

**PUBLIC PRIVATE PARTNERSHIP (P3)  
DESIGN-BUILD-MAINTAIN AGREEMENT**

for

**202 MA 054 H882701C  
SR 202L (SOUTH MOUNTAIN FREEWAY)  
I-10 (MARICOPA FREEWAY) – I-10 (PAPAGO FREEWAY)**

Between



**ARIZONA DEPARTMENT OF TRANSPORTATION**

and

**[DEVELOPER]**

**VOLUME II**

**TECHNICAL PROVISIONS**

Dated as of: [\_\_\_\_\_], 2016

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**GP 110 CONTRACT ADMINISTRATION**

**110.01 General**

Developer shall perform all Work in compliance with the requirements of ~~this Section GP 110.01~~ Section GP 110 of the TPs.

**110.01.1 Future Compatibility**

The Project, as further described in TP Attachment 110-1, must be compatible with the improvements of ~~the below noted~~ future projects noted below. Developer shall demonstrate that the Project design allows for the future ultimate configuration connection points when seeking review of the Design Documents.

**A. SR 30 Interchange and Avenida Rio Salado/Broadway Road Alternative D**

The design of the SR 30 and Avenida Rio Salado system traffic interchange is reflected in the preliminary plans included in the Reference Information Documents (RIDs). Developer shall demonstrate Project design compatibility with respect to the following aspects:

1. Developer shall design the profile of SR 202L and the location of the north abutment of the Salt River Bridge to accommodate the planned undercrossing of SR 30 north of the proposed Salt River bank protection work.
2. Developer shall design the distance between SR 202L northbound (NB) and southbound (SB) roadway centerlines from north of Southern Avenue to north of Broadway Road to accommodate future direct high-occupancy vehicle (HOV) system interchange ramps. The design must allow for direct HOV system ramps for the north-to-west/east-to-south movement and east-to-north/south-to-west movements.
3. Developer shall not design the Project with access ramps to or from SR 202L on the north side of Broadway Road or on the south side of Lower Buckeye Road. The traffic interchanges at those crossroads must be connected by collector-distributors that accommodate, or can be modified within the Schematic Right of Way (ROW) to accommodate, the future work associated with the SR 30 System Interchange project.
4. Developer shall place ramp gores at their ultimate location with respect to the future work associated with the SR 30 System Interchange project.
5. Developer shall design and position retaining walls to accommodate the future work associated with the SR 30 System Interchange project.
6. Developer shall design the minimum vertical clearances for bridges to accommodate the future work associated with the SR 30 System Interchange project.
7. Developer shall design and position drainage systems to not be in conflict with the future work associated with the SR 30 System Interchange project. Where feasible, Developer shall design drainage crossings long enough to accommodate the future work associated with the SR 30 System Interchange project.
- 7-8. Developer shall coordinate the design and location of Utilities to not be in conflict with the future work associated with the SR 30 System Interchange Project.

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### B. I-10 Light-Rail Transit Corridor

In 2007, Valley Metro initiated a study of high-capacity transit options within the I-10 (Papago Freeway) corridor. Light rail has been identified as the preferred transit mode and a preferred alignment has been determined. The preferred route connects to the existing light rail service in downtown Phoenix. From downtown Phoenix, the route heads west to I-17 and then north to I-10 along the frontage road that is just west of I-17. At I-10, the route contemplates that light rail operates in the freeway median for approximately 3 miles between I-17 and 47th Avenue. The route then transitions via a bridge over the westbound freeway traffic lanes to the north side of I-10. At that point, the route remains on the north side of the freeway until it reaches the existing 79th Avenue Park-and-Ride. The I-10 Light-Rail Transit Corridor, which includes the preferred route, is shown in 2014-08 Valley Metro Capitol\_I-10 West Advanced Conceptual Engineering.pdf included in the RIDs.

### 110.01.2 References

#### 110.01.2.1 Applicable Standards

For all portions of the Project within the Maintenance Service Limits, Developer shall design and construct in accordance with the Technical Provisions and Developer shall have the right, but not the obligation, to apply ADOT standards, manuals, and guidelines not already incorporated into the Technical Provisions and in accordance with Section GP 110.01.2.2 of the TPs. For all Non-Maintained Elements to be owned by ADOT, Developer shall design and construct in accordance with ADOT standards, manuals, and guidelines, unless otherwise specified in the Contract Documents. For all other Non-Maintained Elements, Developer shall design and construct in accordance with the applicable Governmental standards, manuals, and guidelines, unless otherwise specified in the Contract Documents. The standards, manuals, and guidelines listed throughout the Contract Documents are not a comprehensive list; other applicable publications may be required to complete the Project. Developer shall determine the applicable standard, manual, and/or guideline for the Work and shall understand any modifications to those standards set forth in the Contract Documents. Requests for Deviation must be in accordance with Section 6.2.4 of the Agreement.

Developer shall use the most current version of each standard, manual, and guideline as of the Setting Date, unless otherwise specified in the Contract Documents. If the standard, manual, or guideline is superseded, expires, or revisions are issued during the course of the Project, Developer shall contact ADOT to determine whether to continue to use the manual, use the revision, or use a replacement standard, manual, or guideline identified by ADOT. If Developer becomes aware of any ambiguities or conflicts relating in any way to the standards, manuals, ~~and/or~~ guidelines, Developer shall immediately notify ADOT. If there is any unresolved ambiguity in the applicable standards, Developer shall obtain clarification from ADOT before proceeding with design, construction, or maintenance. All references to “as-built” and “as-built drawings” in the ADOT standards, manuals, and guidelines shall mean ~~record-drawings~~ Record Drawings. Developer shall incorporate any safety change to the applicable standards issued by ADOT into the Project. If ADOT issues a safety change to the applicable standards, Developer shall immediately contact ADOT for direction and shall obtain ADOT’s approval of Developer’s proposed course of action prior to implementing such change.

#### 110.01.2.2 Basis of Design Report

Developer shall prepare a Basis of Design Report for the Project that includes, at a minimum, the following:



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- 1 A. Cover sheet;
- 2 B. Table of contents;
- 3 C. A summary of specific methodologies, manuals, or references that Developer proposes
- 4 to use for the analysis and design of the Project for each technical discipline outlined in
- 5 the TPs;
- 6 D. A summary of all anticipated software and the applications for each proposed software
- 7 for the design and analysis of the Work;
- 8 E. A summary of specific methodologies, manuals, or references that Developer proposes
- 9 to use to construct the Project; and
- 10 F. All other items as required by the Contract Documents.

11 Prior to issuance of ~~NTP2~~NTP 2, Developer shall submit the Basis of Design Report to ADOT

12 for approval ~~in ADOT's reasonable discretion.~~ Developer shall immediately amend and prepare

13 an ~~Updated~~updated Basis of Design Report, as required to identify new methodologies,

14 manuals, and references that are added to the Project. When the Basis of Design Report or

15 ~~Updated~~updated Basis Design Report is amended, Developer shall submit an ~~Updated~~updated

16 Basis of Design Report to ADOT for approval ~~in ADOT's reasonable discretion.~~

### 17 **110.01.2.3 Reference Information Documents**

18 ADOT has undertaken certain planning and preliminary concept work concerning the Project

19 development, which are included in the ~~RIDs~~Reference Information Documents (RIDs).

### 20 **110.01.3 Work Performed by Developer**

21 Developer shall:

- 22 A. Manage, plan, execute, and control all aspects of the Work;
- 23 B. Coordinate its activities with Governmental Entities and other Persons that are directly or
- 24 indirectly impacted by the Work; and
- 25 C. Document and report all Work in accordance with Good Industry Practice, applicable
- 26 Governmental Entities' requirements ~~with owning jurisdiction~~, and the Contract
- 27 Documents.

### 28 **110.01.3.1 Basic Configuration**

29 The Schematic Design included in the RIDs conveys the general intent and layout of the

30 Project. The Basic Configuration means the following:

- 31 A. Those portions of the Schematic Design that depict the following:
  - 32 1. The number and types of lanes;
  - 33 2. The approximate location of ~~Shoulders~~shoulders;
  - 34 3. The approximate location of service interchanges;
  - 35 4. The approximate location of grade separations;
  - 36 5. The number of entrance and exit ramps at each service interchange;
  - 37 6. A bridge, existing or new, at 63rd Avenue that provides connectivity to the Estrella
  - 38 Vista Commerce Park development on the south (see zoning document Estrella
  - 39 Vista Commerce Park Development.PDF in the RIDs) and to 63rd Avenue on the
  - 40 north;
  - 41 7. The approximate location of the bridges for multiuse crossings;

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- 1 8. The approximate location and number of ramp lanes at I-10 Papago Freeway system
- 2 interchange;
- 3 9. The approximate location of frontage roads;
- 4 B. Within the lines delineating the outside boundaries of the Project set forth in the
- 5 Schematic ROW, as such boundaries may be adjusted from time to time in accordance
- 6 with the Contract Documents (including adjustments for ADOT Additional Properties,
- 7 Developer-Designated ROW and avoided parcels or partial parcels, in whole or in part);
- 8 C. The control of access limits as set forth in Section DR 440 of the TPs;
- 9 D. The provision of maintenance roads;
- 10 E. A pedestrian overpasscrossing at the Elwood Street alignment (mid-mile between
- 11 Broadway Road and Lower Buckeye Road;
- 12 F. A connector road at the Durango Street alignment (just south of the Roosevelt Irrigation
- 13 District canal) between the northbound and southbound frontage roads; and
- 14 G. The avoidance of the environmentally sensitive areas as further described in Section DR
- 15 420 of the TPs.

**110.01.3.2 Coordination of the Work**

17 Developer shall coordinate the Design Work and Construction Work with all development  
18 planning, design, and construction projects that may impact the Work. Developer shall monitor  
19 and coordinate Work with such projects, whether performed by ADOT or another Governmental  
20 Entity, community groups, landowners, Utility Companies, Utility Companies' consultants or  
21 contractors, resource agencies, environmental groups, or any other Person. Developer shall be  
22 aware of the impact all such work may have on the Project and shall account for all such  
23 impacts in the Design Documents and Construction Documents.

24 Developer shall identify and examine features of any work for each project that may impact the  
25 Project, and shall demonstrate full compatibility in horizontal and vertical alignment and other  
26 pertinent technical data between the Work and the project's work of such project(s). The  
27 Design Documents must resolve any inconsistencies or design conflicts between the project's  
28 work-Design Work and the Project-work of such project(s).

**110.01.3.2.1 Future Projects**

30 ~~Each quarter, Developer shall submit an Updated Future Projects List to ADOT. It is anticipated~~  
31 ~~that work by other contractors on the projects listed in Table 110-1 may be in progress adjacent~~  
32 ~~to or within the Site during progress of the Work. The anticipated future projects shown in Table~~  
33 ~~110-1 are nonexclusive, and may be incomplete. A table/map (City of Phoenix – SMF Adjacent~~  
34 ~~Projects Database 08-15-15.PDF) of active developments in the area of the Project is included~~  
35 ~~in the RIDs. Developer shall prepare a Future Projects List that includes the projects in Table~~  
36 ~~110-1, any other projects that may impact the Project, and the project status. Each quarter,~~  
37 ~~Developer shall submit an updated Future Projects List to ADOT.~~ During the design and  
38 construction of the Project, Developer shall actively and aggressively pursue and implement  
39 measures to facilitate the overall construction of the Project in coordination with ~~any other~~  
40 ~~project adjacent to or within the Site~~ Adjacent Work.

<b>Table 110-1 Future Projects</b>
City of Phoenix – Chandler Boulevard Extension
Western Area Power Administration – Transmission Line Relocation

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<b>Table 110-1 Future Projects</b>
ADOT – I-10 Pavement Preservation from Dysart Road to I-17 (excluding 75th Avenue to 43rd Avenue)
Salt River Project – 40th Street Utility Relocation
Arizona Public Service – 40th Street Utility Relocations
<u>City of Phoenix - Laveen 59th Avenue Park-and-Ride Facility</u>

**1 110.01.4 Submittals**

2 Table 110-2 reflects a nonexclusive list of Submittals identified in Section GP 110.01 of the TPs  
 3 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 4 determine and submit all Submittals as required by the Contract Documents, Governmental  
 5 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 6 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 7 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 8 formats described in Section GP 110.10.2.2 of the TPs:

<b>Table 110-2 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Basis of Design Report	3	4	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.01.2.2
Updated Basis of Design Report	3	4	1	When the Basis of Design Report or <del>Updated</del> <u>updated</u> Basis Design Report is amended	GP 110.01.2.2
<del>Updated</del> Future Projects List	5	0	1	Quarterly	GP 110.01.3.2.1
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

**9 110.02 Meetings**

10 Developer shall perform all Work in compliance with the requirements of this Section GP  
 11 110.02. Developer shall arrange and conduct Project meetings with ADOT and other parties as  
 12 determined by ADOT, as reflected in Table 110-3, and the Contract Documents. The meetings  
 13 identified in Table 110-3 reflects a nonexclusive list of meetings identified in this Section GP  
 14 110.02 and is not intended to be an all-inclusive or exhaustive listing of meetings in the Contract  
 15 Documents.

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Table 110-3 Meetings			
Description	Period (Design and Construction [D&C] and/or Maintenance)	Frequency	Section Reference
Project kick-off meeting	D&C	Once	GP 110.02.1
Partnering Meetings	D&C	Per Article 22 of the DBMA	Article 22 of the DBMA
Progress meetings	D&C and Maintenance	Monthly	GP 110.02.2
Pre-design coordination meetings	D&C and Maintenance (Capital Improvements)	Once per activity	GP 110.02.3
Technical work group meetings	D&C and Maintenance (Capital Improvements)	As determined by Developer	GP 110.02.4
<del>Aesthetics and landscaping TWG meetings</del>	<del>D&amp;C</del>	<del>Every other week</del>	<del>DR 450.2.2.3 CR 450.2.2.2</del>
<del>Aesthetic</del> Aesthetics and Landscaping Task Force	D&C	<del>Weekly</del> Monthly during design or as directed by ADOT	GP 110.02.5
<del>Maintenance of Traffic</del> MOT Task Force	D&C and Maintenance	Monthly during design or as adjusted by <del>TF</del> MOT Task Force	GP 110.02.6
Utility coordination meetings	D&C	Weekly	DR 430.2.2.2
Project ROW coordination meetings	D&C	Weekly	DR 470.2.2
Pre-construction coordination meetings	D&C and Maintenance (Capital Improvements)	Once per activity	GP 110.02.7
Maintenance Period kick-off meeting	Maintenance	Once	GP 110.02.8

- 1 Developer shall ~~be responsible for scheduling~~ schedule all meetings, ~~developing~~ develop all  
2 meeting agendas, ~~attending~~ attend all meetings, and ~~providing~~ provide all meeting facilities and  
3 materials for all meetings required by the Contract Documents or as otherwise requested by  
4 ADOT. ~~A minimum of~~Not less than 3 Business Days prior to the associated meeting, Developer  
5 shall submit a Meeting Notice to ADOT. Developer shall invite ADOT and other  
6 ~~parties~~ attendees, as determined by ADOT, to all Project-related meetings. At least 24 hours  
7 prior to each meeting, Developer shall submit Meeting Schedules and Agendas to invitees.
- 8 For all meetings relating to the Project at which Developer is ~~in attendance~~ required to attend or  
9 an invitee (not just those called by Developer or ADOT), Developer shall record Meeting Notes  
10 of each meeting. ~~The Meeting Notes must include the date of the meeting, list of all attendees,~~  
11 ~~issues considered by the participants, and related responses or decisions for the issues.~~ Within  
12 5 Business Days after the meeting, Developer shall submit copies of such Meeting Notes to

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1 ADOT for review and comment. Developer shall incorporate ADOT's comments and prepare  
2 ~~Final~~ Meeting Notes. Within 5 Business Days of receipt of ADOT's comments, Developer  
3 shall submit ~~Final~~ Meeting Notes to ADOT.

### 4 **110.02.1 Project Kick-off Meeting**

5 ~~No more than 10 Business Days after issuance of NTP 1,~~ Developer shall schedule and the  
6 Parties will attend a Project kick-off meeting with ADOT to discuss the Project and to exchange  
7 information ~~no more than 10 Business Days after issuance of NTP1~~. At this meeting, the Parties  
8 will also discuss additional topics relevant to the Project, as identified by ADOT or Developer.

### 9 **110.02.2 Progress Meeting**

10 Developer shall participate in monthly progress meetings or meetings held at the request of  
11 ADOT to review and discuss the status of the Project. In the meetings, the Parties will address  
12 the causes, responsible party, impacts, and potential solutions to all issues identified with the  
13 intent of finding the most effective solutions to problems through the following:

- 14 A. Developer shall make available the Project Manager and appropriate personnel to  
15 participate in the monthly progress meetings.
- 16 B. Developer shall make and record an action item list that specifies who is responsible for  
17 resolving existing or pending issues and the date by which the issue must be resolved to  
18 avoid Project delays.
- 19 C. Developer shall make available the Safety Manager.

### 20 **110.02.3 Pre-Design Coordination Meetings**

21 Developer shall schedule a pre-design coordination meeting with ADOT to familiarize the  
22 designers and ADOT's review personnel with the design concepts, issues, status, and review  
23 procedures. Developer shall conduct a pre-design coordination meeting ~~the earlier of~~ no later  
24 than 1) 10 Business Days prior to any Design Work associated with ~~NTP1~~ NTP 1 or ~~NTP2~~ NTP 2  
25 issuance of NTP 2.

### 26 **110.02.4 Technical Work Group Meetings**

27 Developer may arrange and conduct technical work group (TWG) meetings with ADOT to  
28 identify and resolve issues and concerns raised by ADOT or Developer. The purpose of these  
29 TWG meetings is to acquaint personnel with the details and features of the Work and to  
30 facilitate completion of the Project.

31 The TWG meetings may include Project visits at either Party's request. At a minimum, the Key  
32 Personnel assigned to perform the relevant type of Work involved must attend. Developer shall  
33 invite ADOT and other relevant Governmental Entities' staff.

34 Developer shall prepare a TWG Report for each TWG meeting that includes observations,  
35 discussions, meeting notes, action items, and any questions that pertain to the scope of Work  
36 and level of effort for the Work. The TWG meetings do not replace the review process described  
37 in Section GP 110.10 of the TPs. Within 5 Business Days after each TWG meeting, Developer  
38 shall submit TWG Reports to ADOT for review and comment.

