR 635.410.

All steel and iron products permanently incorporated into a LPA project must be domestically produced and have appropriate certification statements provided by the manufacturer. Records for the steel and iron products must be traceable through heat numbers and mill certificates. Certification statements should be verified by visual inspection at the time of material delivery to the project site.

A11. FINAL CERTIFICATION OF MATERIALS

Following completion of the project construction, the LPA shall submit copies of the Testing Summaries and the Materials Certification/Exception Report to the Materials Group, Quality Assurance Engineer. The copies shall be submitted electronically in "pdf" format. The Materials Quality Assurance Engineer will review these items, and if necessary notify the LPA Project Engineer of any deficiencies that require correction. A flow chart illustrating this process is shown in Figure A7.

A11.1 Submittal of Testing Summaries

The LPA shall submit copies of the project testing summaries to the ADOT Materials Group, Quality Assurance Engineer. As a minimum, the testing summaries must include the following:

1. Name of laboratory and technician that performed the testing, and the date the testing was performed.
2. Summary of test results. The summary shall include a comprehensive report of all test results.

A11.2 Exception Reporting Requirement

The materials records for each project shall be reviewed by the LPA Project Engineer. A "Materials Certification / Exception Report" shall then be prepared by the LPA Project Engineer. The Materials Certification / Exception Report must include at a minimum the following statement:

"I certify that I have reviewed the materials records for the above referenced project. The results of the tests used in the acceptance program indicate that the materials incorporated in the construction work, and the construction operations controlled by sampling and testing, were in conformity with the approved plans and specifications. In addition, all material sampling and testing was performed in accordance with the Approved LPA Materials Sampling and Testing Plan."

Construction materials that failed to meet specification requirements, but were incorporated in the project, must be summarized in the Materials Certification/Exception Report with a detailed explanation listing penalties or justification for acceptance.

An example Materials Certification / Exception Report is given in **Figure A6**.

The Materials Certification / Exception Report shall be submitted to the Materials Group, Quality Assurance Engineer under seal of a professional engineer registered the State of Arizona.

A12. RECORDS RETENTION AND AUDIT REQUIREMENTS

The LPA shall maintain all test reports, certificates, and test summaries for a minimum of five years after the project has been completed. All records shall be available for review by ADOT at any time while the project is in construction or during the five year retention period.

ADOT MATERIALS QUALITY ASSURANCE PROGRAM
APPENDIX A

January 17, 2014

(Local Public Agency Letterhead)

(Date)

TO: (Name)
Quality Assurance Engineer
ADOT Materials Group
1221 N. 21st Avenue
Phoenix, AZ 85009

FROM: Name of Project Engineer
(LPA Name)

RE: MATERIALS CERTIFICATION/EXCEPTION REPORT

PROJECT: (Project Name from the plans and specifications)
(TRACS Number)
(Federal ID Number)

I certify that I have reviewed the materials reports for the above referenced project. The results of the tests used in the acceptance program indicate that the materials incorporated in the construction work, and the construction operations controlled by sampling and testing were in conformity with the approved plans and specifications. In addition, all materials sampling and testing was performed in accordance with the Approved LPA Materials Sampling and Testing Plan. Exceptions to the above certification are as follows:

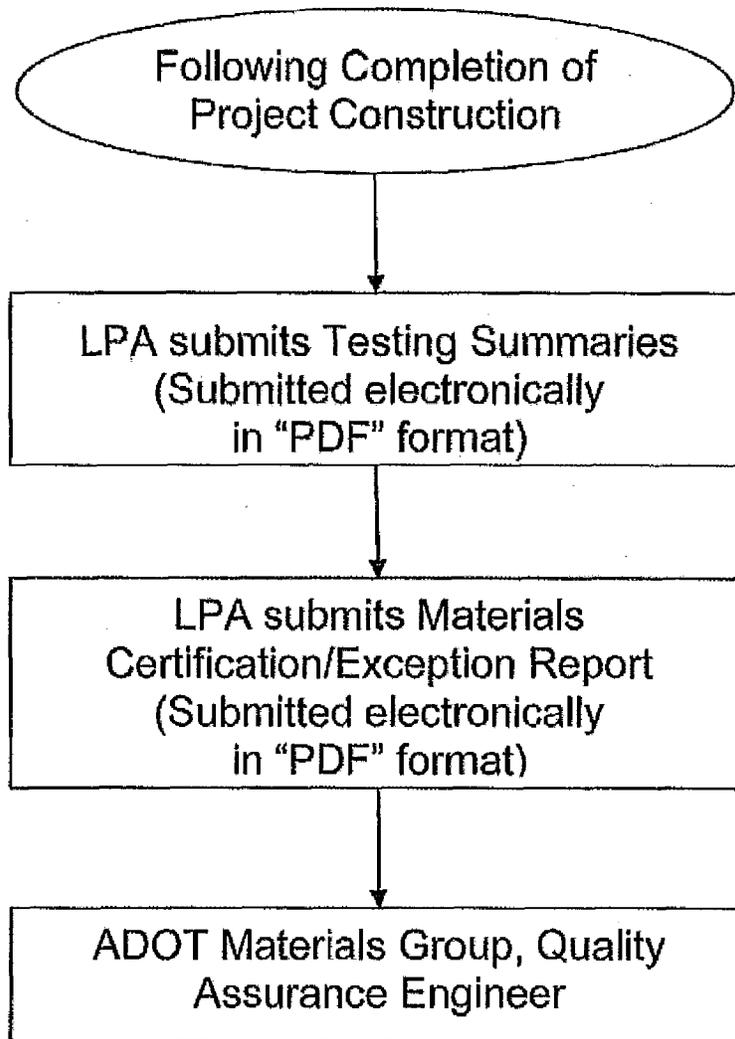
1. List any materials that were incorporated in the completed construction project where testing indicated non-conformance to the plans and specifications. If Materials Quality penalties were imposed or contract change orders associated with Material Quality were initiated, list the specific details of those agreements.
2. List any item that were not sampled and testing as indicated in the Approved LPA Materials Sampling and Testing Plan and provide details on how the LPA plans to prevent recurrence of the sampling and testing deficiencies on future projects.



LPA Project Engineer

EXAMPLE MATERIALS CERTIFICATION/EXCEPTION REPORT

Figure A6



FINAL CERTIFICATION OF MATERIALS FLOW CHART

Figure A7

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**CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

NOTICE TO CONTRACTORS

**RAILROAD CROSSING SAFETY IMPROVEMENTS,
UNION PACIFIC RAILROAD AT FIFTH STREET
PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C**

1. INTRODUCTION

THIS INVITATION FOR BIDS is hereby offered by the City of Tempe, an Arizona municipal corporation ("City"), for Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street, as set forth herein, and shall be identified as Project No. 5405371.

This Project is funded by the U.S. Department of Transportation, Federal Highway Administration (FHWA), through the Arizona Department of Transportation (ADOT).

The Federal Provisions section of this Invitation for Bids and Contract applies to all bidders and all contractors for the Project.

1.1. OVERVIEW OF PROJECT

The Project location is the railroad crossing located at Fifth Street and the Union Pacific Railroad (UPRR), approximately 30 feet west of Ash Avenue in Tempe, Arizona. The work will be within the existing City of Tempe right-of-way, and within the UPRR right-of-way. The project work consists of installation of raised medians on the east and west sides of the crossing and adjusting the sidewalks around new flashing lights and gates on the north side and south side of the crossing.

1.2. EXAMINATION OF PREMISES, SPECIFICATIONS, AND CONTRACT

Bidder shall visit the site of the Project and shall fully acquaint itself with all conditions as they exist, so that it may fully understand the site, difficulties, and restrictions attending the execution of the work.

Bidder shall also thoroughly examine and be familiar with the specifications, plans, and the Contract documents. Failure of Bidder to obtain, receive, or examine any addenda to the proposed Contract, or to visit the site and acquaint itself with the conditions there existing, shall not relieve it from any obligation with respect to the submitted bid.

By submitting a bid, Bidder agrees that it has examined the site, specifications, plans, and Contract, and accepts all site conditions, the proposed Contract, and all exhibits and addenda thereto.

1.3. START OF WORK / TERM OF CONTRACT

Work shall start as soon as practicable, but not later than seven (7) calendar days after the Notice to Proceed date and shall be completed within forty five (45) calendar days following the Notice to Proceed date. It is anticipated that the Notice to Proceed shall be issued on a tentative date between March 1, 2014 and March 15, 2014. All required contract documents shall be requested and processed by City of Tempe contract administration as soon as possible and should be completed upon council approval.

2. SCOPE OF WORK

The proposed work will consist of **INSTALLING RAISED MEDIANS AND ADJUSTING SIDEWALKS**, together with associated work.

2.1. CONTRACTOR'S CONSTRUCTION SCHEDULE

Prior to the start of work, a construction progress schedule shall be required and shall comply with the requirements of MAG Specifications 108.4. In addition, a schedule update comparing actual progress with scheduled progress will be required with the submission of each monthly pay request.

2.2. UNIFORM STANDARD SPECIFICATIONS

All work done under this Contract shall be accomplished in accordance with the Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction -- 2013 Revision to the 2012 Edition ("MAG Specifications") and the City of Tempe Supplement to the MAG Uniform Standard Details and Specifications for Public Works Construction - 2010 ("City of Tempe Supplement"), except as modified in the Contract.

In the case of a discrepancy or conflict, the order in which documents and Contract sections govern is as follows, from highest to lowest: federal provisions, special terms and conditions, technical specifications, plans, general terms and conditions, City of Tempe Supplement, and MAG Specifications.

All bids shall be made in accordance with the General Conditions of the MAG Specifications.

2.3. CONTRACTOR'S REPRESENTATIVE

Contractor shall at all times be present at the worksite or represented by a superintendent or other properly designated agent. Instructions and information given by City construction project manager to Contractor's superintendent or agent on the work shall be considered as having been given to Contractor.

2.4. SUPERVISION BY CONTRACTOR

Contractor will supervise and direct the work. It will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor will employ and maintain on the work a qualified superintendent who shall be designated in writing by Contractor and approved by City as Contractor's representative at the site. The superintendent shall have full authority to act on behalf of Contractor and all communications given to the superintendent shall be as binding as if given to Contractor. The superintendent shall be present on the site at all times in order to perform adequate supervision and coordination of the work. No substitution of the superintendent will be permitted without prior written request by the Contractor and written consent of City.

2.5. AUTHORITY OF CITY ENGINEER'S APPOINTED REPRESENTATIVE

City construction project manager shall act as City Engineer's designated representative during the construction period. He or she shall advise on questions concerning coordination with City, public safety, and quality and acceptability of materials and work performed. City Engineer, City construction project manager, or their assigned inspector shall interpret the intent of the Contract plans, specifications, and technical provisions in an unbiased manner.

City Engineer, City construction project manager, or their assigned inspector shall be present on the site at times during construction to monitor the work and to maintain records for Contract management. City construction project manager shall promptly make decisions relative to the interpretation of the Contract so as to minimize delays in construction. City construction project manager will not be responsible for directing construction, control, techniques, sequence, or procedures, or for directing job safety.

2.6. BENEFICIAL OCCUPANCY

Beneficial occupancy is use of a facility or project, in whole or in part, by City for its intended purpose. This may occur even though some work of the Contract remains undone. Prior to such use or occupancy, City will provide notice to Contractor and accomplish a partial acceptance inspection. Beneficial occupancy will apply to general right-of-way projects only.

2.7. SUBSTANTIAL COMPLETION

Substantial completion is work that is ready for occupancy and use for its intended purpose as certified by City and a certificate of occupancy. This term will be applied to building construction projects only.

2.8. PROJECT COMPLETION

Project completion is full completion of all construction associated with the Contract, including, but not limited to, punch list items, close-out documentation, operations and maintenance manuals, warranties, and record plans as certified by

the architect/engineer of record. Contractor may be found in default of this Contract in accordance with MAG Specifications 108.10 should project completion fall behind substantial completion by more than forty-five (45) days.

2.9. CONTRACT COMPLETION DATE

The Contract completion date established by reference to the Notice to Proceed date is for completion of all or specified portions of the work. This includes items of work to be completed under an owner allowance or as part of a contingency item. The stated Contract completion date will take into account anticipated or actual weather conditions that are not unusually severe for the area and time of year. This date may be expressed as a calendar date or as a number of calendar days after the Notice to Proceed date.

If time extensions are issued by City, the revised Contract completion date will be referred to as the adjusted Contract completion date.

2.10. FINAL INSPECTION

Contractor is responsible for complying with the specifications and is hereby forewarned that final approval of any work will not be given until the entire project is completed and accepted by City. Prior to final inspection on any City facilities requiring a building permit, Contractor must call for final inspection from the Community Development Department and Public Works Department of City. The final inspection must be completed prior to final acceptance and payment.

2.11. FINAL ACCEPTANCE & GUARANTEE

Final acceptance shall mean a written final acceptance of the work. City Engineer shall make the final acceptance promptly after the work has been inspected and found to be completed in accordance with the Contract. The work performed under this Contract shall be guaranteed for a period of one (1) year from the date of final acceptance.

2.12. AS-BUILT DRAWINGS

Contractor shall provide and maintain accurate field data on a redlined set of Contract drawings, which are to be kept current and submitted as complete at the conclusion of the construction. These record drawings will be used as documentation for progress payments, and upon project completion, for the preparation of record drawings by the architect/engineer. Final payment will not be issued until all record drawings are submitted by Contractor, and are certified to be complete by the architect/engineer of record.

2.13. SHOP DRAWINGS, SCHEDULES & SAMPLES

In time for each to serve its proper purpose and function, Contractor shall submit to City construction project manager such schedules, reports, drawings, lists, literature samples, instructions, directions, and guarantees as are specified or

reasonably required for construction, operation, and maintenance of the facilities to be built and/or furnished under this Contract.

Shop drawings and data shall be submitted to City construction project manager as one (1) hard copy and one (1) legible electronic PDF document of each submittal.

The submittal shall clearly indicate the specific area of the Contract for which the submittal is made. The additional copies received will be returned to Contractor's representative at the job site. City construction project manager's notations of the action taken will be noted on one (1) of these returned copies.

The above drawings, lists, prints, samples, and other data shall become a part of the Contract and a copy of the same shall be kept with the job site Contract, and the fabrications furnished shall be in conformance with the same.

City construction project manager's review of the above drawings, lists, prints, specifications, samples, or other data shall in no way release Contractor from its responsibility for the proper fulfillment of the requirements of this Contract, nor for fulfilling the purpose of the installation, nor from its liability to replace the same should it prove defective or fail to meet the specified requirements.

2.14. QUALITY CONTROL

All material shall be new and of the specified quality and equal to the accepted samples, if samples have been submitted. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from the Contract, and it shall be the duty of Contractor to call City construction project manager's attention to apparent errors or omissions and request instruction before proceeding with the work.

City Engineer may, through appropriate instruction, correct errors and supply omissions. Instructions provided by City Engineer shall be as binding upon Contractor as though contained in the original Contract.

At the option of City construction project manager, material to be supplied under this Contract will be tested and/or inspected either at its place of origin or at the site of the work. Contractor shall give City construction project manager written notification well in advance of actual readiness of material to be tested and/or inspected at point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the material, nor shall it preclude retesting or reinspection at the site of the work.

2.15. EXCESS MATERIALS

Excess or unsuitable material, broken asphaltic concrete, and broken Portland cement concrete shall be disposed of by Contractor. Contractor shall, prior to commencement of the work, submit a letter to City Engineer stating the location of disposal site(s) for all excess or unsuitable material and certifying that it has obtained the property owner's permission for the disposal of all surplus material.

2.16. MISCELLANEOUS REMOVAL AND RELOCATIONS

Miscellaneous removals and relocations shall be performed by the Contractor, and is construed to mean the removal of all unsuitable materials, whether designated or implied by the plans and specifications, and shall include but not be limited to removal of items of every nature and description such as pipes, concrete, asphalt, block, brick, rock, and metal, including temporary removal and reinstallation, unless such items are specifically designated in a separate bid item. In addition, certain items requiring temporary removal and reinstallation such as mail box stands, sign posts, survey monument frames and covers, shall be included in this category.

2.17. PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK

Contractor shall properly guard and protect all finished or partially finished work, and shall be responsible for the same until that phase is completed and accepted by City.

Estimate or partial payment of completed work shall not release Contractor from such responsibility prior to City's acceptance, but Contractor shall turn over the entire work in full accordance with these specifications before final payment can be made.

2.18. SURVEY CONTROL POINTS

Existing survey monuments shall be protected by Contractor or removed and replaced under the direct supervision of City of Tempe Engineering Division Land Services Section.

One week prior to construction, Contractor shall notify City of Tempe Engineering Division Land Services Section of any survey monuments that need to be relocated. Any monuments damaged or lost due to the Contractor's negligence and/or lack of notification to City of Tempe Engineering Division Land Services Section shall be replaced at Contractor's expense. In the event a lot corner will be disturbed, Contractor shall notify affected property owner(s) and obtain consent prior to any construction. Any lot corners disturbed or lost due to Contractor's negligence shall be replaced at Contractor's sole expense.

2.19. HINDRANCES AND DELAYS

Except as provided herein, no charge shall be made by Contractor for hindrances or delays from any cause during the progress of any portion of the work set forth in this Contract; however, delays due to no fault or neglect of Contractor may entitle Contractor to a time extension sufficient to compensate for the delays. The amount of the time extension, if any, shall be determined by City Engineer provided Contractor gives City Engineer immediate notice in writing of the cause of such delay.

The parties agree to negotiate in good faith for the recovery of damages related to expenses incurred by Contractor for a delay for which City is solely responsible that is unreasonable under the circumstances, and that was not within the contemplation of the parties to the Contract at the time the Contract was entered into.

2.19.1. Unless specifically provided for herein, the maximum compensation for an unreasonable or unforeseen delay shall not exceed the daily amount specified for liquidated damages in MAG Specification 108.9, as based on the original Contract amount.

2.19.2. This section shall not be construed to void any provisions of this Contract, which require notice of delays, or which provide for alternative dispute resolution, other procedures for settlement, or which provide for liquidated damages.

However, if the parties cannot reach agreement for the recovery of damages as set forth herein, the determination of City shall be final.

2.20. SUBSIDIARY WORK

All work called for in the plans and specifications shall be performed by Contractor, and unless a specific bid item is provided for the work, then such portion of the work will be considered subsidiary to other work for which payment is provided.

2.21. MISCELLANEOUS WORK AND ALLOWANCES

The following items will be included in the work with no direct payment allowed. Payment shall be included in the payment for other items for which direct payment is made.

2.21.1. Contractor's expenses for, but not limited to, mobilization, job site office, storage facilities, traffic control and public safety devices, sanitary facilities, utilities, and telephone.

2.21.2. Cleanup, including day-to-day cleanup.

2.21.3. Notification to residents adjacent to this project prior to the start of work on construction that may affect them.

2.21.4. Water required for compaction or dust control.

2.21.5. Miscellaneous removals and relocations not otherwise specified in the Technical Specifications.

2.21.6. Power pole bracing.

2.21.7. Removal of trees twelve inches (12") or less in diameter.

2.21.8. Removal, relocation, and/or modification of existing walls and fences.

2.21.9. Trimming of trees and bushes.

2.21.10. Replacement of plant material and repair of irrigation equipment to meet or exceed conditions existing prior to Contractor beginning work.

2.22. **CHANGE ORDERS**

In the event that significant changes in the scope of the work and/or changes in the quantities due to contingencies of construction become necessary, such changes shall be made in accordance with Section 104.2 of the General Conditions in the MAG Specifications.

The costs associated with any extra work as authorized by City must be approved prior to the start of work. The final costs for additional work shall also include all charges associated with extended general conditions or Contract acceleration. Pay requests for extra work performed shall be submitted with the next billing cycle and shall not exceed thirty (30) days from the date extra work was performed.

2.23. **ADDITIONAL SERVICES**

Additional services that are outside the scope of basic services contained in this Contract shall not be performed by Contractor without prior written authorization from City. Additional services, when authorized by an executed Contract or an amendment to this Contract, shall be compensated for by a fee mutually agreed upon between City and Contractor.

3. **SPECIAL TERMS AND CONDITIONS**

3.1. **PAYMENT BOND; PERFORMANCE BOND**

A payment bond and a performance bond, each in an amount equal to the full contract amount, will be required of the Contractor immediately after notice of Contract award, and before final Contract execution. Each bond shall be in accordance with Arizona Revised Statutes (A.R.S.) § 34-201, *et seq.*, as amended from time to time.

Arizona law provides that the bonds shall be executed solely by a bonding company, liability insurance carrier, or excess insurance carrier that holds a certificate of authority to transact surety business in Arizona, issued by the director of the department of insurance pursuant to A.R.S. title 20, chapter 2, article 1, as amended from time to time. Additionally, the City requires that the bonding company, liability insurance carrier, or excess insurance carrier have a Financial Strength Rating of A- or better and a Financial Size Category of VII or higher, as listed in the most recent "Best's Key Rating Guide – Property/Casualty," published by A.M. Best Company. An individual surety or sureties shall not execute either bond, even if the requirements of A.R.S. § 7-101 are satisfied.

3.2. INSURANCE

Certificates of Insurance verifying insurance coverage that meets the following minimum requirements will be required of the Contractor immediately after notice of Contract award, and before final Contract execution.

Arizona law provides that the insurer must hold a certificate of authority to transact insurance in Arizona, issued by the director of the department of insurance pursuant to Arizona Revised Statutes, title 20, chapter 2, article 1, as amended from time to time. Additionally, the City requires that the insurance company have a Financial Strength Rating of A- or better and a Financial Size Category of VII or higher, as listed in the most recent "Best's Key Rating Guide — Property/Casualty," published by A.M. Best Company. This requirement does not apply to the Workers' Compensation / Employer's Liability portion of the Certificate of Insurance.

3.2.1. Contractor shall maintain limits no less than:

- a. **Commercial General Liability**: \$5,000,000 combined single limit per occurrence for bodily injury and property damage, including coverage for contractual liability (including defense expense coverage for additional insureds), premises/operations, underground explosion and collapse hazard, personal injury, broad form property damage, products and completed operations, independent contractors and product liability. The general aggregate limit shall apply separately to this project/location or the general aggregate shall be twice the required occurrence limit.
- b. **Automobile Liability**: \$1,000,000 combined single limit per accident for bodily injury and property damage, including coverage for owned, hired, and non-owned vehicles as applicable.
- c. **Excess Liability (umbrella form)**: As required.
- d. **Workers' Compensation and Employer's Liability**: Workers' Compensation and Employer's Liability statutory limits as required by the State of Arizona.

City shall have no responsibility or liability for such insurance coverage.

3.2.2. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared and approved by City. At the option of City, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects City, its officials, employees, and volunteers, or Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

3.2.3. Other Insurance Provisions

The policies or self-insurance certifications are to contain, or be endorsed to contain, the following provisions:

a. Commercial General Liability and Automobile Liability Coverage:

City, its officers, officials, employees, agents, and volunteers are to be covered as additional insureds with respect to: liability arising out of activities performed by or on behalf of Contractor including the insured's general supervision of Contractor; products and completed operations of Contractor; premises owned, occupied, or used by Contractor; or automobiles owned, leased, hired, or borrowed by Contractor. The coverage shall contain no special limitations on the scope of protection afforded to City, its officers, officials, employees, agents, or volunteers, for work related to Contractors', employees', agents', subcontractors', or sub-subcontractors' activities.

Contractor's insurance coverage shall be primary with respect to City, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by City, its officials, employees, or volunteers shall be in excess of Contractor's insurance and shall not contribute to it.

Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its officers, officials, employees, agents, or volunteers.

Coverage shall state that Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

b. Workers' Compensation and Employer's Liability Coverage

The insurer shall agree to waive all rights of subrogation against City, its officers, officials, employees, agents, and volunteers for losses arising from work performed by Contractor for City.

c. All Coverages

Each insurance policy required by this Contract shall be endorsed to state that the coverage shall not be suspended, voided, and/or canceled by either party, reduced in coverage or in limits, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to City.

3.2.4. Other Insurance Requirements

Contractor shall:

- a. Immediately after notice of Contract award, and before final Contract execution, furnish City with certificates of insurance, in form and with insurers acceptable to City, which shall clearly evidence all insurance required in this Contract and provide that such insurance shall not be canceled, allowed to expire, or be materially reduced in coverage except on thirty (30) days' prior written notice by certified mail to City, and in accord with stated insurance requirements of this bid solicitation. MAG Specification 103.6 is fully incorporated into this Contract, except to the extent it conflicts with the limits set forth in this Contract. The insurance policies required by MAG Specification 103.6 shall additionally provide full coverage of indemnity to City, including an increase in the minimum limits to \$5,000,000 combined single limit coverage for General Liability. Prior to execution of the Contract, Contractor shall furnish City with a Certificate of Insurance as evidence that policies providing the required coverages, conditions, and limits are in full force and effect. Such certificates shall identify the project and shall provide for not less than thirty (30) days' advance written notice to City, by certified mail, of cancellation or termination. Any cancellation clause shall not include the phrases "endeavor to" or "but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives." City shall not be obligated, however, to review same or to advise Contractor of any deficiencies in such policies and endorsements, and such receipt shall not relieve Contractor from, or be deemed waiver of City's right to insist on, strict fulfillment of Contractor's obligations under this Contract.
- b. Provide certified copies of endorsements and policies if requested by City in addition to certificates of insurance.
- c. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of services.
- d. Maintain such insurance from the time services commence until services are completed. Should any required insurance lapse during the Contract term, requests for payments originating after such lapse shall not be processed until City receives satisfactory evidence of reinstated coverage as required by this Contract, effective as of the lapse date. If insurance is not reinstated, City may at its sole option, terminate this Contract effective on the date of such lapse of insurance.

3.2.5. Subcontractors and Sub-Subcontractors

Contractor shall include all subcontractors and sub-subcontractors as insureds under its policies. All coverage for subcontractors and sub-subcontractors shall be subject to all of the requirements stated herein for Contractor.

3.3. INDEMNIFICATION

To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold City harmless, including City's agents, officers, assigns, officials, and employees, from and against all claims, damages, losses, liability, and/or expenses, relating to, arising out of, or resulting from, any negligent acts, errors, mistakes, or omissions in the work or services performed by Contractor and its agents, employees, subcontractors, or assigns, for whom Contractor may be deemed responsible, relating to any goods, services, or materials arising from, or relating to, any term or covenant of this bid. The amount and type of insurance coverage required of Contractor as set forth herein will in no way be construed as limiting the scope of Contractor's duties to indemnify City. This provision shall survive the Contract term.

3.4. PAYMENT

3.4.1. Method of Payment. Payment shall be made as directed in MAG Specifications 109.

3.4.2. Measurement of Payment.

- a. Quantities of materials for this work shall be paid under the appropriate schedule at the applicable Contract price per unit of measurement with no allowances for waste. Payment will be made after completion upon acceptance by City, and upon City's receipt of approved invoices.
- b. Payment for various items in the bid shall be compensation in full for furnishing all materials, labor, tools, equipment, and appurtenances necessary to complete the work in a satisfactory manner as specified. No additional payment will be made for work related to any item unless specifically called for in the bid.
- c. Materials placed without approval of the inspector, or materials rejected due to improper placing, improper proportions of materials, or materials found to be defective, will not be paid for.

3.5. PRE-CONSTRUCTION MEETING

Contractor shall meet with the City Engineer for a preconstruction conference prior to commencing work. At the preconstruction conference, Contractor shall submit a progress schedule showing the order in which Contractor proposes to carry out the work; the dates on which Contractor and its subcontractors will start the salient features of the work, including procurement of materials, equipment, etc.; the ordering of articles of special manufacture; the furnishing of drawings, plans, and other data for the review and approval of the City Engineer; the inspection of structural steel fabrication; and the contemplated dates for the completion of the said salient features. The schedule may be in a bar chart format or a critical path method format. No schedule activity shall be shorter than one day or longer than 15 working 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 City Engineer, 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.

Contractor shall furnish authorized signature forms and a list of Contractor's proposed subcontractors and major material suppliers.

Progress schedules shall have considered the time requirement for ordering articles of special manufacture to meet specific requirements of the work when structural steel fabrication inspection is required.

Contractor shall submit a traffic control plan in accordance with the subsection of Special Terms and Conditions titled Traffic Control.

Contractor shall also submit a safety plan and designate an employee as Safety Supervisor, in accordance with ADOT Standard Specifications Subsection 107.08. If approved by the City Engineer, Contractor may designate one employee to be responsible for both the traffic control and safety plans.

If the project requires that Contractor or City personnel to work from falsework, within shoring, or in any other hazardous area, Contractor shall submit as part of Contractor's safety plan specific measures it will use to ensure worker safety.

Contractor shall also submit a program for erosion control and pollution prevention, as set forth in ADOT Standard Specifications Subsection 104.09, on all projects involving clearing and grubbing, earthwork, structural work, or other construction, when such work is likely to create erosion or pollution problems.

If the project has an On-the-Job Training (OJT) requirement (see the subsection of Federal Provisions titled On-the-Job Training), the Contractor shall submit its written OJT schedule and training plan.

If Contractor fails to provide the required submissions, the City Engineer may order the preconstruction conference suspended until such time as they are furnished. Work shall not begin until the preconstruction conference has been concluded and the safety plan has been approved, unless authorized by the City Engineer. Contractor shall not be entitled to additional compensation or an extension of contract time resulting from any delays due to such a suspension.

When the specifications require specific quality control measures for certain materials, Contractor shall designate a qualified employee as Quality Control Manager. The Quality Control Manager shall be responsible for the implementing and monitoring of the quality control requirements described in ADOT Standard Specifications Subsection 106.04(C).

3.6. SUBLETTING OF CONTRACT

In accordance with Form FHWA-1273, VII, Contractor shall perform, with Contractor's own organization, construction work that amounts to not less than thirty percent (30%) of the total Contract price.

3.7. LICENSES

The low bidder and all subcontractors must carry the appropriate State of Arizona contractor's license(s) for the proposed work prior to award of the Contract. Should the lowest responsive bidder not be able to obtain the required license(s), the project may be awarded to the next lowest responsive bidder who has the required license(s).

Prior to execution of the Contract, the low bidder must possess a valid City Transaction Privilege License and shall provide the permit number of such for validation.

3.8. HAUL PERMIT

In any operation where more than one-tenth of an acre of surface area is disturbed and/or when unpaved onsite haul roads are used, Contractor will obtain a Maricopa County Air Quality Department permit as required under Rule 200 of the Maricopa County Air Pollution Control Rules and Regulations. This permit will require that a control plan to mitigate dust and tracking problems be submitted to the County for approval prior to issuance of the Earth Moving Permit. The control plan should be submitted to City for review prior to County submittal to ensure that all elements of the planned operation are covered. Please contact the Maricopa County Air Quality Department at 602-506-6010 for additional details.

In addition, all Contractors hauling fill or excavation materials where the haul exceeds five thousand (5,000) cubic yards, or when the duration of the haul is more than ten (10) working days, are required to obtain a City haul permit before the hauling operation begins.

Prior to receiving a hauling permit, Contractor must submit the required certificate of insurance, a plan showing the proposed haul routes, and a complete schedule of the hauling operation to the City Transportation Division. Prior to submittal, Contractor should contact Engineering Services for complete details for issuance of a City haul permit.

3.9. LANDSCAPING AND IRRIGATION REQUIREMENTS

As applicable, Contractor shall be required to construct the landscape and irrigation improvements in accordance with the requirements of MAG Specifications Sections 430, 440, and 795, and the City of Tempe Public Works Department Standard Landscape and Irrigation Details and Specifications, latest edition (available at the City of Tempe Engineering Division, 31 East Fifth Street for five dollars (\$5.00) or

online at <http://www.tempe.gov/engineering>). In addition, the landscape plant establishment and maintenance period will be ninety (90) days.

3.10. SPECIFIC PRODUCTS OR BRANDS

In accordance with MAG Specification 106.4, specific brands and/or models of equipment, materials, or patented processes listed in the plans, specifications, standard details, and standard specifications are for demonstrative purposes only. They should not be construed as a sole source request for a specific product or brand. Contractor shall provide City with the required product data including, but not limited to, manufacturers' standard catalog cuts, brochures, diagrams, schedules, performance charts, illustrations, calculations, schematic drawings, printed installation, erection, application, and placing instructions, and other descriptive data related to the product in order for City to determine if the product is equivalent to the product listed for approval.

3.11. ENVIRONMENTAL REQUIREMENTS

3.11.1. Contractor covenants and agrees that it shall, at all times during the term of the Contract, and at its sole cost and expense, comply with and assume sole responsibility and liability under all environmental laws applicable to use of or operations at the project site by Contractor, its agents, assigns, and/or employees. Contractor agrees that should it or any of its agents, assigns, or employees know of (a) any violation of environmental laws relating to the project site, or (b) the escape, release, or threatened release of any hazardous materials in, on, under, or about the project site, Contractor shall promptly notify City in writing of such, and that it will provide all warnings of exposure to hazardous materials in, on, under, or about the project site, in strict compliance with all applicable environmental laws. Further, Contractor covenants and agrees that it shall at no time use, analyze, generate, manufacture, produce, transport, store, treat, release, dispose of, or permit the escape of, or otherwise deposit in, on, under, or about the project site, any hazardous materials, or permit or allow any of its agents, assigns, or employees to do so. Prior to use of the project site, Contractor shall provide City an inventory of all equipment and materials stored and/or to be stored at the project site.

3.11.2. For purposes of this Contract, hazardous materials shall include but is not limited to, any and all substances, chemicals, wastes, sewage, or other materials that are now or hereafter regulated, controlled, or prohibited by any environmental laws, including, without limitation, any (a) substance defined as a "hazardous substance", "extremely hazardous substance", "hazardous material", "hazardous chemical", "hazardous waste", "toxic substance", or "air pollutant" by federal laws, including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, *et seq.*; the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*; the Hazardous Materials Transportation Act, 49 U.S.C. § 1801, *et seq.*, the Toxic Substances Control Act, 15 U.S.C. § 2601, *et seq.*, and all amendments thereto or other similar governmental restrictions; and (b) any chemical, compound, material,

substance, or other matter that: (i) is a flammable explosive, asbestos, radioactive material, nuclear material, drug, vaccine, bacteria, virus, hazardous waste, toxic substance, injurious by itself or in combination with other materials; (ii) is controlled, designated in, or governed by any hazardous materials laws; (iii) gives rise to any reporting, notice, or publication requirements under any hazardous materials laws; or (iv) gives rise to any liability, responsibility, or duty on the part of City or Contractor with respect to any third person under any hazardous materials laws.

3.11.3. In addition, Contractor must comply with the following requirements:

- a. Non-pick-up sweepers will not be allowed except as required to make joints during chip sealing operations.
- b. Water flooding of trenches with potable water will not be permitted.
- c. All paints applied by sprayers shall be of a water-based type.
- d. Provisions shall be made to prevent the discharge of construction silt, mud, and debris into City storm drains or streets.
- e. Spills of oil, gas, chemical, or any other hazardous materials must be reported and removed by approved procedures. Mitigation measures shall be taken to prevent contamination of construction storage sites.
- f. Concrete waste must be disposed of in an approved location and at least twenty-five (25) feet from established landscaping.
- g. City refuse roll-off containers shall be used on City projects unless otherwise directed by the City of Tempe Solid Waste Supervisor. If you should have any questions concerning any of the requirements or charges, please contact the Solid Waste Supervisor, at 480-350-8268.
- h. Hazardous wastes shall not be discharged into City's sanitary sewers or storm drainage system. All waste products shall be disposed of in accordance with applicable regulations.
- i. When archaeological features are encountered or unearthed, Contractor shall promptly report to the Director of the Arizona State Museum and to City. Excavation shall not resume in the identified area until approved by City Engineer.
- j. Contractor shall take whatever steps, procedures, or means to prevent abnormal, material spillage, or tracking conditions due to their construction operations in connection with the Contract. The dust control measures shall be maintained at all times during construction of the project, to the satisfaction of City Engineer, in accordance with Rule 200 of the Maricopa County Health Department Air Pollution Control Regulations, which require that an Earth Moving Permit be issued and a Control Plan be approved prior to commencement of work. Contact Maricopa County at 602-506-6700 for details.

k. Contractor shall comply with all applicable federal regulations concerning National Pollutant Discharge Elimination System (NPDES) permits for storm discharges from construction sites.

l. All materials supplied by Contractor shall be one hundred percent (100%) asbestos free unless otherwise approved by City.

No additional payment will be made for compliance with the above items.

In addition to the above, the use of new products made with reclaimed material and that meet project specifications is encouraged.

3.12. SAFETY REQUIREMENTS

Contractor shall comply with all applicable federal, state, and local health and safety regulations, ordinances, and requirements including, but not limited to, the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*), and all rules, regulations, and orders adopted pursuant thereto.

3.13. TRAFFIC CONTROL

3.13.1. All traffic shall be regulated in accordance with the MAG Specifications; the City of Tempe Traffic Barricade Manual, latest edition; the Manual on Uniform Traffic Control Devices (MUTCD); and any special provisions included herein.

At the time of the pre-construction conference, Contractor shall designate an American Traffic Safety Services Association (ATSSA) certified individual, who is well qualified and experienced in construction traffic control and safety, to be responsible for implementing, monitoring, and altering traffic control measures, as necessary, to ensure that traffic is carried through the work area in an effective manner and that motorists, pedestrians, bicyclists, and workers are protected from hazard including, but not limited to, motor vehicle accidents. City shall designate a representative who will oversee and monitor Contractor's agent and enforce City's requirements set forth herein. Contractor covenants to give City any assignment and/or assurances which may be necessary to effect such right of direct enforcement.

Contractor is solely responsible for, and assumes full liability for, the traffic control relating to this project. Contractor shall submit a final traffic control plan to City for its review and approval no less than one (1) week prior to commencing work under this Contract. Traffic, as referenced herein, shall include any and all motor vehicles, bicyclists, and pedestrian traffic on roadways, sidewalks, bicycle paths, alleys, and/or rights of way at, attendant to, and/or adjacent to the Project.

In the event alteration of traffic control is required for work or services provided herein, alterations shall be made in accordance with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices,

"Traffic Control for Streets and Highway Construction and Maintenance Operations," or the City of Tempe Traffic Barricade Manual, latest edition. The most restrictive provision shall apply. Unless identified otherwise in the Technical Specifications, City will undertake no responsibility or expenses relating to measurement, payment, or alteration of traffic control. All costs or expenses related to traffic control shall be considered incidental to other pay items. Any and all revisions relating to traffic and/or traffic control shall be submitted to City for review and approval in City's sole discretion.

Contractor is solely responsible for any and all loss, damage, replacement, or repair necessitated to any traffic signal equipment, traffic signal conduit, and/or circuits, arising from or relating to Contractor's work or services performed hereunder. Contractor shall have all repairs performed immediately at its sole expense by a licensed electrical contractor with experience in traffic signal repair, subject to pre-approval by City. Any and all repairs and/or replacement costs expended by City in this regard shall be reimbursed by Contractor at twice City's actual cost.

Contractor shall notify all adjacent or affected residents or businesses at least forty-eight (48) hours in advance of any street, alley, sidewalk, and/or driveway closures or modifications, and make suitable arrangements to have all vehicles moved to a satisfactory location outside the closed area. Pedestrian access shall be maintained along the length of the project at all times per the requirements of the Americans with Disabilities Act and as approved by City. Contractor shall abide by applicable speed limits. Additional information may be obtained by contacting the City Transportation Division at 480-350-8219.

3.13.2. Temporary Barricades

Temporary barricades shall be regulated in accordance with the City of Tempe Traffic Barricade Manual, latest edition.

No additional payment by City will be made to Contractor or its subcontractor for temporary barricades, unless otherwise specified in the bid.

3.14. CLEAN-UP

Contractor agrees and covenants to adequately protect the work site, adjacent property, and the public in all phases of the work and/or services provided herein. Contractor shall be solely responsible for all damages or injuries due to action or neglect pursuant to this section. Contractor shall maintain access to all phases of the project pending inspection by City. Contractor hereby agrees to the following as to the job site: continually keep the job site free from debris, waste, and accumulation of materials; immediately clean up any oil, fuel, or chemical spills and take any and all remediation necessary; keep machinery clean and free of weeds and debris; remove all construction stains, smears, and debris from finished surfaces; perform site preparation to limit the spread of weeds, debris, and other

nuisances prior to submission of final invoice to City; and remove all equipment, materials, tools, and Contractor's personal property prior to submission of final invoice to City.

In accordance with MAG Specifications Section 105, Contractor shall respond within twenty-four (24) hours after notice by City of any defects and/or maintenance requests to immediately remedy the condition of the job site. Should Contractor fail to respond promptly as set forth herein, City shall correct the job site at the expense of Contractor, and recover all attendant costs.

3.15. APPROXIMATE QUANTITIES

It is expressly understood and agreed by the parties hereto that the quantities of the various classes of work to be done and material to be furnished under this Contract, which have been estimated, as stated in the Invitation for Bids, are only approximate and are to be used solely for the purpose of comparing, on a consistent basis, the bids offered for the work under this Contract. Contractor further agrees that City will not be held responsible for any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done.

If any error, omission, or misstatement is found to occur in the estimated quantities, the same shall not invalidate this Contract or release Contractor from the execution and completion of the whole or any part of the work in accordance with the plans and specifications herein mentioned, and for the prices herein agreed upon and fixed therefore, or excuse Contractor from any of the obligations or liabilities hereunder, or entitle Contractor to any damages or compensation, except as may be provided for in this Contract.

3.16. BLUE STAKE & CALL BEFORE YOU DIG

Contractor is required to use Arizona Blue Stake, Inc., at 602-263-1100, to comply with the statutory requirements in A.R.S. title 40, chapter 2, article 6.3 (Underground Facilities); A.R.S. § 40-360.21, *et seq.*, as amended from time to time.

Where railroad property may be impacted, Contractor must also notify and secure a current Call Before You Dig (CBUD) Ticket at 1-800-336-9193 from Union Pacific Railroad's Response Management Communications Center (RMCC), wait for the site to be marked, respect all markings, and dig with care.

3.17. PROTECTION OF EXISTING FACILITIES

Contractor shall protect all existing facilities during construction or work. Utility poles that may be affected by construction activities shall be protected and/or braced by the Contractor. Contractor shall notify the appropriate utility company or agency of any construction or work that may affect their facilities and state the course of action which will be taken to protect such facilities.

3.18. UNDERGROUND UTILITIES

Underground utilities indicated on the plans are in accordance with maps furnished by City and by each utility company. The locations are approximate and require verification prior to construction, as mandated by the City of Tempe Utility Permit and Construction Manual, latest edition, available at <http://www.tempe.gov/engineering>.

3.19. RELOCATION OF UTILITIES

All utilities in conflict with the new work will be relocated by the utility company, except as otherwise provided in the plans and specifications.

3.20. NOTIFICATION OF PROPERTY OWNERS

Contractor shall notify all property owners who may be affected by the proposed construction activities of the scope and duration of the construction activities at least forty-eight (48) hours in advance of the start of any work or construction.

3.21. ACCESS

Contractor shall maintain public access to businesses adjacent to the job site at all times during construction. Where property has more than one access point, no more than one access point shall be restricted or closed at any one time. If only one driveway exists, access shall be maintained to at least one-half of the driveway at all times. Access to adjacent private driveways shall be maintained by Contractor during all non-working hours.

3.22. UTILITY AND PUBLIC AGENCY CONSTRUCTION CLEARANCE AGREEMENT

Utilities and other public agencies may require all contractors, if working on their facilities, to sign a standard form "Construction Clearance Agreement," or other form of agreement, prior to issuance of a license. Contractor shall execute the Construction Clearance Agreement with the utility or public agency, if required, and furnish a copy to City prior to proceeding with any construction on utility or public agency facilities. This agreement sets forth the requirements to complete the proposed work in an allotted time frame or to pay full costs for others to complete. It also obligates Contractor to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances including, but not limited to, the OSHA Permit Required Confined Space rules, as amended.

3.23. UNION PACIFIC RAILROAD RIGHT OF ENTRY AGREEMENT

3.23.1. The following portions of the construction activities will be within the Union Pacific Railroad Company (UPRR) right of way:

- (1) Repaving road approaches to railroad crossing

At this location, UPRR currently operates up to 40 trains per day, seven days per week. Before entering UPRR right of way for any construction activities, Contractor shall comply with all UPRR requirements described in these Special Terms and Conditions and in the UPRR Contractor's Right of Entry Agreement.

Contractor shall submit to UPRR two completed Contractor's Right of Entry (ROE) Agreements (see Exhibit 8.20), the required Certificates of Insurance and fee for application and processing (see Exhibit 8.21 for instructions), and a copy of the construction schedule including all activities that affect UPRR.

Unless otherwise noted in these Special Terms and Conditions, Contractor shall be responsible for all costs associated with obtaining the ROE and insurance and for any work for protection of UPRR properties.

- 3.23.2. Contractor shall contact the UPRR Manager of Industry and Public Projects at the phone number listed in these Special Terms and Conditions, making reference to UPRR folder number 2772-86. Contractor shall inform the UPRR manager in advance that ROE forms are being submitted. Contractor shall also submit a copy of the construction schedule including all construction activities affecting UPRR.

Contractor is advised that several weeks are required for UPRR review and approval of the ROE. Contractor shall anticipate the time necessary to obtain the ROE and schedule its work accordingly. No adjustment to the contract time will be allowed for delays in obtaining a fully executed ROE. Contractor is directed to the sample Contractor's ROE in Exhibit 8.20, which includes, specific UPRR requirements while working on its properties. The application fee for each ROE is currently \$500. Contractor shall submit the application for ROE and make payment of the fee as provided under these Special Terms and Conditions.

When approved by UPRR, the executed Contractor's Right of Entry Agreement will become the contractor's Right of Entry (ROE). Contractor shall not enter into or commence work within UPRR's right of way or within existing City right of way or easement until Contractor has provided a copy of the executed Contractor's Right of Entry Agreement to the Engineer. Contractor shall abide by all provisions of the ROE, including providing written notice to UPRR Manager of Industry and Public Projects prior to the start of operations for construction on UPRR's right of way, making a reference of UPRR Folder Number 2772-86.

City will make no additional payment to Contractor for the coordination, development of application and plans, contractor plan review, or any other work associated with obtaining the Contractor's Right of Entry Agreement.

- 3.23.3. Contractor shall comply with all requirements of UPRR concerning access, insurance, inspection, flagging requirements, and protection of its

property, including, when required, a plan for erosion control. Following award of the contract, Contractor shall contact the UPRR Manager of Industry and Public Projects to begin the Right of Entry application process. All communications with UPRR shall respect its requirements for lead-time to respond. All correspondence and formal communications must be directed to the UPRR's Manager of Industry and Public Projects, with copy to the Engineer, and daily coordination and communications established with the UPRR's Manager of Track Maintenance:

Mr. Alexander Popovici
Manager of Industry and Public Projects
Union Pacific Railroad Company
631 S. 7th Street
Phoenix, AZ 85034
Phone (602) 322-2510
Email: apopovic@up.com

Mr. Adrian Dominguez
Manager of Track Maintenance
Union Pacific Railroad Company
631 S. 7th Street
Phoenix, AZ 85034
Phone: (602) 322-2506
Fax: (602) 322-2631
Email: asdoming@up.com

All correspondence with UPRR shall include the following reference information for the location being worked:

RAILROAD CROSSING SAFETY IMPROVEMENTS
UNION PACIFIC RAILROAD AT FIFTH STREET
PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C

Contractor's Right of Entry documents shall be mailed to:

Mr. Paul G. Farrell
Senior Manager Contracts
Union Pacific Railroad Company
1400 Douglas St, MS 1690
Omaha NE 68179-1690
Phone (402) 544-8620
Re: Folder 2772-86

- 3.23.4. Contractor is advised that the daily coordination necessary to comply with the requirements of the Contractor's Right of Entry Agreement may be extensive, and that prior to beginning construction activities it is in its best interest to meet with UPRR's representatives in order to establish the command hierarchy and the necessary approval protocols for its day-to-day activities.

Pursuant to Federal Railroad Administration (FRA) Regulation 49 Code of Federal Regulations (CFR) Part 214, flagging protection is required in accordance with UPRR's standard safety procedures. The necessity for flagging protection is determined by UPRR and, when necessary, UPRR may require one or more flaggers to be present when Contractor is on UPRR's right of way. Contractor is required to communicate to UPRR all

activities that may affect safety or railroad operations. Any work to be performed by Contractor that requires flagging protection shall be deferred until flagging protection is available at the job site. Contractor shall coordinate with UPRR with respect to construction schedule and work-related items for the safe and effective progress of the work. If the railroad determines that flagging protection is necessary, Contractor shall be reimbursed by City at cost for railroad-provided flaggers in accordance with Bid Item No. 22.

Per Section 1A of Exhibit B of the Contractor's Right of Entry Agreement (Exhibit 8.21), Contractor shall notify UPRR's Manager of Track Maintenance, or designated representative, at least thirty (30) working days in advance of commencing work on UPRR property, and comply with notification requirements before requesting a UPRR flagger to be onsite in accordance with the requirements of the Right of Entry documents in order to protect UPRR from damage or interference to UPRR's trains and property. No excavation within UPRR's right of way is permitted without the approval of the railroad. Per Section 1C of Exhibit B of the Contractor's Right of Entry Agreement, Contractor shall also notify the UPRR's Manager of Track Maintenance at least five days before cessation of the need of railroad flagging. Finally, Contractor shall notify the UPRR's Manager of Industry and Public Projects when all activities within the UPRR right of way have been completed. The minimum notification dates are subject to change by the UPRR.

- 3.23.5.** Contractor is required to procure Railroad Protective Liability Insurance (RPLI) for the duration of the project. In addition to the Certificate of Insurance form, Contractor must provide an Insurance Binder, or a copy of the policy, that designates the specific RPLI coverage. Contractor is not required to purchase this coverage from UPRR and is encouraged to shop the market for the best available rate. The form for RPLI can be obtained from: <http://www.uprr.com/reus/group/rinsure/>. Insurance requirements can be found at: <http://www.uprr.com/reus/group/rinsure/insursam.shtml>.

The UPRR will require Pollution Liability Insurance only if Contractor will store and/or stage hazardous materials on UPRR right of way. Incidental use of hazardous materials such as fuel, hydraulic fluid, etc. does not require the Pollution Liability Insurance.

Contractor shall conduct the work in a safe and orderly manner according to the plans and specifications. Contractor shall at no times hinder the safe and timely operation of UPRR facilities, nor shall it allow the UPRR required insurance to lapse at any time. If Contractor shall prosecute the project work in a manner that UPRR deems to be hazardous to its property, facilities, or the safe and expeditious movement of its traffic, or the insurance described in the Right of Entry documents is canceled during the course of the project, then UPRR shall have the right to stop the work, within UPRR's right of way, until the acts or omissions of Contractor have been fully rectified to the satisfaction of UPRR's

Manager of Industry and Public Projects, or additional insurance has been delivered to and accepted by UPRR. Such work stoppage shall not give rise to or impose upon UPRR any liability to Contractor.

3.23.6. When Contractor receives the executed ROE from UPRR, Contractor shall begin a dialog with the UPRR's Manager of Track Maintenance to mutually schedule and coordinate their respective work. UPRR may require portions of Contractor's work that may affect railroad operations to be performed during designated hours. Contractor shall coordinate with UPRR each day's construction activities that may affect UPRR's operations. Contractor's construction schedule shall identify the time frames for the completion of Contractor's and UPRR's activities, always recognizing that Contractor's activities shall be scheduled around train movements. Construction activities within twenty-five (25) feet of the operational tracks, or activities (such crane operations) that may foul the tracks, will occur only with the approval of UPRR's Manager of Track Maintenance, or his designated representative. Contractor shall relay all essential communications between Contractor and UPRR promptly to the Engineer.

All existing UPRR maintenance roadways shall remain open at all times during construction. Contractor shall not deposit any material or debris onto railroad property that, in the opinion of UPRR, would hinder railroad operation or be unsafe to railroad operations. Contractor will not store material within UPRR's right of way. When Contractor's personnel and equipment are not working, they shall be at least twenty-five (25) feet from the centerline of the nearest track. Contractor shall maintain all ditches and drainage structures free of silt or other obstructions, which may result from Contractor's operations, and shall promptly repair eroded areas within UPRR property. The construction site shall be restored as indicated in the Contractor's Right of Entry Agreement and cleaned during the progress of the work to the satisfaction of UPRR. Any ballast material contaminated by Contractor's operations will be replaced by UPRR at Contractor's expense and at no additional cost to City.

All workers, including those employed by subcontractors, will be required to complete the UPRR Contractor Safety Orientation Program prior to entering the property. All workers will be required to have in their possession the registration card indicating that the worker has taken and passed the course. The course may be taken via the Internet at www.contractororientation.com. There is a \$10 fee per person registered.

3.23.7. Section 5A of Exhibit B of the Contractor's Right of Entry Agreement and requires protection of fiber optic cable systems which may cross or run parallel to the UPRR corridor. Contractor shall be responsible to contact UPRR and/or the telecommunications companies to determine whether there are any fiber optic cable systems located within the project boundaries that could be damaged or their service disrupted, due to the

construction of the project. Contractor shall pothole all lines either shown on the plans or marked in the field to verify their locations. Contractor shall use all reasonable methods when working in the UPRR rail corridor to determine if any other fiber optic lines may exist. Failure to notify, pothole, or identify these lines shall be sufficient cause for the Engineer to stop construction at no additional cost to City or UPRR until these items are completed. Costs for repairs and loss of revenues and profits due to damage to these facilities through negligent acts by Contractor shall be the sole responsibility of Contractor. Contractor shall indemnify and hold City and UPRR harmless against and from all cost, liability, and expense arising out of or in any way contributed to these negligent acts of Contractor. The telecommunication companies, at City's expense if prior rights are demonstrated, shall be responsible for the rearrangement of any facilities determined to interfere with the construction. Contractor shall cooperate fully with any company performing these rearrangements. Contractor shall make any and all arrangements to secure the location or relocation of wire lines, pipe lines, and other facilities owned by private persons, companies, corporations, political subdivisions, or public utilities other than UPRR which may be found necessary to locate or relocate in any manner whatsoever due to the construction of the project.

3.23.8. It is Contractor's responsibility to coordinate effectively his operations to minimize, if not eliminate, any impact of the project upon UPRR operations. Any loss of service, or revenue, to UPRR beyond that covered by these Special Terms and Conditions that is in any way caused by Contractor's actions shall be the sole responsibility of Contractor at no additional cost to City.

3.24.9. Section 3A of Exhibit B of the Contractor's Right of Entry Agreement (Exhibit 8.20) prohibits crossing of railroad tracks. If Contractor desires to cross UPRR's railroad tracks for hauling equipment and material across the tracks, a separate agreement must be concluded with UPRR, and such agreement with UPRR must be in concurrence with the Engineer. Contractor is hereby advised that City has not and will not negotiate with UPRR for any temporary or permanent crossing of the tracks. A road crossing permit is required and a blank form with instructions is available at <http://www.uprr.com/reus/roadxing/roadform.pdf>. Assuming a road crossing permit would be granted, it would then be constructed by UPRR forces. City assumes no responsibility for railroad crossings and they are considered initiatives of Contractor. No additional payment will be made by City for the construction of railroad crossings.

3.24. GOVERNMENT APPROVALS AND PERMITS

3.24.1. Unless otherwise provided, Contractor shall obtain all necessary permits, approvals, and licenses required for the commencement of the work from any government or quasi-government entity having jurisdiction

over the project at its sole expense. Contractor expressly covenants and agrees that it will obtain any and all necessary environmental permits and/or file the necessary environmental notices at its cost prior to undertaking work or performing services hereunder.

3.24.2. Copies of all permits and notices shall be provided to City prior to starting any work or performing services pursuant to the permitted activity. This provision does not constitute an assumption by City of an obligation of any kind for violation of said permit or notice requirements.

3.24.3. City agrees to be responsible for City's own review and permit(s) fees for building and demolition permits only. In addition, City shall bear its own review fees for grading and drainage, water, sewer, and landscaping. City may agree to pay utility design fees for permanent services in its sole discretion. Contractor shall be solely responsible for any and all other permit(s) and review fees not specifically designated herein.

3.24.4. Contractor is responsible for all costs of water meter(s), water and sewer taps, fire lines and taps, and all water bills on the project meters until completion of the project. Arrangements for water at the site or for construction purposes are the Contractor's sole responsibility.

3.25. **KEY CONTACTS**

City of Tempe Engineering	Wendy Springborn	480-350-8250
Blue Stake Center		602-263-1100
Call Before You Dig (UPRR)		800-336-9193

3.26. **DUST PREVENTION**

Contractor shall take all necessary steps to ensure dust-free conditions on property within the City to the satisfaction of the City Engineer, and fully comply with A.R.S. § 49-474.06 and Maricopa County Air Pollution Control Rules and Regulations Rule 200 § 305-306, concerning dust-generating operations as defined by Maricopa County Rule 310. In any operation where more than one-tenth of an acre of surface area is disturbed and/or when unpaved onsite haul roads are used, Contractor shall obtain a Maricopa County dust control permit. Contractor shall provide assurance that subcontractors used on the dust-generating portion of the Project are registered with the Maricopa County Air Quality Department and that only certified PM-10 efficient street sweepers shall be used to sweep City streets, as required by Tempe City Code Sec. 26A-25. Contractor shall provide its subcontractor(s)' registration number and dust control plan, if applicable, to the City Engineer prior to engaging in any dust-generating activities. Project related hauling activities to and/or from storage located on property owned by City shall be listed on the approved dust control permit and shall be subject to control measures in the approved dust control plan. When hauling fill or excavation materials exceeding five thousand (5,000) cubic yards or when the duration of the haul is more than ten (10) working days, Contractor

shall obtain a City haul permit before the hauling operation begins. Prior to receiving a haul permit, Contractor must submit the required certificate of insurance, a plan showing the proposed haul routes, and a complete schedule of the hauling operation to the City Engineer.

All costs associated with the submittal, approval, and implementation of the permit and dust control plan as approved by Maricopa County Air Quality Department shall be borne solely by the Contractor. Failure to fully comply with this provision shall be considered a material breach of the Contract, and shall subject the Contract to termination by the City, in addition to other legal remedies.

3.27. COMPLAINTS FROM THE GENERAL PUBLIC

Contractor shall respond to any and all claims or complaints from the general public in a reasonable and prompt manner. Information on any complaint shall be reported to the Project Manager promptly, but in no event more than forty-eight (48) hours of receipt of complaint.

4. INSTRUCTION TO BIDDERS

4.1. SEALED BIDS

Sealed bids will be received and the time of delivery recorded by the City of Tempe, Arizona, Public Works Department, Engineering Office, City Hall West Garden Level, 31 East Fifth Street, Tempe, Arizona 85281, until 9:30 a.m. (Arizona time) January 28, 2014. At that time and place, bids will be opened and the amount of each bid and the name of each bidder publicly read in the Public Works Conference Room. Bids received after the time specified will be returned unopened. All bids shall be submitted in a sealed envelope. The outside lower right-hand corner shall be marked:

BID OF _____, CONTRACTOR

**FOR: RAILROAD CROSSING SAFETY IMPROVEMENTS,
UNION PACIFIC RAILROAD AT FIFTH STREET
PROJECT NO. 5405371
FEDERAL AID PROJECT NO. 000-TMP-0(233)T
ADOT TRACS NO. 0000 MA TMP SR252 01C**

If a bid is mailed or delivered via overnight mail service, the outside envelope should be marked with the **date and time of the bid opening, as well as the words "PUBLIC WORKS ENGINEERING BID OPENING."** Please allow sufficient time for delivery.

Please see the **BIDDER'S CHECK SHEET** in the Exhibits section of this Invitation for Bid.

Each bid shall be accompanied by a bid guarantee for ten percent (10%) of the amount of the bid. See the subsection of Instructions to Bidders titled Bid Security.

Each bid also shall be accompanied, in a separate envelope, by the bidder's current loss history information from all of the bidder's insurance carriers. The information specific to workers' compensation insurance carriers must include a three-year (3-year) history of the bidder's Experience Modification Factor (EMOD) and its loss ratio.

Plans and specifications are available for download from the City of Tempe Engineering Division at www.tempe.gov/engprojectsbidding. When the documents are downloaded, Contractors MUST register on-line as a plan holder to be notified of project addenda. If addenda are issued for this project the City of Tempe will attempt to notify plan holders at the email address provided. It is the Contractor's sole responsibility to confirm that they have received all addenda prior to submitting a bid. The City is not responsible for providing notification or addenda to Contractors.

When it is in the best interests of the City of Tempe, the City may cancel this solicitation, or may reject any and all bids in whole or in part, or may waive any informalities in the bids received.

Award will be made or bids rejected within sixty (60) days after bid opening.

Please direct any questions to City of Tempe Engineering Division at 480-350-8200. City Project Construction Manager for this project is Donna Hancock.

Anyone wishing to receive future notices through automatic notification by email can register their company name and email address at www.tempe.gov/enews (select the following e-notify list: Engineering Bid/RFQ Notification).

4.2. ADDENDA

Addenda issued prior to the deadline for bidding shall be attached to and made a part of the Contract. Contractor shall acknowledge receipt of all addenda on the Competitive Sealed Bid form.

4.3. BID SECURITY

Each bid shall be accompanied by a bid guarantee for ten percent (10%) of the amount of the bid, executed in accordance with the requirements of A.R.S. § 34-201, *et seq.*, as amended from time to time. The bid guarantee shall be in the form of a certified check, cashier's check, or surety bond. If a surety bond is used, the bond shall be executed solely by a surety company or companies holding a certificate of authority to transact surety business in Arizona, issued by the director of the department of insurance pursuant to Arizona Revised Statutes, title 20, chapter 2, article 1, as amended from time to time. The surety bond shall not be executed by an individual surety or sureties, even if the requirements of A.R.S.

§ 7-101 are satisfied. Additionally, the City requires that a bonding company, liability insurance carrier, or excess insurance carrier issuing a surety bond have a Financial Strength Rating of A- or better and a Financial Size Category of VII or higher, as listed in the most recent "Best's Key Rating Guide - Property/Casualty," published by A.M. Best Company.

Bid guarantees shall be returned to bidders whose bids are not accepted, and to the successful Contractor upon its execution of the Contract and delivery of a satisfactory performance bond, payment bond, and certificate of insurance.

4.4. BIDS

Bids shall be properly executed upon the Competitive Sealed Bid Forms attached and made a part of this Contract. Electronic signatures will not be accepted. The completed forms shall be without interlineations, alterations, or erasures. Unit prices should be rounded to the nearest whole cent (two spaces behind the decimal point). In case of an error in the extension of unit prices and the totals, the unit price shall govern.

Bids shall not contain any recapitulations of the work to be done. Alternative bids will not be considered except as called for. No oral or electronic bids or modifications will be considered.

4.5. IRREGULAR BIDS

Bids may be considered irregular and may be rejected if any of the unit prices quoted in the bidding schedule are unbalanced, either above or below the amount of a reasonable bid price, to the potential detriment of City.

4.6. BIDDING PHASE REQUIREMENTS

4.6.1. Pursuant to A.R.S. § 1-502, any individual/sole proprietor who responds to this Invitation for Bids by signing the Competitive Sealed Bid Forms shall also sign a sworn Affidavit Demonstrating Lawful Presence in the United States (see Exhibits) and present one of the documents listed on the affidavit to verify lawful presence in the United States. Failure to sign said affidavit and present one of the listed documents **shall result in rejection of the bid.**

4.6.2. Each bid shall be accompanied, in a separate envelope, by the bidder's current loss history information from all of the bidder's insurance carriers. The information specific to workers' compensation insurance carriers must include a three-year (3-year) history of the bidder's Experience Modification Factor (EMOD) and its loss ratio. This information must be provided with the bidder's proposal.

4.7. PRE-CONTRACT AWARD REQUIREMENTS

4.7.1. Contractor shall provide a copy of its written health and safety program and any required employee training records or certificates.

4.7.2. **Taxes.** All applicable taxes due and owing by Contractor and all subcontractors shall be considered by City in determining award. At all times, the determination of applicable taxes and rates, and remitting taxes owed, shall be the sole responsibility of Contractor. Should any taxes owed to City by Contractor or any subcontractors, including privilege (sales) and use tax, not be remitted in full prior to Contract award, the bid shall be considered non-responsive and rejected by City.

4.8. **BID QUANTITIES**

The quantities listed in the specifications are for bid purposes. The actual quantities provided to Contractor may be adjusted to accommodate field requirements.

4.9. **PROTEST PROCEDURE**

A bidder or contractor who believes they are aggrieved in connection with the City's solicitation or award of a contract may file a protest with the Engineering Division procurement office, as set forth in Section 26A-21 of the Tempe City Code.

4.10. **NO LOCAL PREFERENCE**

In accordance with 49 CFR 18.36(c)(2), Tempe will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference.

5. **EVALUATION AND AWARD**

5.1. **AWARD AND EXECUTION OF CONTRACT**

Except as provided herein to the contrary, the respective rights and remedies of the parties to this Contract shall be cumulative and in addition to any rights and remedies not specified in this Contract. It is understood that there are no oral or written agreements or representations between the parties hereto affecting this Contract, and that this Contract supersedes any and all prior negotiations, arrangements, representations, and understandings between the parties. No provision of this Contract may be amended except by an agreement in writing signed by City. This Contract, including exhibits and attachments attached hereto, signed by City and Contractor, constitutes the entire agreement between the parties.

This Contract shall be in full force and effect only after it has been awarded by the City Council of Tempe, Arizona.

Contractor shall execute the Contract and all exhibits and attachments thereto, counterparts permitted, within ten (10) calendar days after being given formal notice of City Council's award of the Contract.

Contractor's failure to execute this Contract and to file satisfactory contract bonds and insurance certificates as provided herein within ten (10) calendar days after being given formal notice of Contract award shall result in immediate cancellation of the award.

5.2. PLANS TO THE SUCCESSFUL BIDDER

The successful bidder may obtain (7) sets of plans and specifications for this project from the office of City Engineer, at no cost.

5.3. ISSUANCE OF THE NOTICE TO PROCEED

Notwithstanding unforeseeable circumstances, the Notice to Proceed shall be issued by City within thirty (30) days of contract award.

6. GENERAL TERMS AND CONDITIONS

6.1. LIQUIDATED DAMAGES

Unless otherwise specified, liquidated damages will be applied in accordance with the MAG Specifications 108.9. Completion of the work as stated in this Contract is the same as completion of the work as stated in MAG Specifications 108.9. Damages will be applied at the amounts specified in MAG Specifications Table 108-1.

6.2. ESCROW AND HOLDBACK

In the event of a dispute arising under this Contract that is not summarily resolved by the parties concerning any withholding or nonpayment of funds by the City, the parties agree that said disputed funds may be held back and placed into a neutral escrow account, in the form of an interest bearing savings account, until the dispute is resolved. By signing this Contract, Contractor acknowledges and agrees to the deposit of any and all disputed funds into an escrow account into the financial institution of the City's election.

Except as to those amounts withheld, at City's direction, the balance of the funds shall be paid to Contractor or subcontractor(s), as set forth by Arizona law. Any funds remitted to City in excess of the amount allowed by statute will be reimbursed to Contractor. In no event shall City be liable to Contractor for damages resulting from a claimed loss due to payment of the excess funds or due to a delay in reimbursing the excess payment.

Once per calendar month, the financial institution shall furnish the City and Contractor with a statement reflecting the funds held as of the last day of the preceding calendar month, and showing the transactions for that prior month. At the request of Contractor or City, the financial institution shall furnish both parties

with an interim statement showing funds held as of the 25th day of the most recent month or, if a non-business day, the following business day of that month.

Contractor acknowledges and agrees that all fees, costs, and charges imposed by any financial institution in connection with the maintenance and administration of the disputed funds shall be charged to, and paid by, Contractor. The funds shall be free of any claim for such fees, costs, or charges. However, the financial institution may obtain payment for any such accrued fees, costs, and charges owed by Contractor related to said funds out of available interest earned on the funds, or deduct the same from any funds to be paid to Contractor, according to written disbursement instructions from City.

The parties acknowledge and agree that in the event of no resolution between the parties concerning distribution of the disputed funds, the funds may be interplead in a court of competent jurisdiction in Maricopa County, Arizona.

It is understood that financial institution shall not be deemed liable, nor responsible, for the collectability of any funds assigned or held in connection with this provision.

6.3. TERMINATION

In addition to MAG Specifications 108.11, City, at its sole discretion, may terminate this Contract for convenience or abandon any portion of the project for which services have not been performed by Contractor, upon fourteen (14) days' written notice delivered to Contractor personally or by certified mail.

Immediately after receiving such notice, Contractor shall discontinue advancing the services under this Contract and proceed to close said operations under this Contract. Contractor shall appraise the services it has completed and submit an appraisal to City for evaluation. City shall have the right to inspect and approve Contractor's work to appraise the services completed.

Contractor shall deliver to City all drawings, special provisions, field survey notes, reports, estimates, and any and all other documents or work product generated by Contractor under the Contract, entirely or partially completed, together with all unused materials supplied by City.

In the event of such termination or abandonment, Contractor shall be paid for services approved and accepted by City that Contractor performed prior to receipt of said notice of termination, including reimbursable expenses previously incurred.

If the remuneration scheduled hereunder is based upon a fixed fee or definitely ascertainable sum, the portion of such sum payable shall be proportionate to the percentage of work completed, as reviewed and approved by City, based upon the scope of work. However, in no event shall the fee exceed the full cost of the Contract.

If City terminates or abandons the Contract, City shall make final payment within sixty (60) days after Contractor has delivered the last of the completed items and City has approved and determined the final fee.

In the event this Contract is terminated or abandoned prior to completion, City may complete the work, or enter into a Contract with another party for the remaining work.