### 39 **110.02.5 Aesthetic and Landscaping Work Force**

40 Developer shall establish an aesthetic and landscaping ~~(A&L)~~ task force as noted in Section DR  
41 450.2.2.2 of the TPs. The ~~A&L~~ aesthetic and landscaping task force must be established and  
42 convene for an initial meeting ~~the earlier of~~ at least 1) 10 Business Days prior to any aesthetic or  
43 landscaping activities associated with ~~NTP1~~ NTP 1 or 2) 30 days after issuance of ~~NTP2~~ NTP 2.  
44 Developer shall schedule and chair A&L aesthetic and landscaping task force meetings

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~~weekly~~monthly throughout the duration of the design of the aesthetics and landscaping, unless otherwise directed by ADOT. ~~The A&L Task Force will~~The aesthetic and landscaping task force must continue to meet as necessary throughout the Construction Period.

**110.02.6 Maintenance of Traffic Work**MOT Task Force

Developer shall establish a ~~maintenance of traffic (MOT) task force~~MOT Task Force as noted in Section DR 462.2.2 of the TPs. Developer shall prepare a MOT Task Force Invitees List that lists all parties invited to take part in the MOT ~~task force~~Task Force. At least 10 Business Days prior to the first MOT ~~task force~~Task Force meeting, Developer shall submit MOT Task Force Invitees List to ADOT for review and comment. ~~The MOT task force must be established~~Developer shall establish and convene ~~for an~~the initial meeting ~~the earlier of 10 Business Days~~the MOT Task Force no later than 30 days prior to ~~any maintenance of traffic activities associated with NTP1 or 30 days after issuance of NTP2~~affecting traffic.

Developer shall schedule and chair MOT ~~task force~~Task Force meetings once a month from ~~NTP1~~issuance of NTP 2 to Substantial Completion. The meeting schedule and frequency may be adjusted upon the agreement of the MOT Task Force members.

**110.02.7 Pre-Construction Coordination Meetings**

Developer shall schedule a pre-construction meeting with ADOT on any new construction activity as identified in the Project Schedule or with any new personnel ~~with ADOT~~ at least 10 Business Days prior to beginning construction, unless otherwise authorized in writing by ADOT.

Developer shall establish the level of detail to be required for measuring progress with regard to construction prior to the pre-construction meeting and shall discuss their such details, the Safety Management Plan, and Environmental Management Plan at the pre-construction meeting. Developer shall discuss ~~their~~its construction schedule and identify the early construction elements.

**110.02.8 Maintenance Period Kick-off Meeting**

Developer shall schedule a Maintenance Period kick-off meeting with ADOT to discuss the ~~Project~~ Maintenance Period and to exchange information ~~no more than~~at least 10 Business Days ~~after~~prior to issuance of the Maintenance NTP. Developer shall discuss additional topics relevant to the Maintenance Period, as identified by ADOT or Developer, at the meeting.

**110.02.9 Submittals**

Table 110-4 reflects a nonexclusive list of Submittals identified in Section GP 110.02 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.2 of the TPs:

Table 110-4 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Meeting Notice	5	0	1	A minimum <del>of 3 of 3</del> Business Days prior to the associated meeting	GP 110.02



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<b>Table 110-4 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Meeting Schedules and Agendas	5	0	1	At least 24 hours (earlier preferred) prior to each meetings	GP 110.02
Meeting Notes	4	1	1	Within 5 Business Days after the meeting	GP 110.02
Final Meeting Notes	4	1	1	Within 5 Business Days of receipt of ADOT's comments.	GP 110.02
TWG Report	<del>5</del> 4	1	1	Within 5 Business Days after each TWG meeting	GP 110.02.3
MOT Task Force Invitees List	4	2	1	At least 10 Business Days prior to the first MOT Task Force meeting	GP 110.02.6
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1

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**1 110.03 Submittals Prior to Notice to Proceed**

2 Developer shall perform all Work in compliance with the requirements of this Section GP  
 3 110.03. Developer shall submit various plans and other documents, respond to and address all  
 4 comments, and/or obtain approval of such plans and documents, prior to issuance of NTP2NTP  
 5 2 and the Maintenance NTP in accordance with Sections 6.6.3 and 7.4 of the Agreement. Table  
 6 110-5 reflects a nonexclusive list of plans and documents that must be submitted to and/or  
 7 approved by ADOT for issuance of NTP2NTP 2 or the Maintenance NTP.

Table 110-5 NTP Submittals					
No.	Description	Level of Review*	Required Prior to <u>NTP2NTP 2</u>	Required Prior to Maintenance NTP	Section Reference
1	Project Management Plan (PMP)	2			GP 110.04
	• Project Administration	2	X		GP 110.04.1
	<del>• Document Management Plan</del>	<del>2</del>	<del>X</del>		<del>GP 110.04.2</del>
	<del>• Site Documentation Plan</del>	<del>2</del>	<del>X</del>		<del>GP 110.04.3</del>
	• Quality Management Plan (QMP)	2			GP 110.07.2.1
	○ Volume I – QMP General Requirements	2	X		GP 110.07.2.1.1
	○ Volume II – Professional Services Quality Management Plan (PSQMP)	2	X		GP 110.07.2.1.2
	○ Volume III – Construction Quality Management Plan (CQMP)	2	X		GP 110.07.2.1.3
	○ Volume IV – Maintenance Quality Management Plan (MQMP)	2		X	GP 110.07.2.1.4
	• Environmental Management Plan	2	X		DR 420.2.3
	• Public Involvement Plan	2	X		CR 425.2.2
	• Safety Management Plan	2	X		GP 110.09.2.1
	• Maintenance Management Plan	2		X	MR 400.1
<u>2</u>	<u>ROW Activity Plan</u>	<u>2</u>	<u>X</u>		<u>Section 5.3.1 of the Agreement</u>
<u>23</u>	Collocated Office Layout Plan	4	X		GP 110.05.2.6
<u>34</u>	Network Administration Plan	4	X		GP 110.05.4.2
<u>45</u>	Project Baseline Schedule	2	X		GP 110.06.2.6
<u>56</u>	Segment Limits Map	2	X		GP 110.10.2.6.2



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Table 110-5 NTP Submittals					
No.	Description	Level of Review*	Required Prior to <del>NTP</del> <u>2</u>	Required Prior to Maintenance NTP	Section Reference
<del>67</del>	Submittal Schedule	2	X		GP 110.10.2.6.2
<del>78</del>	Basis of Design Report	3	X		GP 110.01.2.2
<del>89</del>	<del>Stormwater Pollution Prevention Plan (SWPPP)</del> Draft SWPPP	3	X		CR 420.3. <del>42.2</del>
<del>910</del>	Transportation Management Plan (TMP)	4	X		DR 462.2.3
<del>11</del>	<del>Vehicle Project Logo</del>	<del>1</del>	<del>X</del>		<del>GP 110.05.4.3</del>
<del>12</del>	<del>Utility Coordination Plan</del>	<del>4</del>	<del>X</del>		<del>DR 430.2.2.1</del>
<del>13</del>	<del>Plant Inventory</del>	<del>4</del>	<del>X</del>		<del>DR 450.2.3</del>
<del>14</del>	<del>Sign Inventory</del>	<del>5</del>	<del>X</del>		<del>DR 460.2.3</del>
<del>15</del>	<del>ITS Inventory</del>	<del>5</del>	<del>X</del>		<del>DR 466.2.3</del>
<del>16</del>	<del>DBE Utilization Plan</del>	<del>2</del>	<del>X</del>		<del>DBMA Article 9</del>
*Levels of Review 1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement) 2. Good faith discretion approval (Section 3.1.3.2 of the Agreement) 3. Reasonableness approval (Section 3.1.4.2 of the Agreement) 4. Review and comment (Section 3.1.5 of the Agreement) 5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)					

1 Developer shall provide written notification to ADOT prior to performing any Work in the Project  
 2 ROW. ADOT is under no obligation to receive or review Submittals of Design Documents until  
 3 approval of the Professional Services Quality Management Plan (PSQMP) in accordance with  
 4 ~~Table 110-5 above~~Section GP 110.07.2.1.2 of the TPs.

5 **110.04 Project Management Plan**

6 Developer shall perform all Work in compliance with the requirements of this Section GP  
 7 110.04. Developer shall establish and maintain an organization that effectively manages all  
 8 elements of the Work. Developer shall define and guide the Project management effort through  
 9 the Project Management Plan (PMP;, which is a collection of several management plan  
 10 elements. Developer shall ensure that the PMP is an umbrella document that describes  
 11 Developer’s managerial approach, strategy, and quality procedures to design, build, and  
 12 maintain the Project and achieve all requirements of the Contract Documents. Developer shall  
 13 ensure that the PMP complies with Federal Highway Administration (FHWA) guidance for a  
 14 project management plan for major projects. PMP elements are specified throughout the TPs.

15 An acceptable structure of the PMP is outlined in Table 110-6. Developer may propose an  
 16 alternative structure for the PMP, provided that the proposed alternative PMP outline and  
 17 content comply with the requirements of the Contract Documents.

Table 110-6 Elements of the Project Management Plan		
PMP Chapter	PMP Chapter Title	Section Reference
1	Project Administration	GP 110.04.1
2	Quality Management Plan	GP 110.07.2.1
2A	Volume I – QMP General Requirements	GP 110.07.2.1.1
2B	Volume II – Professional Services Quality Management Plan	GP 110.07.2.1.2
2C	Volume III – Construction Quality Management Plan	GP 110.07.2.1.3
2D	Volume IV – Maintenance Quality Management Plan	GP 110.07.2.1.4
3	Environmental Management Plan	DR 420.2.3
4	Public Involvement Plan	CR 425.2.2
5	Safety Management Plan	GP 110.09.2.1
6	Maintenance Management Plan	MR 401.1

1 Developer shall prepare and submit Submittals of the PMP in accordance with the Technical  
 2 Provisions. Developer shall ensure that all plans and components of the PMP remain valid and  
 3 updated as appropriate throughout the Term. Developer shall propose updates to the PMP  
 4 and/or affected components in the event of the following:

- 5 A. The occurrence of any changes to the Key Personnel, other personnel, Quality  
 6 Management Plan, Safety Management Plan, or Project administration policies and  
 7 procedures;
- 8 B. The occurrence of other changes necessitating revision to the PMP; or
- 9 C. As otherwise directed by ADOT.

10 No later than 10 Business Days after the occurrence of the change or direction triggering the  
 11 need for the revisions to the PMP, Developer shall submit the ~~Revised~~ PMP to ADOT for  
 12 approval in ADOT's good faith discretion.

13 ADOT may audit and monitor the activities described in the PMP to assess Developer's  
 14 performance. All commitments and requirements contained in the PMP must be verifiable.

15 **110.04.1 Project Administration**

16 Developer shall prepare a Project Administration Chapter in the PMP that addresses the  
 17 following:

- 18 A. Organization: Include an organization diagram.
- 19 B. Personnel: Establish Key Personnel and provide names, contact details, titles, and job  
 20 roles. Include resumes for all Key Personnel and other personnel as identified in Section  
 21 GP 110.08 of the TPs.
- 22 C. Subcontractors: Discuss Developer's Subcontractor approval process.

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- 1 D. Schedule: Discuss schedule management procedures.
- 2 E. PMP Updates: Include procedures for preparation of amendments and submission of  
3 amendments to any part of the PMP.
- 4 F. Audit: Include procedures to facilitate review and audit by ADOT a minimum of every 6  
5 months, auditing and management review of Developer's own activities under the PMP,  
6 and auditing and management review of Subcontractors' activities and management  
7 procedures.
- 8 G. Document Management: ~~include~~Include document management procedures in  
9 accordance with Section GP 110.04.2 of the TPs.
- 10 H. Site Documentation Plan: Discuss the process and procedures to ~~document the existing~~  
11 ~~features within the Site and documenting construction progress~~prepare Existing  
12 Conditions Site Documentation and Site Documentation in accordance with Section GP  
13 110.11 of the TPs.

14 Prior to issuance of ~~NTP2~~NTP 2, Developer shall submit the Project Administration Chapter ~~of~~  
15 ~~the PMP~~ to ADOT for approval in ADOT's good faith discretion.

### 16 **110.04.2 Document Management**

17 Developer shall establish and maintain a web-based Electronic Document Management System  
18 (EDMS) to transfer, store, catalog, and retrieve all Project-related documents. Unless otherwise  
19 provided in the Contract Documents or directed by ADOT, Developer shall provide ADOT and  
20 ADOT's designated representatives access to the EDMS records throughout the Term. At  
21 Substantial Completion, Developer shall provide the records to ADOT as a condition of Final  
22 Acceptance. All electronic information provided must be text searchable and legible. The  
23 proposed EDMS is subject to review and comment by ADOT as part of the review and comment  
24 on the PMP.

25 Developer shall prepare a Document Management Plan that:

- 26 A. Describes Developer's document control system to store and record all documents,  
27 correspondence, design inputs, drawings, progress reports, technical reports,  
28 specifications, Contract Documents, Submittals, calculations, test results, inspection  
29 reports, ~~nonconformance reports~~Non-Conformance Reports, administrative documents,  
30 and other documents generated under the Contract Documents. This includes all  
31 hardcopy and electronic records.
- 32 B. Identifies how records are to be maintained and kept throughout the Term.
- 33 C. Describes the methods by which all documents Developer issues or receives are to be  
34 logged, tracked, retrieved, and approved.
- 35 D. Identifies how all documents are to be tracked using a unique document control number.

36 Developer shall provide ADOT with EDMS procedures, software for accessing all documents  
37 generated under the Contract Documents, and access to Developer's document control  
38 database in accordance with the requirements of the Contract Documents and as deemed  
39 necessary by ADOT. ~~As part of the Project Administration Chapter of the PMP,~~ Developer shall  
40 submit ~~the~~ Document Management Plan to ADOT ~~for approval in ADOT's good faith~~  
41 ~~discretion~~as part of the Project Administration Chapter.

### 42 **110.04.3 Site Documentation Plan**

43 Developer shall prepare a Site Documentation Plan that:

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- A. Describes ~~its~~Developer's policies, procedures, and staffing to ~~document the existing Site condition~~perform and provide Existing Condition Site Documentation as required ~~in~~by Section GP 110.11.1 of the TPs.
- B. Describes ~~its~~Developer's policies, procedures, and staffing to ~~document the existing~~perform and provide Site ~~condition~~Documentation as required ~~in~~by Section GP 110.11.2 of the TPs.

~~Prior to issuance of NTP2,~~ Developer shall submit the Site Documentation Plan to ADOT ~~for approval in ADOT's good faith discretion~~as part of the Project Administration Chapter.

**110.04.4 Submittals**

Table 110-7 reflects a nonexclusive list of Submittals identified in Section GP 110.04 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.2 of the TPs:

Table 110-7 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Project Administration Chapter <del>of the PMP</del>	2	2	1	Prior to issuance of <del>NTP2</del> NTP 2	GP 110.04.1
Revised PMP	2	2	1	No later than 10 Business Days after the occurrence of the change or direction triggering the need for the revisions to the PMP	GP 110.04
Document Management Plan	2	2	1	As part of the Project Administration Chapter <del>of the PMP</del>	GP 110.04.2
Site Documentation Plan	2	0	3	<del>As part of the Project Administration Chapter</del> Prior to issuance of NTP2	GP 110.04.3

- \*Levels of Review
1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement)
  2. Good faith discretion approval (Section 3.1.3.2 of the Agreement)
  3. Reasonableness approval (Section 3.1.4.2 of the Agreement)
  4. Review and comment (Section 3.1.5 of the Agreement)
  5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)

**110.05 Project and Facilities Management**

**110.05.1 General Requirements**

Developer shall perform all Work in compliance with the requirements of Section GP 110.05 of the TPs. Developer shall maintain and post ~~the current and updated versions of notices,~~ in a

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1 conspicuous location(s) at the Site that is available to employees and applicants for  
2 employment, the current and updated versions of notices setting forth the provisions of the  
3 nondiscrimination requirements. Developer shall erect one or more bullet in boards, large  
4 enough to display posters and other information on the Site prior to NTP2-issuance of NTP 2.  
5 The location of the bullet in board(s) will be subject to the approval of ADOT. Developer shall  
6 post, at a minimum, the following notices:

- 7 A. The posters as shown on the ADOT Engineering and Construction Posters website  
8 (<http://www.azdot.gov/business/engineering-and-construction/construction/posters>);
- 9 B. The ~~Wage Decision~~ wage decision included in Exhibit 4 to the Project  
10 Specifications Agreement;
- 11 C. The EEO Policy of ~~the Contractor~~ Developer and Subcontractors with contracts greater  
12 than \$10,000;
- 13 D. List of safety officers for ~~the Contractor~~ Developer and major Subcontractors; and
- 14 E. The Notice of Intent for Storm Water Discharges (EPA form 3510-618-98).

15 Developer will post the following postings/items at the collocated office and field offices:

- 16 A. Name and telephone number of Contractor's EEO policy enforcement officer;
- 17 B. Emergency contract telephone numbers; and
- 18 C. OSHA postings and other Project safety and security information, as identified in the  
19 Safety Management Plan.

20 Additional ~~offices required~~ office requirements for the Project are identified in other sections of  
21 the TPs.

### 22 **110.05.2 Collocated Office Requirements**

23 Developer shall provide and maintain ~~all~~ the collocated office and other building space, including  
24 office space for ADOT, and all facilities, equipment, and parking for vehicles necessary to  
25 design, construct, and maintain the Project. The ADOT office space in the collocated office must  
26 accommodate a staff size of approximately 60 people composed of ADOT, ADOT  
27 representatives, and guests. Developer shall provide sufficient office space in Developer's  
28 ~~construction office in the collocated~~ office for simultaneous occupancy by both design and  
29 construction personnel. Developer shall collocate with ADOT into a ~~Project~~ collocated office.

#### 30 **110.05.2.1 Location**

31 Except where noted elsewhere in the Contract Documents, Developer shall continue to be  
32 collocated with ADOT until 90 days after Final Acceptance to facilitate Project coordination and  
33 daily communication. The definition of "collocate" is to occupy office spaces that are in the same  
34 building along or adjacent to the Project and that are within 3 miles of the Schematic ROW.  
35 ADOT facilities area must be a separate area than the Developer facilities area, unless  
36 otherwise specified in the Contract Documents.