In no event shall the City be obligated, liable, or responsible for performance of the obligations set forth herein, any provision of this Contract, or any expenses incurred by Contractor in securing this Contract (including, but not limited to, purchasing insurance coverage, performance bonds, or other security), at any time, including prior to or following City Council's approval of this Contract, should funds not be appropriated by the City through its Council or staff, in order to complete the Project. In the event that funds are not appropriated to meet or complete this Contract, then City shall immediately provide notice to Contractor of such non-allocation and terminate the Contract. City shall incur no resulting liabilities or penalties for termination under this Section.

This Contract may be terminated pursuant to A.R.S. § 38-511.

6.4. DEFAULT PROVISIONS

Contractor shall be deemed in default under this Contract upon the occurrence of any of the following events:

- 6.4.1. Contractor provides material that does not meet the specifications of the Contract and fails to cure such non-performance within ten (10) days after written notice from City;
- 6.4.2. Contractor fails to adequately perform the services set forth in the plans and specifications of and fails to cure such non-performance within ten (10) days after written notice from City;
- 6.4.3. Contractor fails to complete the work required or furnish the materials required within the time stipulated in the Contract and fails to cure such non-performance within ten (10) days after written notice from City;
- 6.4.4. Contractor fails to make progress in the performance of the Contract and/or gives City reason to believe that Contractor will not or cannot perform the requirements of the Contract and fails to cure such non-performance within ten (10) days after written notice from City;
- 6.4.5. Contractor fails to perform any other term or condition of this Contract and fails to cure such non-performance within ten (10) days after written notice from City.

In the case of default, City may terminate the Contract, in whole or in part, and/or may resort to any other remedy as provided by law. City may also perform any test or analysis on materials for compliance with the specifications of the

Contract. Contractor shall pay the actual expense of testing if the results of any test or analysis indicate a material to be non-compliant with the specifications.

6.5. WARRANTY

Contractor warrants to City that the construction, including all materials and equipment furnished as part of the construction, shall be new, unless otherwise specified in the Specifications and Contract; of good quality; in conformance with the Specifications; and free of defects in materials and workmanship. Contractor's warranty obligation excludes defects caused by abuse, alterations, or unreasonable failure to maintain the construction by persons other than Contractor, Subcontractors, or others under Contractor's control. Nothing in this warranty shall limit any manufacturer's warranty which provides City with greater warranty rights than set forth herein. Contractor will provide City with all manufacturers' warranties and operation and maintenance manuals upon substantial completion of the work. Contractor's warranty shall be for one (1) year and will commence for all portions of the work upon final acceptance of the entire work as determined by City under the Contract. All statutory or other warranties, express or implied, related to latent defects will remain in force and are not limited by this provision.

6.6. OWNERSHIP OF DOCUMENTS / INFRINGEMENT OF PATENT OR COPYRIGHT

All work products (electronically or manually generated) including, but not limited to, plans, specifications, cost estimates, tracings, studies, design analyses, original mylar drawings, computer aided drafting and design (CADD) file diskettes which reflect all final drawings, and other related products which are prepared in the performance of this Contract, are the property of City and are to be delivered to City before the final payment is made to Contractor. City shall retain ownership of these original drawings, however, if approved in writing by City, Contractor may retain the original drawings and supply City with reproducible mylar copies. Contractor shall endorse by their professional seal all plans and special provisions furnished by them.

In the event these documents are used for another project without further consultation with Contractor, City agrees to indemnify and hold Contractor harmless from any claim arising from the reuse of the documents. City shall remove Contractor's seal and title block from such documents.

Contractor agrees to save, keep, hold harmless, and fully indemnify City, and any of its officers, officials, employees, and agents, from any and all damages, costs, or expenses, in law or equity, that may at any time arise out of any infringement of the patent right, copyright, or trademark of any person, persons, or entity in consequence of use by City, or by any of its officers, officials, employees, or agents, of materials supplied by Contractor, and of which Contractor is not a patentee or signee or lawfully entitled to sell the same.

Contractor agrees to indemnify and hold harmless City and its officers, officials, employees, and agents from any and all license, royalty, and proprietary fees or

costs, including legal costs, which may arise out of City's purchase and use of goods supplied by Contractor.

It is expressly agreed by Contractor that these covenants are irrevocable and perpetual.

6.7. COMPLIANCE WITH STATE AND FEDERAL LAWS

6.7.1. Specially Designated Nationals and Blocked Persons List. Contractor represents and warrants to City that neither Contractor nor any affiliate or representative of Contractor (i) is listed on the Specially Designated Nationals and Blocked Persons List maintained by the Office of Foreign Asset Control, Department of the Treasury (OFAC) pursuant to Executive Order No. 13224, 66 Fed. Reg. 49079 ("Order"); (ii) is listed on any other list of terrorists or terrorist organizations maintained pursuant to the Order, the rules and regulations of OFAC or any other applicable requirements contained in any enabling legislation or other related Order(s); (iii) is engaged in activities prohibited in the Order; or (iv) has been convicted, pleaded *nolo contendere*, indicted, arraigned, or custodially detained on charges involving money laundering or predicate crimes to money laundering. In addition, Contractor certifies that it does not have a scrutinized business operation in either Iran or Sudan.

6.7.2. Employment Laws. Contractor agrees and covenants that it will comply with any and all applicable governmental restrictions, regulations, and rules of duly constituted authorities having jurisdiction insofar as the performance of the work and services pursuant to the Contract, and all applicable safety and employment laws, rules, and regulations, including, but not limited to, the Fair Labor Standards Act, the Walsh-Healey Act, and the Legal Arizona Workers Act (LAWA), and all amendments thereto, along with all attendant laws, rules, and regulations. Contractor acknowledges that a breach of this warranty is a material breach of this Contract and that Contractor is subject to penalties for violation(s) of this provision, including termination of this Contract. City retains the right to inspect the documents of any and all contractors, subcontractors, and sub-subcontractors performing work and/or services relating to the Contract to ensure compliance with this warranty. Any and all costs associated with City inspection are the sole responsibility of Contractor. Contractor hereby agrees to indemnify, defend, and hold City harmless for, from, and against all losses and liabilities arising from any and all violations thereof.

6.7.3. Equal Opportunity. City is an equal opportunity, affirmative action employer. Contractor hereby covenants that it shall not discriminate unlawfully against any employee or applicant for employment, nor shall it deny the benefits of this Contract, to any person on the basis of race, color, creed, religion, ancestry, national origin, physical or mental disability, age, sex, gender, sexual orientation, gender identity, marital status, or veteran status, with regard to discharging obligations under this Contract. Contractor covenants and agrees that it will comply in all respects with the applicable provisions of Executive Order 11246, Title VII of the Civil Rights Act of

1964, the Americans with Disabilities Act, the Age Discrimination in Employment Act, the Vietnam Era Veterans' Readjustment Assistance Act, the Rehabilitation Act, and any other applicable state and federal statutes governing equal opportunity. Contractor agrees to post hereinafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting for the provisions of this clause.

6.7.4. Federal Employer Sanctions Law. Contractor understands and acknowledges the applicability of the Federal Employment Eligibility Verification Requirements ("Requirements"), including, but not limited to, Executive Order 12989, Federal Acquisition Regulation E-Verify clause (73 F.R. 67704), and 8 U.S.C. § 1324, *et seq.*, as amended from time to time. Contractor warrants current compliance with these and all Federal immigration laws and regulations that relate to their employees, on behalf of the Contractor and all of its subcontractors, including the use of E-Verify to confirm the employment eligibility of all persons hired during a Contract term and current employees performing under the Contract within the United States. Should the Requirements conflict with any applicable state laws or regulations as referenced in 6.7.2., the Requirements shall prevail.

Contractor further agrees to include the provisions of this section in any and all subcontracts hereunder. Any violation of such provisions shall constitute a material breach of this Contract.

6.8. JURISDICTION

This Contract will be deemed to be made under, and will be construed in accordance with and governed by, the laws of the State of Arizona, without regard to the conflicts or choice of law provisions. An action to enforce any provision of this Contract or to obtain any remedy with respect hereto will be brought in the Superior Court of Arizona in and for Maricopa County, and for this purpose, each party hereby expressly and irrevocably consents to the jurisdiction and venue of such court.

6.9. DISPUTE RESOLUTION

The parties may mutually agree to submit any dispute arising under this Contract to binding arbitration, conducted by a sole arbitrator mutually agreed upon by the parties, to hear and render a decision to resolve said dispute. The arbitration shall be held in Tempe, Arizona, subject to the laws of the State of Arizona. Each party shall bear its own costs and attorney's fees. A decision shall be made by the arbitrator within seven (7) calendar days of the arbitration hearing.

6.10. SUCCESSORS AND ASSIGNS

This Contract shall not be assignable except at the written consent of City, and it shall extend to and be binding upon the heirs, executors, administrators, successors, and assigns of the parties hereto.

6.11. NON-WAIVER

The failure of either party to enforce any of the provisions of this Contract, or to require performance by the other party of any of the provisions of this Contract, will not be construed as a waiver of such provisions, nor will it affect the validity of this Contract or any part thereof or the right of either party to thereafter enforce each provision.

6.12. SURVIVAL

All warranties, representations, and indemnifications by Contractor will survive the completion or termination of this Contract.

6.13. SEVERABILITY

If any provision of this Contract or the application thereof to any person or circumstance is held invalid, illegal or unenforceable to any extent, the remainder of this Contract and the application thereof will not be affected and will be enforceable to the fullest extent permitted by law.

6.14. INTEGRATION

This Contract contains the full agreement of the parties hereto. Any prior or contemporaneous written or oral agreement between the parties regarding the subject matter hereof is merged and superseded hereby.

6.15. TIME IS OF THE ESSENCE

Time of each of the terms, covenants, and conditions of this Contract is hereby expressly made of the essence.

6.16. THIRD PARTY BENEFICIARY

This Contract will not be construed to give any rights or benefits in the Contract to anyone other than City and Contractor. All duties and responsibilities undertaken pursuant to this Contract will be for the sole and exclusive benefit of City and Contractor and not for the benefit of any other party.

6.17. CONFLICT OF INTEREST

Contractor agrees to disclose any financial or economic interest with the project property, or any property affected by the project, existing prior to the execution of this Contract. Further, Contractor agrees to disclose any financial or economic interest with the project property, or any property affected by the project, if Contractor gains such interest during the course of this Contract.

Contractor's gains of financial or economic interest in the project during the course of this Contract may be grounds for terminating this Contract. Any decision to terminate the Contract shall be at the sole discretion of City.

Contractor shall not engage the services, on this Contract, of any present or former City employee who was involved as a decision maker in the selection or approval processes, or who negotiated or approved billings or Contract modifications for this Contract.

6.18. COOPERATION AND FURTHER DOCUMENTATION

Contractor agrees to provide City such duly executed documents as may be reasonably requested by City to implement the intent of this Contract.

This Contract shall be in full force and effect only when it has been approved by the City Council of the City of Tempe, Arizona, and when executed by the duly authorized City officials and the duly authorized agent of Contractor.

Each proposed subcontractor for this project must be approved by City before that subcontractor may work on the project. For the approval process, Contractor shall obtain from each subcontractor, and submit to City, a completed Labor Standards Certification form (see the Exhibits section).

Contractor also shall provide City with a complete copy of each executed subcontract and purchase order for this project.

6.19. UNAUTHORIZED FIREARMS & EXPLOSIVES

No person conducting business on City property shall carry a firearm or explosive of any type. This requirement shall also apply to persons who maintain a concealed weapons permit.

6.20. NOTICES TO CITY ENGINEER

All notices to the City relating to this Contract should be sent to the following individual, who is also the administrator of this Contract.

Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street
Andy Goh, City Engineer
City of Tempe Engineering Division
31 E. Fifth Street, Garden Level
Tempe, Arizona 85281
480-350-8200

6.21. NOTICES TO CONTRACTOR

(To be completed by successful bidder)

Company Name: _____

Address: _____

Phone: _____

Fax: _____

6.22. GIS DATA DISCLAIMER

THE CITY OF TEMPE DOES NOT WARRANT THE ACCURACY, COMPLETENESS, CONDITION, SUITABILITY, PERFORMANCE, OR CURRENCY OF THE GIS DATA PROVIDED UNDER THIS CONTRACT. AREAS DEPICTED BY GIS DATA ARE APPROXIMATE, AND NOT GUARANTEED TO BE ACCURATE TO STANDARDS FOR MAPPING, SURVEYING, OR ENGINEERING. THIS DATA IS FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE RELIED UPON FOR SITE-SPECIFIC PURPOSES. THE DATA HEREIN IS SUBJECT TO CONSTANT CHANGE AND MAY NOT BE COMPLETE, ACCURATE, OR UP-TO-DATE. THE CITY OF TEMPE IN NO WAY ASSUMES LIABILITY OR RESPONSIBILITY FOR ANY INCORRECT DATA OR ANY INFORMATION PROVIDED HEREIN. THE CONTRACTOR ACKNOWLEDGES AND AGREES THAT THE CITY OF TEMPE ASSUMES NO LIABILITY FOR DAMAGES INCURRED DIRECTLY OR INDIRECTLY RESULTING FROM INCOMPLETE, INCORRECT, OR MISSING INFORMATION; INCLUDING ANY DIRECT, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED OR UNDER ANY THEORY OF LIABILITY, WHETHER IN TORT, CONTRACT, STRICT LIABILITY, OR OTHERWISE. BY WAY OF THE SIGNATURE ON THIS CONTRACT, THE CONTRACTOR ASSUMES ALL LIABILITY FOR ANY AND ALL DEPENDENCE AND/OR RELIANCE UPON THIS INFORMATION AND ASSUMES ALL RESPONSIBILITY RELATING THERETO. ANY AND ALL EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PURPOSE ARE SPECIFICALLY AND EXPRESSLY DISCLAIMED. CONTRACTOR SHOULD NOT RELY UPON THE GIS DATA WITHOUT PROPER FIELD VERIFICATION FOR ANY PURPOSE.

6.23. AMENDMENT OF CONTRACT

No supplement, modification or amendment of any term of this Contract will be deemed binding or effective unless in writing and signed by the parties hereto and in conformation with provisions of this Contract except as expressly provided herein to the contrary.

6.24. LABOR

Contractor agrees and covenants to use only licensed contractors and subcontractor(s) in the making and/or installation of any and all repairs, alterations, improvements, or other work of Contractor on the Project. Contractor shall be liable to City for any losses and liabilities associated with any violation of this provision, and the Contract shall immediately be terminated upon any violation by Contractor.

6.25. NON-APPROPRIATION OF FUNDS OR NON-FUNDING

City's performance under this Contract depends upon the appropriation of grant funds by the Federal Highway Administration. If the funds necessary for City's performance under this Contract are not appropriated or are otherwise made unavailable to the City, City may provide written notice to Contractor and cancel this Contract without further obligation of City. The parties understand and agree that funding and appropriations are beyond the control of the City.

6.26. PUBLIC RECORDS

The City is a public entity subject to the provisions of the Arizona Public Records Law, A.R.S. § 39-121, *et seq.* ("Law"). Some or all of the information contained within the Contract and related documents constitutes a public record that the City may be required to disclose to other persons or entities. In the event of receipt of a public records request by the City, Contractor must provide verification that its document falls under the exception to the Law in order to contest disclosure of said document. In the event of Contractor contesting disclosure, said document shall be submitted to a court of competent jurisdiction for an *in camera* review and determination, at Contractor's sole expense.

6.27. COUNTERPARTS

This Contract may be executed in one or more counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument, and it shall not be necessary that any single counterpart bear the signature of all parties.

6.28. RECORD RETENTION

Contractor agrees to retain all records relating to the Contract pursuant to A.R.S. § 35-214, as amended from time to time. Contractor agrees to make those records available at all reasonable times for inspection and audit by City during the term of the Contract and for a period of five (5) years after the completion of the

Contract. The records shall be provided at City Public Works Department, Engineering Division, Tempe, Arizona, or another location designated by City upon reasonable notice to Contractor.

6.29. DRUG-FREE WORKPLACE

The Contractor is hereby advised that the City has adopted a policy establishing a drug-free workplace for itself and as a requirement for sellers/Contractors doing business with the City to ensure the safety and health of employees working on City license agreements, contracts, and/or projects. The Contractor agrees to require a drug-free workplace for all employees working under this Contract. Specifically, all employees of the Contractor who are performing work under this Contract shall be notified, in writing, by the Contractor that they are prohibited from the manufacture, distribution, dispensation, possession, or unlawful use of a controlled substance in the work place or work site. Any violation of this section constitutes a material breach of this Contract.

7. FEDERAL PROVISIONS

The FEDERAL PROVISIONS section in this Invitation for Bids / Contract has two components:

- **FORM FHWA-1273 (REV. MAY 1, 2012)** – “Required Contract Provisions: Federal-Aid Construction Contracts.” Form FHWA-1273 consists of Parts I–XI, below.
- **ADDITIONAL FEDERAL PROVISIONS (NOT PART OF FORM FHWA-1273).** The Additional Federal Provisions consist of Parts XII–XVIII, below.

Federal Provisions That Must Be Inserted (in Full) in Subcontracts at Every Tier –

- (1) Form FHWA-1273 (Rev. May 1, 2012), which is Parts I–XI of these FEDERAL PROVISIONS. **Note:** The subcontractor must *initial and date* each page of Form FHWA-1273 in the subcontract.
- (2) The provisions in “Part XV. Disadvantaged Business Enterprises” of these FEDERAL PROVISIONS.
- (3) The Exhibit titled “Prompt Payment and Return of Retention Requirements.”
- (4) The Wage Determination in the EXHIBITS to this Invitation for Bids / Contract, as modified by any Addenda.

Federal Provisions That Must Be Inserted in Purchase Orders / Rental Agreements / Equipment Leases at Every Tier –

- (1) A statement that expressly incorporates Form FHWA-1273 (Rev. May 1, 2012) into the purchase order / rental agreement / equipment lease, by reference. For example: “The provisions in Form FHWA-1273 (Rev. May 1, 2012) apply to this purchase order / rental agreement / equipment lease.”
- (2) The provisions in “Part XV. Disadvantaged Business Enterprises” of these FEDERAL PROVISIONS.
- (3) The Exhibit titled “Prompt Payment and Return of Retention Requirements.”

FORM FHWA-1273 (REV. MAY 1, 2012)

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General**
- II. Nondiscrimination**
- III. Nonsegregated Facilities**
- IV. Davis-Bacon and Related Act Provisions**
- V. Contract Work Hours and Safety Standards Act Provisions**
- VI. Subletting or Assigning the Contract**
- VII. Safety: Accident Prevention**
- VIII. False Statements Concerning Highway Projects**
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act**
- X. Compliance with Governmentwide Suspension and Debarment Requirements**
- XI. Certification Regarding Use of Contract Funds for Lobbying**

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and

on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age

or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted 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 contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein:

Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-

347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. **Apprentices and Trainees (programs of the U.S. DOT).**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes

shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor,

such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project.

18 U.S.C. 1020 reads as follows:

“Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both.”

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or

commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR
LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ADDITIONAL FEDERAL PROVISIONS (NOT PART OF FORM FHWA-1273)

- XII. Energy Conservation**
- XIII. Buy America**
- XIV. Statement of No Collusion in Bidding**
- XV. Disadvantaged Business Enterprises**
- XVI. On-the-Job Training**
- XVII. Changed Conditions**
- XVIII. Access to Records; Records Retention**

XII. ENERGY CONSERVATION

In accordance with 49 CFR 18.36(i)(13), Contractor and every Subcontractor on this Project shall comply with the mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

XIII. BUY AMERICA

This Project is subject to FHWA's "Buy America" regulations in 23 CFR § 635.410.

If steel or iron materials are to be permanently incorporated in this Project, all manufacturing processes for these materials, including application of a coating, must occur in the United States.

Manufacturing is any process that modifies the chemical content, physical shape or size, or final finish of a product. Manufacturing begins with the initial melting and mixing, and continues through the bending and coating stages. If a domestic product is taken out of the U.S. for any process, it becomes a foreign-source material. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

The requirements of this section do not prevent a minimal use of foreign steel and iron materials in this Project, if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract cost or \$2,500, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the Project.

A contractor or subcontractor asserting permissible minimal use of foreign steel and iron materials must retain documentation of the quantities and costs of those materials.

XIV. STATEMENT OF NO COLLUSION IN BIDDING

Every bidder must submit the form titled "AFFIDAVIT OF NO COLLUSION IN BIDDING" with its bid. The affidavit form is in the Exhibits section.

In accordance with 23 CFR § 635.112(f), a bidder for this Project must submit, with its bid, a sworn statement that no one associated with the bidder 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 the Project.

XV. DISADVANTAGED BUSINESS ENTERPRISES

1.0 Policy

The Arizona Department of Transportation (hereinafter the Department or ADOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with the regulations of the U.S. Department of Transportation (USDOT), 49 CFR Part 26. The Department has received Federal financial assistance from the U.S. Department of Transportation and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26. The Department has awarded the City of Tempe a portion of the Federal financial assistance it has received from USDOT, and as part of the award, the City of Tempe is required to comply with the Department's DBE program and 49 CFR Part 26. In this Part XV. DISADVANTAGED BUSINESS ENTERPRISES, "LPA / Sub-recipient Procurement Office" means the City of Tempe Public Works Department, Engineering Division.

It is the policy of the Department to ensure that DBEs, as defined in 49 CFR Part 26, have an equal opportunity to receive and participate in USDOT-assisted contracts. It is also the policy of the Department:

- (1) To ensure nondiscrimination in the award and administration of USDOT-assisted contracts;
- (2) To create a level playing field on which DBEs can compete fairly for USDOT-assisted contracts;

- (3) To ensure that the DBE program is narrowly tailored in accordance with applicable law;
- (4) To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are counted as DBEs;
- (5) To help remove barriers to the participation of DBEs in USDOT-assisted contracts; and
- (6) To assist in the development of firms that can compete successfully in the market place outside the DBE program.

Local Public Agencies (LPA) and or Sub-recipients of Federal financial assistance will administer and manage the contracts from advertising, consultant selection, negotiation, contract execution, processing payment reports and contract modifications, audits, DBE compliance (e.g., reporting and monitoring) through contract closeout.

2.0 Assurances of Non-Discrimination

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, sex or national origin in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of 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 state deems appropriate. The contractor, subrecipient, or subcontractor shall ensure that all subcontract agreements contain this non-discrimination assurance.

3.0 Definitions

(A) Disadvantaged Business Enterprise (DBE): a for-profit small business concern which meets both of the following requirements:

- (1) Is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of any publicly owned business, at least 51 percent of the stock is owned by one or more such individuals; and,
- (2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

(B) Socially and Economically Disadvantaged Individuals: any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:

- (1) Any individual who is found to be a socially and economically disadvantaged individual on a case-by-case basis.
- (2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - (i) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

- (ii) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
- (iii) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
- (iv) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;
- (v) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- (vi) "Women;"
- (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA), at such time as the SBA designation becomes effective.

(C) Joint Venture: an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

(D) Non-DBE: any firm that is not a DBE.

(E) RACE-CONSCIOUS: a measure or program is one that is focused specifically on assisting only DBEs, including women-owned DBEs.

(F) RACE-NEUTRAL: a measure or program is one that is, or can be, used to assist all small businesses. For the purposes of this part, race-neutral includes gender-neutrality.

4.0 Working with DBEs

The Department works with DBEs and assists them in their efforts to participate in the highway construction program. All bidders should contact the Department's Business Engagement and Compliance Office at the address shown below for assistance in their efforts to use DBEs in the construction program of the Department:

Arizona Department of Transportation
 Business Engagement and Compliance Office
 1135 N. 22nd Avenue (second floor), Mail Drop 154A
 Phoenix, AZ 85009
 Phone 602-712-7761
 FAX 602-712-8429

5.0 Applicability

The Department has established an overall annual goal for DBE participation on Federal-aid contracts. The Department intends for the goal to be met with a combination of race conscious efforts and race neutral efforts. Race conscious participation occurs where the contractor uses a percentage of DBEs, as defined herein, to meet the contract-specified goal. Race neutral efforts are those that are, or can be, used to assist all small businesses or increase opportunities for all small businesses. The regulation, 49 CFR 26, defines race neutral as when a DBE wins a prime contract, is awarded a subcontract on a project without DBE goals, and is awarded a subcontract from a prime contractor that did not consider the firm's DBE status.

The contractor shall meet the goal specified herein with DBEs, or establish that it was unable to meet the goal despite making good faith efforts to do so. Prime contractors are encouraged to obtain DBE participation above and beyond any goals that may be set for this project. The provisions are applicable to all bidders including DBE bidders.

6.0 Certification

Certification as a DBE shall be predicated on:

- (1) The completion and execution of an application for certification as a "Disadvantaged Business Enterprise".
- (2) The submission of documents pertaining to the firm(s) as stated in the application(s), including but not limited to a statement of social disadvantage and a personal financial statement.
- (3) The submission of any additional information which the Department may require to determine the firm's eligibility to participate in the DBE program.
- (4) The information obtained during the on-site visits to the offices of the firm and to active job-sites.

Applications for certification may be filed with the Department at any time. Both hardcopy submission and online submission is available.

For hardcopy submissions, applications for certification are available at the Department's Business Engagement and Compliance Office, 1135 N. 22nd Avenue (second floor), mail drop 154A, Phoenix, Arizona 85009, phone (602) 712-7761. Hardcopy applications may also be obtained through the internet at www.azdbe.org. Hardcopy applications must be filed through the Department's Business Engagement and Compliance Office at the above address.

For online submissions, the online application process may be accessed through the internet at www.azdbe.org.

DBE firms and firms seeking DBE certification shall cooperate fully with requests for information relevant to the certification process. Failure or refusal to provide such information is a ground for denial or removal of certification.

Arizona is a member of the AZ Unified Certification Program (AZUCP). Only DBE firms that are certified by the AZUCP are eligible for credit on ADOT projects. A list of DBE firms certified by AZUCP is available on the internet at www.azdbe.org. The list will indicate contact information and specialty for each DBE firm, and may be sorted in a variety of ways. However, ADOT does not guarantee the accuracy and/or completeness of this information, nor does ADOT represent that any licenses or registrations are appropriate for the work to be done.

The Department's certification is not a representation of qualifications and/or abilities. The contractor bears all risks that the firm may not be able to perform its work for any reason.

7.0 General

Each contractor shall establish a program that will ensure nondiscrimination in the award and administration of contracts and subcontracts.

Each contractor shall also designate a full time employee who shall be responsible for the administration of the contractor's DBE program.

Agreements between the bidder and a DBE in which the DBE promises not to provide subcontracting quotations to other bidders are prohibited.

8.0 DBE Subcontractor Payment Reporting

The Department is required to collect data on DBE and non-DBE participation to report to Department of Transportation (DOT) on Federal-aid projects. LPA / Sub-recipient Procurement Office will notify the contractor that such record keeping is required by the Department for tracking DBE participation.

The contractor shall submit a report on a monthly basis indicating the amounts earned by and paid to all DBEs and non-DBEs working on the project. In addition, the contractor shall require that all DBE and non-DBE subcontractors verify receipt of payment.

The contractor shall provide all such required information for the current month by the 5th of the following month. The required information shall be submitted electronically through the Department's web-based payment tracking system (<https://arizonalpa.dbesystem.com>).

9.0 Goals

The minimum goal for participation by DBEs on this project is as follows: 2.89%.

The percentage of DBE participation shall be based on the total bid.

10.0 Crediting DBE Participation Toward Meeting Goals

10.01 General Requirements

Only the value of the work actually performed by the DBE can be credited toward DBE participation. Credit towards the contractor's DBE goal is given only after the DBE has been paid for the work performed.

The contractor bears the responsibility to determine whether the DBE possesses the proper contractor's license(s) to perform the work. If a DBE cannot complete its work due to failure to obtain or maintain its licensing, the contractor bears the responsibility to immediately request approval to replace the DBE with another DBE and notify the Engineer (City of Tempe Project Manager) and the Department's Business Engagement and Compliance Office.

The Department's certification is not a representation of qualifications and/or abilities. The contractor bears all risks that the DBE may not be able to perform its work for any reason.

A DBE may participate as a prime contractor, subcontractor, joint venture partner with either a prime contractor or a subcontractor, or as a vendor of materials or supplies. A DBE joint venture partner shall be responsible for a clearly defined portion of the work to be performed, in addition to meeting the requirements for ownership and control.

The dollar amount of work to be accomplished by DBEs, including partial amount of a lump sum or other similar item, shall be on the basis of subcontract, purchase order, hourly rate, rate per ton, etc., as agreed to between parties.

With the exception of bond premiums, all work must be attributed to specific bid items. Where work applies to several items, the DBE contracting arrangement must specify unit price and amount attributable to each bid item. DBE credit for any individual item of work performed by the DBE shall be the lesser of the amount to be paid to the DBE or the prime contractor's bid price. If the amount bid by the DBE on any item exceeds the prime contractor's bid amount, the prime contractor may not obtain credit by attributing the excess to other items.

Where more than one DBE is engaged to perform parts of an item (for example, supply and installation), the total amount payable to the DBEs will not be considered in excess of the prime contractor's bid amount for that item.

Bond premiums may be stated separately, so long as the arrangement between the prime contractor and the DBE provides for separate payment not to exceed the price charged by the bonding company.

DBE credit may be obtained only for specific work done for the project, supply of equipment specifically for physical work on the project, or supply of materials to be incorporated in the work. DBE credit will not be allowed for costs such as overhead items, capital expenditures (for example, purchase of equipment), and office items.

If a DBE performs part of an item (for example, installation of materials purchased by a Non-DBE), the DBE credit shall not exceed the lesser of (1) the DBE's contract or (2) the prime contractor's bid for the item, less a reasonable deduction for the portion performed by the Non-DBE.

When a DBE performs as a partner in a joint venture, only that portion of the total dollar value of the contract which is clearly and distinctly performed by the DBE's own forces can be credited toward the DBE goal.

The contractor may credit second-tier subcontracts issued to DBEs by non-DBE subcontractors. Any second-tier subcontract to a DBE used to meet the goal must meet the requirements of a first-tier DBE subcontract.

All DBE and non-DBE subcontracting activity must be reported by the contractor and counted toward participation. This includes lower-tier subcontracting regardless of whether or not the DBE is under contract with another DBE.

DBE prime contractors must meet the DBE participation goal or demonstrate good faith efforts. This is determined by counting the work the DBE has committed to performing with its own forces, as well as the work that it has committed to be performed by DBE subcontractors and DBE suppliers.

A prime contractor may credit the entire amount of that portion of a construction contract that is performed by the DBE's own forces. The cost of supplies and materials obtained by the DBE for the work of the contract can be included so long as that cost is reasonable. Leased equipment may also be included. No credit is permitted for supplies purchased or equipment leased from the prime contractor or its affiliate(s).

When a DBE subcontracts a part of the work of its contract to another firm, the value of the subcontract may be credited towards the DBE goal only if the DBE's subcontractor is itself a DBE and performs the work with its own forces. Work that a DBE subcontracts to a non-DBE firm does not count toward a DBE goal.

A prime contractor may credit the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.

10.02 Police Officers

DBE credit will not be permitted for procuring DPS officers. For projects on which officers from other agencies are supplied, DBE credit will be given only for the broker fees charged, and will not include amounts paid to the officers. The broker fees must be reasonable.

10.03 Commercially Useful Function

As a prime contractor, a DBE shall perform a significant portion of the contract work with its own work force in accordance with normal industry practices and *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction (2008)*, Subsection 108.01 - Subletting of Contract.

A prime contractor can credit expenditures to a DBE subcontractor toward DBE goals only if the DBE performs a commercially useful function on the contract. A DBE performs a commercially useful function when it is responsible for execution of the work of a contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

A DBE will not be considered to perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the Department will examine similar transactions, particularly those in which DBEs do not participate.

If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or if the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the Department will presume that the DBE is not performing a commercially useful function.

When a DBE is presumed not to be performing a commercially useful function as provided above, the DBE may present evidence to rebut this presumption. Decisions on commercially useful function matters are subject to review by DOT, but are not administratively appealable to U.S. DOT.

10.04 Trucking

The Department will use the following factors in determining whether a DBE trucking company is performing a commercially useful function. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract on every day that credit is to be given for trucking.

The contractor will receive credit for the total value of transportation services provided by the DBE using trucks it owns, insures and operates, and using drivers it employs.

The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services.

The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees results in credit only for the fee or commission paid to the DBE as a result of the lease agreement.

Example: DBE Firm X uses two of its own trucks on contract. It leases two trucks from DBE Firm Y and six trucks from non-DBE firm Z. DBE credit would only be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. With respect to the other two trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.

10.05 Materials and Supplies

The Department will credit expenditures with DBEs for material and supplies towards the DBE goal as follows. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies is credited. A manufacturer is defined as a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract, and of the general character described by the specifications.

If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies is credited. A DBE regular dealer is defined as a firm that owns, operates, or maintains a store or warehouse or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A firm may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, stone or asphalt without owning, operating, or maintaining a place of business, as provided above, if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement, and not on an ad-hoc or contract-by-contract basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph and the paragraph above.

With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, the Department will credit the entire amount of the fees or commissions charged by the DBE for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services. The cost of the materials and supplies themselves may not be counted toward the DBE goal.

DBE credit for supplying paving grade asphalt and other asphalt products will only be permitted for standard industry hauling costs, and only if the DBE is owner or lessee of the equipment and trucks. Leases for trucks must be long term (extending for a fixed time period and not related to time for contract performance) and must include all attendant responsibilities such as insurance, titling, hazardous waste requirements, and payment of drivers.

11.0 Joint Checks

11.01 Requirements

A DBE subcontractor and a material supplier (or equipment supplier) may request permission for the use of joint checks for payments from the prime contractor to the DBE subcontractor and the supplier. Joint checks may be issued only if all the conditions in this subsection are met.

1. The DBE subcontractor must be independent from the prime contractor and the supplier, and must perform a commercially useful function. The DBE subcontractor must be responsible for negotiating the price of the material, determining quality and quantity, ordering the materials,

installing (where applicable), and paying for the material. The DBE subcontractor may not be utilized as an extra participant in a transaction, contract, or project in order to obtain the appearance of DBE participation.

2. The use of joint checks will be allowed only if the prime contractor, DBE subcontractor, and material supplier establish that the use of joint checks in similar transactions is a commonly recognized business practice in the industry, particularly with respect to similar transactions in which DBE's do not participate.

3. A material or supply contract may not bear an excessive ratio relative to the DBE subcontractor's normal capacity.

4. There may not be any exclusive arrangement between one prime and one DBE in the use of joint checks that may bring into question whether the DBE is independent of the prime contractor.

5. Any arrangement for joint checks must be in writing, and for a specific term (for example, one year, or a specified number of months) that does not exceed a reasonable time to establish a suitable credit line with the supplier.

6. The prime contractor may act solely as the payer of the joint check, and may not have responsibility for establishing the terms of the agreement between the DBE subcontractor and the supplier.

7. The DBE must be responsible for receiving the check from the prime contractor and delivering the check to the supplier.

8. The prime contractor cannot require the DBE subcontractor to use a specific supplier, and the prime contractor may not participate in the negotiation of unit prices between the DBE subcontractor and the supplier.