#### 37 **110.05.2.2 Office Facilities and Equipment**

38 Developer shall comply with the following for the ADOT facilities area.

- 39 A. General. Developer shall obtain all facility space, permits, licenses, and approvals, install  
40 and pay for all utility services, and operate and maintain the facilities as part of the Work.
- 41 B. Code requirements. Developer shall comply with all applicable building and fire code  
42 requirements.

- 1 C. Access and security. Developer shall provide a separate ADOT entrance(s)/exit(s) to  
2 and from the building, secured with an electronic door lock(s) plus a deadbolt lock(s).  
3 Developer shall provide security badge card access with locking doors running on time  
4 zone/holiday schedules for entry doors, as well as other designated areas (e.g., server  
5 room, document storage, and offices). Developer shall provide software for maintaining  
6 access to ADOT office spaces. Developer shall not access the ADOT office space  
7 without ADOT/ADOT's prior authorization.
- 8 D. Lighting and electricity. Developer shall provide all interior spaces with overhead lighting  
9 complying with Occupational Safety and Health Administration (OSHA), building, and  
10 electrical and energy code requirements for similar office spaces (provide nominal 30-  
11 -foot candles of light at 30 inches above finish floor). Developer shall provide each office  
12 space with at least four duplex receptacles, with minimum circuit capacity of 20  
13 amperes.
- 14 E. Flooring. Developer shall provide carpeted flooring with non-static flooring in server  
15 room.
- 16 F. Window coverings. Developer shall provide blinds (no drapes) for all windows.
- 17 G. Power circuits. Developer shall provide dedicated electrical power circuits for copiers  
18 and a minimum of six duplex receptacles with three dedicated isolated ground 20-amp  
19 circuits terminating in National Electrical Manufacturers Association (NEMA) 5-20R  
20 receptacles and one dedicated isolated ground 30-amp circuit terminating in a NEMA 6-  
21 -30R receptacle for the server room.
- 22 H. Network/electrical outlets. Developer shall provide each office and conference room with  
23 a minimum of two wall plates (comprising two data outlets and one voice RJ-45 outlet)  
24 per room, and one outlet (comprising two data outlets and one voice RJ-45 outlet) per  
25 cubicle, as well as outlets at all designated printer, facsimile, and copier locations and  
26 any and all shared areas (e.g., workroom, storage room, etc.). Developer shall install all  
27 data/voice outlets near power outlets. All data and voice cabling must use Category 5e  
28 unshielded twisted pair (UTP) with plenum rating. Developer shall place a minimum of  
29 two duplex NEMA 5-15 or 5-20 outlets within 6 feet of each work surface.
- 30 I. Network/data network. Each of the data outlets must provide a minimum of a 100  
31 megabits per second (Mbps) switched Ethernet connection and must be capable of  
32 being assigned to a designated virtual local area network (VLAN). Developer shall  
33 provide the capability to assign each data outlet to have an independent VLAN.  
34 Developer shall provide patch cables long enough to safely reach from the data network  
35 outlets to the designated computer(s) and printer(s). Developer shall install all cable  
36 raceways and J hook cable supports in accordance with Building Industry Consulting  
37 Services International and National Electrical Code standards. Each location must allow  
38 for ADOT-provided computer equipment to be installed and operated.
- 39 J. Janitorial and trash services. Developer shall provide daily janitorial service (except  
40 Saturdays, Sundays, and holidays) and maintain trash containers and trash pickup  
41 service for the building and areas beyond the ADOT office space. Daily janitorial service  
42 must include sweeping and mopping floors, cleaning restrooms and break rooms,  
43 emptying wastebaskets, weekly dusting, and furnishing of toilet paper, paper towels  
44 and/or hand dryer, soap, and other restroom/kitchen supplies. Developer shall obtain  
45 and pay for janitorial services for the ADOT office space.
- 46 K. Recycling Services. Developer shall provide recycling receptacles for paper, cardboard,  
47 plastic bottles, and aluminum cans. Developer shall obtain and pay for weekly recycling  
48 services, including recycling pickup service for the ADOT office space.



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- 1 L. Exterior maintenance. Developer shall maintain the exterior areas of office spaces,  
2 including access to parking areas.
- 3 M. Accessibility and licensing. All facilities must be in accordance with the access  
4 requirements of the Americans with Disabilities Act (ADA) Accessibility Guidelines, as  
5 amended (42 USC §§ 12101, et seq.) and the applicable building code(s). Developer  
6 shall obtain approval of the Collocated Office Layout Plans from all applicable  
7 Governmental Entities.
- 8 N. Restrooms, break room/kitchen, and entry space. Developer shall provide access to  
9 women's and men's restrooms, individual break room space, and building entry space;  
10 these spaces may be shared with Developer's office space/staff. All office space must  
11 be accessible 24 hours a day, 7 days a week, including holidays. Instead of access to a  
12 common break room, Developer shall provide a 200-square-foot break room/kitchen  
13 within the ADOT office space, with a 16 cubic foot refrigerator with freezer compartment,  
14 ice machine, sink with hot and cold running water, including waste disposer, and  
15 microwave oven. The break room/kitchen must have a storage closet (minimum of 25  
16 square feet) and cabinets with drawers and countertops. If restrooms are not directly  
17 accessible from a common building entry/lobby, Developer may provide separate  
18 restrooms for the ADOT office space. If it is necessary to locate a separate break room  
19 and/or restrooms within the ADOT office space, Developer shall increase the ADOT  
20 office space allocation to accommodate these spaces.
- 21 O. HVAC. Developer shall provide electrical, and heating, ventilation, and air-conditioning  
22 (HVAC) systems capable of maintaining temperatures between 65 and 75 degrees  
23 Fahrenheit in all spaces, 24 hours a day, 7 days a week, including holidays. ~~Server~~The  
24 server room must have dedicated air-conditioning/cooling system capable of maintaining  
25 temperatures between 70 and 76 degrees Fahrenheit and 20 to 60 percent relative  
26 humidity at all times.
- 27 P. Utilities. Developer shall obtain all permits and approvals and provide all installation,  
28 maintenance, and utility service costs throughout the Term.
- 29 Q. Emergency contacts. Developer shall provide a 24-hour emergency contact telephone  
30 number for Developer.
- 31 R. Emergency equipment. Developer shall provide emergency equipment, such as first aid  
32 kits and defibrillators. Developer shall provide fire extinguishers and smoke detectors in  
33 accordance with all Laws and as may be directed by the applicable Governmental  
34 Entity's fire marshal.
- 35 S. Insurance. Developer shall obtain and maintain insurance covering the ~~use of the Project~~  
36 ~~office by Developer and ADOT, in accordance with the terms of the underlying property~~  
37 ~~use agreement with the property owner; and Developer shall ensure that the insurance~~  
38 ~~coverage and limits are not less than that required by the Contract Documents~~collocated  
39 office in accordance with Exhibit 12 of the Agreement.
- 40 T. Disposal and removal. Developer shall dispose of and remove all collocated office  
41 facilities, including Developer's facilities, and provide any Site restoration Work needed  
42 to return the Site to the original condition, and as directed by ADOT.
- 43 U. Furniture. Developer shall provide the ADOT office spaces in the collocated office with  
44 furniture comparable to ADOT typical office furniture.

### 110.05.2.3 Offices, Rooms, and Areas

46 Although actual spaces may vary, the following nominal size requirements apply, and the typical  
47 ADOT office space must include the following elements:

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- 1 A. General. Developer shall wire all offices, cubicles, conference rooms, and work areas for  
2 power, telephone, and internet connectivity. Developer shall equip the reception area,  
3 offices, cubicles, and work areas with lighting, trash receptacles, desks, chairs, and  
4 ~~multistation~~multi-station telephones connected on four telephone lines.
- 5 B. Offices.
- 6 1. Developer shall provide six enclosed office rooms of 12 feet x 12 feet (144 square  
7 feet) each. All offices must have a small round meeting table with four chairs, two  
8 extra chairs for visitors, a file cabinet, a book shelf, and lockable doors.
- 9 2. Developer shall provide 12 enclosed office rooms of 10 feet x 10 feet (100 square  
10 feet) each. All offices must have two extra chairs for visitors, a file cabinet, a book  
11 shelf, and lockable doors.
- 12 C. Cubicles. Developer shall provide 60 total cubicle area spaces for administrative staff  
13 (nominally 80 square feet each). Developer may provide power supply and data and  
14 communication lines to cubicles through power pole drops.
- 15 D. Conference rooms. Developer shall provide three enclosed conference rooms, one to  
16 seat at least 24 people and accommodate at least 50 people, and two to seat at least 12  
17 people and accommodate at least 24 people each. All conference rooms must have  
18 dimmable lighting. Developer shall provide each conference room with a conference  
19 room table and chairs. Developer shall also provide 10 additional chairs alongside walls.  
20 Developer shall provide a 4-foot x 8-foot dry erase board in each conference room.
- 21 E. Reception area. Developer shall provide an approximately 300-square-foot total  
22 receptionist space with a waiting area with seating for at least four visitors, arranged with  
23 a reception area at a nominal 14 feet x 14 feet (196 square feet) and visitors' waiting  
24 area at a nominal 8 feet x 12 feet (96 square feet). Developer and ADOT will jointly  
25 determine other furniture. The reception area must include a telephone switch board.
- 26 F. Work room. Developer shall provide a work room (nominally 150 square feet) with 30-  
27 -inch-high wall-mounted counters (15 lineal feet of counter-top space, 36 inches deep).  
28 Developer shall locate the workroom near the center of the ADOT office space.
- 29 G. Storage and filing. Developer shall provide one lockable space for storage and filing,  
30 nominally 10 feet x 15 feet (150 square feet).
- 31 H. Server room. Developer shall provide one computer server room (100 square feet) that  
32 has limited and controlled access and is locked via security card access. The server  
33 room must be accessible via a hallway entry not sharing any walls with the exterior of  
34 the building and must have no windows, a non-static floor covering, and at least three  
35 dedicated isolated ground 20-amp power circuits and one dedicated isolated ground 30-  
36 amp circuit. Developer shall locate all patch panels (phone and data) within the  
37 designated server room. Developer shall maintain server room temperature with a  
38 dedicated air-conditioning/cooling system, as described above. Developer shall provide  
39 uninterruptable power supply (UPS) system in the server room capable of providing  
40 spike and brown out protection for all Developer and ~~stakeholder~~ADOT server room  
41 equipment.
- 42 I. Kitchen/break room. Developer shall provide a kitchen/break room that is approximately  
43 12 feet x 18 feet (216 square feet). Developer shall arrange and furnish the  
44 kitchen/break room with office-type appliances and kitchen cabinets and drawers.
- 45 J. Parking area. Developer shall provide a parking area for ADOT for at least 100 vehicles  
46 (85 staff/15 visitors). The parking area must be reasonably level (all-weather surface and  
47 all-weather access). The parking area must include an additional lockable fenced  
48 parking area to accommodate 25 ADOT vehicles.



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- 1 K. Exterior lighting. Developer shall provide sufficient exterior security lighting that is  
2 automatically activated at low light levels to maintain 2-foot candles of lighting within the  
3 building and parking areas.
- 4 L. Office work space. Work surface area in all office rooms and cubicles must be a  
5 minimum of 8 linear feet and 30 inches in depth to allow for the installation of two  
6 monitors and still have room for spreading out books, reports, or maps.

### 7 110.05.2.4 Office Condition

8 The ADOT office space must be in good and serviceable condition, at least of the same quality  
9 as ~~those that~~ of Developer's counterpart office space and available for occupancy as specified in  
10 Section GP 110.05.2 of the TPs. Developer and ADOT will participate in a facility condition  
11 survey prior to and at the completion of occupancy. ADOT will return possession of Developer-  
12 provided ADOT office space to Developer in essentially the same condition as when ADOT  
13 occupied the facilities, except for reasonable wear and tear and except for alterations or Loss or  
14 damage caused by any member of a Developer-Related Entity.

### 15 110.05.2.5 Losses or Damage

16 If ADOT office space in the collocated office, related facilities, or fixtures ~~are~~ destroyed,  
17 damaged, or stolen ~~during the Term then~~, except ~~when such damage or Losses are a direct~~  
18 ~~result of willful misconduct of ADOT, its personnel, or consultants as provided below~~, Developer  
19 ~~must~~ shall, at its cost and within 10 Business Days after the occurrence of such ~~destruction or~~  
20 ~~damage~~ Loss, repair ~~those~~ the items to their original condition or replace them. However, in the  
21 case of lost, damaged, or stolen office equipment (e.g., computers, facsimile machines, copy  
22 machines, and printers) ~~required for normal office operations,~~ replacement must occur within 2  
23 Business Days. ~~If Losses or damage~~ Notwithstanding the foregoing, however, if the Loss occurs  
24 as a direct result of the willful misconduct of ADOT or its personnel or consultants, ~~and such~~  
25 Loss is not covered by insurance actually carried, or required under or pursuant to the Contract  
26 Documents to be carried, by Developer, then Developer shall repair or replace the affected  
27 ~~facilities~~ items within the timeframes specified herein, and ADOT will reimburse Developer for  
28 ~~the~~ actual, reasonable, and documented costs incurred to repair or replace, including the  
29 amount of any deductible, except as provided otherwise in Section 11.2.4 of the Agreement.

### 30 110.05.2.6 Collocated Office Layout Plan

31 Developer shall prepare a Collocated Office Layout Plan that includes the layout of the offices,  
32 cubicles, conference rooms, kitchen/break room, etc. Prior to issuance of ~~NTP2~~ NTP 2,  
33 Developer shall submit a Collocated Office Layout Plan to ADOT for review and comment.

34 Developer shall make the ADOT office space in the collocated office available for occupancy as  
35 a condition of issuance of ~~NTP2~~ NTP 2. The ADOT office space in the collocated office must be  
36 available for ADOT's use until 90 days beyond Final Acceptance.

### 37 110.05.3 Field Offices Requirements

38 Developer shall provide a minimum of two field offices approximately 6,000-square-foot each,  
39 for ADOT's use. ADOT field office(s) must be adjacent to each of Developer's field offices.  
40 Developer shall provide field offices for ADOT's field construction staff. Each field office must  
41 accommodate the anticipated ADOT field construction staffing level of 30 field personnel.  
42 Developer shall make ADOT field offices available for occupancy as a condition of issuance of  
43 ~~NTP2~~ NTP 2. The ADOT field offices must be available for ADOT's use until ~~90 days beyond~~  
44 ~~Final Acceptance~~ issuance of the Certificate of Substantial Completion.

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### 1 110.05.3.1 Location

2 Developer shall provide field offices ~~at a minimum near~~within 3 miles of the I-10 (Papago  
3 Freeway) and the I-10 (Maricopa Freeway) connections.

### 4 110.05.3.2 Office Facilities and Equipment

5 Developer shall comply with the following for the ADOT facilities area:

- 6 A. General. Developer shall obtain all facility space, permits, licenses, and approvals, install  
7 and pay for all utility services, and operate and maintain the facilities as part of the Work.
- 8 B. Code requirements. Developer shall comply with all applicable building and fire code  
9 requirements.
- 10 C. Access and security. Developer shall provide separate buildings or trailers for ADOT  
11 staff that includes at least two entrance(s)/exit(s) secured with door lock(s) plus a  
12 deadbolt lock(s).
- 13 D. Lighting and electricity. Developer shall provide all interior spaces with overhead lighting  
14 complying with OSHA, building, and electrical and energy code requirements for similar  
15 office spaces (provide nominal 30-foot candles of light at 30 inches above finish floor).  
16 Developer shall provide each office space with at least four duplex receptacles, with  
17 minimum circuit capacity of 20 amperes.
- 18 E. Flooring. Developer shall provide carpeted flooring with non-static flooring in server  
19 room.
- 20 F. Window coverings. Developer shall provide blinds (no drapes) for all windows.
- 21 G. Power circuits. Developer shall provide dedicated electrical power circuits for copiers  
22 and a minimum of six duplex receptacles with three dedicated isolated ground 20-amp  
23 circuits terminating in NEMA 5-20R receptacles and one dedicated isolated ground 30-  
24 -amp circuit terminating in a NEMA 6-30R receptacle for the server room.
- 25 H. Network/electrical outlets. Developer shall provide each office and conference room with  
26 a minimum of two wall plates (comprising two data outlets and one voice RJ-45 outlet)  
27 per room, and one outlet (comprising two data outlets and one voice RJ-45 outlet) per  
28 cubicle, as well as outlets at designated printer, facsimile, and copier locations and any  
29 and all shared areas (e.g., workroom, storage room, etc.). All data/voice outlets must be  
30 installed near power outlets. All data and voice cabling must use Category 5e unshielded  
31 twisted pair (UTP) with plenum rating. Developer shall place a minimum of two duplex  
32 National Electrical Manufacturers Association (NEMA) 5-15 or 5-20 outlets within 6 feet  
33 of each work surface.
- 34 I. Network/data network. Each of the data outlets must provide a minimum of a 100  
35 megabits per second (Mbps) switched Ethernet connection and must be capable of  
36 being assigned to a designated VLAN. Developer shall provide the capability to assign  
37 each data outlet to have an independent VLAN. Developer shall provide patch cables  
38 long enough to safely reach from the data network outlets to the designated computer(s)  
39 and printer(s). Developer shall install all cable raceways and J hook cable supports in  
40 accordance with Building Industry Consulting Services International and National  
41 Electrical Code standards. Each location must allow for ADOT-provided computer  
42 equipment to be installed and operated.
- 43 J. Janitorial and trash services. Developer shall provide daily janitorial service (except  
44 Saturdays, Sundays, and holidays) and maintain trash containers and trash pickup  
45 service for the building and areas beyond the ADOT office space. Daily janitorial service  
46 must include sweeping and mopping floors, cleaning restrooms and break rooms,