11.02 Procedure and Compliance

1. LPA / Sub-recipient Procurement Office must approve the agreement for the use of joint checks in writing.

2. After obtaining authorization for the use of joint checks, the prime contractor, the DBE, and the supplier must retain documentation to allow for efficient monitoring of the agreement.

3. Copies of canceled checks must be submitted with the payment information for the period in which the joint check was issued. Certificates of payment must indicate whether or not joint checks were used.

4. The prime contractor, DBE, and supplier each have an independent duty to report to the LPA / Sub-recipient Procurement Office in the case of any change from the approved joint check arrangement.

5. Any failure to comply will be considered by the LPA / Sub-recipient Procurement Office to be a material breach of this contract and will subject the prime contractor, DBE, and supplier to contract remedies and, in the case of serious violations, a potential for termination of the

contract, reduction or loss of prequalification, debarment, or other remedies which may prevent future participation by the offending party.

12.0 Submission with Bids

All bidders are required to certify in their bid proposal on the "Disadvantaged Business Enterprise Assurances" certificate (i.e., on ADOT form "BECO 302S"; see the Exhibits section of this Invitation for Bids) either:

- (1) The established goal for DBE participation has been met and arrangements have been made at the time of bid with certified DBEs or
- (2) The bidder has been unable to meet the goal prior to the submission of the bid and has made good faith efforts to do so.

BIDS SUBMITTED WITH ALTERED, INCOMPLETE, OR UNSIGNED CERTIFICATES WILL BE CONSIDERED NON-RESPONSIVE.

Certifications on forms other than those furnished by the LPA / Sub-recipient Procurement Office will be considered non-responsive.

13.0 Bidder Meeting DBE Goal

13.01 General

If the bidder indicates in the bid that it has met or exceeded the DBE goal, the DBE Intended Participation Affidavit, its attachments, and a written confirmation from each DBE that it is participating in the contract as provided on the affidavit shall be submitted as follows:

- (1) The DBE Intended Participation Affidavit, its attachments, and the confirmations (i.e., ADOT forms "BECO 304S" and "BECO 305S") must be received by the LPA / Sub-recipient Procurement Office no later than 4:00 P.M. on the fifth working day following the bid opening. Copies of this affidavit and the attachments can be found in the Exhibits section of this Invitation for Bids, or on the Internet at http://www.azdot.gov/inside_adot/CRO/LPA_SubRec.asp. This affidavit and its attachments shall indicate that the bidder has met or exceeded the DBE goal if this was indicated on the submittal with the bid.
- (2) The affidavit and attachments must be accurate and complete in every detail and must be signed by an officer of the contractor(s).
- (3) The DBE Intended Participation affidavit (ADOT form "BECO 305S") must be submitted listing the DBEs used and the creditable amounts.
- (4) A separate DBE Intended Participation affidavit attachment (ADOT form "BECO 304S") must be submitted for each DBE used to meet the goal of the project. The bidder shall indicate each DBE's name, the bid items the DBE will perform, and proposed subcontract amount. All partial items must be explained. If not, the DBE will be considered to be responsible for the entire item.

(5) A written confirmation from each DBE used to meet the goal indicating that it is participating in the contract, as provided on the affidavit, must also be submitted at this time (this confirmation is part of ADOT form "BECO 304S").

(6) A bidder must determine DBE credit in accordance with Section 10 above, entitled "Crediting DBE Participation Toward Meeting Goals." The affidavit will be reviewed by the LPA / Sub-recipient Procurement Office.

(7) Only those DBE firms certified by the Arizona Unified Certification Program (AZUCP) at the time of the bid opening will be considered it shall be the bidder's responsibility to ascertain the certification status of designated DBEs.

(8) The bidder bears the risk of late delivery by the postal service or a delivery service. Late-filed affidavits will not be accepted.

13.02 Failure to Comply

If the apparent low bidder fails to submit the required information by the stated time and in the manner herein specified, or if the submitted information reveals a failure to meet the requirements of the specifications, the apparent low bidder shall be ineligible to receive award of the contract and the bid will be rejected. The proposal guarantee (bid bond) shall be forfeited if no submission is made or if the State Transportation Board finds the submission was made in bad faith.

14.0 Documented Good Faith Effort

14.01 General

If the apparent low bidder has stated in its bid proposal that it has been unable to meet the DBE goal, that bidder must demonstrate, through detailed and comprehensive documentation, that good faith efforts have been made to solicit, assist, and use DBE firms to meet the DBE goal prior to the bid. The bidder cannot change its bid proposal after submission.

Failure to demonstrate good faith efforts to the satisfaction of ADOT will result in the rejection of the bid.

The apparent low bidder who cannot meet the DBE goal at the time bids are opened must submit its documentation of good faith effort to the Department's Business Engagement and Compliance Office. The bidder's documentation must be received by the LPA / Sub-recipient Procurement Office by 4:00 P.M. on the fifth working day after the bids are opened. Bidders are encouraged to review Appendix A of 49 CFR Part 26.

In order to be awarded a contract on the basis of good faith efforts, a bidder must show that it took all necessary and reasonable steps to achieve the DBE goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful. The LPA / Sub-recipient Procurement Office will consider the quality, quantity, and intensity of the different kinds of efforts the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to make if the bidder were actively and aggressively trying to obtain DBE participation

sufficient to meet the DBE goal. Mere pro forma efforts are not sufficient good faith efforts to meet the DBE contract requirements.

The contractor shall, as a minimum, seek DBEs in the same geographic area in which it generally seeks subcontractors for a given project. If the contractor cannot meet the goals using DBEs from this geographic area, the contractor, as part of its effort to meet the goals, shall expand its search to a reasonably wider geographic area.

The following is a list of types of efforts a bidder must address when submitting good faith effort documentation.

(1) Soliciting through all reasonable and available means (e.g., attendance at pre-bid meeting, advertising, written notices, and other means) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow-up initial solicitations.

(2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to the DBE subcontractors and suppliers, and to select those portions of work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided from the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform work. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. However, prime contractors are not required to accept higher quotes from DBEs if the price difference is excessive or unreasonable. Documentation, such as copies of all other bids or quotes, must be submitted.

(5) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations or associations and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.

(6) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

(7) Making efforts to assist interested DBEs in obtaining necessary equipment supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

In determining whether a bidder has made good faith efforts, the LPA / Sub-recipient Procurement Office will take into account the ability of other bidders to meet the DBE goal. The bidder will not be considered to have made good faith efforts if the bidder failed to contact the LPA / Sub-recipient Procurement Office and the Department's Business Engagement and Compliance Office prior to the letting, either in writing, by e-mail, or by telephone, to inform the LPA / Sub-recipient Procurement Office and the Department's Business Engagement and Compliance Office of the firm's difficulty in meeting the DBE goals on a given project, and to request assistance. If the bidder contacts the LPA / Sub-recipient Procurement Office and the Department's Business Engagement and Compliance Office by telephone, the contact must be documented in a telephone log indicating the date and time of call, and name of the person to which he spoke. The telephone number for the ADOT Office is (602) 712-7761. The contact must be made in sufficient time to allow the Department's Business Engagement and Compliance Office to provide assistance.

The LPA / Sub-recipient Procurement Office will analyze the submittal to determine if in fact good faith efforts have been demonstrated consistent with ADOT procedures and the Federal regulations, 49 CFR 26, Appendix A and will forward their recommendation to the Department's Business Engagement and Compliance Office for determination.

The bidder may appeal the determination of the Department's Business Engagement and Compliance Office to the State Engineer. That appeal must be in writing and personally delivered or sent by certified mail, return receipt requested, to the State Engineer. The protest must be received by the State Engineer no later than seven calendar days after the decision of the Department's Business Engagement and Compliance Office. Copies of the protest shall be sent by the protestant to every bidder, at the same time the protest is submitted to the State Engineer. Any other interested party may submit a response to the appeal no later than seven calendar days after the appeal is requested. Responses from other interested parties must also be in writing and personally delivered or sent by certified mail, return receipt requested, to the State Engineer. Any interested party submitting such response shall also provide a copy of its response to every bidder, at the same time the protest is submitted to the State Engineer. The State Engineer shall promptly consider any appeals under this subsection and notify all bidders of the State Engineer's findings and decision.

Any interested party may protest the State Engineer's decision to the Transportation Board, pursuant to the requirements of *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction* (2008), Subsection 103.10.

14.02 Failure to Comply

If the apparent low bidder fails to submit the required information by the stated time and in the manner herein specified, or if the submitted information reveals a failure to meet the requirements of the specifications, the apparent low bidder shall be ineligible to receive award of

the contract and the bid will be rejected. The proposal guarantee (bid bond) shall be forfeited if no submission is made or if the State Transportation Board finds the submission was made in bad faith.

15.0 Rejection of Low Bid

If, for any reason, the bid of the apparent low bidder is rejected, there will be a new apparent low bidder. The Department will notify the new apparent low bidder, and this bidder shall submit its subsequent detailed submission as set forth in paragraph 12 or 13 above.

16.0 Time Is of the Essence

TIME IS OF THE ESSENCE IN RESPECT TO THE DBE PROVISIONS.

17.0 Contract Performance

Contract items of work designated by the contractor to be awarded to DBEs shall be performed by the designated DBE or a Department-approved DBE substitute. DBE contract work items shall not be performed by the contractor, or a non-DBE subcontractor without prior approval by the Department's Business Engagement and Compliance Office. The DBE must perform a commercially useful function; that is, the DBE must manage, perform, and supervise a distinct element of work.

The Department reserves the right to inspect all records of the contractor and all records of the DBEs concerning this contract.

The contractor shall provide to the Engineer (City of Tempe Project Manager), at the pre-construction conference, copies of completed and signed subcontracts purchase orders, invoices, etc., with the appropriate DBEs.

Within five working days of the preconstruction conference, the contractor shall also provide electronic copies of signed subcontract agreements to the LPA / Sub-recipient Procurement Office through the Department's web-based payment tracking system (<https://arizonalpa.dbesystem.com>). As part of this submittal, contractors shall be required to log into the system and enter the name, contact information, and subcontract amounts for all subcontractors and vendors performing on the project as verification that scopes of services and commitments made through the DBE Intended Participation Affidavits are being met.

Subcontract agreements shall include all required assurances, including Form FHWA-1273, and the prompt payment and return of retention requirements specified in *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction (2008)*, Subsection 109.06(B). Each page of each required attachment must be dated and initialed by the DBE in order for the subcontract to be considered valid. Contractors executing agreements with subcontractors, DBE or non-DBE, that materially modify federal regulation and state statutes, or prompt payment and retention requirements, through subcontract terms and conditions will be found in breach of contract which may result in termination of the contract, or any other such remedy as the Engineer (City of Tempe Project Manager) deems appropriate. Use of a DBE named on the DBE Intended Participation Affidavit is a condition of award. Substitution will not be allowed without written evidence from the prime contractor and DBE that the DBE is unable or unwilling to perform. Contractors may not terminate a DBE subcontract for convenience, in

whole or in part, except to the extent that the Department has eliminated items of work subcontracted to the DBE. All terminations, substitutions, and reductions in scope must be approved by the Department's Business Engagement and Compliance Office.

18.0 Non-Performance by DBEs

In the event a DBE is unable or unwilling to fulfill its agreement with the contractor, the contractor will immediately notify the Engineer (City of Tempe Project Manager) and provide all facts surrounding the matter. Such failure on the part of a DBE will not relieve the contractor of responsibility for meeting the DBE goal on the contract. The contractor shall immediately make reasonable good faith efforts to obtain another certified DBE to perform an equal or greater dollar value of work to the extent needed to meet the DBE goal. The substitute DBE's name, description of work, and dollar value of work shall be submitted to the Engineer (City of Tempe Project Manager) and the Department's Business Engagement and Compliance Office. Approval of the Department's Business Engagement and Compliance Office must be obtained prior to the substitute DBE beginning work. In the event a prime contractor is unable, after a substantial good faith effort, to obtain another certified DBE, the Department's Business Engagement and Compliance Office may lower the DBE goal on the project. However, the Department's Business Engagement and Compliance Office must approve this in writing prior to a Non-DBE starting the work which had been subcontracted to the DBE.

19.0 Compliance

The contractor's achievement of the goal is measured by actual payments made to the DBEs. The contractor shall submit at the completion of the project the "Certification of Payments to DBE Firms" affidavit (ADOT form "BECO 306S") for each DBE firm working on the project. This affidavit shall be signed by the prime contract and the relevant DBE, and submitted to the Department's Business Engagement and Compliance Office. At that time, a copy of each completed affidavit shall also be submitted to the Engineer (City of Tempe Project Manager).

Acceptance and final payment to the contractor, in accordance with *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction* (2008), Subsections 105.20 and 109.09, will not be made until all "Certification of Payments to DBE Firms" affidavits are received and deemed acceptable by the Engineer (City of Tempe Project Manager) and the LPA / Sub-recipient Procurement Office.

20.0 Sanctions

If the Department determines that the contractor has failed to make sufficient reasonable efforts to meet contract DBE goals, or to otherwise carry out these DBE special provisions, such failure shall constitute a breach of contract and may result in termination of the contract, or any other such remedy as the Engineer (City of Tempe Project Manager) deems appropriate.

If the Engineer (City of Tempe Project Manager) determines that such failure is not cause to terminate the contract, an amount equal to the value of the DBE goal that was not obtained will be deducted from the payment due the contractor. However, if the failure is the first by the contractor, and the Engineer (City of Tempe Project Manager) determines the failure was an unintentional error or oversight, the amount to be deducted may be reduced up to one-half (1/2) of the value of the unobtained DBE goal as determined by the Department's Business Engagement and Compliance Office. In addition to any other sanctions, willful failure of the

contractor or a DBE to comply with this contract or with the Federal DBE regulations may result in disqualification from further contracting, subcontracting, or other participation in ADOT projects.

XVI. ON THE JOB TRAINING

The contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

There is no on-the-job training requirement for this project; however, the contractor shall make every possible effort to provide additional trainees with training and shall see that all trainees are afforded every opportunity to participate in as much training as is practically possible to provide. Due to turnover and attrition of trainees in any one trainee slot, it is expected that continuous trainee replacements may be necessary during the contract work period.

In the event that a contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Highways Division for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records shall document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Highways Division and the Federal Highway Administration. The Highways Division and the Federal Highway

Administration will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, Apprenticeship programs registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Bureau of Apprenticeship and Training will also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Specifically, union apprenticeship programs and Associated Builders and Contractor's apprenticeship programs may be used. Additionally, in-house training programs may be approved on a case-by-case basis. Approval or acceptance of a training program shall be obtained from the Highways Division prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training may be permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Acceptance of training in such lower level management positions shall be on a case-by-case basis, and approval shall be obtained from the Highways Division prior to commencing work. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Federal Highway Administration. Some off site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for off site training indicated above may only be made to the contractor where he contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the off site training period.

No payment will be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. However, when such training opportunities are suspended or interrupted under the contract which the trainee was designated, the contractor may continue training under other ADOT contracts regardless of their funding, except that no reimbursement for such training shall be made on non-federal aid contracts, under this training special provision. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the

training period, and 90 percent of the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program will apply to all trainees being trained for the same classification who are covered by this Training Special Provision. The contractor shall furnish the trainee a copy of the program he will follow in providing the training.

The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor shall provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

The contractor shall submit a weekly training report to the Engineer. The report shall be prepared on forms obtained from the Civil Rights Office, 1135 N. 22nd Avenue (second floor), mail drop 154A, Phoenix, Arizona 85009, phone (602) 712-7761.

At the preconstruction conference, the contractor shall submit a schedule which will indicate each trainee's name, sex, race/ethnicity, the program in which the trainee is enrolled, the approximate number of hours each trainee will be trained in each phase of the work, the crafts to which the trainees belong and the estimated period of time that they will be employed as trainees. A supplemental schedule shall be submitted to the Engineer when a revision in the original schedule is necessary. At the time each trainee is scheduled to begin work, the contractor shall submit to the Engineer each trainee's name, sex, and race/ethnicity. The contractor must also submit proof that the trainee is enrolled in an approved training program.

At the conclusion of the project or at the end of each calendar year for multi-year projects, the contractor must submit to the Affirmative Action Office and to the project office, the same information described hereinbefore for each trainee that worked on the project. Additionally, the contractor must indicate if the trainee graduated from the program, was terminated due to cause, or was transferred to another project to continue his/her training.

If, at the preconstruction conference, the contractor does not provide a schedule containing the specified information, the Engineer will notify the contractor of the infraction. Failure to provide the schedule within 15 calendar days from the date of notification shall be considered as willful non-compliance. The Engineer will cause to be withheld from the contractor's monthly payments additional retainage in the amounts specified below. The amount withheld from the monthly payment shall be held until an acceptable schedule or supplemental schedule has been submitted.

The Engineer will monitor the use of trainees based on the contractor's schedule, supplemental schedules, and weekly training report. If the use of trainees is not in conformance with the schedule or supplemental information, the Engineer will cause to be withheld from the contractor's monthly payments additional retainage in the amounts specified below. Conformance with the schedule will be considered acceptable when the cumulative number of trainee hours earned to date under the Item 9230001 - PROVIDE ON-THE-JOB TRAINING is at least 90 percent of that shown on the schedule, for the work performed to date.

Additional Retainage

First and Second monthly payments following infraction	\$1,000.00 each month
Third monthly payment and thereafter	\$5,000.00 each month

The amount withheld from the monthly payment shall be held until an acceptable schedule or supplemental schedule has been submitted and until conformance with the schedule has been determined.

If, at the completion of the contract, the Department is holding additional retainage in accordance with this specification, the retainage will become the property of the Department, not as penalty but as liquidated damages.

XVII. CHANGED CONDITIONS

In accordance with 23 CFR § 635.109(a), the following provisions apply to this Project.

(1) Differing Site Conditions

(i) During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.

(ii) Upon written notification, the Tempe construction project manager will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The Tempe construction project manager will notify the contractor of the determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.

(iv) No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

(2) Suspensions of Work Ordered by the Tempe Project Manager

(i) If the performance of all or any portion of the work is suspended or delayed by the Tempe construction project manager in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the Tempe construction project manager in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

(ii) Upon receipt, the Tempe construction project manager will evaluate the contractor's request. If the Tempe construction project manager agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the

contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Tempe construction project manager will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the Tempe Project Manager's determination whether or not an adjustment of the contract is warranted.

(iii) No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

(iv) No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(3) Significant Changes in the Character of Work

(i) The Tempe construction project manager reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project.

Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

(ii) If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the Tempe construction project manager may determine to be fair and equitable.

(iii) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.

(iv) The term "significant change" shall be construed to apply only to the following circumstances:

(A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or

(B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

XVIII. ACCESS TO RECORDS; RECORDS RETENTION

In accordance with 49 CFR 18.36(i)(10), Contractor and every Subcontractor on this Project shall provide access to the City of Tempe, the Arizona Department of Transportation, the Federal

Highway Administration, the Comptroller General of the United States, or any of their duly authorized representatives, to any of Contractor's or Subcontractor's books, documents, papers, and records that are directly pertinent to the Contract for this Project, for the purposes of making audit, examination, excerpts, and transcriptions.

In accordance with 49 CFR 18.36(i)(11), Contractor and every Subcontractor on this Project shall maintain all required records for a minimum of three years, after the grant has been formally closed; i.e., after the City of Tempe makes final payments and all other pending matters on this Project are closed.

8. EXHIBITS

The parties agree that all references to this Contract include all exhibits designated in and attached to this Contract, such exhibits being incorporated into and made an integral part of this Contract for all purposes.

- 8.1. BIDDER'S CHECK SHEET**
- 8.2. COMPETITIVE SEALED BID FORMS**
- 8.3. BIDDER'S PROJECT REFERENCES**
- 8.4. BIDDER'S LIST OF PROPOSED SUBCONTRACTORS**
- 8.5. COMPETITIVE SEALED BID CERTIFICATION FORM**
- 8.6. CERTIFICATION BY THE CONTRACTOR AUTHORIZING EMPLOYEES TO SIGN BINDING AGREEMENTS**
- 8.7. PERFORMANCE BOND FORM**
- 8.8. PAYMENT BOND FORM**
- 8.9. UNCONDITIONAL WAIVER AND RELEASE FOR CONTRACTOR'S PAYMENT AND SETTLEMENT OF CLAIMS**
- 8.10. PROMPT PAYMENT AND RETURN OF RETENTION REQUIREMENTS**
- 8.11. AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE IN THE UNITED STATES**
- 8.12. AFFIDAVIT OF NO COLLUSION IN BIDDING**
- 8.13. AFFIDAVIT – DISADVANTAGED BUSINESS ENTERPRISE ASSURANCES**
- 8.14. AGENCY BIDDERS LIST**
- 8.15. DBE INTENDED PARTICIPATION AFFIDAVIT SUMMARY SHEET**
- 8.16. DBE INTENDED PARTICIPATION CERTIFICATION AND CONFIRMATION OF PARTICIPATION – ATTACHMENT**
- 8.17. CERTIFICATION OF PAYMENTS**
- 8.18. LABOR STANDARDS CERTIFICATION FORM**
- 8.19. WAGE DETERMINATION**
- 8.20. UPRR RIGHT OF ENTRY AGREEMENT**
- 8.21. UPRR RIGHT OF ENTRY CONTRACTOR LETTER**
- 8.22. UPRR RIGHT OF ENTRY INSURANCE CERTIFICATE SAMPLE**

[CONTRACT SIGNATURE PAGE FOLLOWS THIS LIST OF EXHIBITS]

CONTRACT SIGNATURE PAGE

IN WITNESS WHEREOF, this Contract has been duly executed by the parties below and entered into this _____ day of _____, 2014.

CITY OF TEMPE, an Arizona municipal corporation

By: _____
Name

Its: _____
Title

ATTEST:

City Clerk

Recommended By:

APPROVED AS TO FORM:

Anna _____
Deputy Public Works Director/City Engineer

City Attorney

Contractor warrants that the person who is signing this Contract on behalf of Contractor is authorized to do so and to execute all other documents necessary to carry out the terms of this Contract.

CONTRACTOR:

AJP ELECTRIC, INC.
Company Name

By: _____
Signature

Anna Paganik
Printed Name

Its: President
Title

City Transaction Privilege
License (Sales Tax) Permit No.

42993
(Corporate Seal)

Witness [IF CONTRACTOR IS INDIVIDUAL]

8.1.

BIDDER'S CHECK SHEET

This check sheet lists the items a bidder must include with its sealed bid.

	Included
Competitive Sealed Bid Forms (Confirm receipt of Addenda)..... Exhibit 8.2	<input type="checkbox"/>
10% Bid Guarantee (see Invitation for Bids section 4.3)	<input type="checkbox"/>
EMOD and Loss Ratio Information (see Invitation for Bids section 4.6.2)	<input type="checkbox"/> Separate Envelope
Bidder's Project References.....Exhibit 8.3	<input type="checkbox"/>
Bidder's List of Proposed SubcontractorsExhibit 8.4	<input type="checkbox"/> Separate Envelope
Competitive Sealed Bid Certification FormExhibit 8.5	<input type="checkbox"/>
Affidavit Demonstrating Lawful Presence in the United States (see Invitation for Bids Section 4.6.1).....Exhibit 8.11	<input type="checkbox"/>
Affidavit of No Collusion in BiddingExhibit 8.12	<input type="checkbox"/>
Affidavit – Disadvantaged Business Enterprise AssurancesExhibit 8.13	<input type="checkbox"/>

8.2.

COMPETTITIVE SEALED BID FORMS

Place: Tempe, Arizona

Date: 1/28/2014

Mayor and City Council
City of Tempe
Tempe, Arizona 85281

In compliance with your Invitation for Bids and all conditions of the Contract, AJP Electric, Inc., a corporation or limited liability corporation organized under the laws of the State of Arizona; a partnership consisting of _____; or an individual trading as _____, of the City of Phoenix, and the County of Maricopa, hereby proposes and agrees to furnish any and all plans, materials, labor, construction equipment, service, and transportation (all applicable taxes included) for **RAILROAD CROSSING SAFETY IMPROVEMENTS, UNION PACIFIC RAILROAD AT FIFTH STREET, PROJECT NO. 5405371, FEDERAL AID PROJECT NO. 000-TMP-0(233)T, ADOT TRACS NO. 0000 MA TMP SR252 01C**, and to install the material therein for City in a good and workmanlike and substantial manner and to the satisfaction of City or its properly authorized agents and strictly pursuant to and in conformity with the Contract and other documents that may be made by City or their properly authorized agents, as provided herein, at the following prices:

City of Tempe



Project No. 5405371

Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street

AJP ELECTRIC, INC.

Base Bid

Item No.	Item Name	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/ Demobilization	1	LS	\$18,000.00	\$18,000.00
2	Traffic and Pedestrian Control Allowance	1	LS	\$25,000.00	\$25,000.00
3	Construction Surveying and As-built Allowance	1	LS	\$4,000.00	\$4,000.00
4	Stormwater Pollution Prevention Best Management Practice Allowance	1	LS	\$5,000.00	\$5,000.00
5	Permit Allowance	1	LS	\$4,000.00	\$4,000.00
6	Remove Existing Concrete Sidewalk	324	SF	\$3.00	\$972.00
7	Sawcut and Remove Existing AC Pavement	154	SY	\$21.00	\$3,234.00
8	Obliterate Existing Stripping by Slurry Seal	2498	SY	\$4.60	\$11,490.80
9	Sawcut & Remove Existing Curb/Gutter	36	LF	\$8.00	\$288.00
10	Install Concrete Sidewalk, MAG STD DTL 230	540	SF	\$12.50	\$6,750.00
11	Install Vertical Concrete Curb and Gutter, MAG STD DTL 220-1, Type "A"	179	LF	\$29.00	\$5,191.00
12	Install Asphalt Concrete Surface Course, Type D 1/2 2" Thick	123	SY	\$25.00	\$3,075.00
13	Install Asphalt Concrete Base Course, Type A 1-1/2 4" Thick	123	SY	\$50.00	\$6,150.00
14	Install Aggregate Base Course	123	SY	\$40.00	\$4,920.00
15	Install Portland Cement Concrete Pavement, Class B, 3" Thick	526	SF	\$10.00	\$5,260.00
16	Install Complete Warning Sign, Post, and Foundation	2	EA	\$250.00	\$500.00
17	Install Concrete Ribbon Curb, MAG STD DTL 220-1, Type "B"	36	LF	\$22.00	\$792.00
18	Install Detectable Warning Strip, City of Tempe STD DTL T-329	64	SF	\$55.00	\$3,520.00
19	Install New Striping per Plan	3642	LF	\$0.80	\$2,913.60

20	Install Chevron Striping	155	LF	\$0.80	\$124.00
21	Install Railroad Crossing and Bike Lane Symbol	6	EA	\$270.00	\$1,620.00
22	Railroad Flag Monitoring Allowance	1	LS	\$12,000.00	\$12,000.00
23	Off Duty Officer Allowance	1	LS	\$5,600.00	\$5,600.00
24	Utility Protection Allowance	1	LS	\$5,000.00	\$5,000.00

Total Base Bid: \$135,400.40

The undersigned hereby declares that Contractor has visited the site and has carefully examined the Contract related to the work covered by the above bid.

The undersigned understands that, when it is in the best interests of the City of Tempe, the City may cancel this solicitation, or may reject any and all bids in whole or in part, or may waive any informalities in the bids received.

Contractor's performance shall not start until after receiving the Notice to Proceed, and the work will be completed within forty five (45) consecutive calendar days after the Notice to Proceed date.

The undersigned hereby acknowledges receipt of the following Addenda: Addendum No. 1 issued 1/16/14, Addendum No. 2 issued 1/17/14, Addendum No. 3 issued 1/21/14, Addendum No. 4 issued 1/27/14 and Contractor's bid has been adjusted to reflect any changes.

Respectfully submitted,

By: _____
Signature

Printed Name

Its: _____
Title

86-0750443
Federal I.D. No./Social Security No.

[Corporate Seal]

For: AJP Electric, Inc.
Company Name

Address: 11250 N. Cave Creek Road
Phoenix, AZ 85020

Phone: 602-944-5477

Fax: 602-944-5784



AJP ELECTRIC, INC.

11250 N. Cave Creek Rd. • Phoenix, Arizona 85020
Phone (602) 944-5477 • Fax (602) 944-5784

LIST OF PROJECT REFERENCES

Project Name: Granite Valley & Mantor/Datchler Intersection Improvements
Project No.: TT431
Owner Name: MCDOT
Reference: Bill Grimes Phone: 602-506-6604
Contract Amount: \$852,215
Year Completed: 2013

Project Name: Oakmont Drive & 107th Ave Intersection Improvements
Project No.: TT398
Owner Name: MCDOT
Reference: Bill Grimes Phone: 602-506-6604
Contract Amount: \$363,015
Year Completed: 2013

Project Name: Ak-Chin Regional Airport Improvements
Project No.: A.C.I. 116050
Owner Name: Ak-Chin Indian Community
Reference: Jason Musselman Phone: 602-803-7079
Contract Amount: \$872,868
Year Completed: 2012

8.5.

**COMPETITIVE SEALED BID
CERTIFICATION FORM**

RAILROAD CROSSING SAFETY IMPROVEMENTS, UNION PACIFIC RAILROAD
AT FIFTH STREET, PROJECT NO. 5405371

Bidder certifies that it is a: _____ proprietorship; _____ partnership; corporation; _____ other.

Arizona Sales Tax No. 07-470050-V

Use Tax No. for Out-of-State Supplier KIA

City of Tempe Sales Tax No. 42993

Taxpayer's Federal Identification No. 86-0750443

Bidder certifies that it has read, understands, and will fully and faithfully comply with this Invitation for Bids, its attachments, and any referenced documents. Bidder also certifies that the bid was independently developed without consultation with any other Bidders or potential Bidders.

Company's Legal Name: AJP Electric, Inc.

Address: 11250 N. Cave Creek Rd.

City, State and Zip Code: Phoenix, AZ 85020

Telephone Number: 602-944-5477

Company's Fax Number: 602-944-5784

Company's Toll Free Number: KIA

Signature: _____

Printed Name and Title: Anna Paganik, President

E-Mail Address: anna.paganik@ajpedtrc.com

MAILING ADDRESSES

Purchase Order Address: (If different from above)

Name: same

Address: _____

City, State and Zip Code: _____

Payment Address: (If different from above)

Name: same

Address: _____

City, State and Zip Code: _____

8.6.

**CERTIFICATION BY THE CONTRACTOR AUTHORIZING
EMPLOYEES TO SIGN BINDING AGREEMENTS**

**RAILROAD CROSSING SAFETY IMPROVEMENTS,
UNION PACIFIC RAILROAD AT FIFTH STREET**

PROJECT NO. 5405371

The following employees in our organization are duly authorized to sign binding agreements for and on behalf of the Owner, Partner, or Corporation, including, but not limited to, Pay Requests, Change Orders, Required Certifications, etc.:

Type or Print Name

Signature

Contractor Name

Signed By

(Owner, Partner, or Principal of the Corporation)

Printed Name

Title

Date

PERFORMANCE BOND FORM
(Bond Amount to Be Equal to 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That _____ (hereinafter called the Principal), as Principal, and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____ (hereinafter called the Surety), are held and firmly bound unto _____ (hereinafter called the Obligee) in the amount of _____ Dollars (\$ _____), for the payment whereof the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated the 27th day of February, 2014, to complete Project No. 5405371, Federal Aid Project No. 000-TMP-0(233)T, ADOT TRACS No. 0000 MA TMP SR252 01C, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the Principal faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of the Contract during the original term of the Contract and any extension of the Contract, with or without notice to the Surety, and during the life of any guaranty required under the Contract, and also performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of all duly authorized modifications of the Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

Provided, however, that this bond is executed pursuant to the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, to the extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

DATED this _____ day of _____, 2014.

PRINCIPAL

SEAL

By: _____

*SURETY

SEAL

By: _____

AGENCY ADDRESS

*Surety hereby acknowledges it holds a certificate of authority to transact surety business in the State of Arizona, issued by the director of the department of insurance pursuant to Title 20, Chapter 2, Article 1, Arizona Revised Statutes.

PAYMENT BOND FORM

(Bond Amount to Be Equal to 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That _____ (hereinafter called the Principal), as Principal, and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____ (hereinafter called the Surety), are held and firmly bound unto (hereinafter called the Obligee) in the amount of _____ Dollars (\$___), for the payment whereof the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated the 27th day of February, 2014, to complete Project No. 5405371, Federal Aid Project No. 000-TMP-0(233)T, ADOT TRACS No. 0000 MA TMP SR252 01C, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the Principal promptly pays all monies due to all persons supplying labor or materials to the Principal or the Principal's subcontractors in the prosecution of the work provided for in the Contract, this obligation is void. Otherwise it remains in full force and effect.

Provided, however, that this bond is executed pursuant to the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of title 34, chapter 2, article 2, Arizona Revised Statutes, to the same extent as if they were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as a part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

DATED this _____ day of _____, 2014.

PRINCIPAL

SEAL

By: _____

*SURETY

SEAL

By: _____

AGENCY ADDRESS

*Surety hereby acknowledges it holds a certificate of authority to transact surety business in the State of Arizona, issued by the director of the department of insurance pursuant to Title 20, Chapter 2, Article 1, Arizona Revised Statutes.

**UNCONDITIONAL WAIVER AND RELEASE
FOR CONTRACTOR'S PAYMENT
AND SETTLEMENT OF CLAIMS**

Upon receipt of payment from the City of Tempe, the undersigned:

Contractor's Name: _____

Contractor's Address: _____

The undersigned has been paid and acknowledges having received final payment from the City of Tempe in the amount of \$ _____ [state dollar amount for final, total contract amount] for full and final payment of all work, services, equipment, labor, skill, and material furnished, delivered, and performed by the undersigned for the City or anyone in the construction [or other services] for RAILROAD CROSSING SAFETY IMPROVEMENTS, UNION PACIFIC RAILROAD AT FIFTH STREET, PROJECT NO. 5405371, FEDERAL AID PROJECT NO. 000-TMP-0(233)T, ADOT TRACS NO. 0000 MA TMP SR252 01C, at the crossing of the UNION PACIFIC RAILROAD AND FIFTH STREET IN TEMPE, ARIZONA; and does hereby waive and release any and all rights to mechanic's liens, any state or federal statutory bond right, any private bond right, any claim for payment, and any and all rights under any applicable federal, state, or local laws related to claim or payment rights for persons in the undersigned's position held on the above-referenced project against the City of Tempe, for this value received. The undersigned further agrees to defend, indemnify, and hold harmless the City of Tempe against any and all liens, claims, suits, actions, damages, charges, and expenses whatsoever, which the City may incur, arising out of the failure of the undersigned to pay in full for all work, services, equipment, labor, skill, and material furnished with regard to the project.

The undersigned, in consideration of the payment acknowledged, hereby warrants that he/she has already paid or will pay using the monies received from this final payment to promptly pay in full all of his contractors, subcontractors, laborers, materialmen, and suppliers for all work, materials, equipment, or services provided to the above-referenced project.

Contractor Signature

Date

By (Print Name and Title)

Notice: This document waives rights unconditionally and states that you have been paid for giving up those rights. This document is enforceable against you if signed, even if you have not been paid. If you have not been paid in full, use a conditional release form.