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- 1 emptying wastebaskets, weekly dusting, and furnishing of toilet paper, paper towels  
2 and/or hand dryer, soap, and other restroom/kitchen supplies. Developer shall obtain  
3 and pay for janitorial services for the ADOT office space.
- 4 K. Recycling Services. Developer shall provide recycling receptacles for paper, cardboard,  
5 plastic bottles, and aluminum cans. Developer shall obtain and pay for weekly recycling  
6 services, including recycling pickup service for the ADOT office space.
- 7 L. Exterior maintenance. Developer shall maintain the exterior areas of office spaces,  
8 including access to parking areas.
- 9 M. Accessibility and licensing. All facilities must be in accordance with the access  
10 requirements of the ADA Accessibility Guidelines, as amended (42 USC §§ 12101, et  
11 seq.) and the applicable building code(s). Developer shall prepare and obtain approval  
12 of all filed office layout plans from all applicable Governmental Entities.
- 13 N. Restrooms, break room/kitchen, and entry space. Developer shall provide access to  
14 women's and men's restrooms, individual break room space, and building entry space;  
15 these spaces may be shared with Developer's office space/staff. All office space must  
16 be ~~accessible~~accessible 24 hours a day, 7 days a week, including holidays. Instead of  
17 access to a common break room, Developer shall provide a 200-square-foot break  
18 room/kitchen within the ADOT office space, with a 16 cubic foot refrigerator with freezer  
19 compartment; ice machine, sink with hot and cold running water, including waste  
20 disposer, and microwave oven. The break room/kitchen must have a storage closet  
21 (minimum of 25 square feet) and cabinets with drawers and countertops. If restrooms  
22 are not directly accessible from a common building entry/lobby, Developer may provide  
23 separate restrooms for the ADOT office space. If it is necessary to locate a separate  
24 break room and/or restrooms within the ADOT office space, Developer shall increase the  
25 ADOT office space allocation to accommodate these spaces.
- 26 O. HVAC. Developer shall provide electrical, and HVAC systems capable of maintaining  
27 temperatures between 65 and 75 degrees Fahrenheit in all spaces, 24 hours a day, 7  
28 days a week, including holidays. ~~Server~~The server room must have dedicated air-  
29 conditioning/cooling system capable of maintaining temperatures between 70 and 76  
30 degrees Fahrenheit and 20 to 60 percent relative humidity at all times.
- 31 P. Utilities. Developer shall obtain all permits and approvals and provide all installation,  
32 maintenance, and utility service costs throughout the Term.
- 33 Q. Emergency contacts. Developer shall provide a 24-hour emergency contact telephone  
34 number for Developer.
- 35 R. Emergency equipment. Developer shall provide emergency equipment such as first aid  
36 kits and defibrillators. Developer shall provide fire extinguishers and smoke detectors in  
37 accordance with all Laws and as may be directed by the applicable Governmental  
38 Entity's fire marshal.
- 39 S. Insurance. Developer shall obtain and maintain insurance covering the ~~use of the Project~~  
40 ~~office by Developer and ADOT, field offices~~ in accordance with ~~the terms of the~~  
41 ~~underlying property use agreement with the property owner; and Developer shall ensure~~  
42 ~~that the insurance coverage and limits are not less than that required by the Contract~~  
43 ~~Documents~~Exhibit 12 of the Agreement.
- 44 T. Disposal and removal. Developer shall dispose of and remove all field office facilities,  
45 including Developer's facilities, and provide any Site restoration Work needed to return  
46 the Site to the original condition, and as directed by ADOT.
- 47 U. Furniture. Developer shall provide the ADOT office spaces with furniture comparable to  
48 ADOT typical field office furniture.

1 **110.05.3.3 Offices, Rooms, and Areas**

2 Although actual spaces may vary and will depend on Work schedule, geographic locations, and  
3 ADOT-assigned staff at each field office, the following nominal size requirements will apply.  
4 Each ADOT field office space must include the following elements:

- 5 A. General. Developer shall wire all offices, cubicles, conference rooms, and work areas for  
6 power, telephone, and internet connectivity. Developer shall equip all offices, cubicles,  
7 and work areas with lighting, trash receptacles, desks, chairs, and ~~multistation~~multi-  
8 station telephones connected on four telephone lines.
- 9 B. Offices. Developer shall provide four enclosed office rooms of 12 feet x 12 feet (144  
10 square feet) each. All offices must have a small round meeting table with four chairs, two  
11 extra chairs for visitors, a file cabinet, a book shelf, and lockable doors.
- 12 C. Cubicles. Developer shall provide 15 total cubicle area spaces for administrative staff  
13 (nominally 80 square feet each). Developer may provide power supply and data and  
14 communication lines to cubicles through power pole drops.
- 15 D. Conference rooms. Developer shall provide one conference room (enclosed) to seat at  
16 least 24 people and accommodate at least 50 people. The conference room must have  
17 dimmable lighting. Developer shall provide the conference room with a conference table  
18 and chairs. Developer shall also provide 10 additional chairs along side walls. Developer  
19 shall provide a 4-foot x 8-foot dry erase board in each conference room.
- 20 E. Work room. Developer shall provide a work room (nominally 150 square feet) with 30-  
21 -inch-high wall-mounted counters (15 lineal feet of counter-top space, 36 inches deep).  
22 Developer shall locate the workroom near the center of the field office.
- 23 F. Storage and filing. Developer shall provide one lockable space for storage and filing,  
24 nominally 10 feet x 10 feet (100 square feet) with shelving and lockable door.
- 25 G. Server room. Developer shall provide one computer server room (100 square feet) that  
26 has limited and controlled access and is locked via security card access. The server  
27 room must be accessible via hallway entry not sharing any walls with the exterior of the  
28 building and must have no windows, a non-static floor covering, and at least three  
29 dedicated isolated ground 20-amp power circuits and one dedicated isolated ground 30-  
30 -amp circuit. Developer shall locate all patch panels (phone and data) within the  
31 designated server room. Developer shall maintain server room temperature with a  
32 dedicated air-conditioning/cooling system, as described above. Developer shall provide  
33 UPS system in the server room capable of providing spike and brown out protection for  
34 all Developer and stakeholder server room equipment.
- 35 H. Kitchen/break room. Developer shall provide a kitchen/break room that is approximately  
36 12 feet x 18 feet (216 square feet). Developer shall arrange and furnish the  
37 kitchen/break room with office-type appliances and kitchen cabinets and drawers.
- 38 I. Parking area. Developer shall provide parking area for at least 55 vehicles (50 staff/5  
39 visitors) at each field office. The parking area must be reasonably level (all-weather  
40 surface and all-weather access). The parking area must include an additional lockable  
41 fenced parking area to accommodate 25 ADOT vehicles.
- 42 J. Exterior lighting. Developer shall provide sufficient exterior security lighting that is  
43 automatically activated at low light levels to maintain 2-foot candles of lighting within the  
44 building and parking areas.
- 45 K. Office work space. Work surface area in all office rooms and cubicles must be a  
46 minimum of 8 linear feet and 30 inches in depth to allow for the installation of two  
47 monitors and still have room for spreading out books, reports, or maps.

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### 110.05.3.4 Office Condition

The field office(s) at each location must be in good and serviceable condition, at least of the same quality as ~~those that~~ of Developer's counterpart field office space and available for occupancy as specified in Section GP 110.05.3 of the TPs. Developer and ADOT will participate in a facility condition survey prior to and at the completion of occupancy. ADOT will return possession of Developer-provided ADOT office space to Developer in essentially the same condition as when ADOT occupied the facilities, except for reasonable wear and tear and except for alterations or Loss or damage caused by any member of a Developer-Related Entity.

### 110.05.3.5 Losses or Damage

If ADOT field office space(s), related facilities, or fixtures are destroyed, damaged, or stolen ~~during the Term then~~, except ~~when such damage or Losses are a direct result of willful misconduct of ADOT, its personnel, or consultants as provided below~~, Developer shall, at its cost and within 10 Business Days after the occurrence of such ~~destruction or damage~~ Loss, repair those items to their original condition or replace them. However, in the case of lost, damaged, or stolen office equipment (e.g., computers, facsimile machines, copy machines, and printers) ~~required for normal office operations,~~ replacement must occur within 2 Business Days. ~~If Losses or damage~~ Notwithstanding the foregoing, however, if the Loss occurs as a direct result of the willful misconduct of ADOT or its personnel or consultants, ~~and such Loss is not covered by insurance actually carried, or required under or pursuant to the Contract Documents to be carried, by Developer, then~~ Developer shall repair or replace the affected ~~facilities~~ items within the timeframes specified herein, and ADOT will reimburse Developer for the actual, reasonable, and documented costs incurred to repair or replace, including the amount of any deductible, except as provided otherwise in Section 11.2.4 of the Agreement.

### 110.05.4 Computer and Equipment Requirements

Developer shall provide network administration, operational support, and day-to-day management of the collocated office and field office networks and data systems. Developer shall provide a Project server that includes daily reliable backups of Project data.

#### 110.05.4.1 Original Equipment Manufacturers

Developer shall use:

- A. Commercial off-the-shelf equipment when available;
- B. New and suitable original equipment manufacturers (OEM) hardware components for the purposes specified herein; and
- C. Hardware of the OEM's current design and equipped with the current revisions, manuals, and equipment updates at the time of issuance of ~~NTP~~ NTP 1. Hardware must comply with all applicable quality control (QC) standards of the OEM.

Developer shall prepare an Equipment Demobilization Plan ~~providing that includes~~ Developer's strategy for the methods and processes to discontinue the use of all computer and related equipment, and how Developer shall erase Project-sensitive information from the equipment. At least 30 Business Days prior to scheduled Substantial Completion, Developer shall submit the Equipment Demobilization Plan to ADOT for approval ~~in ADOT's reasonable discretion~~.

All technology-related plans and procurements must take into consideration the information technology goals for maintaining a secure and reliable computing infrastructure that complies with current and planned operations and business needs. The information technology standards used in the collocated offices and field offices must comply with ~~current industry standards~~ Good Industry Practice.



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1 Developer shall provide, install, and maintain the following for all ADOT office spaces:

2 A. Telephone. Developer shall provide at least one touch-tone telephone for each personal  
3 office area with a unique direct-dial telephone number. Developer shall provide service  
4 and Developer shall provide such service using voice over Internet protocol (VoIP) or  
5 analog means. Each telephone number must have voicemail, conference-call capability,  
6 call hold capabilities, and speaker telephone capabilities for the telephones in enclosed  
7 offices/rooms. If a VoIP solution is provided, the telephone desk set must have the ability  
8 to pass through data traffic on a second data network port; the pass-through port may  
9 count as one of the data network outlets if performance requirements are met.

10 B. Computers. Developer shall provide 30 computer workstations at the collocated office for  
11 ADOT and ADOT representative use. Each computer workstation must include the  
12 minimum hardware and software as follows:

- 13 1. 24 inch color flat panel monitor
- 14 2. Quad-core processor
- 15 3. 4 GB Ram
- 16 4. 160 GB hard drive
- 17 5. DVD/CD RW drive
- 18 6. Windows 7 operating system
- 19 7. 2010 Microsoft Office Professional (MS Word, Excel, PowerPoint, Outlook, etc.)
- 20 8. Bentley's MicroStation V8i
- 21 9. Bentley's InRoads Suite SS2 or newer
- 22 10. Adobe Acrobat Professional

23 ~~Developer shall install all software used by Developer for design and construction on a~~  
24 ~~minimum of two of the 30~~ Developer provided computer workstations ~~and~~ must be able  
25 to access the EDMS. Developer shall provide network software licenses or a minimum of  
26 two licenses each of such software used by Developer for design and construction.  
27 The software licenses must be available for ADOT's use ~~on the 30 Developer provided~~  
28 computer workstations. All computer workstations and software will be and must remain  
29 the property of Developer.

30 C. Tablets. Developer shall provide ADOT with 60 tablets capable of running a mobile  
31 operating system such as iOS or Android and the tablets must be able to access the  
32 EDMS. The tablet screen must be a minimum of 9.7 inches with a minimum storage  
33 capacity of 16 GB. The tablets must connect to a long term evolution network, with a  
34 data plan connection. The tabletablets must be able to share content, such as portable  
35 document format (PDF) files or spreadsheets, between devices. Developer shall provide  
36 a ruggedized case appropriate for field use for all tablets. Developer shall ensure that  
37 the tablets are in a fully set-up state and include applications capable of performing the  
38 following:

- 39 1. Accessing ADOT Outlook webmail;
- 40 2. Accessing, viewing, and editing Microsoft Word files;
- 41 3. Accessing, viewing, and editing Microsoft Excel files;
- 42 4. Accessing, viewing, and annotating PDF files;
- 43 5. Merging and splitting PDF files;
- 44 6. Connecting to and viewing files on ADOT's file transfer protocol server; and
- 45 7. Basic calculations using a built-in calculator.

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1 Developer shall provide a single computer capable of running Windows 7 or OS X 10.9  
2 in order to administer the tablets in the ADOT office space in the collocated office.  
3 Developer shall provide the tablets and computer to ADOT concurrent with  
4 ~~proving~~providing occupancy ~~teof~~ the collocated office to ADOT. All tablets and software  
5 will remain the property of Developer.

- 6 D. File server. The file server solutions must utilize a non-proprietary, industry standard  
7 compliant operating system capable of supporting real-time electronic data storage,  
8 compatible to ADOT server operating systems. At initial installation, the proposed  
9 system must operate at no more than 35 percent of capacity (for processor, memory,  
10 disk, and input/output performance). Parallel processing is not required, but the system  
11 must continue processing without server failure should any one component fail. RAID 5  
12 (disk striping with parity) and hot swap disks are required, along with dual  
13 controllers/paths to the disk. The file server must also have redundant components such  
14 as power, fan, controllers, and network cards.

15 The file server must have sufficient main memory, disk capacity, and processing  
16 capability to support the collocated office electronic data storage needs and transmission  
17 of large numbers of electronic data files. The file server hardware must have expansion  
18 capabilities to comply with and support future requirements as determined by ADOT.  
19 The file server must have a warranty with a 3-year next ~~business day~~Business Day on-  
20 site service agreement.

- 21 E. Internet. Developer shall provide a symmetrical business class Internet service.

- 22 F. Printer services. Developer shall provide and maintain the following printers:

- 23 1. Two office monochrome network printers for the ADOT office space in the collocated  
24 office and each field office. Monochrome printers must comply with or exceed the  
25 following: internal memory 64 megabytes (MB); print quality up to 1,200 by 1,200  
26 dots per inch (dpi); paper trays must include 100-sheet multipurpose tray, 250-sheet  
27 input tray, 500-sheet input tray; up to 35 pages per minute (ppm); and connectivity  
28 universal serial bus (USB), parallel, Ethernet; duplex printing capability and paper  
29 handling 3-inch x 5-inch to 11.7-inch x 17.7-inch.
- 30 2. Two office color network printers for the ADOT office space in the collocated office  
31 and one for each field office facility. Color printers must comply with or exceed the  
32 following: internal memory 160 MB; print quality true 600 x 600 dpi; paper trays will  
33 include 100-sheet multipurpose, 500-sheet feeder; 27 ppm black and white and, 27  
34 ppm color; connectivity Ethernet 100BaseTX/10BaseT; and duplex printing capability  
35 and paper handling 3-inch x 5-inch to 11-inch x 17-inch.
- 36 3. Full-scale color plotter at the collocated office capable of handling 36-inch roll plots,  
37 36-inch x 24-inch plots, and 11-inch x 17-inch plots.

- 38 G. Copier services. Developer shall provide and maintain two multifunction devices/copiers  
39 for the ADOT office space in the collocated office and one each for each field office. The  
40 multifunction devices/copiers must comply with or exceed the following: a monthly duty  
41 cycle of 150,000; print/copy speed, full color – 45 ppm, monochrome – 45 ppm (letter,  
42 portrait); print copy resolution – 1,800 dpi equivalent by 600 dpi; scan speed (letter) – full  
43 color 78 operations per minute (opm) at 300 dpi, 55 opm at 600 dpi, and monochrome  
44 78 opm at 300 dpi, 65 opm at 600 dpi; scan resolution – 200 dpi, 300 dpi, 400 dpi, and  
45 600 dpi; scan file formats – TIFF, PDF, compact PDF, JPEG, XPS, compact XPS;  
46 internal memory – 2 gigabytes (GB); internal hard drive – 250 GB; paper copy size, tray  
47 1 and 2 (universal cassette) – 5.5 inches x 8.5 inches to 12 inches x 18 inches, tray 3  
48 and 4 (fixed cassette) – 8.5 inches x 11 inches, 5.5 inches x 8.5 inches, 4 inches x 6

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1 inches, bypass tray – 4 inches x 6 inches to 12 inches x 18 inches, 8 inches x 13 inches;  
2 original document size – up to 11 inches x 17 inches (scanning/copying), up to 11 inches  
3 x 17 inches full bleed on 12-inch x 18-inch paper (printing); duplex printing capability;  
4 automatic document feeder; and facsimile capability. Developer shall furnish copier  
5 stand with storage shelves and provide paper and toner for copying machine as needed.

6 H. Wide area network (WAN). Developer shall provide a minimum of one 50 Mbps circuit  
7 dedicated to ADOT from the Project computer room to its enterprise data or network  
8 centers at the collocated office and 20 Mbps circuit at field offices. Developer shall  
9 provide Ethernet handoff at each end of the circuit and obtain, install, and operate the  
10 links. Developer shall provide all security measures necessary to secure the Internet  
11 connection from outside intrusions and data losses.

12 I. IT equipment. Developer shall provide rack space, cooling, power, and cable  
13 management to allow for the installation and operation of additional network equipment  
14 supplied by ADOT. Developer shall provide a locking computer cabinet, a minimum of 42  
15 rack units high, in a standard 19-inch equipment rack configuration, for each client party.  
16 Developer shall provide 120 VAC power for the additional network equipment with a  
17 minimum of four power outlets of style NEMA 5-15R for the client's equipment.  
18 Developer shall provide cable management systems to support running patch cabling  
19 from the floor cabling patch panels to each of the cabinets. Developer shall maintain a  
20 secure equipment room with controlled and restricted access for use in operating all the  
21 IT. The equipment room must be climate controlled and capable of maintaining an  
22 ambient temperature range of 70 to 76 degrees Fahrenheit with a relative humidity  
23 between 20 and 60 percent at all times. Developer shall terminate all Category 5e UTP  
24 cable in data patch panels in the server room and any additional telecommunications  
25 room(s).