[NOTARY SEAL TO FOLLOW]

STATE OF ARIZONA)
COUNTY OF MARICOPA)

On ____ day of _____, 2014, _____ personally appeared before me, and proved by lawful identification documents to be the person who signed the preceding document in my presence, and who affirmed to me that the contents therein are truthful and accurate to the best of his/her knowledge and belief.

Notary Seal

Notary Public

Printed Name

My Commission Expires:

8.10.

PROMPT PAYMENT AND RETURN OF RETENTION REQUIREMENTS

In accordance with ADOT Standard Specifications for Road and Bridge Construction (2008), Section 109(B), the Contractor shall make prompt partial payments to its subcontractors within seven days of receipt of payment from Tempe.

The Contractor also shall make prompt final payment to each of its subcontractors of all monies, including retention, due the subcontractor within 14 days after the subcontractor has satisfactorily completed all of its work.

If prompt partial payment, or prompt final payment including any retention, is not made within the time frames established above, Tempe will retain \$2,000 per subcontractor, per occurrence. Each additional month that payment is not made constitutes an additional occurrence. The amount withheld by Tempe will be released after the issue is resolved.

AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE IN THE UNITED STATES

A.R.S. § 1-501 and § 1-502 require any individual person or sole proprietor who applies to the City for a local public benefit (including the award of a contract) to demonstrate his or her lawful presence in the United States. An individual person or sole proprietor who submits a bid for this contract must complete this Affidavit and submit it with the bid, along with a copy of one of the documents listed below.

**LAWFUL PRESENCE IN THE UNITED STATES CAN BE DEMONSTRATED BY
PRESENTATION OF ONE (1) OF THE DOCUMENTS LISTED BELOW.**

Please present the document indicated below to the City. If mailing the document, attach a copy of the document to this Affidavit. (If the document may not be copied, present the document in person to the City for review and signing of the affidavit.)

- _____ 1. An Arizona driver license issued after 1996.
Print first 4 numbers/letters from license: _____
- _____ 2. An Arizona non-operating identification License.
Print first 4 numbers/letters: _____
- _____ 3. A birth certificate or delayed birth certificate issued in any state, territory or possession of the United States.
Year of birth: _____; Place of birth: _____
- _____ 4. A United States Certificate of Birth abroad.
Year of birth: _____; Place of birth: _____
- _____ 5. A United States passport.
Print first 4 numbers/letters on Passport: _____
- _____ 6. A foreign passport with a United States Visa.
Print first 4 numbers/letters on Passport _____
Print first 4 numbers/letters on Visa _____
- _____ 7. An I-94 form with a photograph.
Print first 4 numbers on I-94: _____
- _____ 8. A United States Citizenship and Immigration Services Employment Authorization Document (EAD).
Print first 4 numbers/letters on EAD: _____
- _____ 9. Refugee travel document.
Date of Issuance: _____ Refugee Country: _____
- _____ 10. A United States Certificate of Naturalization.
Print first 4 digits of CIS Reg. No.: _____
- _____ 11. A United States Certificate of Citizenship.
Date of Issuance: _____ Place of Issuance: _____
- _____ 12. A tribal Certificate of Indian Blood.
Date of Issuance: _____ Name of Tribe: _____
- _____ 13. A tribal or Bureau of Indian Affairs Affidavit of Birth.
Year of Birth: _____ Place of Birth: _____

I DO SWEAR OR AFFIRM UNDER PENALTY OF LAW THAT I AM LAWFULLY PRESENT IN THE UNITED STATES AND THAT THE DOCUMENT I PRESENTED ABOVE AS VERIFICATION IS TRUE.

Signature

Business/Company (if applicable)

Print Name

Address

Date:

City, State, Zip Code

OFFICE USE ONLY:

EMPLOYEE NAME: _____

EMPLOYEE NUMBER: _____

ALL VIOLATIONS OF FEDERAL IMMIGRATION LAW SHALL BE REPORTED TO 1-866-347-2423

8.12.

**AFFIDAVIT
OF NO COLLUSION IN BIDDING**

Bidder	AJP Electric, Inc.	Project	Railroad Crossing Safety Improvements, Union Pacific Railroad at Fifth Street
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Instructions to Bidder: Failure to complete this sworn statement and to submit it with your bid will make your bid nonresponsive and your firm ineligible for award consideration.

State of Arizona)

County of Maricopa)

Anna Paganik

(Printed Name of Person Authorized to Represent Bidder)

being first duly sworn, upon oath deposes and says that:

I am President

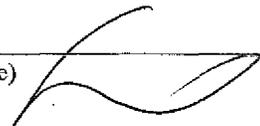
(Title)

of AJP Electric, Inc.

(Name of Bidder Firm, Association, or Corporation)

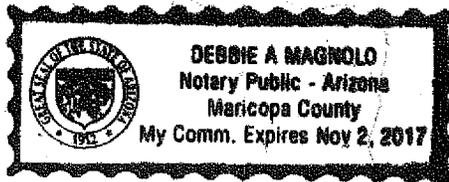
and that pursuant to 23 U.S.C. § 112(c) and 23 C.F.R. § 635.112(f), neither I, nor anyone associated with the above-named firm, association, or corporation, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the above-referenced Project.

(Signature)



Subscribed and sworn before me this 28th day of Jan., 2014, by Anna Paganik
(day) (month) (year) (Name of Signer, Above)

If by a Corporation, SEAL:



Debbie A. Magno
(Signature of Notary Public)

My Commission Expires: 11/2/2017
(Date)

Agency Name City of Tempe

AFFIDAVIT

BECS 302S R1/13

**DISADVANTAGED BUSINESS ENTERPRISE
ASSURANCES**

The undersigned, fully cognizant of the requirements and of the goal established, hereby certifies that in the preparation of this bid for federal aid project

Project Number 5405371
Project Name Railroad Crossing Safety Improvements
Location WPR @ 5th Street, Tempe, AZ

(CHECK ONE)

The established goal for DBE participation will be met and agreements have been made with certified DBEs, or

The bidder has been unable to meet the goal prior to the submission of the bid and has made good faith efforts to do so.

THIS AFFIDAVIT MAY NOT BE REVISED OR CORRECTED AFTER SUBMISSION OF THE BID.

In accordance with the Special Provisions, the bidder shall specify its DBE participation on the "DBE Intended Participation Affidavit", or provide documentation of its good faith efforts, by 4:00 p.m. on the fifth working day following the bid opening. The apparent low bidder shall obtain the required affidavit from the Business Engagement and Compliance Office, 1135 N. 22nd Avenue (second floor), Phoenix, AZ, 85009, following the opening of bids.

AJP Electric, Inc.

Print Name of Firm

Anna Paganik

Print Name of Authorized Officer of Firm

[Signature]
Signature of Authorized Officer of Firm

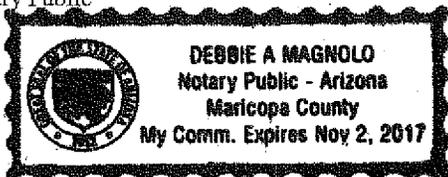
President
Title

Subscribed and sworn to before me this:

38th day of Jan 20 14

My commission expires: November 2, 2014

Debbie A. Magno
Notary Public



Agency Name _____

DISADVANTAGED BUSINESS ENTERPRISE
INTENDED PARTICIPATION AFFIDAVIT
SUMMARY SHEET

RECO 3058
R/13

To be completed by Prime

ADOT Project # _____

Prime Civil Rights Vendor Registration # _____

Name of Prime Firm _____

Directions:

This form must reflect the information included on the individual affidavit attachment(s) for each DBE.
The form must be signed by an owner/officer/authorized party.
The affidavits must be submitted by 4:00 p.m. on or before the fifth working day after the bids are opened.
An individual participation affidavit attachment must be submitted for each proposed DBE.

DBE Information: (Attach additional sheets as necessary.)

CR Vendor Reg. #	Name of DBE Firm	Scope of Work	Total Minimum Contract Amount	Adjustments	Total Amount Toward DBE Goal
Sub Total				0	
(1) Total Dollar Value of Commitments					\$
(2) Contract Bid Total					\$
Percent of Contract Bid (Divide Line 1 by Line 2)					\$

Subscribed and sworn to before me this _____ day of _____, 20_____

(Name of Firm) _____

(Signature) _____

(Title) _____

Completed documentation can be scanned and emailed to the Contractor Compliance Program Manager: ContractorCompliance@azdot.gov.

Agency Name _____

**DISADVANTAGED BUSINESS ENTERPRISE
INTENDED PARTICIPATION CERTIFICATION AND CONFIRMATION OF PARTICIPATION - ATTACHMENT**
BECO 304S

To be completed by the DBE subcontractor or supplier

Project # _____
 DBE Civil Rights Vendor Registration # _____
 Name of DBE Firm _____

Directions:

The form must be signed by an authorized party appointed by the contractor(s).
 This form must be submitted by 4:00 p.m. on or before the fifth working day after the bids are opened.
 A separate form must be submitted for each proposed DBE.
 The DBE must be certified within the work category they will be performing.
 This form must be filled out in its entirety. Leave no blank spaces, use N/A or enter "0" if section does not apply to your services.
 (Attach additional sheets as necessary.)

Intended Participation

1. The undersigned is prepared to perform the following scope(s) of work on the above referenced project.

COMPLETE THIS PORTION IF SCOPE OF WORK IS BID BY UNIT PRICE OR HOURLY RATE (Trucking, Hauling, Uniformed Officers, Etc.)			
Description/Scope of Work	Unit/Hourly Estimate	Unit/Hourly Price	Total Minimum Contract Amount
			\$
			\$
Total			\$

COMPLETE THIS PORTION IF SCOPE OF WORK IS NOT BID BY UNIT PRICE OR HOURLY RATE (Trucking, Hauling, Uniformed Officers, Etc.)		
Description/Scope of Work	Total Bid Amount	
	\$	
	\$	
	\$	
	\$	
Total		\$

2. The undersigned affirms that of the trucking/hauling work quoted above, the following applies:

Total Minimum Contract Amount \$ _____
 Percentage Subcontracted to Non-DBE Trucking Firms _____ %
 Brokerage Fee Charged to Non-DBE Trucking Firms _____ %
 Percentage Subcontracted to DBE Trucking Firms _____ %

3. The undersigned affirms that the amount of fees and commissions for work quoted above are as follows:

Unit Price Bid \$ _____ Fees/Commissions Portion of Bid \$ _____

4. The undersigned will sublet and/or award \$ _____ of work bid to a non-DBE firm.

5. The undersigned will sublet and/or award \$ _____ of work to another certified DBE firm.

Confirmation of Participation

By signature below, the undersigned agrees to enter into a formal agreement/subcontract for the work cited herein should the prime contractor receive award of this contract from the Purchaser.

I, _____ confirm that _____
 (authorized party at DBE firm, print name and title) (name of DBE firm)

will be participating in the above project. My company will be performing the scope as described above.

for _____
 (total DBE credit dollar value)

 (Authorized Signature)

 Date

EXHIBIT 8.17

Agency Name _____

CERTIFICATION OF PAYMENTS

BECC 3088 R1/13

The undersigned prime contractor on Project # _____ hereby, certifies that full payment was made, to the firm indicated for material and/or work performed under this project's contract as follows:

DBE Vendor Registration # _____

Name of DBE Firm _____ was paid \$ _____

This certificate is made under Federal and State laws concerning false statement. Supporting documentation for this payment is subject to audit and should be retained for a minimum of three years from project acceptance date. In the event the DBE was not paid in accordance with affidavits submitted by the prime contractor, all documentation supporting the contractor's position should be submitted.

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Prime Contractor

By: _____

Date: _____

Title: _____

The undersigned subcontractor/supplier/manufacturer for the above named project hereby certifies that payments were received and/or justification by contractor is correct.

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Subcontractor/Supplier/Manufacturer

By: _____

Date: _____

Title: _____

State of _____

County of _____

Subscribed and sworn to before me this _____ day of _____

X

Signature of Notary Public

SEAL

My Commission Expires _____

8.18. LABOR STANDARDS CERTIFICATION

_____ ("Subcontractor") has been contracted by _____
(Subcontractor's Name) (Prime Contractor's Name)

for _____ on the City of Tempe's _____ Project ("Project").
(Nature and General Scope of Work) (Project Name or Number)

The subcontract is for \$ _____ Subcontractor's work is expected to commence on _____
(Dollar Amount) (Month, Day, Year)

Certification by Subcontractor's Legally Authorized Representative

As a legally authorized representative of the Subcontractor, I certify that:

1. Subcontractor acknowledges that the Project is funded, in part, by the Federal Highway Administration (FHWA).
2. Subcontractor acknowledges that the following are physically present in its subcontract:
 - a. Form FHWA-1273 (Rev. May 1, 2012). Subcontractor must initial and date each page of Form FHWA-1273 (Rev. May 1, 2012) in the subcontract.
 - b. The Disadvantaged Business Enterprises provisions applicable to the Project (Part XV of the IFB / Contract section captioned FEDERAL PROVISIONS).
 - c. The Wage Determination applicable to the Project.
3. Subcontractor will insert the items listed in 2 a-c, above, in all lower-tier subcontracts for the Project, and will require lower-tier subcontractors to do the same in any subcontracts they enter.
4. Subcontractor, nor any person or firm that has a substantial interest in Subcontractor's firm, is debarred, suspended, or otherwise ineligible to be awarded federal contracts.
5. Subcontractor will not subcontract any part of the above-referenced subcontract to any person or firm that is debarred, suspended, or otherwise ineligible to be awarded federal contracts.
6. Subcontractor's legal name and contact information is:

Company Name _____

Mailing Address _____
(Number & Street) (City, State, Zip code)

Main Phone Number _____ Main Fax Number _____

7. Subcontractor's Federal Business Tax ID # _____ and Contractor License # _____

8. The Subcontractor is (✓ one): a Corporation, incorporated in the State of _____
 a Proprietorship a Partnership an LLC Other (specify): _____

9. The following are the Subcontractor's owner(s), partners, and officers (add lines or attach sheets if needed):

(Full Name)	(Title)	(Address)	(Phone)
/			
/			
/			
/			

10. Yes No A representative of the Subcontractor attended the Project Preconstruction Conference that was held on _____ (date of Pre-Construction Conference).
11. I (Subcontractor's legally authorized representative, or Subcontractor's Appointee for supervision of payrolls) have reviewed the Wage Determination applicable to this project and have identified the following:

Construction Work Activities the Subcontractor Expects to Be Performing at the Project Job Site	Corresponding Work Classifications Listed in the Applicable Wage Determination
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

IMPORTANT: If no Work Classification is listed in the Wage Determination for a task or activity that the Subcontractor will be performing at the job site, please request a "Additional Classification & Wage Rate" form (SF-1444) from the Prime Contractor.

12. Fringe Benefit information.
 Yes No The Subcontractor's employees receive fringe benefits (medical, dental, 401K, training benefits).
 Yes No The Subcontractor is bound by a signed document such as a Union Agreement.
13. Truck Owner-Operator information.
 Yes No The Subcontractor is a Truck Owner-Operator (if Yes, additional documentation will be required).
14. **The penalty for making a false statement in this Certification is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.**

**Certification by
Subcontractor's Legally Authorized Representative**

I hereby certify that I have reviewed the statements made in this Labor Standards Certification and that, to the best of my knowledge, these statements are true.

(SIGNATURE of Subcontractor's Legally Authorized Representative) (Date)

(PRINTED name) (Title)

Subscribed and sworn to before me this _____ day of _____, 200_____.

(Notary Public)  My Commission expires _____.

Subcontractor's Appointee for Supervision of Payrolls

The Subcontractor has designated and appointed _____ ("Appointee"),
(name of Subcontractor's Appointee for Supervision of Payrolls)

whose original signature appears in the Certification below, to supervise the payment of employees for the

Subcontractor, beginning on _____
(Month, Day, Year)

The Appointee is in a position to have full knowledge of: (a) the facts set forth in the Subcontractor's payroll documents; (b) the Statement of Compliance referred to in 29 C.F.R. 5.5(a)(3)(ii)(B), which the Appointee is to execute with each payroll report; and (c) the Copeland "Anti-Kickback" Act (18 U.S.C. § 874, as implemented and supplemented by 29 C.F.R. part 3).

Certification by
Subcontractor's Appointee for Supervision of Payrolls

I hereby certify that I have reviewed the statements made in this Labor Standards Certification and that, to the best of my knowledge, these statements are true.

(SIGNATURE of Subcontractor's Appointee for Supervision of Payrolls) (Date)

(PRINTED name) (Title)

Subscribed and sworn to before me this _____ day of _____, 200_____

(Notary Public)  My Commission expires _____

NOTE: If the Subcontractor's Appointee for Supervision of Payrolls is changed, or a new Appointee is added, a new "Certification by Subcontractor's Appointee for Supervision of Payrolls" must accompany the first payroll for which the new appointee executes a Statement of Compliance.

CITY OF TEMPE
Public Works Department, Engineering Division
31 East 5th Street, West Garden Level • Tempe, Arizona 85281
Phone 480-350-8200 • Fax 480-350-8591

EXHIBIT 8.19 WAGE DETERMINATION

General Decision Number: AZ140008 01/03/2014 AZ8

Superseded General Decision Number: AZ20130008

State: Arizona

Construction Type: Highway

Counties: Coconino, Maricopa, Mohave, Pima, Pinal, Yavapai and Yuma Counties in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number Publication Date
0 01/03/2014

CARP0408-005 10/01/2012

	Rates	Fringes
CARPENTER (Including Cement Form Work).....	\$ 23.58	9.49

ENGI0428-001 07/29/2013

	Rates	Fringes
OPERATOR: Power Equipment		
Group 1.....	\$ 20.99	9.05
Group 2.....	\$ 24.26	9.05
Group 3.....	\$ 25.34	9.05
Group 4.....	\$ 26.37	9.05

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: A-frame boom truck, air compressor, Beltcrete, boring bridge and texture, brakeman, concrete mixer (skip type), conductor, conveyor, cross timing and pipe float, curing machine, dinky (under 20 tons), elevator hoist (Husky and similar), firemen, forklift, generator (all), handler, highline cableway signalman, hydrographic mulcher, joint inserter, jumbo finishing machine, Kolman belt loader, machine conveyor, multiple power concrete saw, pavement breaker, power grizzly, pressure grout machine, pump, self-propelled chip spreading machine, slurry seal machine (Moto paver driver), small self-propelled compactor (with blade-backfill, ditch operation), straw blower, tractor (wheel type), tripper, tugger (single drum), welding machine, winch truck

GROUP 2:
ALL COUNTIES INCLUDING MARICOPA: Aggregate Plant, Asphalt plant Mixer, Bee Gee, Boring Machine, Concrete Pump, Concrete Mechanical Tamping-Spreading Finishing Machine, Concrete Batch Plant, Concrete Mixer (paving & mobile), Elevating Grader (except as otherwise classified), Field Equipment Serviceman, Locomotive Engineer (including Dinky 20 tons & over), Moto-Paver, Oiler-Driver, Operating Engineer Rigger, Power Jumbo Form Setter, Road Oil Mixing

Machine, Self-Propelled Compactor (with blade-grade operation), Slip Form (power driven lifting device for concrete forms), Soil Cement Road Mixing Machine, Pipe-Wrapping & Cleaning Machine (stationary or traveling), Surface Heater & Planer, Trenching Machine, Tugger (2 or more drums).

MARICOPA COUNTY ONLY: Backhoe < 1 cu yd, Motor Grader (rough), Scraper (pneumatic tired), Roller (all types asphalt), Screed, Skip Loader (all types 3<6 cu yd), Tractor (dozer, pusher-all).

GROUP 3:

ALL COUNTIES INCLUDING MARICOPA: Auto Grade Machine, Barge, Boring Machine (including Mole, Badger & similar type directional/horizontal), Crane (crawler & pneumatic 15>100 tons), Crawler type Tractor with boom attachment & slope bar, Derrick, Gradall, Heavy Duty Mechanic-Welder, Helicopter Hoist or Pilot, Highline Cableway, Mechanical Hoist, Mucking Machine, Overhead Crane, Pile Driver Engineer (portable, stationary or skid), Power Driven Ditch Lining or Ditch Trimming Machine, Remote Control Earth Moving Machine, Slip Form Paving Machine (including Gunnert, Zimmerman & similar types), Tower Crane or similar type.

MARICOPA COUNTY ONLY: Backhoe<10 cu yd, Clamshell < 10 cu yd, Concrete Pump (truck mounted with boom only), Dragline <10 cu yd, Grade Checker, Motor Grader (finish-any type power blade), Shovel < 10 cu yd.

GROUP 4: Backhoe 10 cu yd and over, Clamshell 10 cu yd and over, Crane (pneumatic or crawler 100 tons & over), Dragline 10 cu yd and over, Shovel 10 cu yd and over.

All Operators, Oilers, and Motor Crane Drivers on equipment with Booms, except concrete pumping truck booms, including Jibs, shall receive \$0.01 per hour per foot over 80 ft in addition to regular rate of pay

Premium pay for performing hazardous waste removal \$0.50 per hour over base rate.

IRON0075-004 01/01/2013

COCONINO, MARICOPA, MOHAVE, YAVAPAI & YUMA COUNTIES

	Rates	Fringes
Ironworker, Rebar.....	\$ 26.52	20.65
Zone 1: 0 to 50 miles from City Hall in Phoenix or Tucson		
Zone 2: 050 to 100 miles - Add \$4.00		
Zone 3: 100 to 150 miles - Add \$5.00		
Zone 4: 150 miles & over - Add \$6.50		

* LABO0383-002 11/01/2013

	Rates	Fringes
Laborers:		
Group 1.....	\$ 17.61	4.35
Group 2.....	\$ 18.63	4.35
Group 3.....	\$ 19.42	4.35
Group 4.....	\$ 20.51	4.35
Group 5.....	\$ 21.49	4.35

LABORERS CLASSIFICATIONS:

GROUP 1: All Counties: Chipper, Rip Rap Stoneman. Pinal County Only: General/Cleanup Laborer. Maricopa County Only: Flagger.

GROUP 2: Asphalt Laborer (Shoveling-excluding Asphalt Raker or Ironer), Bander, Cement Mason Tender, Concrete Mucker, Cutting Torch Operator, Fine Grader, Guinea Chaser, Power Type Concrete Buggy

GROUP 3: Chain Saw, Concrete Small Tools, Concrete Vibrating Machine, Cribber & Shorer (except tunnel), Hydraulic Jacks and similar tools, Operator and Tender of Pneumatic and Electric Tools (not herein separately classified), Pipe Caulker and Back-Up Man-Pipeline, Pipe Wrapper, Pneumatic Gopher, Pre-Cast Manhole Erector, Rigger and Signal Man-Pipeline

GROUP 4: Air and Water Washout Nozzleman; Bio-Filter, Pressman, Installer, Operator; Scaffold Laborer; Chuck Tender; Concrete Cutting Torch; Gunite; Hand-Guided Trencher; Jackhammer and/or Pavement Breaker; Scaler (using boson's chair or safety belt); Tamper (mechanical all types).

GROUP 5: AC Dumpman, Asbestos Abatement, Asphalt Raker II, Drill Doctor/Air Tool Repairman, Hazardous Waste Removal, Lead Abatement, Lead Pipeman, Process Piping Installer, Scaler (Driller), Pest Technician/Weed Control, Scissor Lift, Hydro Mobile Scaffold Builder.

PAIN0086-001 04/01/2013

	Rates	Fringes
PAINTER		
PAINTER (Yavapai County only), SAND BLASTER/WATER BLASTER (all Counties).....	\$ 19.35	4.75

ZONE PAY: More than 100 miles from Old Phoenix Courthouse \$3.50 additional per hour.

SUAZ2009-001 04/20/2009

	Rates	Fringes
CEMENT MASON.....	\$ 19.28	3.99

ELECTRICIAN.....	\$ 22.84	6.48
IRONWORKER (Rebar)		
Pima County.....	\$ 23.17	14.83
Pinal County.....	\$ 20.27	8.35
LABORER		
Asphalt Raker.....	\$ 15.49	3.49
Compaction Tool Operator.....	\$ 14.59	2.91
Concrete Worker.....	\$ 13.55	3.20
Concrete/Asphalt Saw.....	\$ 13.95	2.58
Driller-Core, diamond, wagon, air track.....	\$ 16.94	3.12
Dumpman Spotter.....	\$ 14.99	3.16
Fence Builder.....	\$ 13.28	2.99
Flagger		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 12.35	1.59
Formsetter.....	\$ 16.09	3.97
General/Cleanup Laborer		
Coconino, Maricopa, Mohave, Pima, Yavapai & Yuma.....	\$ 14.54	3.49
Grade Setter (Pipeline).....	\$ 17.83	5.45
Guard Rail Installer.....	\$ 13.28	2.99
Landscape Laborer.....	\$ 11.39	
Landscape Sprinkler Installer.....	\$ 15.27	
Pipelayer.....	\$ 14.81	2.96
Powderman, Hydrasonic.....	\$ 16.39	2.58
OPERATOR: Power Equipment		
Asphalt Laydown Machine.....	\$ 21.19	6.05
Backhoe < 1 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.37	3.85
Backhoe < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Clamshell < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Concrete Pump (Truck Mounted with boom only)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 19.92	7.10
Crane (under 15 tons).....	\$ 21.35	7.36
Dragline (up to 10 cu yd)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Drilling Machine (including Water Wells).....	\$ 20.58	5.65
Grade Checker		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 16.04	3.68
Hydrographic Seeder.....	\$ 15.88	7.67
Mass Excavator.....	\$ 20.97	4.28
Milling Machine/Rotomill.....	\$ 21.42	7.45
Motor Grader (Finish-any		

type power blade)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 21.92	4.66
Motor Grader (Rough)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 20.07	4.13
Oiler.....	\$ 18.15	8.24
Power Sweeper.....	\$ 16.76	4.44
Roller (all types Asphalt)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.27	3.99
Roller (excluding asphalt).. Scraper (pneumatic tired)	\$ 15.65	3.32
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.69	3.45
Screed		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.54	3.72
Shovel < 10 cu yd		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.72	3.59
Skip Loader (all types <3 cu yd).....		
	\$ 18.28	5.30
Skip Loader (all types 3 < 6 cu yd)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 18.64	4.86
Skip Loader (all types 6 < 10 cu yd).....		
	\$ 20.15	4.52
Tractor (dozer, pusher - all)		
Coconino, Mohave, Pima, Pinal, Yavapai & Yuma.....	\$ 17.26	2.65

PAINTER

Coconino, Maricopa, Mohave, Pima, Pinal & Yuma..	\$ 15.57	3.92
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TRUCK DRIVER

2 or 3 Axle Dump or Flatrack.....		
	\$ 16.27	3.30
5 Axle Dump or Flatrack.....		
	\$ 13.97	2.89
6 Axle Dump or Flatrack (< 16 cu yd).....		
	\$ 17.79	6.42
Belly Dump.....		
	\$ 14.67	
Oil Tanker Bootman.....		
	\$ 22.03	
Self-Propelled Street Sweeper.....		
	\$ 13.11	5.48
Water Truck 2500 < 3900 gallons.....		
	\$ 18.14	4.55
Water Truck 3900 gallons and over.....		
	\$ 15.92	3.33
Water Truck under 2500 gallons.....		
	\$ 15.94	4.16

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.
=====

END OF GENERAL DECISION



UPRR Folder No.: Folder Number

UPRR Audit No.: Audit Number

**CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT**

THIS AGREEMENT is made and entered into as of the _____ day of _____, 20____, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation ("Railroad"); and

_____ *(NAME OF CONTRACTOR)*
a _____ corporation ("Contractor").
(State of Corporation)

RECITALS:

Contractor has been hired by the *Name of Public Body* ("X") to perform work relating to the Purpose (the "work"), with all or a portion of such work to be performed on property of Railroad in the vicinity of the Railroad's Mile Post _____ on the Railroad's Name of Subdivision in or near City, County & State, as such location is in the general location shown on the Railroad Location Print marked **Exhibit A**, and as specified on the Detailed Prints collectively marked **Exhibit A-1**, each attached hereto and hereby made a part hereof, which work is the subject of a contract dated _____ between the Railroad and the X.

(Date of Contract)

The Railroad is willing to permit the Contractor to perform the work described above at the location described above subject to the terms and conditions contained in this Agreement.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between Railroad and Contractor, as follows:

ARTICLE 1 - DEFINITION OF CONTRACTOR.

For purposes of this Agreement, all references in this agreement to Contractor shall include Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE.

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of

performing the work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B, C & D.

The General Terms and Conditions contained in Exhibit B, the Insurance Requirements contained in Exhibit C, and the Minimum Safety Requirements contained in Exhibit D, each attached hereto, are hereby made a part of this Agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.

A. Contractor shall bear any and all costs and expenses associated with any work performed by Contractor, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Contractor shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

MTM

C. Contractor, at its own expense, shall adequately police and supervise all work to be performed by Contractor and shall ensure that such work is performed in a safe manner as set forth in Section 7 of Exhibit B. The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the work, or by Railroad's collaboration in performance of any work, or by the presence at the work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

ARTICLE 5 - SCHEDULE OF WORK ON A MONTHLY BASIS.

The Contractor, at its expense, shall provide on a monthly basis a detailed schedule of work to the Railroad Representative named in Article 4B above. The reports shall start at the execution of this Agreement and continue until this Agreement is terminated as provided in this Agreement or until the Contractor has completed all work on Railroad's property.

ARTICLE 6 - TERM; TERMINATION.

A. The grant of right herein made to Contractor shall commence on the date of this Agreement, and continue until _____, unless sooner terminated as herein

(Expiration Date)

provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad's property.

B. This Agreement may be terminated by either party on ten (10) days written notice to the other party.



ARTICLE 7 - CERTIFICATE OF INSURANCE.

- A. Before commencing any work, Contractor will provide Railroad with the (i) insurance binders, policies, certificates and endorsements set forth in **Exhibit C** of this Agreement, and (ii) the insurance endorsements obtained by each subcontractor as required under Section 12 of **Exhibit B** of this Agreement.
- B. All insurance correspondence, binders, policies, certificates and endorsements shall be sent to:

*Union Pacific Railroad Company
Real Estate Department
1400 Douglas Street, MS 1690
Omaha, NE 68179-1690
UPRR Folder No.: Folder Number*

ARTICLE 8 - DISMISSAL OF CONTRACTOR'S EMPLOYEE.

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad Representative in connection with the work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property.

ARTICLE 9 - CROSSINGS.

No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

ARTICLE 10 - EXPLOSIVES.

Explosives or other highly flammable substances shall not be stored or used on Railroad's property without the prior written approval of Railroad.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY
(Federal Tax ID #94-6001323)

By: _____
PAUL G. FARRELL
Senior Manager Contracts

(Name of Contractor)

By _____
Printed Name: _____
Title: _____

SAMPLE

EXHIBIT A

TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Exhibit A will be a print showing the general location of the work site.

EXHIBIT B

TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

GENERAL TERMS & CONDITIONS

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

A. Contractor agrees to notify the Railroad Representative at least thirty (30) working days in advance of Contractor commencing its work and at least thirty (30) working days in advance of proposed performance of any work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such thirty (30)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and a federal, state or local governmental entity have agreed that Railroad is to bill such expenses to the federal, state or local governmental entity. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing. If Railroad performs any flagging, or other special protective or safety measures are performed by Railroad, Contractor agrees that Contractor is not relieved of any of its responsibilities or liabilities set forth in this Agreement.

B. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Contractor (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.

C. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional thirty (30) days notice must then be given to Railroad if flagging services are needed again after such five-day cessation notice has been given to Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (whether recorded or unrecorded and including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.

A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, Contractor's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Contractor caused by such railroad operations and work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Contractor.

Section 4. LIENS.

Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any work until all such protection or relocation (if applicable) has been accomplished.

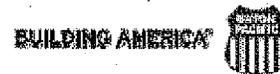
B. In addition to other indemnity provisions in this Agreement, Contractor shall indemnify, defend and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Contractor, its agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Contractor shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Contractor shall at a minimum comply with Railroad's safety standards listed in Exhibit D, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor determines that any of Railroad's safety standards are contrary to good safety practices. Contractor shall furnish copies of Exhibit D to each of its employees before they enter the job site.



B. Without limitation of the provisions of paragraph A above, Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

A. To the extent not prohibited by applicable statute, Contractor shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees (individually an "Indemnified Party" or collectively "Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party, Contractor, or any employee of Contractor or of any Indemnified Party) arising out of or in any manner connected with (i) any work performed by Contractor, or (ii) any act or omission of Contractor, its officers, agents or employees, or (iii) any breach of this Agreement by Contractor.

B. The right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence of an Indemnified Party as established by the final judgment of a court of competent jurisdiction. The sole active negligence of any Indemnified Party shall not bar the recovery of any other Indemnified Party.

C. Contractor expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Contractor's own employees. Contractor waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify the Indemnified Parties under this Section 8. Contractor acknowledges that this waiver was mutually negotiated by the parties hereto.

D. No court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employers' Liability Act against a party to this Agreement may be relied upon or used by Contractor in any attempt to assert liability against any Indemnified Party.

E. The provisions of this Section 8 shall survive the completion of any work performed by Contractor or the termination or expiration of this Agreement. In no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Contractor may have to any Indemnified Party by statute or under common law.

Section 9. RESTORATION OF PROPERTY.

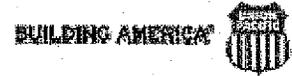
In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Contractor and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor



and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Contractor.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign or subcontract this Agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" in the subcontractor's Commercial General Liability policy and Business Automobile policies with respect to all liabilities arising out of the subcontractor's performance of work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

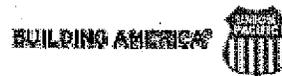


EXHIBIT C

TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

INSURANCE REQUIREMENTS

Contractor shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and the Contractor has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the following insurance coverage:

A. COMMERCIAL GENERAL LIABILITY INSURANCE. Commercial general liability (CGL) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

B. BUSINESS AUTOMOBILE COVERAGE INSURANCE. Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$5,000,000 for each accident and coverage must include liability arising out of any auto (including owned, hired and non-owned autos).

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state where the work is being performed.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

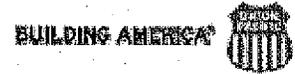
If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

D. RAILROAD PROTECTIVE LIABILITY INSURANCE. Contractor must maintain "Railroad Protective Liability" (RPL) insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this agreement. Contractor shall provide this Agreement to Contractor's insurance agent(s) and/or broker(s) and Contractor shall instruct such agent(s) and/or broker(s) to procure the insurance coverage required by this Agreement. A BINDER STATING THE POLICY IS IN PLACE MUST BE SUBMITTED TO RAILROAD BEFORE THE WORK MAY COMMENCE AND UNTIL THE ORIGINAL POLICY IS FORWARDED TO UNION PACIFIC RAILROAD.

E. UMBRELLA OR EXCESS INSURANCE. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.



F. POLLUTION LIABILITY INSURANCE. Pollution liability coverage must be included when the scope of the work as defined in the Agreement includes installation, temporary storage, or disposal of any "hazardous" material that is injurious in or upon land, the atmosphere, or any watercourses; or may cause bodily injury at any time.

If required, coverage may be provided in separate policy form or by endorsement to Contractors CGL or RPL. In any form coverage must be equivalent to that provided in ISO form CG 24 15 "Limited Pollution Liability Extension Endorsement" or CG 28 31 "Pollution Exclusion Amendment" with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

OTHER REQUIREMENTS

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.

I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state where the work is being performed.

L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

EXHIBIT D

TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Contractor as well as all employees of any subcontractor or agent of Contractor.

I. CLOTHING

A. All employees of Contractor will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Contractor's employees must wear:

- (i) Waist-length shirts with sleeves.
- (ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
- (iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. PERSONAL PROTECTIVE EQUIPMENT

Contractor shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

- (i) Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Contractor's company logo or name.
- (ii) Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.
- (iii) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:
 - 100 feet of a locomotive or roadway/work equipment
 - 15 feet of power operated tools
 - 150 feet of jet blowers or pile drivers
 - 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)
- (iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

III. ON TRACK SAFETY

Contractor is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

- (i) Maintain a distance of twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
- (ii) Wear an orange, reflectorized workwear approved by the Railroad Representative.
- (iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Contractor must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the

track. Contractor will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. EQUIPMENT

A. It is the responsibility of Contractor to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Contractor's equipment is unsafe for use, Contractor shall remove such equipment from Railroad's property. In addition, Contractor must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:

- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
- Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
- Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.

B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.

C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.

D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. GENERAL SAFETY REQUIREMENTS

A. Contractor shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.

B. Contractor shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.

C. All track work performed by Contractor meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.

D. All employees comply with the following safety procedures when working around any railroad track:

- (i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
- (ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
- (iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment if the opening is less than one car length (50 feet).
- (iv) Avoid walking or standing on a track unless so authorized by the employee in charge.
- (v) Before stepping over or crossing tracks, look in both directions first.
- (vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.

E. All employees must comply with all federal and state regulations concerning workplace safety.



To the Contractor:

UPRR Folder No.: Folder Number

Before Union Pacific Railroad Company can permit you to perform work on its property it will be necessary for you to complete and execute two originals of the enclosed Contractor's Right of Entry Agreement. Please:

1. Fill in the complete legal name of the contractor in the space provided on Page 1 of the Contractor's Right of Entry Agreement. If a corporation, give the state of incorporation. If a partnership, give the names of all partners.
2. Fill in the date construction will begin and be completed in Article 6, Paragraph A.
3. Fill in the name of the contractor in the space provided in the signature block at the end of the Contractor's Right of Entry Agreement. If the contractor is a corporation, the person signing on its behalf must be an elected corporate officer.
4. Execute and return all copies of the Contractor's Right of Entry Agreement together with your Certificates of Insurance as required in Exhibit C.
5. Include a check made payable to the Union Pacific Railroad Company in the amount of \$500.00. If you require formal billing, you may consider this letter as a formal bill. In compliance with the Internal Revenue Services' new policy regarding their Form 1099, I certify that 94-6001323 is the Railroad Company's correct Federal Taxpayer Identification Number and that Union Pacific Railroad Company is doing business as a corporation.

Under Exhibit C of the enclosed Contractor's Right of Entry Agreement, you are required to procure Railroad Protective Liability Insurance (RPLI) for the duration of this project. As a service to you, Union Pacific is making this coverage available to you. If you decide that acquiring this coverage from the Railroad is of benefit to you, please contact Mr. Mike McGrade of Marsh USA @ 800-729-7001, e-mail: william.j.smith@marsh.com.

This agreement will not be accepted by the Railroad Company until you have returned all of the following to the undersigned at Union Pacific Railroad Company:

1. Executed, unaltered duplicate original counterparts of the Contractor's Right of Entry Agreement;
2. Your check in the amount of \$500.00 to pay a non-refundable application and processing fee. (The Folder Number and the name "Paul G. Farrell" should be written on the check to insure proper credit). If you require formal billing, you may consider this letter as a formal bill;
3. Copies of all of your up-to-date General Liability, Auto Liability & Workman's Compensation Insurance Certificates (*yours and all contractors*'), naming Union Pacific Railroad Company as additional insured (sample form of Certificate is attached for your use);
4. Copy of your up-to-date Railroad Protective Liability Insurance Certificate (*yours and all contractors*'), naming Union Pacific Railroad Company as additional insured.

**RETURN ALL OF THESE REQUIRED ITEMS TOGETHER IN ONE ENVELOPE.
DO NOT MAIL ANY ITEM SEPARATELY.**

If you have any questions concerning this agreement, please contact me as noted below. Have a safe day!

Sincerely,
PAUL G. FARRELL
Senior Manager Contracts
Phone: (402) 544-8620
e-mail: pgfarrell@up.com

Real Estate Department
UNION PACIFIC RAILROAD COMPANY
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179-1690
fax: 402.501.0340

SAMPLE ONLY-RIGHT OF ENTRY

CERTIFICATE OF INSURANCE					(ISSUE DATE (MM/DD/YYYY))
PRODUCER INSURANCE COMPANY NAME ADDRESS CITY, STATE, ZIP CODE		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.			
INSURED Licensee's NAME ADDRESS CITY, STATE, ZIP CODE		COMPANIES AFFORDING COVERAGE			
		COMPANY LETTER A			
		COMPANY LETTER B			
		COMPANY LETTER C			
		COMPANY LETTER D			
		COMPANY LETTER E			
COVERAGES THIS IS TO CERTIFY THAT THE POLICES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAME ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
CO	TYPE OF INSURANCE	POLICY EFF. DATE(MM/DD/YY)	POLICY EXP. DATE(MM/DD/YY)	LIMITS	
LTD	GENERAL LIABILITY OR			GENERAL AGGREGATE	\$10,000,000
	<input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR.			PRODUCTS-COMP/OP AGG.	\$5,000,000
	<input type="checkbox"/> OWNERS & CONTRACTOR'S PROT.			PERSONAL & ADV. INJURY	\$5,000,000
	<input type="checkbox"/>			EACH OCCURRENCE	\$5,000,000
	AUTOMOBILE LIABILITY			FIRE DAMAGE (ANY ONE FIRE)	NA
	<input type="checkbox"/>			MED. EXPENSE(ANYONE PERSON)	NA
	<input type="checkbox"/>			COMBINED SINGLE LIMIT	\$2,000,000
	<input type="checkbox"/>			BODILY INJURY (PER ACCIDENT)	
	<input type="checkbox"/>			PROPERTY DAMAGE	
	EXCESS LIABILITY			EACH OCCURRENCE	
	<input type="checkbox"/>			AGGREGATE	
	<input type="checkbox"/>				
	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY			X. STATUTORY LIMITS	
				EACH ACCIDENT	\$500,000
				DISEASE - POLICY LIMIT	\$500,000
				DISEASE - EACH EMPLOYEE	\$500,000
	OTHER: Pollution Liability (when required by agreement)			GENERAL AGGREGATE	\$10,000,000
				EACH OCCURRENCE	\$5,000,000
CGL Policy is endorsed to include Union Pacific Railroad as Additional Insured as required by agreement. CGL Policy is endorsed to include "Contractual Liability Railroads" as required by agreement. Auto Liability Policy is endorsed to include "Certain Operations In Connection With Railroads" as required by agreement. Auto Liability Policy is endorsed to include Union Pacific Railroad as Additional Insured as required by agreement. Policy is endorsed with Motor Carrier Act Endorsement MCS 99 as required by agreement. Punitive damages (one of the following statements must be included): 1. Policies are silent concerning punitive damages. 2. Insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement. 3. All punitive damages are prohibited by all states in which this agreement will be performed. Workers' Compensation Policy is endorsed waiving subrogation for Workers' Compensation and Employers Liability in favor of Union Pacific Railroad. Railroad Protective Liability as required by agreement with Railroad as named insured with limits of not less than \$2.0 million per occurrence and an aggregate of \$6.0 million. A binder stating policy is in place must be provided to Railroad until policy is forwarded to Railroad.					
CERTIFICATE HOLDER UNION PACIFIC RAILROAD CO Real Estate Department ATTN: <<Contract Administrator>> 1400 Douglas St STOP 1690 OMAHA, NE 68179-1690			CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE		
			ACCORD CORPORATION 1990.		
ACCORD 25-3(7/90)					



**CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

CONTRACT DOCUMENTS

FOR

**RAILROAD CROSSING SAFETY IMPROVEMENTS
UPRR at FIFTH STREET**

**TEMPE PROJECT NO. 5405371
ADOT TRACS NO. 0000 MA TMP SR252 01C
FEDERAL PROJECT NO. TMP-0(233)**

**(Contract General Conditions
and Special Provisions)**



CITY COUNCIL MEMBERS

Mayor – Mark W. Mitchell

Onnie Shekerjian Corey D. Woods
Joel Navarro Robin Arredondo-Savage
Shana Ellis Kolby Granville

City Manager – Andrew Ching

City Engineer – Andrew H.Y. Goh, P.E

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MITIGATION MEASURES

(From the ADOT-EPG Environmental Clearance Memorandum, February 12, 2013)

These mitigation measures are not subject to change without prior written approval from the Federal Highway Administration.

No additional payment by the City will be made to the contractor or the subcontractor for adherence to these requirements.

City of Tempe Responsibilities

- Access to adjacent businesses and residences shall be maintained throughout construction.
- The City of Tempe, after coordination with the Project Engineer, shall provide a construction notice to residents, businesses, and emergency services in the general project area at least two weeks prior to construction.
- Because the project is federally funded, the City of Tempe, in accordance with Federal Regulations 23 CFR Part 650, Subpart B, shall determine if design features to reduce erosion and minimize sedimentation during and after construction are required.

Union Pacific Railroad Responsibilities

- Access to adjacent businesses and residences shall be maintained throughout construction.
- Because the project is federally funded, the City of Tempe, in accordance with Federal Regulations 23 CFR Part 650, Subpart B, shall determine if design features to reduce erosion and minimize sedimentation during and after construction are required.

Contractor Responsibilities

- Access to adjacent businesses and residences shall be maintained throughout construction.
- If suspected hazardous materials are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location and contact the Project Engineer to make arrangements for proper treatment of those materials.
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location and shall take all reasonable steps to secure the preservation of those resources. The Engineer will contact the City of Tempe Historic Preservation Officer at 480-350-8870 and the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team at 602.712.8636 or 602.712.7767 immediately and make arrangements for proper treatment of those resources.
- To prevent the introduction of invasive species seeds, all earth-moving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site.

- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.

ITEMS, MEASUREMENT, AND PAYMENT

Measurement and payment for all pay items in the proposal shall be as specified in the applicable section of the Maricopa Association of Governments Uniform Standard specifications for Public Works Construction (MAG Specifications) latest edition, and City of Tempe supplements, and any applicable City specifications or Standards as specified in these Technical Specifications. In the event of a conflict between these Specifications and the requirements of the plans, detail drawings, or City Standard Details and the MAG Specifications, these Specifications shall prevail.

Payment of the contract items shall be compensation in full for furnishing all overhead, labor, material, tools, equipment, and appurtenances necessary to complete the work in a good, neat, and satisfactory manner as indicated on the plans, or as specified, with all necessary connections and appurtenances for the satisfactory use of and/or operation of said item. No additional payment will be made for work related to each item unless specifically noted or specified. Measurement will be in place for the completed work with no allowance for waste.

All individual item quantities presented are approximate and shall be field verified prior to pavement.

Preconstruction Conference/Weekly Meetings

Preconstruction Conference: The contractor and all subcontractors shall attend a preconstruction conference meeting at the time and location designated by the Contract Administrator. In addition, the Contract Administrator shall invite the contractors from the following projects to the Preconstruction Conference:

Prior to the start of work, a construction progress schedule shall be required and shall comply with the requirements of MAG Specification 108.4 and Federal funding requirements. In addition, a schedule update comparing actual progress with scheduled progress will be required with the submission of each monthly pay request.

Weekly Meetings: The contractor shall plan for and attend weekly meeting with the City at a location and designated time determined by the Construction Manager. The contractor shall include in the construction schedule adequate time for weekly construction progress meetings.

Item No. 1 – Mobilization/Demobilization

Mobilization and demobilization shall conform to the requirements of Section 109.10 of the MAG Specifications.

Measurement and payment shall be made as a single complete item of work at the contract lump sum price bid.

Item No. 2 – Traffic and Pedestrian Control Allowance

The allowance for construction surveying will not exceed \$25,000 for this single complete item of work, with no mark-up, which shall be full compensation for the complete item.

Traffic Control shall be regulated in accordance with the MAG Specifications; the City of Tempe Traffic Barricade Manual, latest edition; the Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition; and any technical specifications included herein.

At the time of the pre-construction conference, Contractor shall designate an American Traffic Safety Services Association (ATSSA) certified individual, who is well qualified and experienced in construction traffic control and safety, to be responsible for implementing, monitoring, and altering traffic control measures, as necessary, to ensure that traffic is carried through the work area in an effective manner and that motorists, pedestrians, bicyclists, and workers are protected from hazard including, but not limited to, motor vehicle accidents. City shall designate a representative who will oversee and monitor Contractor's agent and enforce City's requirements set forth herein. Contractor covenants to give City any assignment and/or assurances which may be necessary to affect such right of direct enforcement.

Contractor is solely responsible for, and assumes full liability for, the traffic control relating to this project. Contractor shall submit a final traffic control plan to City for its review and approval no less than one (1) week prior to commencing work under this Contract. Traffic, as referenced herein, shall include any and all motor vehicles, bicyclists, and pedestrian traffic on roadways, sidewalks, bicycle paths, alleys, and/or rights of way at, and/or adjacent to the Project.

In the event alteration of traffic control is required for work or services provided herein, alterations shall be made in accordance with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices, "Traffic Control for Streets and Highway Construction and Maintenance Operations," or the City of Tempe Traffic Barricade Manual, latest edition. The most restrictive provision shall apply. Any and all revisions relating to traffic and/or traffic control shall be submitted to City for review and approval in City's sole discretion.

Contractor is solely responsible for any and all loss, damage, replacement, or repair necessitated to any traffic signal equipment, traffic signal conduit, and/or circuits, arising from or relating to Contractor's work or services performed hereunder. Contractor shall have all repairs performed immediately at its sole expense by a licensed electrical contractor with experience in traffic signal repair, subject to pre-approval by City. Any and all repairs and/or replacement costs expended by City in this regard shall be reimbursed by Contractor at twice City's actual cost.

Contractor shall notify all adjacent or affected residents or businesses at least two (2) weeks in advance of any street, alley, sidewalk, and/or driveway closures or modifications, and make suitable arrangements to have all vehicles moved to a satisfactory location outside the closed area. Pedestrian access shall be maintained along the length of the project at all times per the requirements of the Americans with Disabilities Act and as approved by City. Contractor shall abide by applicable speed limits. Additional information may be obtained by contacting the City Transportation Division at 480-350-8219.

Temporary barricades shall be regulated in accordance with the City of Tempe Traffic Barricade Manual, latest edition. No additional payment by City will be made to Contractor or its subcontractor for temporary barricades, unless otherwise specified in the bid.

Item No. 3 – Construction Surveying and As-Built Allowance

The allowance for construction surveying and as-builts will not exceed \$4,000 for this single complete item of work, with no mark-up, which shall be full compensation for the complete item.

The as-built work shall conform to the City of Phoenix Survey Section Standard Requirements For: Staking, As-Builts, Quantity Calculations; dated January 1, 1980.

A full size set of project black line drawings shall be kept on-site and updated on a weekly basis with a red pencil or red ink to reflect any field adjustments, changes, omissions, additions, etc. as they occur on the project. The City Engineer's representative will check site as-builts on a weekly basis to insure all modified project elements have been properly recorded on the field plan set.

The City will provide the Contractor with the original mylar plan sheets for use in preparing final as-builts. Information shall be shown on these mylars in red opaque ink, depicting the constructed dimensions, elevations, grades and materials including locations of existing underground utilities found during construction.

The Contractor shall exercise extreme care in handling the originals and will return them to the City in like condition. In the event the originals are damaged or determined by the City to be unacceptable, the Contractor shall replace the originals by contacting the design Engineer of record and have new drawings produced. All costs incurred as the result of replacing the originals shall be borne by the Contractor. The City will be the sole judge in determining whether the as-builts are acceptable.

All work included in the contract documents as well as changes to the contract shall be noted as correct or modified by either checking off the information if it is correct, or by drawing a neat line through the original data and writing in the correct information in red opaque ink if the information is incorrect. Unless noted otherwise below in the minimum as-built requirement section, station/offset measurements will be from construction centetline; added items or location changes shall be physically drawn at revised or new locations on the as-builts; and all measurements and stations should be to the nearest tenth of a foot.

The minimum requirements for mylar as-built acceptance is as follows:

- (1) Project Drawing Quantity Notations: Any project drawing or quantity summary sheet that shows a quantity on it that is incorrect shall be corrected by drawing a neat line through the original quantity and writing in the correct information. When space on the drawing does not allow room to indicate the corrections, a separate table may be drawn on a separate sheet with reference on both plan sheets to the plan sheet that the table refers to or to the sheet where the table is located.
- (2) Existing/New Utilities: All underground infrastructure utilities, whether depicted on the project plans or not, shall be verified, corrected or added to the as-builts noting the beginning and ending station/offset location and elevation of utility relative to finished path

grade or other identifiable ground or permanent path/project feature. Any electrical installation work for street lighting or power connection shall be located relative to construction centerline/monument line or relative to back of curb and gutter (whichever is closer) including the depth of the facility.

- (3) Removals: Dimensions and/or other volumetric descriptions and station/offset location of all removed items.
- (4) The as-built drawings shall be certified by an Arizona Registered Land Surveyor or an Arizona Registered Professional Civil Engineer. As-built drawings shall be delivered to the City of Tempe Contract Administrator within thirty (30) calendar days from the date of final inspection and acceptance by the City of the work completed under this contract. Final payment will be made only after submitted as-builts are accepted by the City.

Item No. 4 – Stormwater Pollution Prevention Best Management Practice Allowance

The allowance for erosion, sediment, and construction debris control will not exceed \$4,000 for this single complete item of work, with no mark-up, which shall be full compensation for the item complete in place, as stated in the contract.

Item No. 5 – Permit Allowance

The allowance for permits other than those issued by the City of Tempe will not exceed \$4000 for this single complete item, with no mark-up, which shall be full compensation for the complete item.

Union Pacific Railroad

The contractor shall be responsible for the safety of his works and subcontractors in compliance with Federal, State, and Local Regulatory Agencies including but not limited to the Occupational Safety Health Administration and the Federal Railroad Administration. As reinforcement and in furtherance of overall safety measures to be observed by the contractor (and not by the way of limitation), the following special safety rules shall be followed:

- The railroad is promptly notified of any damage to railroad property.
- All waste is properly disposed of in accordance with applicable federal and state regulations.
- No open fires are permitted on railroad property.
- All contractors vehicles stop at all railroad crossings to ascertain the way is clear.
- Always keep vehicles a safe distance away from the outside of the rail, and DO NOT park vehicles or equipment foul of a railroad track.
- The contractor-in-charge or contractor employees will notify UP Representative of any hazardous material spill observed in their work area. Any spill from a locomotive or car is to be reported immediately.
- All contractor and contractor employees must comply with the following safety procedures when working around any railroad track:

- Always be on the alert for moving equipment. Contractor employees must always expect movement on any track, any time, in either direction.
- Do not step or walk on top of the rail, frog, switches, guardrails, or other track components.
- Avoid walking or standing on track unless authorized by the UP Representative.
- Before stepping over or crossing tracks, look in both directions first.
- No tools or materials are left close to the tracks when trains are passing.

It is anticipated that UP flagging services will be required in addition to a Union Pacific Railroad Right-of-Entry Permit. When work is required within the UPRR right of way or dynamic envelope, the contractor shall notify the City of Tempe Construction Manager and will schedule a meeting with a UP representative to schedule the required flagging services prior to commencement of any work.

Item No. 6 – Remove Existing Concrete Sidewalk

Removal of existing improvements such as sidewalk and sidewalk ramps shall conform to the provisions of Section 350 of the MAG Specifications. Backfill and compaction of all excavated areas shall be to the densities as prescribed in Section 301 of the MAG Specifications and Section 301.3 of the City of Tempe Supplement to the MAG Specifications. All surplus materials shall be immediately hauled from the job site and disposed in accordance with Section 205 of the MAG Specifications.

Measurement and payment shall be made at the contract unit price bid per square foot and shall be full compensation for the item complete and proper disposal of all waste.

Item No. 7 – Sawcut and Remove Existing AC Pavement

Removal of existing improvements such as AC pavement and other items necessary for the improvement shall conform to the provisions of Section 350 of the MAG Specifications. Asphalt concrete pavement removal shall be cut in accordance with Section 336 of the MAG Specifications. All surplus materials shall be immediately hauled from the job site and disposed in accordance with Section 205 of the MAG Specifications.

Measurement and payment shall be made at the contract unit price bid per square yard and shall be full compensation for the item complete.

Item No. 8 – Obliterate Existing Striping by Slurry Seal

Obliterate existing striping by slurry seal from curb to curb per plan. Slurry Seal shall conform to the provisions of Section 332 of the MAG Specifications.

Measurement and payment shall be made at the contract unit price bid per square yard and shall be full compensation for the item complete.

Item No. 9 – Sawcut and Remove Existing Curb/Gutter

Removal of existing improvements such as curb and gutter and other items necessary for the improvements shall conform to the provisions of Section 350 of the MAG Specifications. Backfill and compaction of all excavated areas shall be to the densities as prescribed in Section 301 of the

MAG Specifications and Section 301.3 of the City of Tempe Supplement to the MAG Specifications. All surplus materials shall be immediately hauled from the job site and disposed in accordance with Section 205 of the MAG Specifications.

Measurement and payment shall be made at the contract unit price bid per linear foot and shall be full compensation for the item complete.

Item No. 10 - Install Concrete Sidewalk, MAG STD DTL 230

Concrete sidewalk per MAG STD DTL 230 shall conform to MAG Specification Sections 301, 340, 725 and 729 and the City of Tempe Supplement. The contractor shall provide all materials, equipment, and labor to install the concrete sidewalk in place. Locations of sidewalk construction shall be as indicated on the plans.

Measurement and payment will be at the contract unit price bid per square foot and shall be full compensation for the item complete.

Item No. 11 - Install Vertical Concrete Curb and Gutter, MAG STD DTL 220-1, Type "A"

Curb and gutter per MAG Standard Detail 220 Type "A" shall conform to MAG Specification Sections 301, 340, 725, and 729 and the City of Tempe Supplement. The Contractor shall provide all materials, equipment, and labor to install the curb and gutter per MAG Standard Detail 220 Type "A", Height=7", or match existing.

Measurement and payment will be at the contract unit price bid per linear foot and shall be full compensation for the item complete in place.

Item No. 12 - Install Asphalt Concrete Surface Course, Type D 1/2, 2" Thick

Asphalt concrete pavement replacement shall conform to MAG Specifications 321 and the pavement cross-section on Sheet 7 of the plans. Thickness of pavement layers shall conform to the pavement structural section presented in the plans.

Measurement and payment will be at the contract unit price bid per square yard and shall be full payment for the item complete in place.

Item No. 13 - Install Asphalt Concrete Base Course, Type A 1-1/2, 4" Thick

Asphalt concrete pavement replacement shall conform to MAG Specifications 321 and the pavement cross-section on Sheet 7 of the plans. Thickness of pavement layers shall conform to the pavement structural section presented in the plans.

Measurement and payment will be at the contract unit price bid per square yard and shall be full payment for the item complete in place.

Item No. 14 - Install Aggregate Base Course

Aggregate Base Course replacement shall conform to MAG Specifications 321 and the pavement cross-section on Sheet 7 of the plans. Thickness of pavement layers shall conform to the pavement structural section presented in the plans.

Measurement and payment will be at the contract unit price bid per square yard and shall be full payment for the item complete in place.

Item No. 15 - Install Portland Cement Concrete Pavement, Class B, 3" Thick

Install concrete median per COT STD DTL T-353-1. Concrete shall be installed per the detail at a recessed elevation to receive pavers. The pavers will be installed by others.

Measurement and payment will be at the contract unit price bid per square foot and shall be full compensation for the item complete in place.

Item No. 16 - Install Complete Warning Sign, Post, and Foundation

Sign panels (Type 3 object marker) shall conform to the latest installation of the MUTCD. Sign posts and foundations shall be per MAG STD DTL 131 Type "B" and shall conform to MAG Sections 505 and 725. Foundation concrete shall be Class "C".

Measurement and payment will be at the contract unit price bid per square foot and shall be full compensation for the items complete in place.

Item No. 17 - Install Concrete Ribbon Curb, MAG STD DTL 220-1, Type "B"

Ribbon curb per MAG Standard Detail 220-1, Type "B" shall conform to MAG Specification Sections 301, 340, 725, and 729 and the City of Tempe Supplement. The Contractor shall provide all materials, equipment, and labor to install the curb per MAG Standard Detail 220-1, Type "B".

Measurement and payment will be at the contract unit price bid per linear foot and shall be full compensation for the item complete in place.

Item No. 18 - Install Detectable Warning Strip, City of Tempe STD DTL T-329

Detectable warning strips shall be installed as indicated in City of Tempe Standard Detail T-329.

Measurement and payment shall be made at the contract unit price bid per each complete in place.

Item No. 19 - Install New Striping per Plan

The contractor shall provide all materials, equipment and labor to re-stripe intersection with thermoplastic. Areas to be marked will be free of debris and swept prior to marking installation. Pavement marking shall conform to Section 460-463 of the Maricopa County Department of Transportation Supplement to the MAG. Contractor shall spot entire project before striping. Contractor shall call City of Tempe Department of Transportation project inspector, to make arrangements for inspection prior to applying any paint. The permanent pavement marking plans may be modified as directed by the engineer. Any striping applied before inspection shall be removed and re-stripped at the contractor's expense. All striping will be done in thermoplastic paint, if applies. Cross walks, stop bars, holding bars, railroad markings, arrows shall be installed with a thickness of ninety (90) mils. All longitudinal lines, such as lane lines, edge lines, center lines and taper lines shall be installed with a thickness of sixty (60) mils.

Measurement and payment will be made at the contract unit price bid per linear foot of equivalent 4 inch stripe and shall be full compensation for the items complete in place.

Item No. 20 - Install Chevron Striping

The contractor shall provide all materials, equipment and labor to re-stripe intersection with thermoplastic. Areas to be marked will be free of debris and swept prior to marking installation. . Pavement marking shall conform to Section 460-463 of the Maricopa County Department of Transportation Supplement to the MAG. Contractor shall spot entire project before striping. Contractor shall call City of Tempe Department of Transportation project inspector, to make arrangements for inspection prior to applying any paint. The permanent pavement marking plans may be modified as directed by the engineer. Any striping applied before inspection shall be removed and re-striped at the contractor's expense. All striping will be done in thermoplastic paint, if applies. Cross walks, stop bars, holding bars, railroad markings, arrows shall be installed with a thickness of ninety (90) mils. All longitudinal lines, such as lane lines, edge lines, center lines and taper lines shall be installed with a thickness of sixty (60) mils.

Measurement and payment will be made at the contract unit price bid per linear foot of equivalent 4 inch stripe and shall be full compensation for the items complete in place, including surface preparation and glass beads.

Item No. 21 - Install Railroad Crossing and Bike Lane Symbol

The contractor shall provide all materials, equipment and labor to furnish and apply thermoplastic reflectorized pavement symbols and legends in accordance with Maricopa County Department of Transportation supplement to the MAG section 462. Thermoplastic pavement symbols and legends will be measured by each unit applied. Each pavement symbol and each legend, as shown on the Plans, will be considered a unit.

The accepted quantities of thermoplastic pavement markings of the type specified, measured as provided above, will be paid for at the contract unit price bid, complete in place, including pavement surface preparation and glass beads. Measurement and payment will be made at the contract unit price bid per each, complete and in place, including surface preparation .

Item No. 22 - Railroad Flag Monitoring Allowance

The allowance for Railroad Flagpersons will not exceed \$12,000 for this single complete item of work, with no mark-up, which shall be full compensation for the complete item.

Item No. 23 - Off Duty Officer Allowance

The allowance for off duty officers will not exceed \$6,000 for this single complete item of work, with no mark-up, which shall be full compensation for the complete item.

Item No. 24 - Utility Protection Allowance

The allowance for utility protection will not exceed \$5,000 for this single complete item of work, with no mark-up, which shall be full compensation for the complete item.

- End of Section -

SECTION 205 - ROADWAY EXCAVATION

205.1 DESCRIPTION:

Roadway excavation shall consist of excavation involved in the grading and construction of roadways, except structure excavation, trench excavation and any other excavation separately designated.

205.2 UNSUITABLE MATERIAL:

Material shall be considered unsuitable for fill, subgrade, shoulders and other uses if it contains organic matter, soft spongy earth, or other matter of such nature that compaction to the specified density is unobtainable.

Material that is unsuitable for the intended use shall be excavated and removed from the site or otherwise disposed of as directed by the Engineer.

The removal and disposal of such unsuitable material will be paid, included and considered as part of roadway excavation.

205.3 OVERSHOOTING:

Not Applicable

205.4 SLIDES AND SLIPOUTS:

Material outside the planned roadway or ditch slopes which in the opinion of the Engineer is unstable and constitutes potential slides, material which has come into the roadway or ditch, and material which has slipped out of new or old embankments shall be excavated to designated lines or slopes either by benching or in such manner as directed by the Engineer. Such material shall be used in the construction of the embankments or disposed of as directed by the Engineer.

The removal and disposal of slide and slipout material as specified above, not resulting from overshooting as specified above, will be paid for at the contract prices for roadway excavation; however, if due to the character of the work, the removal and disposal of such material is not properly compensable at the contract prices for roadway excavation, the work may be paid for as extra work provided the Contractor requests in writing such payment prior to performing any such work.

Only those quantities of slide or slipout material which are actually removed as ordered by the Engineer will be paid for.

205.5 SLOPES:

Excavation slopes shall be finished in conformance with the lines and grades shown on the plans. Debris and loose material shall be removed. When completed, the average plane of the slopes shall conform to the slopes indicated on the plans and no point on the completed slopes shall vary from the designated plane by more than 6 inches measured at right angles to the slope, except where excavation is in rock no point shall vary more than 2 feet from the designated plane of the slope. In no case shall any portion of the slope encroach on the roadbed.

Tops of excavation slopes and ends of excavations shall be rounded as shown on the plans and these quantities will not be included in the quantities of excavation to be paid for. This work will be considered as a part of finishing slopes and no additional compensation will be allowed therefore.

Embankment slopes shall be finished in conformance with lines and grades shown on the plans. When completed the average plane of slopes shall conform to slopes indicated on the plans and no point on the completed slopes shall vary from the designated plane by more than 6 inches measured at right angles to the slope.

205.6 SURPLUS MATERIAL:

Unless otherwise shown on the plans, specified in the special provisions, or approved by the Engineer, no surplus excavated material shall be disposed of within the right-of-way. The Contractor shall make all arrangements for disposal of the material at off-site locations as may be approved by the Engineer, and shall upon request file with the Engineer the written consent of the owner of the property upon which he intends to dispose of such material. If the quantity of surplus material is shown on the plans or specified in the special provisions, the quantity shown or specified is approximate only. The Contractor shall satisfy himself that there is sufficient material available for the completion of the embankments before disposing of any indicated surplus material inside or outside the right-of-way. Any shortage of material caused by premature disposal of surplus material by the Contractor, shall be replaced by him and no compensation will be allowed the Contractor for such replacement.

205.7 MEASUREMENT:

The following earthwork operations will be measured as roadway excavation for the quantities of material involved. Excavating the roadway prism including public and private road approaches, connections and driveways; excavating unsuitable material when shown on the plans or specified in the special provisions; excavating slides and slipouts not resulting from overshooting; excavating surplus material; excavating selected material and topsoil from within the limits of project and removing such materials from stockpiles when stockpiling is ordered; excavating ditches and excavating borrow.

The Engineer will compute the quantities of material excavated by a method which in his opinion is best suited to obtain an accurate determination.

Excavation in excess of the planned or authorized cross-section will not be paid for, except as provided above. The Contractor shall backfill and compact unauthorized excavated areas to the original ground elevation of authorized section at no additional cost to the Contracting Agency.

Material resulting from excavating ditches or channels may be used to construct roadway embankments, dikes, or for other purposes, or disposed of, as directed by the Engineer.

Care shall be exercised to prevent excavating below the grade for the bottom of the ditch and areas excavated below grade shall be filled with suitable material and compacted by the Contractor at no additional cost to the Contracting Agency.

205.8 PAYMENT:

Roadway excavation shall be considered as being included in the price bid for the construction or installation of the items to which such roadway excavation is incidental or appurtenant.

- End of Section -

SECTION 301 - SUBGRADE PREPARATION

301.1 DESCRIPTION:

This Section shall govern the preparation of natural or excavated areas prior to the placement of sub-base material, pavement, curbs and gutters, driveways, sidewalks or other structures. It shall include stripping and disposal of all unsuitable material including existing pavement and obstructions such as stumps, roots, rocks, etc., from the area to be paved.

301.2 PREPARATION OF SUBGRADE:

In the areas where new construction is required, the moisture content shall be brought to that required for compaction by the addition of water, by the addition and blending of dry, suitable material or by the drying of existing material. The material shall then be compacted to the specified relative density. If pumping subgrade should become evident at any time prior to paving, the Engineer may require proof rolling with a pneumatic-tire roller or other approved equipment in order to identify the limits of the unacceptable area. The proof rolling will be performed at no additional cost to the City of Tempe.

Subgrade preparation shall also include preparing the subgrade to the required line and grade for paved or unpaved shoulders, tapers, turnouts, and driveways, and at all other project locations where aggregate base and/or select material courses are used in accordance with the Project Plans.

301.2.1 The Contractor may use removed existing asphalt concrete and other existing bituminous roadway surfacing materials originating on the project site, as embankment fill. All materials used shall be thoroughly crushed to sizes not exceeding four inches, or as approved by the Engineer. These asphalt/bituminous materials shall be placed not less than two feet below finished subgrade elevation.

All unsuitable material and all excess material shall be disposed of in accordance with the requirements of Sections 205.2 and 205.6, respectively. When additional material is required for fill, it shall conform to Section 210.

301.3 RELATIVE COMPACTION:

The subgrade shall be scarified and loosened to a depth of 6 inches. Rock 6-inches or greater in size that becomes exposed due to scarification shall be removed from the scarified subgrade. When fill material is required, a layer of approximately 3 inches may be spread and compacted with the subgrade material to provide a better bond. The subgrade cut and fill areas shall be constructed to achieve a uniform soil structure having the following minimum compaction, measured as a percentage of maximum dry density when tested in accordance with AASHTO T-99, Method A, and T191 or ASTM D6938 with the percent of density adjusted in accordance with the rock correction procedures for maximum density determination, ARIZ-227c to compensate for the rock content larger than that which will pass a No. 4 sieve. Unless otherwise noted in the project plans or project specifications, compaction shall be performed within 2 percentage points of the optimum moisture content.