26 J. Wireless local area networks (WLAN). Developer shall provide a minimum of two  
27 802.11n WLAN in the collocated office and one each in each field office facility. Each  
28 WLAN must provide a unique service set identification (SSID) to separate the network  
29 traffic. The first WLAN is for the collocated office usage and protected using current  
30 WLAN best practices. Developer shall provide the Project WLAN for Developer and  
31 ADOT personnel. Developer shall provide a second WLAN for visitor access only to the  
32 Internet and with no access to any Project, ADOT, or Developer's network data. The  
33 wireless network must provide Internet access for tablets and computers via Wi-Fi for  
34 uploading and downloading information.

35 K. Conference rooms. Developer shall provide an audio visual-~~(AV)~~ solution to support the  
36 collocated office and field office conference rooms, including a projector and conference  
37 telephone and integrated audio, video, displays, and control systems. Developer shall  
38 provide a conference telephone for each conference room facility.

39 L. Disaster recovery. Developer shall prepare a Computer Disaster Recovery Plan to  
40 identify Project-specific core systems and processes and to determine acceptable levels  
41 of disruptive-to-Project operations. The Computer Disaster Recovery Plan must outline  
42 the data backup scenario used to ensure proper backup of all Project data. Twenty  
43 Business Days following the issuance of NTP2NTP 2, Developer shall submit the  
44 Computer Disaster Recovery Plan to ADOT.

45 M. Non-disruptive operations. During normal business hours, network downtimes must not  
46 be due to hardware or software system improvements and/or repairs. Developer shall  
47 schedule all maintenance and repairs to provide a minimum of 1 day advance written  
48 notice to ADOT.



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**1 110.05.4.2 Network Administration Plan**

2 Developer shall prepare a Network Administration Plan that describes all computer elements  
3 described in Section GP 110.05.4 of the TPs. Prior to issuance of NTP2NTP 2, Developer shall  
4 submit the Network Administration Plan to ADOT for review and comment.

**5 110.05.4.3 Project Vehicles**

6 Developer shall not permit and shall prevent parking of Project vehicles and vehicles belonging  
7 to Developer's staff on the freeway, freeway on-/off-ramps, crossroads, work zones, under any  
8 tree's defined dripline, local streets, and outside the ADOT ROW, unless authorized by ADOT.  
9 Developer shall not park any Project vehicles or staff vehicles in locations that damage existing  
10 or proposed landscaped areas or impair the installation or maintenance of the temporary  
11 irrigation systems to the landscaped areas. In addition, Developer shall not park or store any  
12 equipment within the dripline of any tree. The dripline of a tree is defined as the line created by  
13 the tree's outermost branches that form the tree's canopy and refers to the extent of the outer  
14 layer of a trees leaves and branches. If Developer damages any irrigation systems or  
15 landscaped areas, or parks or stores any equipment within any tree dripline, Developer shall  
16 repair or replace the damaged area or system ~~at no additional cost to ADOT.~~ Repair of any  
17 compaction or fluid spill under or associated with any tree's dripline that is a result of equipment  
18 or vehicle storage requires that Developer shall bring the impacted area back to its pre-  
19 construction soil chemistry and density/compaction through the use of a method that does not  
20 harm the tree's root system through removal and replacement of soil for fluid spills, or  
21 mechanical tillage or soil injection methods to relieve the compaction; and, prior to commencing  
22 any repair or replacement, Developer shall obtain ADOT's approval of any and all such  
23 methods. If the tree(s) impacted by such action show any signs of decline or stress during the  
24 Work, Developer shall replace such trees with like kind, size, and character.

25 Developer's light duty on-road vehicles that are on-site must have the Vehicle Project Logo and  
26 Developer's name visibly displayed on both sides of the vehicle. Developer's Project vehicles  
27 must be equipped with appropriate safety equipment and warning lights according to all Laws.  
28 Prior to issuance of NTP2NTP 2, Developer shall prepare and submit a full-size sample Vehicle  
29 Project Logo that is to be affixed to all Developer's Project vehicles to ADOT for ~~review and~~  
30 approval ~~by ADOT,~~ in ADOT's sole good faith discretion.

**31 110.05.5 Construction and Maintenance Yards**

32 Developer shall be responsible for obtaining all approvals, permits, and Governmental  
33 Approvals for obtaining locations for construction and maintenance yards for the Project.  
34 Developer shall not locate construction yards adjacent to residential areas.

**35 110.05.6 Submittals**

36 Table 110-8 reflects a nonexclusive list of Submittals identified in Section GP 110.05 of the TPs  
37 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
38 determine and submit all Submittals as required by the Contract Documents, Governmental  
39 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
40 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
41 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
42 formats described in Section GP 110.10.2.2 of the TPs:

Table 110-8 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		

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Table 110-8 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Collocated Office Layout Plan	4	2	1	Prior to issuance of <del>NTP2</del> <b>NTP 2</b>	GP 110.05.2.6
Equipment Demobilization Plan	4	2	1	30 Business Days prior to Substantial Completion	GP 110.05.4.1
Computer Disaster Recovery Plan	5	2	1	20 Business Days following the issuance of <del>NTP2</del> <b>NTP 2</b>	GP 110.05.4.1
Network Administration Plan	4	2	1	Within 30 Business Days following issuance of <del>NTP4</del> <b>NTP 1</b>	GP 110.05.4.2
Vehicle Project Logo	<del>4</del> <b>2</b>	2	1	Prior to issuance of <del>NTP2</del> <b>NTP 2</b>	GP 110.05.4.3
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1 **110.06 Schedule Management**

2 **110.06.1 General Requirements**

3 Developer shall perform all Work in compliance with the requirements of Section GP 110.06 of  
 4 the TPs.

5 **110.06.2 Administrative Requirements**

6 **110.06.2.1 Software Requirements**

7 Developer shall prepare the Project Schedule using Oracle's Primavera P6.

8 **110.06.2.2 Schedule Development**

9 The Parties will use the Project Schedule for planning and monitoring the progress of the Work,  
 10 ~~and the to verify Draw Requests in accordance with Article 13 of the Agreement. The~~ Project  
 11 Schedule serves as the foundation for the Monthly Progress Schedule. Developer shall  
 12 coordinate with Governmental Entities when developing and maintaining the Project Schedule  
 13 and shall make provisions for adjacent projects and Governmental Entities comments.  
 14 Developer shall ensure that the Project Schedule reflects the following information:

15 A. Activity Identification. Activities must be assigned consistent descriptions, identification  
 16 codes, and sort codes. Sort code schemes (a) are subject to ADOT's prior consent, (b)  
 17 must group activities using meaningful schemes defined by Developer and ADOT, and  
 18 (c) must designate lead responsibility for each activity, and (d) clearly identify each  
 19 Project Schedule Submittal. Resubmissions of Project Schedules must use the same  
 20 revision number as the original submission individually identified by a sequential  
 21 appended letter (A, B, etc.), as an indication of a revised version. Developer shall

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1 identify Work being performed by Disadvantaged Business Enterprise (DBE) firms as  
2 separate CPM activities.

3 B. Cost Allocation. Allocate Price and commodity quantities throughout the Project activities  
4 in the Project Schedule. Accurately reflect Developer's cost allocation for each Project  
5 activity. All Work must be represented by cost resource-loaded Project activities.  
6 ~~De~~Developer shall not artificially inflate, imbalance, or front-load line items in the Project  
7 Schedules. The price of each Project activity must be all-inclusive and include all direct  
8 and indirect costs, overhead, risks, and profit.

9 C. Milestones. Developer shall separately identify each Project milestone, conforming to the  
10 scheduling requirements set forth in the Contract Documents.

11 D. Activity Information. Developer shall divide the Work into activities with appropriate logic  
12 ties to show Developer's overall approach to the planning, scheduling, and execution of  
13 the Work. ~~Duration~~Developer shall base duration and logical relationships of the Project  
14 activities (or summaries at phase level) on the actual duration and relationships  
15 anticipated. Each activity must have a duration not exceeding 20 Business Days.

16 E. Constraints. ~~De~~Developer shall not use calendar dates or constraints to logically begin  
17 or complete any Project activity unless calendar dates are shown in the TPs or other  
18 relevant Contract Documents. The Project Schedule must not contain unspecified  
19 milestones, constraints, Float suppression techniques, or use of Project activity  
20 durations, logic ties, and/or sequences deemed unreasonable by ADOT. Any schedule  
21 showing an early completion date must show the time between the scheduled  
22 completion date(s) and the applicable Completion Deadline(s) as Float.

23 F. Float.

24 1. Float is not for the exclusive use or benefit of either ADOT or Developer, but must be  
25 used in the best interest of completing the Project within the D&C Period. If the dates  
26 in any Monthly Progress Schedule Submittal forecast any slippage or overrun of the  
27 D&C Period, Developer shall indicate such slippage or overrun by reporting negative  
28 Float.

29 2. Developer shall not utilize (1) Float suppression techniques in the Schedule,  
30 including interim dates imposed by Developer other than Project milestone(s), or (2)  
31 the inclusion of activities or constraints in a path or chain leading to a Contract  
32 Milestone which are unrelated to the Work as stated and specified in the Contract  
33 Documents, or (3) activity durations or sequences deemed by ADOT to be  
34 unreasonable in whole or in part.

35 3. Preferential sequencing (i.e., whereby activities that could be performed concurrently  
36 and are established in the Project Schedule as sequential simply to consume Float),  
37 and/or indicating artificial activity durations (i.e., inflating activities in the schedule to  
38 consume Float and influence the Critical Path) are unacceptable. Sequestering of  
39 Float is cause for rejection of Developer's schedule Submittal. In the event that Float  
40 sequestering is identified, Developer shall revise the schedule appropriately.

41 4. Developer shall impose, code, and separately identify all ~~contract~~time(s) and  
42 milestones in all Monthly Progress Schedule Submittals in conformance to the  
43 ~~Milestonemilestone~~(s) and ~~Contract Time~~time(s) set forth in the Contract Documents.  
44 Developer shall impose no other date restraints in the Schedule, unless an  
45 explanation of their bases is provided and such explanation is acceptable to ADOT.

46 5. ADOT will consider extensions of time for performance of the Work required under  
47 the Agreement only to the extent that the equitable time adjustment for activities  
48 affected by any condition or event which entitles Developer to a time extension

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1 exceed the Float along the path of the activities affected at ~~the time~~issuance of NTP  
2 ~~of afor~~ Supplemental Agreement or commencement of any delay or condition for  
3 which an adjustment is warranted under the Contract Documents.

- 4 6. If Developer is delayed in performing the Work, Developer shall absorb any related  
5 delay, disruption, interference, hindrance, extension, or acceleration costs, however  
6 caused, except as otherwise provided in Article 14 of the Agreement. Developer may  
7 use Float to absorb Project delays, if any. Developer shall include a description of  
8 the cause of delay, the projected amount of Float to be used, and the revised  
9 Monthly Progress Schedule showing the use of the Float in the Monthly Progress  
10 Report. Developer shall work cooperatively with ADOT, other contractors, and third  
11 parties to identify and implement, to the maximum extent possible, no-cost measures  
12 to recover all schedule delays, regardless of the cause of the delays. One example  
13 of such measures is no-cost re-sequencing of Work activities.

14 G. Progress. Developer shall show actual progress and not calculated progress in the  
15 Monthly Progress Schedule. Developer shall incorporate logic changes and Work  
16 changes into the Monthly Project Schedule. Each Monthly Project Schedule Submittal  
17 must clearly and individually define the progression of the Work within the applicable  
18 timeframe by using separate Project activities.

19 H. Resources. ~~Indication of~~Developer shall indicate any resources such as commodities,  
20 labor, or equipment quantities with the associated Project activity field. Developer shall  
21 base labor-loading of activities on total number of workers, not total number of crews,  
22 and shall assign applicable activities for major construction equipment to be used by  
23 Developer and Subcontractors in prosecuting Work. The quantity must represent the  
24 estimated effort in-place for the Project activity field.

### 25 110.06.2.3 Schedule Submission Process

26 Developer shall use the schedule submittal process outlined in this Section GP 110.06.2.3 for  
27 the preparation and submittal of all Project Schedules provided by Developer to ADOT for  
28 review and comment, unless otherwise specified in the Contract Documents.

29 For each Project Schedule Submittal, Developer shall provide the following:

- 30 A. Hard copies of the schedule on full-size (24 inches x 36 inches) color plot sheets.  
31 B. Electronic version of the schedule in both native (including activity data, logic, and  
32 coding) and PDF format on IBM PC compatible electronic media.  
33 C. Schedule Narrative in accordance with Section GP 110.06.2.4 of the TPs.  
34 D. Look-Ahead Schedule in accordance with Section GP 110.06.2.9 of the TPs.  
35 E. Recovery Schedule, as needed, in accordance with Section GP 110.06.2.10 of the TPs.  
36 F. Time Impact Analysis, as needed, in accordance with Section GP 110.06.2.11 of the  
37 TPs.

38 The Project Schedule Submittal must progress with the following steps:

- 39 A. Developer shall submit Project Schedules for review and approval by ADOT.  
40 B. ADOT will review the schedule and will return it with comments or no comments. ADOT  
41 will not withhold payment in accordance with the requirements of Section GP 110.06.2 of  
42 the TPs if ADOT fails to provide a response to the Project Schedule Submittal within the  
43 specified time.  
44 C. Developer shall address all ADOT comments and revise the Project Schedule, as  
45 necessary.

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1 D. Developer shall provide a revised schedule within 14 days, if necessary.

2 ADOT's review of and comment on a Project Schedule does not do the following:

3 A. Imply approval of any particular construction methods or relieve Developer of its  
4 responsibility to provide sufficient materials, equipment, and labor to complete the  
5 Project in accordance with the Contract Documents-.

6 B. Attest to the validity of assumptions, activities, relationships, sequences, resource  
7 allocations, or any other aspect of the Project Schedule.

8 C. Imply Developer is entitled to any Supplemental Agreement extending the Completion  
9 Deadline or adjusting the Price.

10 D. Relieve Developer from compliance with the requirements of the Contract Documents, or  
11 result in the approval of any variation from the Contract Documents.

12 Failure to include any element of Work required by the Contract Documents in the Project  
13 Schedule does not release or relieve Developer from responsibility to perform such Work.

### 14 **110.06.2.4 Schedule Narrative**

15 At each Project Schedule Submittal, Developer shall prepare and submit a stand-alone  
16 Schedule Narrative with sufficient detail to explain the basis of the submitted Project Schedule  
17 to ADOT. The Schedule Narrative must describe the activities, including how the activities  
18 interrelate. Developer shall ensure that the Schedule Narrative includes the following  
19 information:

20 A. A list of the activities on each Critical Path and a comparison of early dates and late  
21 dates for activities designating ~~contract~~ times

22 B. For the Project Schedule Submittals, include (a) Developer's site management plan  
23 (e.g., lay down, staging, traffic, and parking), (b) the use of construction equipment and  
24 resources, (c) basis and assumptions for critical activity durations and logic, (d)  
25 compliance with winter weather requirements, (e) any shifts, non-Business Days, and  
26 multiple calendars applied to the activities, (f) the construction philosophy supporting the  
27 approach to the Work outlined in the submitted Project Schedule, and (g) the reasons for  
28 the sequencing of Work ~~and describe, including a description of~~ any limited resources,  
29 potential conflicts, and other salient items that may affect the schedule and how they  
30 may be resolved

31 C. For all subsequent schedule Submittals, the Schedule Narrative must recap progress  
32 and days gained or lost versus the previous Progress Schedule, problems and delays  
33 that have been experienced to date, the party responsible for the problems or delays,  
34 and Developer's plan to resolve the problems or bring the delayed activities back on  
35 schedule, potential problems that may be encountered during the next period and the  
36 proposed solutions (identify all potential problems and explain what action ADOT needs  
37 to take and the date by which the action needs to be taken to avoid the problem),  
38 describe changes in resources to be used on remaining Work and identify delays, their  
39 extent, and causes. Each Schedule Narrative must also itemize changes in activities and  
40 logic ties caused by each Supplemental Agreement, schedule recovery plans and  
41 grouping of related Developer-initiated revisions

42 D. The justification for any activity with a duration exceeding 20 Business Days

43 E. The justification for any constraints used

44 F. Developer's approach used to apply relationships between activities, including a list of  
45 activity relationships with lags and the justification for the use of each lag (e.g., all ties



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1 are based on physical relationships between Work activities [such as “rebar must be  
2 placed before concrete is placed”] or relationships are used to show limited resources  
3 [such as “bridge two follows bridge one” because Developer has only one bridge crew])

4 G. Challenges that may arise associated with Critical Path activities

### 5 **110.06.2.5 Schedule Deliverable Requirements**

6 Developer shall prepare and maintain the Project Schedule, which consists of the following:

- 7 A. Project Baseline Schedule
- 8 B. Monthly Progress Schedule
- 9 C. Recovery Schedule (as needed)

10 Developer shall also prepare and maintain the following schedules:

- 11 A. Look-Ahead Schedule
- 12 B. As-Built Schedule

### 13 **110.06.2.6 Project Baseline Schedule**

14 Developer shall use the Preliminary Project Baseline Schedule submitted with the Proposal as a  
15 foundation to prepare the Project Baseline Schedule. The Project Baseline Schedule must  
16 clearly define the prosecution of the Work from issuance of ~~NTP4~~NTP 1 to Final Acceptance by  
17 using the separate critical path method (CPM) activities for the following: design; Project ROW  
18 activities (e.g., development of ROW Submittals, review and approval periods, and all other  
19 Project ROW activities for each parcel in accordance with Section DR 470 of the TPs),  
20 environmental commitments, and mitigation activities; construction; testing; permitting; Submittal  
21 preparation, reviews, resubmissions, and concurrence; material and equipment deliveries;  
22 interfaces with other contractors, Utilities, etc.; final inspection; Punch List; milestones and  
23 Substantial Completion; and training. Developer shall detail CPM activities and logic ties in the  
24 Project Baseline Schedule as necessary to show Developer’s Work sequencing and separately  
25 define all requisite ADOT tasks. For each activity in the Project Baseline Schedule, Developer  
26 shall indicate the duration, in calendar days, required to perform the activity and the anticipated  
27 beginning and completion date of each activity. The Project Baseline Schedule must indicate  
28 the sequence of performing each activity and the logical dependencies and interrelationships  
29 among the activities. The Project Baseline Schedule must include a listing of all Submittals as  
30 called out in the Contract Documents. Submittal activity durations must include specific  
31 durations for reviews and/or concurrence of Developer’s Submittals as set forth elsewhere in the  
32 Contract Documents.