(A) Below pavement, curb & gutter, sidewalk, roadway shoulders, and other areas within right-of-way subject to vehicular traffic 95 percent

301.4 SUBGRADE TOLERANCES:

Subgrade upon which pavement, sidewalk, curb and gutter, driveways, or other structures are to be directly placed shall not vary more than 1/4 inch from the specified grade and cross-section. Subgrade upon which sub-base or base material is to be placed shall not vary more than 3/4 inch from the specified grade and cross-section. Variations within the above specified tolerances shall be compensating so that the average grade and cross-section specified are met.

301.5 GRADING OF AREAS NOT TO BE PAVED:

Areas where grade only is called for on the plan shall be graded to meet the tolerances for the subgrade where subbase or base material is to be placed. The surface shall be constructed to a straight grade from the finished pavement elevations shown on the plans to the elevation of the existing ground at the extremities of the area to be graded.

301.6 PROTECTION OF EXISTING FACILITIES:

The Contractor shall exercise extreme caution to prevent debris from falling into manholes or other structures. In the event that debris should fall into a structure it shall immediately be removed.

301.7 MEASUREMENT:

Project earthwork quantities for Roadway Excavation, Borrow Excavation, and Fill Construction shall not be calculated separately. Payment for said earthwork items shall be included in the unit price for Installation of the pavement.

301.8 PAYMENT:

Payment for earthwork items shall be included in the unit price for installation of the pavement. Payment shall be compensation in full for stripping, scarifying, grading, excavating, hauling, filling, compacting, and disposing of excess or unsuitable materials, together with all costs incidental thereto, complete and in place.

- End of Section -

SECTION 310 - UNTREATED BASE

310.1 DESCRIPTION:

Untreated base, i.e., select or aggregate base course, shall comply with Subsection 702.2.

310.2 PLACING:

Untreated base 6 inches or less in compacted thickness may be placed in a single layer and those more than 6 inches in thickness shall be built up in successive layers of approximately equal compacted thickness not to exceed a maximum thickness of 6 inches. The requirements which follow are applicable to all types of material.

After distributing, the base material shall first be watered and then immediately bladed to a uniform layer that will net, after rolling, the required thickness. If the materials deposited are not uniformly blended together, the blading operation shall be continued to such extent as may be necessary to eliminate segregation. The quantity of water applied shall be that amount which will assure proper compaction resulting in a relative density of not less than 100 percent as determined under Section 301. Care shall be exercised in connection with watering operations to avoid wetting the subgrade or any lower base course to detrimental extent.

Upon completion, the base surface shall be true, even and uniform conforming to the grade and cross-section specified.

Untreated base may vary not more than 1/2 inch above or below required grade and cross-section.

310.3 DEFICIENCY:

When in the opinion of the Engineer there is reason to believe that a deficiency in thickness, or an excess of plasticity exists, measurements or samples will be taken in the same pattern as that defined in Section 321. If the base has been covered or it is otherwise impractical to correct the deficiency, the corrective measures in Table 310-1 shall be taken by the Contractor at no additional cost to the City of Tempe.

Type	Deficiency	Corrective Measure
I	1/2 inch or more but less than 1 inch thickness	Place asphalt chip seal using precoated chips in accordance with Section 330 for the full roadway width over the area involved but for not less than 660 feet or one City block in length.
II	1 inch or more in thickness	Place an additional asphalt concrete overlay, a 9.5 mm mix, of 1/2 the thickness of the deficiency in thickness for the full roadway width over the area involved, not less than 660 feet or one City block in length.
III	A plasticity index of over 7*	Remove deficient material from affected area and replace with material complying with the specifications.

* The plasticity index shall be in accordance with AASHTO T-146 Method A (wet preparation), T-89 and T-90.

310.4 PAYMENT:

Payment for untreated base will be included in bid for paving installation.

- End of Section -

SECTION 321 - PLACEMENT AND CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT

321.1 DESCRIPTION:

This section is to provide specifications for furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, mineral admixture and asphalt binder to form a pavement course for placement upon a previously prepared base or sub base.

321.2 MATERIALS AND MANUFACTURE:

The specific required mix type shall be called out in the contract documents or as directed by the Engineer.

321.3 WEATHER AND MOISTURE CONDITIONS:

Asphalt concrete shall be placed only when the surface is dry, and when the atmospheric temperature in the shade is 40 degrees F. (50 degrees F for Asphalt Concrete lift less than 2 inch thick) or above. No asphalt concrete shall be placed when the weather is foggy or rainy, or when the base or sub base on which the material is to be placed is unstable. Asphalt concrete shall be placed only when the Engineer determines that weather conditions are suitable.

321.4 APPLICATION OF TACK COAT:

A tack coat shall be applied to all existing and to each new course of asphalt concrete prior to the placing of a succeeding lift of asphalt concrete. The tack coat may be deleted when a succeeding layer of asphalt concrete is being applied over a freshly laid course that has been subjected to very little traffic when approved by the Engineer. The application of the tack coat shall comply with Section 329. The grade of emulsified asphalt shall be SS-1 h or CSS-1 h as specified in 2012 MAG Specification Section 713.

The same material that is specified above for the tack coat shall be applied to the vertical surfaces of existing pavements, curbs, and gutters, against which asphalt concrete is to be placed.

The surface to be covered may require repair or patching as directed by the Engineer. This shall be addressed in the project specifications prior to the bidding of the project.

321.5 MIX DESIGN:

The mix design shall be submitted to the Engineer at least five working days prior to the start of asphalt concrete production. Mix designs provided by the City of Tempe may be utilized on projects at the Engineer's discretion.

Once the mix design has been approved by the City of Tempe and the mixing plant selected, the Contractor and/or his supplier shall not change plants nor utilize additional mixing plants without prior approval of the Engineer. If the contractor elects to change its source of material, the contractor shall furnish the Engineer with a new mix design.

The contractor may make self-directed target changes to the approved mix design within the limits shown below. Requests for self-directed target changes shall be made in writing and acknowledged by the Engineer prior to the start of production of a lot and will remain in effect until such time as any additional changes are implemented. The self-directed target changes must meet the contract requirements for mix design criteria and gradation limits.

The contractor may propose target changes, other than self-directed changes, to the approved mix design for the approval of the Engineer. The Engineer will determine if the proposed target change will result in mix production that meets the contract requirements for mix design criteria and gradation limits. The target changes will not be retroactive for the purpose of acceptance.

TABLE 321-1	
ALLOWABLE SELF-DIRECTED TARGET CHANGES	
MEASURED CHARACTERISTICS	ALLOWABLE SELF-DIRECTED TARGET CHANGES
Gradation (Sieve Size)	
3/8 inch	+ 4% from mix design target value
No 8	+ 4% from mix design target value

No 40	+ 2% from mix design target value
No 200	+0.5% from mix design target value
Binder Content	+ 0.2% from mix design target value
Effective Air Voids	None

321.6 MIX PRODUCTION:

All materials shall be proportioned by weight in a hot mix asphalt plant in the proportions required by the mix design to provide a homogeneous and workable mass. Each hot mix asphalt plant shall be inspected in accordance with the provisions contained in the 'Hot Mix Asphalt Production Facilities' by the Arizona Rock Products

Association and shall have a current inspection certificate. All measuring devices shall be calibrated at least annually by a technician licensed by the Arizona Bureau of Weights & Measures. Mixing plants shall conform to the requirements of AASHTO M-156, except as modified herein.

In drum mix plants the mineral admixture shall be added and thoroughly mixed with the mineral aggregate by means of a mechanical mixing device prior to the mineral aggregate and mineral admixture entering the dryer. The moisture content of the combined mineral aggregate shall be a minimum of three percent by weight of the aggregate during the mixing process.

For drum-mix plants, the mineral admixture shall be weighed across a weight belt, or other approved alternative weighing system, with a weight totalizer prior to entry into the mechanical mixing device. The mechanical mixing device shall be a pugmill type mixer that is in good working condition. The rate of the aggregate feed shall not exceed the mixing device's capacity in ton per hour. The mixer shall be constructed to minimize the loss of mineral admixture and shall be located in the aggregate delivery system at a location where the mixed material can be readily inspected. The mixing device shall be capable of effective mixing in the full range of the asphalt concrete production rates.

The hot plant and equipment shall be constructed and operated to prevent loss of mineral admixture through the dust collection system of the plant.

A positive signal system shall be provided and utilized during production whereby the mixing shall automatically be stopped if the mineral admixture is not introduced into the mineral aggregate. The plant will not be permitted to operate unless the signal system is in good working condition.

The introduction of bituminous material shall be controlled by an automated system fully integrated with the controls of the mineral aggregate and mineral admixture. The production of the plant shall be controlled by the rate required to obtain a uniform mixture of all components. Drying and heating shall be accomplished in such a manner as to preclude the mineral admixture from becoming coated with un-spent fuel. The completed asphalt concrete may be held in storage for up to 12 hours in insulated or heated silos, providing the minimum temperature noted herein for placement and compaction is met behind the placement device. If the Engineer determines that there is an excessive amount of heat, heat loss, drain down, segregation and/or oxidation of the mixture due to temporary storage, use of surge bins or storage bins will be discontinued.

The temperature of the asphalt concrete, with unmodified binders, upon discharge from the mixer shall not exceed 335 degrees F. The discharge temperature may be increased on the recommendation of the binder supplier, when approved by the Engineer. If the asphalt concrete is discharged from the mixer into a hopper, the hopper shall be constructed so that segregation of the asphalt concrete will be minimized.

321.7 TRANSPORTATION:

Petroleum distillates or other substances that will have a detrimental effect on the asphalt concrete shall not be used as a release agent.

The beds of all transportation units shall be clean and smooth to allow the free flow of material into the paving machine's hopper.

Tarpaulins shall be furnished on all trucks and used when weather condition warrant, or if directed by the Engineer.

321.8 PLACEMENT:

321.8.1 Placing: All courses of asphalt concrete shall be placed and finished by means of a self-propelled paving machine equipped with an automatically actuated control system, except under certain conditions or at locations where the Engineer deems the use of a self-propelled paving machine impracticable.

The control system shall control the elevation of the screed at each end by controlling the elevation of one end directly and the other end indirectly either through controlling the transverse slope or alternatively when directed, by controlling the elevation of each end independently.

The control system shall be capable of working with one of the following devices:

- (a) Ski or non-contact device of not less than 30 feet in length, supported throughout its entire length
- (b) Taut stringline or wire set to grade
- (c) Short ski or sonar sensing units from curb control
- (d) Joint matching shoe

Failure of the control system to function properly shall be cause for the suspension of asphalt concrete production. In order to achieve a continuous operation, the speed of the paving machine shall be coordinated with the hot mix plant and transport units.

If the asphalt concrete is dumped from the hauling vehicles directly into the paving machine, care shall be taken to avoid jarring the machine or moving it out of alignment. No vertical load shall be exerted on the paving machine by the truck.

If asphalt concrete is dumped upon the surface being paved and subsequently loaded in the paving machine, the loading equipment shall be self-supporting and shall not exert any vertical load on the paving machine. Substantially all of the asphalt concrete shall be picked up and loaded into the paving machine.

Self-propelled paving machines shall spread the mixture without segregation or tearing, true to line, grade and crown indicated on the Project plans. Pavers shall be equipped with hoppers and augers that will distribute the mixture uniformly in front of an adjustable floating screed. The raising of the hopper wings must be minimized and the paving machine will not be operated when in an empty condition.

Screeds shall include any strike-off device operated by tamping or vibrating action which is effective, without tearing, shoving or gouging the mixture and which produces a course with a uniform texture and density for the full width being paved. Screeds shall be adjustable as to height and crown and shall be equipped with a controlled heating device for use when required. In the case of the screed, auger extensions and vibrators shall be installed wherever the screed is extended more than one (1) foot beyond the end of the base auger or auger extension. However, when placing material against an extremely uneven curb or edge over a short distance, the Engineer may waive the auger extensions and vibrators.

At any place not accessible to the roller, the mixture shall be thoroughly compacted with tampers to provide a uniform and smooth layer over the entire area compacted in this manner.

321.8.2 Joints: Transverse joints, before a surface course is placed in contact with a cold transverse construction joint, the cold existing asphalt concrete shall be trimmed to a vertical face for its full depth and exposing a fresh face. After placement and finishing the new asphalt concrete, both sides of the joint shall be dense and the joint shall be smooth and tight. The surface in the area of the joint shall not deviate more than ¼ inch from a 12-foot straightedge, when tested with the straightedge placed across the joint, parallel to the centerline.

Longitudinal Joints of each course shall be staggered a minimum of 6 inches with relation to the longitudinal joint of the immediate underlying course cold transverse construction joint, the cold existing asphalt concrete shall be trimmed to a vertical face for its full depth and exposing a fresh face. The fresh face shall be tacked prior to

placement of the adjacent course. After placement and finishing the new asphalt concrete, both sides of the joint shall be dense and the joint shall be smooth and tight. The surface in the area of the joint shall not deviate more than ¼ inch from a 12-foot straightedge, when tested with the straightedge placed across the joint, parallel to the centerline. The joint will be tack coated if required by the Engineer.

321.8.3 Asphalt Leveling Course: A leveling course shall be used when specified, or as directed in writing by the Engineer, to bring existing pavement to a uniform grade prior to placing an overlay or other course. If a leveling course is being applied on an Asphalt surface, a tack coat shall be applied. The compaction requirements contained in Section 321.10 do not apply to leveling courses.

321.8.4 Compaction; Asphalt Base Course and Surface Course: It is the contractor's responsibility to perform any desired Quality Control monitoring and/or testing during compaction operations to achieve the required compaction. The temperature of the asphalt concrete immediately behind the laydown machine shall meet the minimum requirements of Table 321-2. A probe type electronic thermometer with a current calibration sticker attached will be used to measure the temperature of the asphalt concrete mixture. When measuring the temperature of the mat, the probe shall be inserted at mid-depth and as horizontal as possible to the mat.

MINIMUM ASPHALT CONCRETE PLACEMENT TEMPERATURE						
Base (1) Temp (°F)	Mat Thickness (inches)					
	½	¾	1	1 ½	2	3 and greater
40 - 50	---	---	310	300	285	275
50 - 60	---	310	300	295	280	270
60 - 70	310	300	290	285	275	265
70 - 80	300	290	285	280	270	265
80 - 90	290	280	270	270	265	260
+90	280	275	265	265	260	255

(1) Base on which mix is to be placed

Asphalt compaction equipment shall be of sufficient size and weight to accomplish the required compaction. All compaction equipment shall be operated and maintained in accordance with the manufacturer's recommendations and the project requirements. During the rolling operation, the speed of the roller shall not exceed 3 miles per hour, unless otherwise approved by the Engineer.

Pneumatic tired compactors shall be equipped with skirt-type devices mounted around the tires so that the temperature of the tires will be maintained during the compaction process. The Engineer will determine the acceptability of the pavement compaction in accordance with Section 321.10.

321.8.5 Smoothness: The completed surfacing shall be thoroughly compacted, smooth and true to grade and cross-section and free from ruts, humps, depressions or irregularities. An acceptable surface shall not vary more than one-fourth (¼) inch from the lower edge of a 12-foot straightedge when the straightedge is placed parallel to the centerline of the roadway.

321.8.6 Asphalt Concrete Overlay: Asphalt concrete overlay consists of the placing and compacting plant mix asphalt concrete over existing asphalt concrete paving. The thickness of the overlay shall be as shown on the plans or as specified in the special provisions. Preliminary preparation of existing surfaces will be required except when accomplished by the Contracting Agency, and it is so stipulated in the special provisions. With the exception of those which have been preheated and remixed only, existing surfaces shall receive a tack coat.

Except when they have been preheated and remixed, pavement surfaces shall be prepared as follows:

- (a) Before placing asphalt concrete overlay, severely raveled areas or cracked areas that are depressed more than 3/4-inch from the adjoining pavement shall be cut out and patched at least 48 hours prior to the resurfacing operation. Over-asphalted areas or rough high spots shall be either milled or cut out and patched. Large shrinkage cracks shall be filled with asphalt sealing compound acceptable to the Engineer.

The entire surface shall be cleaned with a power broom. Raveled areas that do not require removing shall be cleaned by hand brooming. The above are incidental, and the cost thereof shall be included in the bid items.

(b) Before placing asphalt concrete overlay, milling shall be done as shown on the plans.

(c) After surfaces have been prepared to the satisfaction of the Engineer, they shall receive a tack coat per Section 321.4. Traffic will not be permitted to travel over surfaces which have received a tack coat. When the overlay is to extend onto the concrete gutter, the gutter shall be thoroughly cleaned of loose dust and cement particles and shall be tack coated.

Asphalt concrete overlay shall be placed as specified in Section 321.8.1 and compacted as specified in Section 321.8.4. The surface smoothness shall meet the tolerances specified in Section 321.8.5.

Manholes shall be built up and the frames set flush with the finished surface of the new paving, and tops of valve boxes, clean-outs and other existing structures shall be adjusted to finish grade. In the event the base course and original paving have been removed or disturbed in order to build up the manhole, they shall be replaced with approved materials which shall be thoroughly compacted. The asphalt concrete around the manhole frame shall be completed and made flush with the adjacent overlay.

321.8.7 Pavement Fabric Interlayer:

Not Applicable

321.9 QUALITY CONTROL:

It is the contractor's responsibility to perform Quality Control monitoring and/or testing during asphalt concrete production to achieve the required compaction and to perform Quality Control monitoring and/or testing during asphalt concrete production to achieve the required mix properties. The Engineer may obtain samples of any portion of any material at any point of the operations for his own use. Also, the Engineer may order the use of any drying, proportioning and mixing equipment or the handling of any material discontinued which, in his/her opinion, fails to produce a satisfactory mixture.

The asphalt concrete produced shall conform to the requirements of the production tolerances established in section 321.10. When the asphalt concrete does not conform to the production tolerances, it shall be reported to the Engineer, and corrective quality control measures shall be implemented, or production shall cease immediately at no additional cost to the City of Tempe or Engineer.

321.10 ACCEPTANCE:

321.10.1 Acceptance Criteria: All acceptance samples shall be taken using random locations or times designated by the Engineer in accordance with ASTM D3665.

321.10.2 Gradation, Binder Content and Air Voids: The acceptance laboratory will take a sample of the asphalt concrete in accordance with the requirements of Section 2 or 4 of Arizona Test Methods 104 or AASHTO T-168. The minimum weight of the sample shall be 45 pounds. Asphalt binder content and gradation shall be determined in accordance with AASHTO T-308. The acceptance laboratory is responsible for obtaining the necessary materials and performing an ignition furnace calibration as outlined in AASHTO T-308 for each asphalt concrete mixture utilized on the project. The correction factor used for each test shall be clearly indicated on the report. The bulk density for Marshall Mix designs shall be tested in accordance with AASHTO T-245. The maximum theoretical density shall be determined in accordance with the requirements of AASHTO T-209 including fan drying per AASHTO T209 Section 15. Effective voids of the laboratory compacted specimens will be determined at a minimum of once per lot in accordance with the requirements of AASHTO T-269. Acceptance testing results will be furnished to the contractor and the supplier within five working days of receipt of samples by the acceptance laboratory.

During production, the allowable deviations from the mix design gradation targets are listed in the tables below. The allowable production tolerances may fall outside of the mix design gradation bands.

If the results from a single acceptance sample fall outside of the acceptance limits in Table 321-3A as applicable, a second sample shall be taken and if the second acceptance sample is also outside of the acceptance limits the Contractor shall cease production of asphalt concrete. Production shall not begin again until calibration test results verify that adjustments made to materials or proportions yield a gradation that falls within acceptance limits.

321.10.4 Asphalt Pavement Thickness: Asphalt Pavement thickness will be determined from cores for this purpose. Such cores will be taken and measured by the Asphalt Concrete Coring Method. This method can be found at in Section 321.14. Each core location will be patched by the party responsible for the testing.

321.10.5 Density:

321.10.5.1 Pavement 1-1/2 Inches or Less in Nominal Thickness: Not Applicable

321.10.5.2 Pavement Greater than 1-1/2 Inches in Nominal Thickness:

Achieving the required compaction is the responsibility of the contractor. The number and types of rollers is the contractor's responsibility and shall be sufficient to meet these requirements.

In-place air voids shall be determined in accordance with AASHTO T-269 utilizing cores taken from the finished pavement. The maximum theoretical density used in the determination of in-place air voids will be the average value from the acceptance samples determined as outlined in 321.10.1.

The Engineer will designate one random test location and the acceptance laboratory will obtain one core from that location. Regardless of quantities or boundaries, a minimum of one core will be obtained per residential street and a minimum of one core per travel lane for collector and arterial streets. The outside one foot of each pass of the pavement course or any unconfined edge will be excluded from testing. The Engineer may exclude areas from the compaction lot that are not accessible by normal compaction equipment.

The Contractor will provide the traffic control to facilitate any coring operations necessary for compaction acceptance.

Cores will be taken per the Asphalt Concrete Coring Method. This method can be found in Section 321.14. Acceptance testing results will be furnished to the contractor within five working days of receipt of samples by the acceptance laboratory.

321.12 MEASUREMENT:

Asphalt concrete pavement will be measured by square yard, for the mixture actually used as allowed above, which shall include the required quantities of mineral aggregates, asphalt binder, and mineral admixture. Measurement shall include any area used to construct intersections, roadways, streets, or other miscellaneous surfaces indicated on the plans or as directed by the Engineer.

321.13 PAYMENT:

The asphalt concrete measured as provided above will be paid for at the contract price bid for construction. Payment for tack coat will be included with the asphalt concrete bid, complete and in place.

- End of Section -

SECTION 329 - TACK COAT

329.1 DESCRIPTION:

Tack coat for bituminous paved surfaces shall consist of the application of emulsified asphalt.

329.2 PREPARATION OF SURFACE:

Surfaces to be treated shall be cleaned of all loose material as specified in Section 330.

329.3 APPLICATION:

Tack coat shall be diluted in the proportion of 50 percent water and 50 percent emulsion and applied at the rate of 0.05 to 0.10 gallons per square yard. Application shall be made in advance of subsequent construction as ordered by the Engineer.

329.4 EQUIPMENT:

Tack coat shall be applied by distributor trucks designed, equipped, maintained and operated in accordance with Section 330. Hand spray by means of hose or bar through a gear pump or air tank shall be acceptable for resurface work, corners or tacking of vertical edges. Care shall be taken to provide uniform coverage. Equipment that performs unsatisfactory shall be removed from the job.

329.5 PROTECTION FOR ADJACENT PROPERTY:

According to Section 333.

329.6 MEASUREMENT:

Bituminous emulsion that is diluted prior to application will be measured by the ton of diluted material.

329.7 PAYMENT:

Payment for the emulsified bituminous tack coat will be included in the bid price of the installed asphalt pavement.

- End of Section -

SECTION 336 - PAVEMENT MATCHING AND SURFACING REPLACEMENT

336.1 DESCRIPTION:

Street and alley pavement and surfacing within the City of Tempe's rights-of-way, removed by construction activities or to be widened or matched in connection with the improvement of Public Works, shall be placed as shown on the plans and applicable standard details, in accordance with this specification and/or the special provisions.

Asphalt concrete roadway pavement replacement shall be constructed in accordance with Type A, B, or T-Top of Standard Detail 200-1 and as indicated on the plans or in the special provisions.

Portland cement concrete pavement replacement shall be in accordance with Type C of the Standard Detail 200-1.

All other surface replacement in the right-of-way but not in paved roadways shall be constructed in accordance with Type D of Standard Detail 200-1 and as indicated on the plans.

Temporary pavement replacement shall be constructed as required herein.

Pavements to be matched by construction of new pavements adjacent to or at the ends of a project shall be milled or saw cut in accordance with these specifications and where shown on the plans.

336.2 MATERIALS AND CONSTRUCTION METHODS:

Materials and construction methods used in the replacement of pavement and surfacing shall conform to the requirements of all applicable standard details and specifications, latest revisions.

336.2.1 Pavement Widening or Extensions: Existing pavements which are to be matched by pavement widening or pavement extension shall be trimmed to a neat true line with straight vertical edges free from irregularities with a device specifically designed for this purpose. The minimum depth of cut shall be 1 ½ inches or D/4, whichever is greater.

The existing pavement shall be cut and trimmed after placement of required ABC and just prior to placement of asphalt concrete for pavement widening or extension, and the trimmed edges shall be painted with a light coating of asphalt cement or emulsified asphalt immediately prior to constructing the new abutting asphalt concrete pavements. No extra payment shall be provided for these items and all costs incurred in performing this work shall be incidental to the widening or pavement extension.

The exact point of matching, termination, and overlay may be adjusted in the field, if necessary, by the Engineer or designated representative.

336.2.2 Pavement to be Removed: Existing asphalt pavement to be removed for trenches or for other underground construction or repairs shall be cut by a device capable of making a neat, straight and smooth cut without damaging adjacent pavement that is not to be removed. The Engineer's decision as to the acceptability of the cutting device and manner of operation shall be final.

In lieu of cutting trenches across driveways, curbs and gutters, sidewalks, alley entrances, and other types of pavements, the Contractor may, when approved by the Engineer, elect to tunnel or bore under such structures and pavements.

When installations are within the street pavement and essentially parallel to the center line of the street, the Contractor, with approval of the Engineer, may elect to bore or tunnel all or a portion of the installation. In such installations, the seal coat requirements, as discussed in Section 336.2.4, will be modified as follows:

(A) If the pavement cuts (bore pits, recovery pits, etc.) are 300 feet or more apart, the bore or tunneled distance will not be considered as part of the open trench and the seal coat may not be required.

(B) If the pavement cuts (bore pits, recovery pits, etc.) are less than 300 feet apart, the distance between the cuts will be considered the same as a trench cut and the distance will be added to any trench cut distances.

336.2.3 Temporary Pavement Replacement: Temporary pavement replacement, may be with cold-mix asphalt concrete, with a minimum thickness of 2 inches. Permanent pavement replacement shall replace temporary repairs within 5 working days after completion of temporary work.

Temporary pavement replacement shall be used in lieu of immediate placement of single course permanent replacement or the first course of two course pavement replacement only on transverse lines such as spur connections to inlets, driveways, road crossings, etc., when required by the Engineer, by utilities or others who subcontract their permanent pavement replacement, under special prior arrangement; or for emergency conditions where it may be required by the Engineer. Temporary pavement replacement shall be placed during the same shift in which the backfill to be covered is completed.

Rolling of the temporary pavement replacement shall conform to the following:

(A) Initial or breakdown rolling shall be followed by rolling with a pneumatic-tired roller. Final compaction and finish rolling shall be done by means of a tandem power roller.

(B) On small areas or where equipment specified above is not available or is impractical, the Engineer will approve the use of small vibrating rollers or vibrating plate type compactors provided comparable compaction is obtained. The surface of the temporary pavement shall be finished off flush with the adjacent pavement.

336.2.4 Permanent Pavement Replacement and Adjustments:

336.2.4.1 Permanent Pavement Replacement: All pavement replacement shall match gradation and thickness of the existing pavement. Pavement replacement shall be compacted to the same density specified for asphalt concrete pavements in Section 321. Unless otherwise noted, pavement replacement shall comply with the following:

(A) Single course pavement replacement shall consist of a 1/2" or 3/4" mix.

(B) The base course(s) of a multi-course pavement replacement shall consist of a 3/4" mix.

(C) The surface course of a multi-course pavement replacement shall consist of a 3/8" or 1/2" mix to match the existing surface.

(D) Where the base course is to be placed with non-compactive equipment, it shall be immediately rolled with a pneumatic-tired roller.

(E) Where the trench is 6 feet or more in width, all courses shall be placed with self-propelled spreading and compacting equipment. When the trench is from 6 to 8 feet in width, self-propelled spreading and compacting equipment shall not be wider than 8 feet.

(F) Placement of the surface course is to be by means which will result in a surface flush with the existing pavement. The pavement replacement surface shall not vary more than 1/4 inch from the lower edge of a straightedge placed across the replacement pavement surface between edges of the existing matched surfaces. When the pavement replacement includes replacement of the roadway crown, the surface smoothness shall comply with requirements of Section 321.

Laying a single course or the base course(s) of the asphalt concrete pavement replacement shall never be more than 600 feet behind the ABC placement for the pavement replacement.

The trench must be compacted to its required density, and required ABC must be in place and compacted prior to the placement of the asphalt concrete.

For cuts greater than 300 feet in length the entire area shall then be slurry seal coated in accordance with Section 332 or as otherwise specified. This seal coat shall extend from the edge of pavement or lip of gutter to the street centerline except that on residential streets less than 36 feet face to face of curb or where the pavement patch straddles the centerline, the entire width of street shall be seal coated.

In lieu of placing the seal coat as required previously, and with approval of the Contracting Agency, the Contractor may deposit with the Contracting Agency for credit to the Street Maintenance Department, a negotiated agreed upon amount. The Street Maintenance Department will incorporate this work into their street maintenance program.

336.2.4.2 Adjustments: When new or existing manholes, valves, survey monuments, clean outs, etc. fall within the limits of the permanent pavement replacement as discussed in this Section, the Contractor shall be responsible for adjusting the various items to the new pavement surface or as directed by the Engineer. This will include but not be limited to slurry and chip seals.

The Contractor will coordinate with the Engineer and with representatives of the various utilities regarding the adjustment and inspection of the work. The Contractor shall be responsible for obtaining and complying with all specifications, special requirements, details, etc. of the Utility Company regarding the adjustments. When adjusting the City of Tempe's utilities, survey monuments, etc., the adjustment will comply with these Specifications and Details.

The work will be done in compliance with OSHA standards and regulations regarding confined space entry. The Contractor shall remove all material attached to the lids and/or covers including that of prior work. The method of removal shall be approved by the Engineer and/or the Utility Representative.

336.3 TYPES AND LOCATIONS OF PAVEMENT AND SURFACING REPLACEMENT:

Normally, the type of pavement replacement and backfill required will be noted on the plans or specified in other portions of the contract documents and construction will be in accordance with Detail 200-1 and 200-2. If a type is not noted on the plans or specified in the special provisions, the following criteria will govern:

Type A trench repair will be utilized on all streets where the excavation is essentially longitudinal or parallel to traffic.

T-Top trench repair will be utilized on all streets where the excavation is essentially transverse or not parallel to traffic, including trenches that go through an intersection. Type B trench repair may be used to repair transverse trenches if specified by the Agency.

Type C trench repair will be used to repair existing Portland cement concrete pavement.

Type D trench repair will be utilized to repair surfaces other than asphalt concrete or Portland cement concrete pavement. It may also be used when the condition of the existing pavement does not justify construction of Type A, Type B or T-Top trench repair. Prior written approval of the Engineer is required for this condition.

Where a longitudinal trench is partly in pavement, the pavement shall be replaced to the outside edge of the existing pavement, on a straight line, as indicated on the plans. Measurements for payment shall be from the inner limit of pay width allowed below, to the outside edge of the existing pavement as defined herein.

Where no part of a trench is in pavement, surfacing replacement will only be specified where existing surfacing materials have been removed.

336.4 MEASUREMENT:

Measurement for surfacing replacement shall be by the square yard, based upon actual field measurement of the area covered except as noted below.

- (A) In computing pay quantities for replacement Types B and E, pay widths will be based on the actual field measured width; however the boundaries of the measurement will not extend further than $\frac{1}{2}$ the distance, either side, from the centerline of the pipe, maximum width at top of pipe greater than O.D. of barrel.
- (B) In computing pay quantities for replacement Types T-Top, A, C and D, pay widths will be based on the actual field measured width, however the boundaries of the measurement will not extend further than $\frac{1}{2}$ the distance plus 12 inches, either side, from the centerline of the pipe, maximum width at top of pipe greater than O.D. of barrel. In all cases, the minimum pay width for replacement Types T-Top, A and D shall be 48 inches.
- (C) Where a longitudinal trench is partly in pavement, computations of pay quantities shall be based on the limitations specified above.
- (D) The length of pavement and surfacing replacement shall be measured through any manhole, valve box, or other structure constructed in the pipe line, and any pavement or surface replacement and/or seal treatment in excess of the above pay widths shall be considered and included in the bid item for such structure.
- (E) Any pavement replacement in excess of the specified pay widths necessitated by the installation of valves, tapping sleeves and valves, valve by-passes, and concrete thrust blocks shall be included in the bid price for these items.
- (F) When special provisions allow deviations from the trench widths, the above allowed pay widths for pavement replacement may be altered where so specified.
- (G) Measurement of pavement and surfacing replacement shall be made along the finished surface of the ground to the nearest foot, and shall be computed to the nearest square yard.

336.5 PAYMENT:

Direct payment as bid for pavement or surfacing replacement will be made for replacement over all pipe trench cuts except as otherwise allowed in the special provisions. Payment for replacements over other work shall be included in the cost of constructing that work as included in the bid, in accordance with the applicable standard details and specifications.

Payment for pavement replacement shall include the replacement cost of any existing pavement markings that have been obscured, obliterated or removed by underground trench construction or repairs.

- End of Section -

SECTION 340 - CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY AND ALLEY ENTRANCE

340.1 DESCRIPTION:

The various types of concrete curb, gutter, sidewalk, sidewalk ramps, driveways, and alley entrances shall be constructed to the dimensions indicated on the plans and standard detail drawings.

340.2 MATERIALS:

Concrete shall be class B unless otherwise noted. Concrete shall conform to the requirements of Section 725. Expansion joint filler shall comply with Section 729.

340.2.1 Detectable Warnings:

Not Applicable

340.3 CONSTRUCTION METHODS:

Existing pavements and concrete that are joined by new construction shall be cut in accordance with Section 601. The subgrade shall be constructed and compacted true to grades and lines shown on the plans and as specified in Section 301. All soft or unsuitable material shall be removed to a depth of not less than 6 inches below subgrade elevation and replaced with material satisfactory to the Engineer. When the Engineer determines that the existing subgrade consists of soils with swelling characteristics, the moisture content shall be brought as close as possible to the optimum required for compaction. This shall be done by the addition of water, by the addition and blending of dry suitable material or by the drying of existing material. The subgrade shall then be compacted to a relative density of 75% minimum to 85% maximum with 80% as ideal.

Material displaced in the construction shall not be placed on the base and/or surfacing material already in place on the roadway nor shall the excavated material be placed in such a manner as to interfere with access to property or traffic flow in the street.

Existing concrete sidewalks and driveways which abut the new sidewalks and driveway entrances shall be removed to a distance required to maintain a slope as indicated by standard details or not to exceed 1 inch per foot where sidewalks are concerned. Sawcutting is required at the match lines and payment will be made under the respective pay items as provided in the proposal.

Concrete curbs, gutters and sidewalks shall be constructed by the conventional use of forms, or may be constructed by means of an appropriate machine when approved by the Engineer.

If machines designed specifically for such work and approved by the Engineer are used, the results must be equal to or better than that produced by the use of forms. If the results are not satisfactory to the Engineer, the use of the machine shall be discontinued and the Contractor shall make necessary repairs at his own expense. All applicable requirements of construction by use of forms shall apply to the use of machines.

Forms conforming to the dimensions of the curb, gutter, sidewalk, sidewalk ramps, driveway, and alley entrance shall be carefully set to line and grade, and securely staked in position. The forms and subgrade shall be watered immediately in advance of placing concrete.

Forms shall be thoroughly cleaned each time they are used, and shall be coated with a light oil, or other releasing agent of a type which will not discolor the concrete. The concrete shall be thoroughly spaded away from the forms so that there will be no rock pockets next to the forms. The concrete may be compacted by mechanical vibrators approved by the Engineer. Tamping or vibrating shall continue until the mortar flushes to the surface, and the coarse aggregate is below the concrete surface.

Unless otherwise specified, expansion joints shall be installed at all radius points, at both sides of each driveway, at both sides of each alley entrance, at adjoining structures and at every change of depth in the concrete. The maximum distance between expansion joints shall be 50 feet. Expansion joints shall be constructed in a straight line, vertical plane and perpendicular to the longitudinal line of the sidewalk, curb and gutter, single curb, etc., except in cases of

curved alignment, where they will be constructed along the radial lines of the curve. Expansion joints shall be placed to match the joints of the adjacent concrete such as sidewalk to the curb and gutter or single curb, etc. Expansion joints shall be constructed to the full depth and width of the concrete and extend one inch into the subgrade with the top of the expansion joint material one-quarter inch below the top surface as depicted in Detail 230. Expansion joint material shall be secured in place prior to placement of concrete. Unless otherwise specified, all expansion joints installed against newly placed concrete, sawcut or other smooth surfaces shall comply with Section 729.1 Premolded Joint Filler per ASTM D1751, ½ inch, Bituminous Type. Expansion joints installed against existing uneven surfaces shall be per Section 729.2 - Pour Type Joint Filler.

Contraction joints, unless otherwise specified, shall be constructed in accordance with the standard details, and in a straight line and vertical plane perpendicular to the longitudinal line of the sidewalk, sidewalk ramp or curb and gutter, except in cases of curved alignment when they will be constructed along the radial lines of the curb. Sidewalk or sidewalk ramp score marks, unless otherwise specified, shall be constructed in accordance with the standard detail.

All edges shall be shaped with a suitable tool so formed as to round the edges to a radius as indicated on the standard details.

The front face form shall not be removed before the concrete has taken the initial set and has sufficient strength to carry its own weight, gutter forms and rear forms shall not be removed until concrete has hardened sufficiently to prevent damage to the edges. Special care shall be taken to prevent any damage. Any portion of concrete damaged while stripping forms shall be repaired or if the damage is severe, replaced at no additional cost to the The City of Tempe. The face, top, back, and flow line of the curb and gutter shall be tested with a 10-foot straightedge or curve template, longitudinally along the surface. Any deviation in excess of 1/4 inch shall be corrected at no additional cost to the The City of Tempe.

The surface of concrete sidewalk or sidewalk ramp shall be tested with a 5-foot straightedge. Any deviation in excess of 1/8 inch shall be corrected at no additional cost to the City of Tempe.

When required by the Engineer, gutters having a slope of 0.8 foot per hundred feet or less, or where unusual or special conditions cast doubt on the capability of the gutters to drain, they shall be water tested. Water testing shall consist of establishing flow in the length of gutter to be tested by supplying water from a hydrant, tank truck or other source. One hour after the supply of water is shut off; the gutter shall be inspected for evidence of ponding or improper shape. In the event water is found ponded in the gutter to a depth greater than ½ inch, or on the adjacent asphalt pavement, the defect or defects shall be corrected in a manner acceptable to the Engineer without additional cost to the The City of Tempe.

Any section of the work deficient in depth or not conforming to the plans or specifications shall be removed and replaced by the Contractor at no additional cost to the City of Tempe.

Finishing and Curing of the concrete shall be done in the manner specified in Section 505.

The Contractor shall stamp his name and year on all work done by him, on each end of the curb, gutter, sidewalk or sidewalk ramp. The letters shall not be less than 3/4 inch in height.

340.3.1 Detectable Warnings:

Not Applicable

340.4 BACKFILLING:

Unless otherwise specified the Contractor shall backfill behind the curbs, sidewalk or sidewalk ramps with soil native to the area to the lines and grades shown on the plans.

340.5 MEASUREMENT:

Concrete curbs and gutters of the various types shown on the plans and in the proposal, will be measured along gutter flow line through inlets, catch basins, driveways, sidewalk ramps, etc., by the lineal foot to the nearest foot for each type, complete in place.

Concrete sidewalks, sidewalk ramps, driveways, alley intersections, valley gutters and aprons will be measured to the nearest square foot complete in place. When concrete sidewalk, sidewalk ramps, driveways, alley intersections, valley gutters, and/or aprons are cut during trenching operations, the square foot measurement for payment will be in accordance with Section 336.

340.6 PAYMENT:

Payment for the above named items will be made in accordance with the unit price bid as set forth in these specifications. Such payment shall include full compensation for furnishing all labor, material, tools and equipment and accomplishing all work in conformance with the contract documents.

- End of Section -

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS

350.1 DESCRIPTION:

This work shall consist of removal and disposal of various existing improvements, such as pavements, structures, pipes, curbs and gutters, and other items necessary for the accomplishment of the improvement.

350.2 CONSTRUCTION METHODS:

The removal of existing improvements shall be conducted in such a manner as not to injure utilities or any portion of the improvement that is to remain in place.

Sidewalks shall be removed to a distance required to maintain a maximum slope for the replaced portion of sidewalk, for one inch per foot and all driveways shall be removed to a distance as required by standard details.

Existing concrete driveway curbs and gutters shall be removed to the right-of-way line and the new end of curb faced.

Portland cement concrete pavements, curbs and gutters and sidewalks designated on the plans for removal shall be saw-cut at match lines and removed.

Asphalt concrete pavements designated on the plans for removal shall be cut in accordance with Section 336.

Backfill and compaction of all excavated areas shall be compacted to the densities as prescribed in Section 301.

All surplus materials shall be immediately hauled from the jobsite and disposed of in accordance with Section 205.

350.3 MISCELLANEOUS REMOVAL AND OTHER WORK:

Not Applicable

350.4 PAYMENT:

Payment for removals will be made at the unit bid prices bid in the applicable proposal pay items, which price shall be full compensation for the item complete, as described herein or on the plans.

- End of Section -

SECTION 401 - TRAFFIC CONTROL

401.1 DESCRIPTION:

Traffic control shall consist of traffic control devices and flagmen. All traffic control devices, the application of traffic control measures, and traffic regulation in these specifications are to supplement and are not intended to delete any of the provisions of the City of Tempe's latest edition of the Traffic Barricade Manual or the Uniform Manual on Traffic Control Devices.

401.2 TRAFFIC CONTROL DEVICES:

Traffic control devices shall consist of providing, erecting, and maintaining necessary and adequate devices for the protection of the work, the workmen and the traveling public as approved by the Engineer.

(A) Temporary traffic control devices shall be used to guide traffic through construction areas. They include traffic cones to channelize traffic, portable barricades for warning, vertical panel channelizing devices to divert traffic, and lighting devices between the hours of sunset and sunrise.

(B) Advance warning devices shall be used to alert the motorist of an obstruction in the roadway. They include diamond-shaped signs, flags, and flasher type high level warning devices mounted 8 feet above the roadway.

401.3 FLAGMEN:

Flagmen shall consist of providing sufficient railroad flagpersons (as required by the railroad) or uniformed law enforcement officers to expedite the safe passage of traffic. The contractor may, but is not required to, contact the Tempe Police Department at 480-350-8296 for off-duty uniformed police officers. When using Tempe officers, contact the Tempe Police Department least 48 hours in advance to determine the availability of off-duty Tempe officers. Refer to the City of Tempe Traffic Barricade Manual, latest edition for further instruction.

401.4 TRAFFIC CONTROL MEASURES:

The application of all traffic control measures shall be based primarily upon the conditions existing at the time that such measures are deemed necessary. Prior to the start of any work that would interrupt the normal flow of traffic; sufficient and adequate devices and measures shall be provided and erected as directed by the Engineer. These devices shall be immediately removed when no longer needed.

401.5 GENERAL TRAFFIC REGULATIONS:

A traffic lane shall be a minimum of 10 feet of clear street width with a safe motor vehicle operating speed of at least 25 miles per hour.

An intersection shall be all of the area within the right of way intersection streets plus 300 feet beyond the edge of the intersected right of way on all legs of the intersection.

A minimum of two traffic lanes, one for each direction, shall be maintained open to traffic at all times on all major streets.

All existing traffic lanes on major streets shall be maintained open to traffic at signalized intersections between the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. weekdays unless otherwise specified in the special provisions.

Local access shall be maintained to all properties on the project at all possible times. When local access cannot be maintained, the Contractor must notify the affected property owner at least 24 hours in advance and restore access as soon as possible.

A traffic lane shall not be considered as satisfactorily open to traffic unless it is paved with hot mix or cold mix asphalt paving if surrounded by or adjacent to existing pavement. Where pavement did not previously exist or where all of the existing pavement has been removed, a traffic lane shall not be considered as satisfactorily open to traffic unless it is graded reasonably smooth and maintained dust free as directed by the Engineer.

Arrangements for partial or complete street closure permits shall be handled through the Engineer. An advance notice of 48 hours for major streets and 24 hours for local streets and alleys is required from the Contractor.

The Contractor shall provide and maintain all necessary traffic controls to protect and guide traffic for all work in the construction area.

The Contractor shall maintain all existing STOP, YIELD, and street name signs erect, clean, and in full view of the intended traffic at all times. If these signs interfere with construction, the Contractor shall temporarily relocate the signs away from construction but still in full view of the intended traffic.

The Traffic Engineering Department will reset all STOP, YIELD, and street name signs to permanent locations. Existing traffic signs other than STOP, YIELD, and street name signs shall be maintained by the Contractor until such time as construction renders them obsolete. At that time the Contractor shall remove signs and posts without damage and deliver them as directed by the Engineer. The Traffic Engineering Department will reinstall all traffic signs.

Subject to the approval of the Traffic Engineer, the Contractor shall furnish and install the 25 MPH Construction Zone Speed Limit Signs. The Contractor shall maintain the signs erect, clean and in full view of the intended traffic at all times. Should the signs interfere with construction, the Contractor shall relocate the signs as necessary.

At any time project construction shall require the closure or disruption of traffic in any roadway, alley, or refuse collection easement such that normal refuse collection will be interfered with, the Contractor shall prior to causing such closure or disruption, make arrangements with the Contracting Agency's Sanitation Department in order that refuse collection service can be maintained.

401.6 MEASUREMENT:

No measurement will be made for traffic control devices.

401.7 PAYMENT:

Payment will be made as part of the project contract bid price or allowance.

- End of Section -

SECTION 701 - AGGREGATE

701.1 GENERAL:

Coarse and fine aggregates are defined in accordance ASTM D2487. Material property requirements for specific uses are provided in applicable MAG sections.

701.2 COARSE AGGREGATE:

Rock and gravel shall be clean, hard, sound, durable, uniform in quality, and free of any detrimental quantity of soft, friable, thin elongated, or laminated pieces, disintegrated material, organic matter, oil, alkali, or other deleterious substance. Aggregate sources shall include, but not be limited to alluvial deposits, terrace aggregates, quarry stone, or other suitable sources including recycled products that meet all material test requirements as approved by the Engineer. Aggregate classification shall be made by size as noted herein.

Apparent specific gravity shall be at least 2.50, when tested in accordance with ASTM C127.

701.2.1 Boulders: Particles of rock that will not pass a 12-inch square opening.

701.2.2 Cobbles: Particles of rock that will pass a 12-inch square opening, but are retained on a 3-inch square opening.

701.2.3 Coarse Gravel: Particles of rock that will pass a 3-inch U.S. standard sieve, but are retained on a 3/4-inch U.S. standard sieve.

7.01.2.4 Fine Gravel: Particles of rock that will pass a 3/4-inch U.S. standard sieve, but are retained on a No. 4 U.S. standard sieve

701.3 FINE AGGREGATE (SAND):

Fine aggregate (sand) shall be fine granular material produced by the crushing of rock or gravel or naturally produced by disintegration of rock and shall be sufficiently free of organic material, mica, loam, clay, and other deleterious substances to be thoroughly suitable for the purpose for which it is intended. Fine aggregates particles shall pass a No. 4 U.S. standard sieve, but are retained on a No. 200 U.S. standard sieve.

701.4 SAMPLING:

Sampling of aggregates shall be performed in accordance with ASTM D75.

- End of Section -

SECTION 702 - BASE MATERIALS

702.1 GENERAL:

When base material without further qualification is specified, the Contractor shall supply crushed aggregate

702.2 CRUSHED AGGREGATE:

Crushed aggregate shall consist of crushed rock or crushed gravel or a combination thereof as defined in Section 701.

702.2.1 Soundness: The percentage of wear of crushed aggregate to be used as base will be determined as in Section 701, except that Grading B of ASTM C131 shall be used. The percentage of wear of the material shall not exceed 40 after 500 revolutions.

702.2.2. Grading: The aggregate shall be well graded when tested in accordance with ASTM C136 and C117. The percentage composition by weight shall be within Table 702-1.

TABLE 702-1			
CRUSHED AGGREGATE GRADATION			
Percentage by Weight Passing Sieve			
Sieve Sizes (Square Openings)	Select Material		Aggregate Base
	Type A	Type B	
3"	100		
1 1/2"		100	
1 1/4"			100
No. 4	30-75	30-70	38-65
No. 8	20-60	20-60	25-60
No. 30	10-40	10-40	10-40
No. 200	0-12	0-12	3-12

702.2.3 Plasticity Index: Unless otherwise noted, the Plasticity Index as tested in accordance with AASHTO T-146 Method A (Wet Preparation), T-89 and T-90 shall not be more than 5.

702.3 PROCESSED NATURAL MATERIAL:

Not Applicable.

702.4 DECOMPOSED GRANITE:

Decomposed granite shall be any granitoid igneous rock which has been weathered in place and which has as principal constituents granular fragments of quartz and feldspar. It may also contain fragments of granitic rock not yet broken down into the component minerals. This material shall remain stable when saturated with water. Particles larger than 3 inches, which will not be broken in the process of rolling and tamping during construction, shall not be used.

Decomposed granite shall conform to the following requirements:

- (A) When tested in accordance with this specification, not more than 20 percent shall pass the No. 200 mesh sieve.
- (B) The P.I. of material passing the No. 200 sieve prior to testing shall not be less than 3 nor greater than 10. The Plasticity Index shall be tested in accordance with AASHTO T-146 Method A (Wet Preparation), T-89 and T-90.

702.4.1 Preparation of Test Specimens: A quantity of sufficient size to have a dry weight of 15 pounds shall be selected and dried to constant weight at a temperature between 215°F. and 230°F. Fifteen pounds of this material shall then be subjected to 500 revolutions in a Los Angeles abrasion machine, as described in Section 701, except that nothing shall be placed in the drum other than the material to be tested.

The material that has been subjected to the breakdown shall be tested in accordance with ASTM C117 to determine the percentage of material finer than a No. 200 mesh sieve by washing.

- End of Section -

SECTION 725 - PORTLAND AND CEMENT CONCRETE

725.1 GENERAL:

Portland cement concrete shall be composed of cementitious materials, fine and coarse aggregates, water, and, if specified or allowed, certain chemical admixtures and additives.

(1) In accordance with section 725.8.

Class of Concrete	Minimum Cementitious Materials Content (lbs. per cubic yard)	Minimum Compressive Strength (1) at 28Days (psi)
AA	600	4000
A	520	3000
B	470	2500
C	420	2000

725.2 CEMENTITIOUS MATERIALS:

Cementitious materials to be used or furnished under this specification shall be:

- Portland cement, meeting the requirements of ASTM C150
 - Type II, low alkali, when no other specific type is specified
 - Type III, low alkali, for high early strength, when applicable or specified
 - Type V, low alkali, when specified in the special provisions for applications requiring high sulfate resistance

- Portland Pozzolan Cement ASTM C595
 - Type IP (MS), when no other specific type is specified

Supplementary Cementitious Materials (SCM) shall not be used as an additional cementitious materials replacement in concrete in combination with Portland Pozzolan Cement.

Cementitious materials shall be sampled and tested as prescribed in the applicable ASTM specifications. The Contractor shall obtain and deliver to the Engineer a certification of compliance signed by the material manufacturer, identifying the cementitious material and stating that the cementitious material delivered to the batching site complies with the appropriate specifications. When requested by the Engineer, the Contractor shall furnish three copies of the cementitious materials certification. The cost of furnishing tested cementitious materials shall be considered as included in the contract bid price and no additional allowance will be made therefore.

When suitable facilities, as recommended by the Concrete Plant Manufacturer's Bureau, and approved by the Engineer, are available for handling and weighing bulk cementitious materials, such facilities shall be used. Otherwise the cementitious material shall be delivered in original unopened sacks that bear the name or brand of the manufacturer. The type of cementitious material, and the weight contained in each sack shall be plainly marked thereon.

Cementitious materials shall be stored in such manner as to permit ready access for the purpose of inspection and identification, and so as to be suitably protected against damage by contamination or moisture. Should any lot of bulk cementitious material be delivered to the site show evidence of contamination, the Engineer may require that such lot be removed from the site.

725.2.1 Supplementary Cementitious Materials (Pozzolans): Supplementary Cementitious Materials to be used in concrete or furnished under this specification shall conform to the appropriate ASTM requirements as follows:

- Fly ash or natural pozzolan ASTM C618 and C311
- Silica Fume ASTM C1240

Up to 25 percent by weight of the Table 725-1 minimum cementitious materials requirements may be an approved fly ash or natural pozzolan. Additional pozzolanic material in excess of the minimum Table 725-1 requirements may be incorporated into a concrete mix design to achieve enhanced performance, upon approval of the Engineer.

The Contractor shall obtain and deliver to the Engineer a certification of compliance signed by the pozzolan supplier identifying the pozzolanic material and stating the pozzolan delivered to the batching site complies with the appropriate specifications. The cost of furnishing tested pozzolan shall be considered as included in the contract bid price and no additional allowance will be made therefore.

Pozzolanic materials shall be handled and stored in the same manner as other cementitious materials. When facilities for handling a bulk pozzolan are not available, the pozzolan shall be delivered in original unopened sacks bearing the name and brand of the supplier, the type and source of the pozzolan, and the weight contained in each sack plainly marked thereon.

725.3 AGGREGATES:

Coarse and fine aggregate shall conform to the applicable requirements of ASTM C33. Coarse aggregate grading requirements shall conform to the appropriate rock size designation in the Grading Requirements for Coarse Aggregate, Table 2. Fine aggregate grading requirements shall conform to the Fine Aggregate Grading section. The average value of 3 successive sand equivalent samples shall not be less than 70 when tested in accordance with ASTM D2419. No individual sample shall have a sand equivalent less than 65.

The loss by abrasion in the Los Angeles Abrasion Machine, determined as prescribed in ASTM C131, shall not exceed 10 percent, by weight, after 100 revolutions nor 40 percent after 500 revolutions.

725.4 WATER:

The water used for mixing concrete shall be potable or shall meet the requirements of ASTM C1602, when tested by a qualified independent testing laboratory.

725.5 ADMIXTURES AND ADDITIVES:

Admixtures or additives of any type, except as otherwise specified, shall not be used unless identified in the approved mix design or authorized by the Engineer.

Water reducing admixtures incorporated into the approved concrete mix design shall meet the requirements of ASTM C494 for the appropriate type.

Air entraining admixtures incorporated into the approved concrete mix design shall meet the requirements of ASTM C260.

Pigments incorporated into the approved concrete mix design for integrally colored concrete shall meet the requirements of ASTM C979.

Fibers incorporated into the approved concrete mix shall meet the requirements of ASTM C1116.

Any admixtures used shall be included in the price for that item.

725.6 MIX DESIGN PROPORTIONING:

A concrete mix design carrying the producer's designated mix number for each type of concrete being furnished under these specifications shall be submitted to the Engineer for approval. Each design shall utilize the proper proportioning of ingredients to produce a concrete mix that is homogeneous and sufficiently workable to provide a consistent and durable concrete product that meets the specified compressive strength and other properties as required by the application.

In the event there is a modification to the mix design proportions:

(A) Modifications that do not require a new mix design submittal/approval:

(1) Modifications which do not result in batch target weights for the fine aggregate or combined coarse aggregates changing by more than 5 percent from the original approved mix design.

(2) Modifications to the percentage of coarse aggregate fractions that do not change the total coarse aggregate volume.

(3) Modifications to dosages of chemical or air-entraining admixtures, within the manufacturer's recommendations.

(4) The incorporation or elimination of chemical admixtures which are listed on the mix design to effect a change in the time-of-set (retarders or accelerators).

(B) Modifications that require a new mix design submittal/approval and may require performance verification:

(1) Modification to the class of concrete per Table 725-1.

(2) Modification to the type/class/source of cement, fly ash, natural pozzolan, or silica fume.

(3) Modification to the percentage of fly ash, natural pozzolan, or silica fume.

(4) Modification to a coarse aggregate size designation.

(5) Modification of the type of chemical admixture, or the incorporation or elimination, of an air-entraining admixture.

(6) Modification of coarse or fine aggregate source.

725.7 MIXING:

All proportioning/batching/mixing equipment shall comply with the standards of the Concrete Plant Manufacturer's Bureau and the certification requirements of the Arizona Rock Products Association or National Ready Mixed Concrete Association. The proportioning shall consist of combining the specified sizes of aggregates with cementitious materials, admixtures/additives, and water as herein provided. No method which may cause the segregation or degradation of materials shall be used.

Weighing and metering devices used for the purpose of proportioning materials shall fulfill requirements as to accuracy and tolerance prescribed by the Weights and Measures Division of the State of Arizona and shall be sealed and certified in accordance with the procedures established by this agency. This certification shall not be over 12 months old and shall be renewed whenever required by the Engineer. When portable plants are set up at a new or temporary location, the scales and scale assembly shall be inspected and certificate issued regardless of the date when the scales were last tested. The Engineer may require the Contractor to run a quick scale check at any time with certified weights furnished by the Contractor and order the scale recertified if necessary.

Any admixture/additive shall be measured accurately by mechanical means into each batch by equipment or in a method pre-approved by the Engineer.

The equipment for measuring and supplying the water in the mixer shall be so constructed and arranged that the amount of water to be added to the mixture can be measured, in gallons or by weight. The amount of water shall be varied in accordance with the percentage of free moisture in the material and the requirements of the workability of the aggregate.

Machine mixing will be required in all cases unless pre-approved by the Engineer. Regardless of the method employed, mixing shall be commenced as soon as possible after the cementitious material is placed in contact with the aggregates or water. All concrete mixers shall be of such design and construction, and so operated, as to provide a thoroughly and properly mixed concrete in which the ingredients are uniformly distributed.

725.7.1 Paving and Stationary Mixers: Paving and stationary mixers shall comply with the standards of the Concrete Plant Manufacturer's Bureau and the certification requirements of the Arizona Rock Products Association or the National Ready Mixed Concrete Association.

Mixers shall be maintained in proper and serviceable working condition, and any part or portion thereof that is out of order, or becomes worn to such extent as to detrimentally affect the quality of mixing, shall be promptly repaired or replaced.

The proper proportions of aggregate, cementitious materials, admixtures/additives and water for each batch of concrete shall be placed in the mixer, and shall be mixed for a period of not less than 50 seconds after all such materials are in the drum.

The rotating speed at which the mixer shall be operated shall conform to that recommended by the manufacturer. The total volume of materials mixed in any one batch shall neither exceed the water level capacity of the mixer nor the manufacturer's catalog rated capacity of the mixer.

725.7.2 Transit Mixers: Transit mixers shall meet the requirements of the Truck Mixer Manufacturer's Bureau and the certification requirements of the Arizona Rock Products Association or the National Ready Mixed Concrete Association. Ready mix concrete and shall comply with ASTM C94 except as herein specified.

Each mixer and agitator shall have attached thereto in a prominent place a metal plate or plates, installed by the manufacturer, on which is plainly marked the capacity of the drum in terms of the volume of mixed concrete and the speed of rotation for the agitating and mixing speeds of the mixing drum or blades. Each mixer shall have an identification number painted on the truck in such a location that it can be easily read from the batching platform.

The total volume of materials introduced into the mixer for mixing purposes shall not exceed the manufacturer's guaranteed mixing capacity. If the concrete so mixed does not meet the uniformity requirements of this section, the amount of materials charged into the mixer shall be reduced.

The rotation speed at which the mixer shall be operated shall conform to that recommended by the manufacturer. Each batch of concrete placed in the mixer shall be mixed for not less than 70 nor more than 100 revolutions of the drum or blades, at the speed designated by the manufacturer of the equipment as mixing speed. Additional mixing shall be at the agitating speed designated by the manufacturer of the equipment. The revolving of the drum shall be continuous until the concrete is completely emptied from the drum. Before any portion of the materials for any batch of concrete is placed therein, the drum of the mixer shall be completely emptied of the previously mixed batch. At the time of delivery to the job site, the Engineer shall be provided with a legible delivery ticket which shall contain the following information:

- Date and Truck Number.
- Name of the Supplier.
- Name of the Contractor.
- Specific designation of job (name and location).
- Number of cubic yards in the batch.
- Time the transit mixer is loaded.
- Amount of water added at the job site at request of receiver, and his signature or initials.
- Suppliers' mix design code number.
- Type and amount of admixture or additive that is not already included in the approved mix design, if any.
- Serial number of the ticket.

Additional water may be added on the jobsite in accordance with ASTM C94 Tolerances in Slump section to adjust slump providing the slump after such water addition does not exceed the maximum allowed by these specifications in Section 725.9 (A) (1) and that water so added is mixed into the batch for a minimum of 30 additional revolutions at mixing speed. Loss of cement mortar during discharge which in the opinion of the Engineer would be of sufficient amount to affect the homogeneity of the concrete shall be cause for rejection of the load. The Contractor shall be responsible for all concrete to which water is added at the job site.

725.7.3 Job Mixed Concrete:

Not Applicable

725.7.4 Dry Batched Unmixed Concrete:

Not Applicable

725.7.5 Volumetric Batching and Continuous Mixing Concrete and Equipment:

Not Applicable

725.8 TESTS AND TEST METHODS:

725.8.1 Field Sampling and Tests: Concrete shall be sampled in accordance with ASTM C172 for determination of temperature, slump, unit weight and yield (when required) and air content (when required) as well as for fabrication of test cylinders for compressive strength determination at 28 days. Samples shall be of sufficient size to perform all the required tests and fabricate the necessary test cylinders but in no case less than 1 cubic foot. Concrete shall be sampled during discharge of the middle portion of the batch. At the discretion of the Engineer, a sample may be obtained at the beginning of the discharge if the properties of the concrete do not appear to be within the specification limits for slump or temperature.

All sampling and testing shall be done by a certified technician meeting the requirements of the ACI Concrete Field Testing Technician, Grade I or equivalent.

Temperature of the concrete mixture shall be determined in accordance with ASTM C1064.

Slump of the concrete mixture shall be determined in accordance with ASTM C143.

Air content of the concrete mixture (when required) shall be determined in accordance with ASTM C231 or C173, whichever is applicable.

Unit weight and yield of the concrete mixture (when required) shall be determined in accordance with ASTM C138.

All compressive strength test specimens shall be made, cured, handled, protected, and transported in accordance with the requirements of ASTM C31. The contractor shall provide and maintain for the sole use of the testing laboratory/technician adequate facilities for safe storage and proper curing of concrete test cylinders on the project site including sufficient access on weekends and holidays to allow the timely pick-up of cylinders specimens. Any and all deviations from the standard procedure of any test method shall be promptly identified and corrected. Any deviations shall be clearly noted by the testing laboratory on all written reports. Testing results obtained from non-standard testing procedures shall be considered invalid and discarded by Engineer.

Sampling and testing performed for concrete acceptance will be at the expense of the Contracting Agency. Sampling and testing for the Contractor's purposes of quality control or other needs shall be at the Contractor's expense.

725.8.2 Concrete Cylinder Test: A cylinder strength test shall be the average of the strengths of at least two 6 inch by 12 inch cylinders or at least two 4 inch by 8 inch cylinders made from the same sample of concrete and tested at 28 days. An adequate number of cylinder specimens shall be made for each 50 cubic yards or not less than each half-day's placement of each class of concrete. All specimens will be tested in a laboratory approved by the Engineer in accordance with ASTM C39 for concrete acceptance. Should an individual cylinder show evidence of improper sampling, molding, curing, or testing, the results shall be discarded and the compressive strength shall be the result of the average of the remaining cylinder(s). Additional cylinder specimens may be made and tested at other ages to obtain additional compressive strength information and shall not be considered as acceptance tests. Cylinder testing performed for concrete acceptance will be at the expense of the Contracting Agency. Cylinder testing for the Contractor's purposes of quality control or other needs shall be at the Contractor's expense.

725.8.3 Additional Concrete Testing: If the 28-day strength test does not meet the compressive strength requirements, additional concrete testing may be performed to further evaluate the concrete in question for purposes

of acceptability or payment. This may involve testing of additional cylinders at later ages, (for example - hold cylinders at 56 days or more), or core testing to determine in-place concrete strengths. This additional testing and all coring repairs shall be pre-approved by the Engineer and at the expense of the Contractor. If core testing is performed, at least three representative cores shall be obtained, conditioned and tested in accordance with ASTM C42 from each concrete member or area of concrete to be tested at locations designated by the Engineer. Cores damaged subsequent to or during removal shall be rejected and additional core samples taken. Cores shall be obtained and delivered to a laboratory acceptable to the Engineer in time to allow complete strength testing within 48 days of original concrete placement. The Contractor may elect to have a representative present during sampling and testing. A core strength test shall be the average of the results of the three cores. Should an individual core show evidence of improper sampling, curing, or testing, the results shall be discarded and the compressive strength shall be the result of the average of the remaining core(s). Results of the core strength testing shall replace the results of the cylinder strength test for that sample.

725.9 ACCEPTANCE:

(A) Plastic Concrete Properties

(1) The slump of the concrete shall meet the requirements of ASTM C94 Tolerances in Slump section.

When the approved mix design or project specification requirements for slump are a "maximum" or "not to exceed", the following tolerances apply:

Specified slump:	If 3" or less	If more than 3"
Plus tolerance	0 inch	0 inch
Minus tolerance	1 1/2 inch	2 1/2 inch

When the approved mix design or project specification requirements for slump are not written as a "maximum" or "not to exceed", the following tolerances apply:

For design slump of:	Tolerance
2 inch and less	+/- 1/2 inch
More than 2 through 4 inch	+/- 1 inch
More than 4 inch	+/- 1 1/2 inch

(2) Limit the maximum allowable temperature of the concrete mixture immediately before placement to 90 degrees F unless otherwise specified or unless a higher allowable temperature is pre-approved by the Engineer. At the discretion of the Engineer, recommended practices in ACI 305, Specification for Hot Weather Concreting, can provide good reference information and may be used to modify maximum allowable concrete temperature and acceptance.

Per ACI 306, Specification for Cold Weather Concreting, when the atmospheric temperature at the time of placing concrete is above 30°F the temperature of the concrete, as placed, shall not be less than 60°F. When the atmospheric temperature at the time of placing concrete is between 0°F and 30°F the temperature of the concrete, as placed, shall not be less than 65°F.

(3) Air entrained concrete shall meet the requirements of ASTM C94 Air-Entrained Concrete section. The air content of air-entrained concrete when sampled from the transportation unit at the point of discharge shall be within the approved mix design tolerance or +/- 1.5 % of the specified value. When a representative sample taken prior to discharge shows an air content below the specified level by more than the allowable tolerance, additional air entraining admixture shall be added to the concrete mix to achieve the desired air content level, followed by a minimum of 30 revolutions at mixing speed.

(4) Per ASTM C94 Mixing and Delivery section, discharge of the concrete shall be completed within 1 1/2 hour after the introduction of the mixing water to the cementitious materials or the introduction of the cementitious materials to the aggregates. The Engineer may allow the continuation of concrete placement after the 1 1/2 hour time limit has been reached if the concrete is of such slump or workability that it can be placed without the addition of water to the batch.

Any concrete failing to meet the tolerances for plastic concrete properties in 725.9 (A) (1) through (4) shall be reviewed by the Engineer and is subject to rejection.

(B) Hardened Concrete Properties – Compressive Strength

Compressive strength of concrete shall be determined on the basis of cylinder strength tests obtained in accordance with section 725.8.2 and shall be acceptable if the tests meet or exceed the minimum specified strength. When the validity of cylinder strength tests are suspect, the strength of concrete in question shall be determined in accordance with Section 725.8.3.

Any concrete that is rejected by the Engineer shall be removed and replaced by the Contractor at the Contractor's expense.

- End of Section -

SECTION 729 - EXPANSION JOINT FILLER

729.1 PREMOLDED JOINT FILLER:

Expansion joint filler materials shall consist of premolded strips of a durable resilient compound and comply with ASTM D1751, D1752, or D2628.

729.2 POUR TYPE JOINT FILLERS:

Pour type joint fillers shall comply with ASTM D1850, D1190, or D1854.

Asphalt latex joint filler shall consist of asphalt latex emulsion and sodium fluosilicate furnished in separate containers and mixed on the site. The emulsion shall consist by volume of 60 parts AR-1000 asphalt, 40 parts of synthetic latex, GRS-Type 4, and 5 to 10 parts of sodium fluosilicate, half strength. The emulsion and sodium fluosilicate shall not be mixed until the joint is ready to be filled. The amount of sodium fluosilicate to be mixed with the emulsion shall be approximately 3 to 5 percent by weight of the emulsion. The joint to be filled shall be thoroughly cleaned and surface dry.

The sealing compound shall consist of paving asphalt, Grade AR-1000, emulsified with rubber latex in the presence of a suitable emulsifying agent. Rubber latex designated as GRS-Type 4, or any other approved type, containing approximately 40 percent solids.

729.3 TEST REPORT AND SHIPMENT CERTIFICATE:

Each shipment shall be accompanied by a certificate in triplicate from the supplier that the material will comply with the above specifications and such certificate shall be delivered to the Engineer. The certificate shall show the shipment number for the entire lot of material contained in the shipment and shall also show a list which will enable the Engineer to identify each individual container by the supplier's batch number, with which each container shall be plainly marked.

729.4 APPLICATION:

At no time shall emulsion types be subjected to a temperature below 40°F. Prior to application, the material may be warmed, if necessary, to permit proper pouring of the joints. The method of heating shall be carefully controlled to avoid overheating of any part of the container or mixture and under no circumstances shall emulsions be heated to a temperature greater than 130°F.

Joints and cracks shall be thoroughly cleaned by hand or mechanical means immediately in advance of pouring the filler material. When new pavement has been cured by the Pigmented Sealing Compound Method, the joints and cracks shall be thoroughly scrubbed by means of a wire brush or a cloth mop saturated with gasoline or by other approved means.

All joints and cracks shall be surface dry before application of the joint sealer. No sealer shall be placed during unsuitable weather or when the atmospheric temperature is below 50°F., or when weather conditions indicate that the temperature may fall to 32°F within 24 hours.

The joints and cracks shall be filled in a neat and workmanlike manner by means of a cornucopia pot or other approved method.

- End of Section -

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