33 Prior to issuance of ~~NTP2~~NTP 2, Developer shall submit a Project Baseline Schedule to ADOT  
34 for approval in ADOT’s good faith discretion. Developer shall use the Project Baseline Schedule  
35 as the basis for Monthly Progress Schedule Submittals. The completion/approval of the Project  
36 Baseline Schedule is a condition ~~forte~~ commencement of any Construction Work.

37 Developer shall use the Project Baseline Schedule to coordinate all activities on the Project,  
38 including those with other entities, such as Subcontractors, vendors and Suppliers, Utility  
39 Companies, Governmental Entities, and ADOT.

40 Developer shall develop the work breakdown structure (WBS) with clearly identifiable linkage to  
41 Developer’s activities and phases represented in the Project Baseline Schedule.

### 42 **110.06.2.7 Monthly Progress Schedule**

43 Developer shall prepare a Monthly Progress Schedule that updates the Project Baseline  
44 Schedule during the D&C Period, commencing after issuance of ~~NTP2~~NTP 2, until the closing

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1 | ~~date~~ for final payment for NTP2the Work associated with NTP 2. The Monthly Progress  
2 Schedule must reflect progress up to the closing date, forecast finish for in-progress activities  
3 and re-forecast early dates for activities planned in the next update period. The Monthly  
4 Progress Schedule must include the following:

- 5 A. Actual start and finish dates for completed activities;
- 6 B. Actual start dates, percentage complete, and remaining duration for activities in  
7 progress;
- 8 C. All proposed activities, logic, and restraint date revisions required to:
  - 9 1. Implement changes in the Work,
  - 10 2. Detail all impacts on preexisting activities, sequences and restraint dates,
  - 11 3. Reflect Developer's current approach for Work remaining,
  - 12 4. Incorporate any delays that are being negotiated between ADOT and Developer, and
  - 13 5. Reflect "or equal" or substitution proposals.
- 14 D. Planned start and finish dates for future activities; and
- 15 E. Progress for the current invoice submittal for Project activities.

16 If Work is performed out of sequence, Developer shall implement logic changes to allow the out-  
17 of-logic sequence Work to proceed. Developer shall exclude any revisions for Developer's  
18 convenience when reconciling an extension to a milestone. Developer shall document changes,  
19 which must be highlighted or identified, in any Monthly Progress Schedule.

20 Concurrent with the draft invoice submittal, Developer shall submit the Monthly Progress  
21 Schedule to ADOT for approval in ADOT's good faith discretion, and for discussion at the  
22 progress meeting, as set forth in Section GP 110.06.2 of the TPs and in Section 13.2.2 of the  
23 Agreement. Once the Monthly Progress Schedule is accepted by ADOT, Developer shall use  
24 the Monthly Progress Schedule as the basis for the next Monthly Progress Schedule. ADOT has  
25 | no obligation to approve payment of an invoice ~~payment~~ until ADOT receives an acceptable  
26 Monthly Progress Schedule and all other conditions for approval have been satisfied.

### 27 **110.06.2.8 Monthly Progress Report**

28 Developer shall provide additional, separate, filtered reports of the Project activities and Work  
29 elements based on the Monthly Progress Schedule with the Monthly Progress Report, including  
30 the following:

- 31 A. Description of coordination with Utility Companies and accomplishing Utility Work
- 32 | B. Bar chart schedule sorted by elements, indicating the physical status of all activities as  
33 of date of the update
- 34 C. Graphical report, which compares Developer's progress to planned progress by  
35 elements
- 36 D. Design Document Submittals for the forthcoming period
- 37 E. Tabular report listing all activities with 14 days or less Float
- 38 F. 60-day look ahead report identifying all of ADOT and Governmental Approvals required
- 39 G. 180-day look ahead bar chart schedule sorted by WBS and activity early start dates
- 40 H. Critical items graphical report for each Critical Path sorted by activity early start date,  
41 including major Work completion, long-term closures of travel lanes beginning and  
42 ending, etc.

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- 1 I. Time-scaled Critical Path network plot indicating the status of all activities as of the date
- 2 of the update
- 3 J. Project
- 4 K. ROW acquisition status per parcel
- 5 L. Monthly expenditure projects and cash expenditure curves by WBS
- 6 M. Discussion of actions/corrections to be taken to achieve Project Baseline Schedule
- 7 milestones
- 8 N. Reporting of Noncompliance Events from the previous month

9 At the monthly progress meetings, Developer shall submit the Monthly Progress Report to  
10 ADOT.

### 11 110.06.2.9 Look-Ahead Schedule

12 The Look-Ahead Schedule is a computer-generated bar chart that indicates the previous week's  
13 Work and the Work planned for the next 3 weeks. Developer shall base the Look-Ahead  
14 Schedule on the Project Schedule, and provide a greater breakdown of the Project Schedule  
15 activities for the purpose of materials inspection and testing. The Look-Ahead Schedule must  
16 clearly note and explain any Deviations from the Project Schedule. Developer shall reference  
17 the Project Schedule activity identification numbers and define subsequent specific daily  
18 operations for all Work activities scheduled to be performed during the 4-week period. At least 1  
19 day prior to the weekly Project meeting, Developer shall submit weekly Look-Ahead Schedules  
20 to ADOT.

### 21 110.06.2.10 Recovery Schedule

22 Unless otherwise directed in writing by ADOT, if ADOT's review of the Monthly Progress  
23 Schedule indicates a late completion of the Work, or should Critical Path items shown on the  
24 Monthly Progress Schedule Submittal slip by 28 or more days beyond any milestone, Developer  
25 shall prepare a Recovery Schedule which displays how Developer intends to reschedule those  
26 activities, to regain compliance with the milestones and the Agreement. Whenever a Recovery  
27 Schedule is required, Developer shall provide the following information:

- 28 A. Transmittal letter
- 29 B. Time-scaled network diagram
- 30 C. Electronic copy of the file used for the proposed Recovery Schedule
- 31 D. Narrative describing any proposed changes to the Project Schedule, in detail, with  
32 justification for the changes, including the following:
  - 33 1. Changes to activity original durations;
  - 34 2. Changes to activity relationships and/or schedule logic;
  - 35 3. Cause of schedule slippage and actions taken to recover schedule within the  
36 shortest reasonable time (e.g., hiring of additional labor, use of additional  
37 construction equipment, and expediting of deliveries);
  - 38 4. Identification of activities that have been added, deleted, or modified; and/or
  - 39 5. Changes to the Project Schedule's Critical Path.

40 Within 10 Business Days of receipt of ADOT's written direction or when any Critical Path item  
41 slips by 28 days or more, Developer shall submit the Recovery Schedule to ADOT for approval  
42 in ADOT's good faith discretion. Developer shall not be required to prepare a Recovery  
43 Schedule if Developer requests and demonstrates, in writing, entitlement to an extension of the  
44 D&C Period, in writing, due to delayRelief Event Delay(s) not within the control of Developer,



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1 and ADOT concurs schedule recovery is not required at that time. Within 5 Business Days after  
2 any rejection by ADOT of the Recovery Schedule, Developer shall resubmit a revised Recovery  
3 Schedule incorporating ADOT's comments. When ADOT accepts Developer's Recovery  
4 Schedule, Developer shall, within 5 Business Days after ADOT's acceptance, incorporate such  
5 schedule in the Project Schedule, deliver the same to ADOT, and proceed in accordance with  
6 the approved Recovery Schedule.

### 7 110.06.2.11 Time Impact Analysis

8 If Developer submits a Relief Request indicating that an event, situation, or change affects a  
9 Critical Path of the Project Schedule as set forth in Section 14.1.3.1 of the Agreement,  
10 Developer shall prepare a Time Impact Analysis showing the cumulative effect of the change on  
11 the completion or fixed milestone date with the Relief Request. Developer shall include a written  
12 report, in a form satisfactory to ADOT, describing the Time Impact Analysis with the Time  
13 Impact Analysis. The revision to the Project Schedule associated with the time extension must  
14 not modify the early- and late-start cost curves of the Project Schedule, except with respect to  
15 activities that have been affected by the event that justify the extension. Developer may  
16 reschedule activities not otherwise affected by the event to take advantage of additional Float  
17 available as the result of the time extension. Developer shall reflect any such rescheduling in  
18 the Project Schedule. Each Time Impact Analysis must include a fragnet demonstrating the  
19 following information:

- 20 A. How Developer proposes to incorporate the Supplemental Agreement
- 21 B. The Claims impact to the Project Schedule
- 22 C. The sequence of new and/or existing activity revisions that are proposed to be added to  
23 the Project Schedule that is in effect when the change or delay is encountered
- 24 D. The proposed method for incorporating the delay and its impact to the Project Schedule

25 With each Relief Request, Developer shall submit a Time Impact Analysis to ADOT.

### 26 110.06.2.12 As-Built Schedule

27 Developer shall prepare an As-Built Schedule that includes actual start and actual finish dates  
28 for all activities. The As-Built Schedule, once accepted, ~~will serve~~ as the final update of  
29 the Project Schedule. Developer shall include a written certification with the As-Built Schedule  
30 Submittal signed by the Project Manager and an officer of Developer in accordance with the  
31 following:

32 "To the best of my knowledge, the enclosed final update of the Project Schedule reflects the  
33 actual start and completion dates of the activities for the Project contained herein."

34 Submittal of the final update of the Project Schedule and the Project Manager's certification is a  
35 condition to Final Acceptance in accordance with Section 6.6.4.2 of the Agreement.

36 At least 20 Business Days prior to scheduled Final Acceptance, Developer shall submit the As-  
37 Built Schedule to ADOT.

### 38 110.06.3 Submittals

39 Table 110-9 reflects a nonexclusive list of Submittals identified in Section GP 110.06 of the TPs  
40 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
41 determine and submit all Submittals as required by the Contract Documents, Governmental  
42 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
43 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise

| **ADDENDUM #~~1~~2**

- 1 specified in the Contract Documents, Developer shall submit the following to ADOT in the
- 2 | formats described in Section GP 110.10.2.2 of the TPs:

<b>Table 110-9 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Schedule Narrative	5	2	1	At each Project Schedule Submittal	GP 110.06.2.4
Project Baseline Schedule	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.06.2.6
Monthly Progress Schedule	2	2	1	At the progress meeting	GP 110.06.2.7
Monthly Progress Report	5	2	1	At the monthly progress meetings	GP 110.06.2.8
Look-Ahead Schedule	5	2	1	1 day prior to the weekly Project meeting	GP 110.06.2.9
Recovery Schedule	2	2	1	Within 10 Business Days of receipt of ADOT written direction or when any Critical Path item slips by 28 Calendar Days or more	GP 110.06.2.10
Time Impact Analysis	5	2	1	With each Relief Request	GP 110.06.2.11
As-Built Schedule	5	2	1	Within 20 Business Days after Final Acceptance	GP 110.06.2.12
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1 **110.07 Quality Management**

2 **110.07.1 General Requirements**

3 Developer shall perform all Work in compliance with the requirements of Section GP 110.07 of  
4 the TPs.

5 **110.07.2 Administrative Requirements**

6 **110.07.2.1 Quality Management Plan**

7 Developer shall prepare a comprehensive Quality Management Plan (QMP) that is consistent  
8 with and expands upon the preliminary QMP submitted with the Proposal. The QMP must  
9 comply with International Standards Organization (ISO) 9001:2000 for quality systems, quality  
10 plans and quality audits, or most current version at the time of the Proposal submittal, as  
11 updated by the International Standards Organization. Developer may elect to obtain formal ISO  
12 9001 certification, but is not required to do so.

13 The QMP must consist of four volumes, as follows:

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- 1 A. Volume 1: Quality Management Plan General Requirements (Section GP 110.07.2.1.1 of  
2 the TPs)
- 3 B. Volume 2: Professional Services Quality Management Plan (PSQMP) (Section GP  
4 110.07.2.1.2 of the TPs)
- 5 C. Volume 3: Construction Quality Management Plan (CQMP) (Section GP 110.07.2.1.3 of  
6 the TPs)
- 7 D. Volume 4: Maintenance Quality Management Plan (MQMP) (Section GP 110.07.2.1.4 of  
8 the TPs)

9 Developer shall develop, implement, and maintain the QMP for the Term. The QMP must  
10 describe the systems, policies, and procedures that ensure the Work meets the requirements of  
11 the Contract Documents and provides documented evidence of same.

12 The QMP must encompass all Work to be performed by Developer and Subcontractors of all  
13 tiers, and shall contain detailed procedures for Developer's quality assurance (QA) and QC  
14 activities. Developer's quality process must incorporate planned and systematic verifications  
15 and audits undertaken by an Independent Quality Firm (IQF) for construction, and by  
16 Developer's quality staff for Professional Services and maintenance. ~~Developer's quality~~  
17 ~~process must also allow for verification sampling, testing and inspection by ADOT.~~ Developer  
18 shall conduct all QA/QC, performance confirmation, and coordination among disciplines, all in  
19 accordance with the QMP and the requirements of the Contract Documents.

20 Developer shall prepare Quality Records that include the following documentation:

- 21 A. Forms and checklists corresponding to Professional Services Work QC and QA  
22 procedures, as defined in the PSQMP;
- 23 B. Daily field reports for Construction Work QC inspection;
- 24 C. Construction Work QC forms, as defined in the CQMP;
- 25 D. Construction Work Quality Acceptance forms and documentation, as defined in the  
26 CQMP;
- 27 E. Documentation of deviations from the IQF's sampling guide schedule;
- 28 F. Documentation of IQF's application of engineering judgment;
- 29 G. Documentation of Nonconforming Work identification, cause and corrective action;
- 30 H. RFI documentation;
- 31 I. Quality Acceptance test results;
- 32 J. Material certificates;
- 33 K. Buy America documentation, including summary quantity and dollars information;
- 34 L. Tracking documentation for testing frequencies to ensure compliance with the Contract  
35 Documents;
- 36 M. Approval documentation for Portland cement concrete and hot mix asphaltic concrete  
37 mix designs;
- 38 N. Documentation required for Maintenance Services Noncompliance Events;
- 39 O. Daily field reports for Maintenance Services QC inspection; and
- 40 P. Other quality documentation required for Professional Services Work, Construction Work  
41 and Maintenance Services, as defined in the respective volumes of the QMP.

42 Developer shall load all ~~quality records~~Quality Records to the EDMS immediately. Upon  
43 request, Developer shall submit copies of Quality Records to ADOT.

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1 Developer shall prepare Results of Internal Audits that includes the documentation specified in  
2 the respective volumes of the QMP. Within 5 Business Days of their completion, Developer shall  
3 submit all Results of Internal Audits to ADOT for review and comment. Upon ~~issuance and~~  
4 resolution of the non-conformance, Developer shall submit a Non-Conformance Reports to  
5 ADOT for review and comment.

### 6 **110.07.2.1.1 Quality Management Plan – General Requirements**

7 Quality terminology, unless defined or modified elsewhere in the Contract Documents, must  
8 have the meanings in ISO 9001. Terms used in ISO 9001 must include the following meanings:

- 9 A. Organization: Developer's organization, including any Affiliates and Subcontractors.
- 10 B. Customers: the ~~Users~~users of the roadways, ADOT, and stakeholders.
- 11 C. Product: the Work.

12 Developer shall prepare the Quality Management Plan General Requirements including in  
13 accordance with the requirements in this Section GP 110.07.2.1.1. Prior to issuance of  
14 NTP2NTP 2, Developer shall submit the Quality Management Plan General Requirements to  
15 ADOT for approval in ADOT's good faith discretion.

### 16 **110.07.2.1.1.1 Quality Management Organization**

17 Developer shall document and regularly maintain the QMP ~~to contain~~so that it contains current  
18 versions of the following information:

- 19 A. Resumes for all quality management personnel, including information on certifications  
20 held.
- 21 B. The organizational chart that identifies all quality management personnel, and their  
22 roles, authorities, and line reporting relationships.
- 23 C. Description of the roles and responsibilities of all quality management personnel and  
24 those who have the authority to stop Work.
- 25 D. Procedures for ensuring independence of quality staff and procedures for assuring their  
26 authority to effect changes in the event of Developer's failure to comply with the Contract  
27 Documents.
- 28 E. Identification of the testing organization, including information on the organization's  
29 capability to provide the specific services required for the Work, certifications held, type  
30 of equipment, and location of laboratories.
- 31 F. Procedures for interdisciplinary quality reviews and coordination.

### 32 **110.07.2.1.1.2 Quality Policy**

33 The QMP must contain a complete description of the quality policies and objectives that  
34 Developer shall implement throughout its organization. The policy must demonstrate  
35 Developer's senior management commitment to implement and continually improve the quality  
36 management system for the Work.

### 37 **110.07.2.1.2 Professional Services Quality Management Plan**

38 Developer shall prepare a Professional Services Quality Management Plan (PSQMP) that  
39 describes ~~its~~Developer's policies, procedures, and staffing to manage quality for Professional  
40 Services in accordance with the requirements of this Section GP 110.07.2.1.2. Prior to issuance  
41 of NTP2NTP 2, Developer shall submit the PSQMP to ADOT for approval in ADOT's good faith  
42 discretion.

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### 110.07.2.1.2.1 PSQMP General Requirements

The PSQMP must address the following general requirements:

- A. The QC and QA procedures for Professional Services Work products organized by discipline and sub-discipline, as appropriate (such as engineering - structural, utilities, and Project ROW). These procedures must specify measures to ensure that appropriate quality requirements are specified and included in the Professional Services Work product and to control deviations from such requirements.
- B. Specific QC and quality review procedures, including all required forms and checklists, for preparing, verifying, and checking all Professional Services Work products to ensure that they are independently checked and back-checked in accordance with generally accepted practices of said Professional Services in the State and the requirements of the Contract Documents.
- C. Provisions for identifying the originator and checker on the face of all final work products. Developer shall clearly identify the designer and checker on the face of all Final Design Documents.
- D. Specific procedures for verifying the Professional Services Work product along with any computer programs and methods being used for such purposes.
- E. Method for coordinating Professional Services performed by different individuals or firms working in the same area, in adjacent areas, or on related tasks to ensure that conflicts, omissions, or misalignments do not occur between drawings or between the drawings and the specifications or other applicable deliverables. This must also include the coordination of the review, approval, release, distribution, and revision of documents involving such parties.
- F. Procedures must: (1) ensure that Developer personnel are familiar with all the provisions of the Contract Documents concerning their respective responsibilities; (2) provide for the education, training and certification, as appropriate, of personnel performing activities affecting or assessing the quality of the Work to assure that such personnel achieve and maintain reasonable proficiency; and (3) ensure that Developer performs the Work in accordance with the PSQMP, generally accepted engineering practices or other applicable Professional Services practices in the State and the Contract Documents.
- G. Procedures for meeting documentation requirements per the requirements of the Contract Documents.
- H. Procedures and schedules for the performance of audits of Developer's QC procedures under the PSQMP.
- I. A summary of the documentation that will comprise the Professional Services ~~quality records~~Quality Records, and the procedures to make such ~~quality records~~Quality Records immediately available to ADOT for review.
- J. A summary of anticipated Professional Services audit documentation to be submitted to ADOT, and the procedures to make sure that Developer shall submit all Results of Internal Audits for Professional Services to ADOT for review and comment.

### 110.07.2.1.2.2 Personnel and Staffing

#### 110.07.2.1.2.2.1 Personnel Performing Professional Services Quality Control

Developer shall ensure that the training and experience of personnel performing QC is commensurate with the scope, complexity, and nature of the Professional Services Work



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1 products to be reviewed. Qualifications must include appropriate experience, certifications,  
2 training, and licensure.

3 Developer personnel performing the QC check of Professional Services Work products must not  
4 be directly involved with the original development of the item, Element, or phase being checked.

5 The number of personnel performing Professional Services QC must reflect the volume of  
6 quality assurance (QA) activities necessary for the Work in progress.

### 7 **110.07.2.1.2.2.2 Professional Services Quality Assurance Staff**

8 Developer shall provide a QA staff under the direction of the Professional Services Quality  
9 Manager (PSQM) to perform oversight and review of all Professional Services performed by any  
10 member of Developer's group.

11 The QA staff must have an understanding of the various aspects of Professional Services  
12 undertaken by Developer. The training and experience of the QA staff must be commensurate  
13 with the scope, complexity, and nature of the QA to be performed. Qualifications must include  
14 appropriate experience, certifications, and training.

### 15 **110.07.2.1.2.2.3 Professional Services Quality Assurance Staff Levels**

16 The size of the QA staff must reflect the volume of QA activities necessary for the Work in  
17 progress and Developer shall maintain such staff in accordance with the approved PSQMP.

18 Developer shall update the Professional Services QA staffing requirements as necessary  
19 throughout the Term to reflect changes in the actual Project Schedule and specific Professional  
20 Services elements. Developer shall ensure that adequate Professional Services QA staff is  
21 available and that PSQMP activities are undertaken in a manner consistent with the Project  
22 Schedule and in a manner that enables Developer to timely achieve the Substantial Completion  
23 Deadline and Final Acceptance Deadline.

24 Should ADOT determine that Developer is not complying with PSQMP because of lack of staff  
25 or ethical standards, ADOT will have the right, without penalty or cost, including time extensions  
26 or delay damages, to restrict Work efforts until appropriate levels of staffing consistent with the  
27 PSQMP and satisfactory to ADOT are obtained, or ADOT may contract with a separate firm to  
28 perform these services and withhold payment to Developer for such services.

### 29 **110.07.2.1.3 Construction Quality Management Plan**

30 Developer shall prepare a Construction Quality Management Plan (CQMP) that describes its  
31 policies, procedures, and staffing to manage construction quality in accordance with the  
32 requirements of this Section GP 110.07.2.1.3, TP Attachment 110-2, and the Contract  
33 Documents.

34 Developer shall construct the Work in accordance with the ~~Release for Construction (RFC)~~  
35 Submittal. Developer's CQMP must contain detailed procedures for Developer's QA/QC  
36 activities for construction activities. The CQMP must be consistent with the applicable  
37 procedures contained in the *ADOT Materials Quality Assurance Program* and the *ADOT*  
38 *Construction Manual*. Developer shall use the *ADOT Materials Testing Manual* when  
39 establishing sampling and testing procedures for standardization and consistency with ADOT  
40 procedures. The CQMP must establish clear distinction between Developer's QC and the IQF's  
41 quality acceptance activities and persons performing them. The quality process must also allow  
42 for verification sampling, testing, and inspection by ADOT.

43 Developer shall ensure that personnel with appropriate training and qualifications for each  
44 appropriate item of Work (items produced on and off the Site) perform inspections, reviews, and

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1 testing using appropriate equipment that is accurately calibrated and maintained in good  
2 operating condition in accordance with the ADOT *Materials Quality Assurance Program, Section*  
3 *VI, "Laboratory Qualifications"*.

4 Prior to issuance of NTP2NTP 2, Developer shall submit the CQMP to ADOT for approval in  
5 ADOT's good faith discretion.

### 6 **110.07.2.1.3.1 CQMP General Requirements**

7 The CQMP must describe and include the following general requirements:

8 A. Methods and procedures that clearly define the distinction/authority/responsibility for  
9 the administration of the CQMP.

10 ~~B. Designation of an individual on each crew to be responsible for performing daily field~~  
11 ~~QC inspections of the crew's Work and for preparing a daily QC report to document~~  
12 ~~the inspection performed.~~

13 ~~C.B.~~ The review and approval process of all Portland cement concrete and hot mix  
14 asphaltic concrete mix designs by an IQF Professional Engineer.

15 ~~D.C.~~ Methods and procedures to be utilized by Developer to obtain active participation of  
16 the workforce in QC operations to achieve a high quality Project; Developer shall  
17 include reporting forms to be used by the responsible QC personnel.

18 ~~E.D.~~ A construction QC organization and staffing plan. Developer shall (a) show the period  
19 of time that the QC staff members must be present on the Site, (b) include the  
20 resumes of the Key Personnel and other personnel included in the QC organization,  
21 and (c) state the experience/knowledge/skill levels of the QC support staff.

22 ~~F.E.~~ IQF organizational and staffing plans. Developer shall (a) show the period of time that  
23 the quality acceptance staff members must be present on the Site, (b) include the  
24 resumes of key staff members, and (c) state the required minimum knowledge,  
25 technical skills, and experience level of the personnel related to the various inspection  
26 functions, such as grading, drainage, structures, and electrical inspections, that will  
27 occur on the Work. Developer shall identify the administrative/clerical support staff for  
28 maintenance and management of records/documents pertinent to quality acceptance  
29 for the IQF activities.

30 ~~G.F.~~ Procedures for inspecting, checking, and documenting the Work. Developer shall  
31 perform inspections, examinations, and measurements for each operation of the Work  
32 to assure quality.

33 ~~H.G.~~ Sampling and testing requirements of all materials during the production or  
34 manufacturing processes, including sampling guide schedule ~~to be utilized by the~~  
35 ~~IQF and material codes and type codes to be utilized by the IQF. The sampling guide~~  
36 ~~schedule must include specific items, or components of items, that are planned to be~~  
37 ~~accepted on the basis of certification.~~

38 ~~H.~~ Procedures to document the Project-specific sampling and testing plan to track  
39 planned versus actual testing status and documentation of deviations from the  
40 sampling and testing plan.

41 ~~I.~~ For materials that are sampled on a time designated lot basis, the methodology to  
42 estimate the relationship between the production lot quantity and the time required to  
43 produce such quantity in order to determine the recommended number of samples.

44 ~~I.J.~~ Procedures to ensure there is adequate quantity of material available for IQF sampling  
45 and testing and ADOT verification sampling and testing.

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- 1 | ~~J.K.~~ Procedures to ensure that all activities affecting the quality of the Work are  
2 | accomplished under controlled conditions, using appropriate equipment for the task  
3 | being performed.
- 4 | ~~K.L.~~ Procedures to ensure that the education, training, and certification of personnel  
5 | performing CQMP activities are achieved and maintained and that all Work is  
6 | performed in accordance with the approved designs, Plans, and specifications.  
7 | Procedures to make an electronic log available to ADOT that contains personnel  
8 | certification status and expiration dates.
- 9 | M. Procedures to track that personnel performing IQF Quality Acceptance activities are  
10 | observed annually by ADOT's Independent Assurance (systems basis) for the  
11 | sampling and testing they perform. Procedures to report to ADOT which individuals are  
12 | due for observation.
- 13 | ~~L.N.~~ Procedures to ensure that critical Elements of the Work are not started or continued  
14 | without inspection and testing by the IQF personnel on ~~site~~Site. Developer shall  
15 | identify and communicate inspection or hold points to the IQF, Construction Quality  
16 | Control Manager (CQCM), and ADOT and develop procedures to proceed beyond  
17 | inspection points.
- 18 | ~~M.O.~~ Description of specific procedures to ensure that all Work conforms to the  
19 | requirements of the Contract Documents, Governmental Approvals, applicable Laws,  
20 | and the RFC ~~documents~~Documents, as well as that all materials, equipment, and  
21 | elements of the Work ~~performs~~perform satisfactorily for the purpose intended. The IQF  
22 | may apply engineering judgment to substantiate the use of material failing to meet the  
23 | specification if the material still meets the intended purpose. Developer shall  
24 | incorporate the engineering judgment guiding principles from TP Attachment 110-2  
25 | into the CQMP and indicate how the IQF will comply with these guiding principles.  
26 | Developer may add additional guiding principles, as appropriate.
- 27 | P. Format for documentation of the IQF's application of engineering judgment. At the  
28 | least, this must include a unique identifying number for each application, identification  
29 | and location of non-conforming work, the circumstances and the engineering  
30 | evaluation conclusions, and supporting documentation such as calculations or  
31 | sketches, as appropriate.
- 32 | ~~N.Q.~~ Documentation that all activities undertaken by or on behalf of Developer affecting the  
33 | quality of the Work are prescribed by documented instructions, procedures, and  
34 | appropriate drawings. Such instructions, procedures, and drawings must include  
35 | quantitative and qualitative criteria to be used to determine compliance.
- 36 | ~~O.R.~~ Measures to ensure that purchased materials, equipment, and services conform to the  
37 | Contract Documents, Governmental Approvals, applicable Laws, Rules, and the  
38 | Design Documents. These measures must be consistent with Good Industry Practice  
39 | and must include provisions for source evaluation and selection, objective evidence of  
40 | quality furnished by Subcontractors and Suppliers, inspection at the manufacture or  
41 | vendor source, and examination of products upon delivery.
- 42 | ~~P.S.~~ Procedures for identification and control of materials, equipment, and elements of the  
43 | Work. These procedures must be consistent with current industry standards to ensure  
44 | that identification of the item is maintained by appropriate means, either on the item or  
45 | on records traceable to the item, as necessary, throughout fabrication, erection,  
46 | installation and use of the item.
- 47 | ~~Q.T.~~ Procedures to ensure that materials, equipment, or Elements of the Work that do not  
48 | conform to requirements of the Contract Documents, Governmental Approvals,

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1 applicable Laws, or the Design Documents are not used or installed, unless the IQF's  
2 engineering judgment is used to substantiate and document the use of nonconforming  
3 material. These procedures must include identification, documentation, segregation,  
4 disposition, and notification ~~to~~of ADOT and, if appropriate, Governmental Entities and  
5 other affected third parties, as well as procedures for ADOT to review Nonconforming  
6 Work.

7 ~~R.U.~~ Procedures for processing a Request for Information (RFI) to resolve discrepancies  
8 and/or questions in the Plans and specifications, so that all changes are documented  
9 and approved by Developer's design engineers and ADOT.

10 ~~S.V.~~ Procedures to indicate, by the use of markings, such as stamps, tags, labels, routing  
11 cards, or other suitable means, the status of inspections and tests performed upon  
12 individual items of the Work.

13 ~~T.W.~~ A program for inspection for each operation of all Work examinations, measurement  
14 and test of materials, or Elements of the Work to assure quality.

15 ~~U.X.~~ A program for coordination of all inspection and testing with the inspections and tests  
16 of Governmental Entities and Utility Owners.

17 ~~V.Y.~~ A program to ensure performance of all testing required to demonstrate that all  
18 materials, equipment, and Elements of the Work perform satisfactorily for the purpose  
19 intended and meet the standards specified in the Contract Documents. The program  
20 must specify written test procedures which include provisions for ensuring that all  
21 prerequisites for the given test have been met and that adequate test instrumentation  
22 is available and used. The CQMP must require that test results be documented and  
23 evaluated to ensure that test requirements have been satisfied. The CQMP must also  
24 demonstrate how the IQF tracks its testing frequencies to ensure compliance with the  
25 Contract Documents, and how that information will be transmitted to ADOT, in a  
26 manner acceptable to ADOT at least monthly.

27 ~~W.Z.~~ Procedures for reviewing and approving quality acceptance test results, categorizing  
28 test results in a manner acceptable to ADOT, transmitting quality acceptance test  
29 results to ADOT in a format acceptable to ADOT for use in fulfilling its statistical  
30 validation requirements, and working collaboratively with ADOT to resolve statistical  
31 non-validation between IQF and ADOT test results.

32 ~~X.AA.~~ Measures to ensure that tools, gauges, instruments, and other measuring and  
33 testing devices used in activities affecting quality are properly maintained, controlled,  
34 calibrated, certified, and adjusted at specified periods to maintain accuracy within  
35 industry standards.

36 ~~Y.BB.~~ Procedures to control the handling, storage, shipping, cleaning, and preservation  
37 of materials and equipment to prevent damage or deterioration.

38 ~~Z.CC.~~ Procedures to ensure those conditions adverse to quality, such as failures,  
39 malfunctions, deficiencies, defective material and equipment, deviations, and other  
40 Nonconforming Work are promptly identified and corrected. The procedures must  
41 ensure that the cause of the condition is determined and corrective action taken to  
42 preclude repetition. Developer shall document and report in writing to ADOT and to  
43 appropriate levels of Developer's management (a) the identification of the significant  
44 condition adverse to quality, (b) the cause of the condition, and (c) the corrective  
45 action.

46 ~~AA.DD.~~ A comprehensive system of planned and periodic audits of Developer's CQMP to  
47 determine adherence to and the effectiveness of the CQMP. IQF personnel must  
48 perform the audits in accordance with the written procedures or checklists. Developer

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1 shall document, review, and act upon audit results. Developer shall take follow-up  
2 action, including re-audit of deficient areas following corrective action, where indicated.

3 ~~BB-EE.~~ Measures to control the receipt and issuance of documents, such as instructions,  
4 procedures, training manuals, and drawings, including changes thereto, which  
5 prescribe activities affecting quality. These measures must ensure that approved  
6 documents, including authorized changes thereto, are reviewed for adequacy and  
7 approved for release by authorized personnel of Developer and are distributed to and  
8 used at the location where the prescribed activity is performed. The same  
9 organizations that performed the original review and approval must review and  
10 approve changes to documents, unless ADOT consents, in writing, to the use of  
11 another responsible organization.

12 ~~CC-FF.~~ The requirements and methods for controlling documents.

13 ~~DD-GG.~~ Procedures and personnel to be used to assure that specified instrumentation is  
14 installed and monitored in accordance with applicable specification.

15 ~~EE-HH.~~ The form and distribution of certificates of compliance. Procedures which define a  
16 detailed description of how material certificates will be collected or received, how they  
17 will be verified in the field by inspection, how they will be matched up and assigned to  
18 specific quantities of received material, how they will be stored and organized to  
19 facilitate future audits, what system will be used for tracking certificates and who will  
20 be responsible for managing the program. A certificate of analysis must include all the  
21 information required for a certificate of compliance and, in addition, must include the  
22 results of all tests required by the specifications.

23 ~~FF-LL.~~ Procedures for ensuring compliance with Buy America requirements of 23 CFR  
24 635.410, including tracking quantities and dollars of domestic and foreign steel. The  
25 IQF must make this information available to ADOT.

26 ~~GG-JJ.~~ Procedures for quality acceptance in the CQMP with respect to checking and  
27 verifying the accuracy and adequacy of construction stakes, lines, and grades  
28 established by Developer.

29 ~~HH-KK.~~ A summary of the documentation that comprises the construction ~~quality~~  
30 ~~records~~ Quality Records, and the procedures to make such ~~quality records~~ Quality  
31 Records immediately available to ADOT for review.

32 ~~II-LL.~~ A summary of anticipated construction audit documentation to be submitted to ADOT,  
33 and the procedures to make sure all Results of Internal Audits for construction are  
34 submitted to ADOT within the timeline required in Section GP 110.07.3 of the TPs.

### 35 110.07.2.1.3.2 Inspection of Work

36 All materials and each part or detail of the Work must be subject to inspection by the IQF and  
37 ADOT. Developer shall allow the IQF and ADOT access to all parts of the work and shall be  
38 furnished with such information and assistance by Developer as is required to make a complete  
39 and detailed inspection.

40 Developer's failure to immediately discover any defective Work or materials ~~shall~~ does not in any  
41 way prevent later rejection by ADOT when such defect is discovered nor obligate ADOT to final  
42 acceptance.

43 When identified by ADOT, certain Governmental Entities, Utility Companies, or railroad  
44 ~~corporation~~ corporations may have the right to inspect the Work. Such inspection ~~shall~~ does not  
45 in ~~no~~ any sense make any Governmental Entity or any railroad corporation a party to the



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~~contract~~Agreement and ~~shall~~does not in ~~no~~any way interfere with the rights of either ~~party~~Party to the ~~contract~~Agreement.

### 110.07.2.1.3.3 Plant Access

ADOT ~~shall~~will have full entry at all times to such parts of the plant as may be involved in the manufacture or production of the materials being furnished. Developer shall ensure adequate safety measures are provided.

### 110.07.2.1.3.4 Sampling Device

~~All~~Developer shall ensure that all secondary crushers and screening plants used in producing material ~~must be~~is equipped with a mechanical sampling device or devices that ~~can~~either can be operated from the ground or is accessible to the operator on a platform.

~~These devices must be constructed and operated so that they~~Developer shall ensure that the construction and operation of these devices move at a constant rate across the full width of material and collect a representative sample of the falling column of material from the discharge belt or chute while the plant is in operation. The sampling devices must be substantially constructed so that a sample weighing up to 100 pounds can be taken.

The sampling devices must be equipped with necessary attachments to convey the samples to the ground so that they can be safely and conveniently collected.

The sampling devices must be maintained in a satisfactory working condition so that samples may be taken at any time, as required by ADOT.

### 110.07.2.1.3.5 Ice for Field Testing

Developer shall make commercial ice available to ADOT on siteSite for field testing verification purposes.

### 110.07.2.1.3.6 Construction Quality Acceptance Staff Levels

The size of the construction quality acceptance staff must reflect the volume of quality acceptance activities necessary for the Work in progress and Developer shall maintain such staff size in accordance with the approved CQMP. The IQF staff must perform quality acceptance oversight, inspection, and testing services typically performed by ADOT on traditional projects, unless otherwise indicated in the TPs.

Developer shall update the construction quality acceptance staffing requirements as necessary throughout the Construction ~~Work period~~Period to reflect changes in the actual construction schedule. Developer shall ensure that adequate construction quality acceptance staff is available and that CQMP activities are undertaken in a manner consistent with the Project Schedule and in a manner that enables Developer to timely achieve the Substantial Completion Deadline and Final Acceptance Deadlines.

### 110.07.2.1.3.7 Recording, Record Keeping and Documentation

Developer shall develop and maintain ~~quality records~~IQF Quality Records, including:

~~A. QC inspection reports and process control material sampling/testing results and control charts, which Developer shall make available to ADOT.~~

~~B.~~A. The IQF must maintain, electronically, a daily log of all inspections performed for both Developer and Subcontractor operations in a format acceptable to ADOT and must be made available to ADOT upon request. The daily inspection reports must identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed. The



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1 responsible technician and supervisor must sign the daily inspection reports. Inspectors  
2 must use ADOT approved checklists when performing his/her inspections. Developer  
3 shall provide the results of the daily inspections to ADOT in an electronic format within  
4 24 hours after the work shift.

5 | ~~C-B.~~ The IQF must be responsible for establishing an electronic system for recording  
6 all material test results and certifications. The responsible technician and his/her  
7 supervisor must sign the daily test reports. Developer shall provide the results of the  
8 daily test to ADOT within 24 hours of test completion.

9 | ~~D-C.~~ The IQF's inspection and materials quality program must electronically deliver  
10 the laboratory and field test results to ADOT in a database format acceptable to ADOT.  
11 This electronic reporting is intended to allow Developer and ADOT to make timely and  
12 accurate decisions on workmanship and material quality issues.

13 The IQF must review and maintain all originals or copies of a Certificate of Compliance or a  
14 Certificate of Analysis, as required, prior to the use of any materials or manufactured  
15 assemblies requiring such a certificate be furnished according to applicable ADOT *Materials*  
16 *Policy and Procedure Directives*. The certificates must be made available to ADOT.

17 | Certificates ~~shall~~**must** be specifically identified as either a "Certificate of Compliance" or a  
18 "Certificate of Analysis".

19 Acceptance of materials by "Certificate of Compliance" or "Certificate of Analysis" must comply  
20 with or exceed the requirements of Subsection 106.05 of the ADOT *Standard Specifications for*  
21 *Road and Bridge Construction*, Section 1000 of the ADOT *Materials Testing Manual*, and  
22 applicable ADOT *Materials Policy and Procedure Directives*.

23 **110.07.2.1.4 Maintenance Quality Management Plan**

24 Developer shall prepare a comprehensive Maintenance Quality Management Plan (MQMP)  
25 which must fully incorporate the requirements of the Work during the Maintenance Period, with  
26 the primary function of establishing Developer's self-monitoring process and monitoring the  
27 performance of the Maintenance Services. The MQMP must be consistent with the design and  
28 construction QA/QC requirements set forth in this Section GP 110.07.2.1.4. At a minimum, the  
29 MQMP must specify:

- 30 A. Detailed QA system for validating the information, accuracy, and results of the MQMP.
- 31 B. Procedures to validate the data, times, dates, calculations and other information that are  
32 the basis of Maintenance Services Noncompliance Events.
- 33 C. Methods and procedures that clearly define the distinction/authority/responsibility for the  
34 administration of the MQMP.
- 35 D. That Developer, Suppliers, and Subcontractors designate an individual on each crew to  
36 be responsible for performing daily field Inspections of the crew's Work and for preparing  
37 a daily QC report to document the Inspections performed.
- 38 E. A Maintenance Services quality organization and staffing plan. The plan must show the  
39 period of time that the quality staff member must be present on the Site, must include  
40 resumes of the Key Personnel, and must state the experience/knowledge/skill levels of  
41 the quality support staff.
- 42 F. Procedures for Inspecting, checking, and documenting the Work. Developer shall  
43 perform Inspections, examinations, and measurements must be performed for each  
44 operation of the Work to assure quality.

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- 1 G. Procedures to ensure that all activities affecting the quality of the Work are  
2 accomplished under controlled conditions using appropriate equipment for the task being  
3 performed.
- 4 H. Measures to ensure that purchased materials, equipment, and services conform to the  
5 Contract Documents, Governmental Approvals, applicable Laws, Rules, and the Design  
6 Documents. These measures must be consistent with current industry standards and  
7 must include provisions for source evaluation and selection, objective evidence of quality  
8 furnished by Subcontractors and Suppliers, Inspection at the manufacture or vendor  
9 source, and examination of products upon delivery.
- 10 I. Procedures to indicate, by the use of markings such as stamps, tags, labels, routing  
11 cards, or other suitable means, the status of Inspections, and tests performed upon  
12 individual items of the Work.
- 13 J. Procedures to ensure that conditions adverse to quality, such as failures, malfunctions,  
14 deficiencies, defective material and equipment, deviations and other Nonconforming  
15 Work are promptly identified and corrected. The procedures must ensure that the cause  
16 of the condition is determined and corrective action taken to preclude repetition. To  
17 ensure corrective action is promptly taken, Developer shall document and report to  
18 ADOT in writing and to appropriate levels of Developer's management the identification  
19 of the significant condition adverse to quality, the cause of the condition and the  
20 corrective action taken.
- 21 K. A summary of the documentation that will comprise the Maintenance Services ~~quality~~  
22 ~~records~~Quality Records, and the procedures to make such ~~quality records~~Quality  
23 Records immediately available to ADOT for review.
- 24 L. A summary of anticipated Maintenance Services audit documentation to be submitted to  
25 ADOT, and the procedures to make sure all Results of Internal Audits for Maintenance  
26 Services are submitted to ADOT within the timeline required in Section GP 110.07.2.1 of  
27 the TPs.

28 Prior to issuance of Maintenance NTP, Developer shall submit the MQMP to ADOT for approval  
29 in ADOT's good faith discretion.

30 **110.07.2.1.4.1 Reporting**

31 Developer shall prepare a Maintenance Annual Report that must include the following elements:

- 32 A. An assessment of the actual Maintenance Services achievements versus the planned  
33 goals established in the Maintenance Management Plan, as well as corrective actions  
34 and measures to be taken in the ensuing year to ensure that any shortcomings are  
35 corrected; and
- 36 B. An assessment of compliance with the various traffic control requirements and  
37 limitations contained in the Contract Documents, and the traffic control plans developed  
38 in accordance with the Technical Provisions, as well as any corrective measures taken  
39 to correct any breach or violation of such requirements and limitations and any corrective  
40 measures necessary to prevent any future breach or violation of such requirements and  
41 limitations.

42 By each anniversary of the Substantial Completion Date, Developer shall submit the  
43 Maintenance Annual Report to ADOT for review and comment.

| **ADDENDUM #12**

1 **110.07.3 Submittals**

2 Table 110-10 reflects a nonexclusive list of Submittals identified in Section GP 110.07 of the  
3 TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
4 determine and submit all Submittals as required by the Contract Documents, Governmental  
5 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
6 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
7 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
8 | formats described in Section GP 110.10.2.2 of the TPs:

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<b>Table 110-10 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Quality Management Plan General Requirements	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.07.2.1
Quality Records	5	2	1	Upon request	<del>GP</del> <del>110.07.2.1.4</del> GP <u>110.07.2.1</u>
Results of Internal Audits	4	2	1	Within 5 Business Days of their completion	<del>GP</del> <del>110.07.2.1.4</del> GP <u>110.07.2.1</u>
Non-Conformance Reports	4	2	1	Upon issuance and resolution of the non-conformance	<del>GP</del> <del>110.07.2.1.4</del> GP <u>110.07.2.1</u>
Professional Services Quality Management Plan (PSQMP)	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.07.2.1.2
Construction Quality Management Plan (CQMP)	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.07.2.1.3
Maintenance Quality Management Plan (MQMP)	2	2	1	Prior to issuance of Maintenance NTP	GP 110.07.2.1.4
Maintenance Annual Report	4	2	1	By each anniversary of the Substantial Completion Date	GP 110.07.2.1.4. 1
*Levels of Review					
1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> )					
2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> )					
3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> )					
4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> )					
5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1 **110.08 Human Resource Management**

2 **110.08.1 General Requirements**

3 Developer shall perform all Work in compliance with the requirements of Section GP 110.08 of  
4 the TPs.

5 Developer acknowledges and agrees as follows: All personnel performing Work on the Project  
6 must have the experience, skill, and knowledge to safely and efficiently perform the Work  
7 assigned to them; all personnel performing Work on the Project must also have appropriate  
8 required professional licenses and certifications; and such licenses and certifications must be  
9 acquired prior to the individual starting work on the Project, except as otherwise noted below for  
10 Key Personnel. Developer shall ensure that all such personnel satisfy the applicable  
11 requirements set forth in this Section GP 110.08 of the TPs.

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### 110.08.2 Key Personnel

The following provides a brief job description and requirements of the Key Personnel and other important personnel assigned to the Project. Developer acknowledges and agrees that all Key Personnel are required to be and shall ensure that they are on-site at the Project as ~~identified~~ set forth below. The number of years of relevant experience listed for each Key Personnel position represents a target goal for evaluation purposes and is not a mandatory, minimum requirement for ~~that~~ the position.

Replacement and/or staffing of all Key Personnel positions listed below must follow the processes described in Section 9.6 of the Agreement.

All Key Personnel must be actively engaged full time. Developer shall appoint the Key Personnel for the Project as follows:

- A. Project Manager
- B. Construction Manager
- C. Design Manager
- D. Quality Manager
- E. Safety Manager
- F. Public Relations Officer
- G. ROW Acquisition Manager
- H. Utility Adjustment Coordinator
- I. Environmental Compliance Manager
- J. Maintenance Manager
- K. DBE/On-the-Job Training (OJT) Outreach and Compliance Manager

#### 110.08.2.1 Project Manager

The Project Manager is responsible for the overall design, construction, quality, and contract administration for the design and construction of the Project. This individual must be an employee of (i) Developer, (ii) an Equity Member that must hold at least a 1/3 beneficial interest in Developer, or (iii) the Lead Subcontractor, and must be on-site full time during the D&C Period. The individual's relevant experience includes the following:

- A. 20 years on complex highway infrastructure projects.
- B. 10 years managing the design and construction of major urban freeway systems.
- C. 5 years of major design-build-maintain project management of major urban freeway systems.

#### 110.08.2.2 Construction Manager

The Construction Manager must be assigned to the Project full time, must be an employee of (i) Developer, (ii) an Equity Member that holds at least a 1/3 beneficial interest in Developer, or (iii) the Lead Subcontractor, and must be on-site during the Construction Work. The individual's relevant experience includes the following:

- A. 15 years on complex highway infrastructure projects.
- B. 10 years managing the construction of major urban freeway systems.
- C. 5 years of major design-build construction management of major urban freeways.

**1 110.08.2.3 Design Manager**

2 The Design Manager is responsible for coordinating the individual design disciplines and is  
3 responsible for ensuring that the overall Project design is completed and design criteria and  
4 requirements are met. This individual must be assigned to the Project full time and must be an  
5 employee of (i) Developer, (ii) an Equity Member that holds at least a 1/3 beneficial interest in  
6 Developer, (iii) the Lead Subcontractor, or (iv) the Lead Engineering Firm, and must be under  
7 the direct supervision of the Project Manager. This individual must be on-site full-time until  
8 completion of the Design Work and as required during the Construction Work of the Project.  
9 This individual is responsible for design quality management and must have primary  
10 responsibility for Design Work. This individual must be a registered or licensed professional  
11 engineer, comparable to an Arizona registration, in some state or foreign jurisdiction at the time  
12 of SOQ submittal, and must be a Professional Engineer by the date of contract award. The  
13 individual's relevant experience includes the following:

- 14 A. 15 years on complex highway infrastructure projects.
- 15 B. 10 years managing the design of major urban freeways.
- 16 C. 5 years of major design-build project management of major urban freeway systems.

**17 110.08.2.4 Quality Manager**

18 The Quality Manager is responsible for establishing and supervising Developer's QA/QC  
19 program for the design and construction of the Project. This individual must be an employee of  
20 (i) Developer, (ii) an Equity Member that holds at least a 1/3 beneficial interest in Developer, or  
21 (iii) the Lead Subcontractor, and must be under the direct supervision of an executive officer  
22 above the level of, and under a line of authority independent of, the Project Manager. This  
23 individual must be assigned to the Project full time and must be on-site during the performance  
24 of Design Work and Construction Work. This individual must not be assigned any other duties or  
25 responsibilities on the Project or any other projects. This individual must have the authority to  
26 stop any and all Design Work or Construction Work. This individual must be a registered or  
27 licensed professional engineer, comparable to an Arizona registration, in some state or foreign  
28 jurisdiction at the time of SOQ submittal, and must be a registered Professional Engineer by the  
29 date of contract award. The individual's relevant experience includes the following:

- 30 A. 15 years on complex highway infrastructure projects.
- 31 B. 5 years coordinating and managing quality programs on major freeway projects.
- 32 C. 5 years of major design-build construction management of major urban freeways.

**33 110.08.2.5 Safety Manager**

34 The Safety Manager is responsible for establishing and supervising Developer's safety program  
35 and implementing and coordinating the Transportation Management Plan (TMP) per 23 CFR  
36 630.1012. This individual must be an employee of (i) Developer, (ii) an Equity Member that  
37 holds at least a 1/3 beneficial interest in Developer, or (iii) the Lead Subcontractor, and must  
38 report directly to the Project Manager. This individual must be assigned to the Project full time  
39 and must be on-site during Construction Work. This individual must be familiar with FHWA work  
40 zone safety regulations and must have at least 10 years of experience working in roadway work  
41 zone safety and OSHA Regulations. The individual's relevant experience includes the following:

- 42 A. 15 years on complex highway infrastructure projects.
- 43 B. 5 years coordinating safety programs on major freeway projects.
- 44 C. 5 years of major design-build construction management of major urban freeways.



**1 110.08.2.6 Public Relations Officer**

2 The Public Relations Office is responsible for supporting ADOT’s effort to involve the community  
3 in the Project. This individual can be an employee of (i) Developer, (ii) an Equity Member that  
4 holds at least a 1/3 beneficial interest in Developer, (iii) the Lead Subcontractor, (iv) the Lead  
5 Engineering Firm or (v) the Lead Maintenance Firm, or must have a contractual relationship with  
6 Developer. This individual must report to the Project Manager. This individual must be assigned  
7 to the Project full time during the D&C Period. The individual’s relevant experience includes the  
8 following:

- 9 A. 10 years working on community relations programs.
- 10 B. 5 years coordinating public outreach programs on major urban freeway projects.
- 11 C. 3 years of community relations experience on major design-build construction projects  
12 with a contract price of \$100 million per project

**13 110.08.2.7 ROW Acquisition Manager**

14 The ROW Acquisition Manager is responsible for coordinating the ROW acquisition services  
15 and ROW relocation activities of Developer and for ensuring that the ROW issues are resolved  
16 before Construction Work begins. This individual must be an employee of (i) Developer, (ii) an  
17 Equity Member that holds at least a 1/3 beneficial interest in Developer, (iii) the Lead  
18 Subcontractor, or (iv) the Lead Engineering Firm, or must have a contractual relationship with  
19 Developer. This individual must report to the Project Manager. This individual must be assigned  
20 to the Project full time and must be on-site during acquisition and relocation activities on the  
21 Project. This individual must be a licensed Arizona real estate agent or broker by date of  
22 contract award. The individual’s relevant experience includes the following:

- 23 A. 10 years on complex highway infrastructure projects.
- 24 B. 5 years coordinating ROW acquisitions and ROW relocations for major urban freeways.

**25 110.08.2.8 Utility Adjustment Coordinator**

26 The Utility Adjustment Coordinator is responsible for coordinating the Utility Adjustment and  
27 relocation requirements for Developer and leading the efforts to resolve any utility conflicts that  
28 may arise during construction. This individual must be an employee of (i) Developer, (ii) an  
29 Equity Member that holds at least a 1/3 beneficial interest in Developer, (iii) the Lead  
30 Subcontractor, or (iv) the Lead Engineering Firm, or must have a contractual relationship with  
31 Developer. This individual must report to the Construction Manager. This individual must be  
32 assigned to the Project full time and must be on-site during the D&C Period of the Project. The  
33 individual’s relevant experience includes the following:

- 34 A. 10 years on complex highway infrastructure projects.
- 35 B. 5 years coordinating utility adjustments and relocations for major urban freeway projects.

**36 110.08.2.9 Environmental Compliance Manager**

37 The Environmental Compliance Manager is responsible for coordinating the environmental  
38 permitting requirements for Developer and ensuring that issues are resolved before  
39 Construction Work begins. This individual must be an employee of (i) Developer, (ii) an Equity  
40 Member that will hold at least a 1/3 beneficial interest in Developer, (iii) the Lead Subcontractor,  
41 or (iv) the Lead Engineering Firm, or must have a contractual relationship with Developer. This  
42 individual must report to the Construction Manager. This individual must be assigned to the  
43 Project full time and must be on-site during the performance of the Design Work and  
44 Construction Work. The individual’s relevant experience includes the following:

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- 1 A. 10 years on complex highway infrastructure projects.
- 2 B. 5 years managing environmental compliance activities and permitting for major urban
- 3 freeway project.

### 4 **110.08.2.10 Maintenance Manager**

5 The Maintenance Manager is responsible for supervising all Maintenance Work and for working  
6 with the Project Manager to integrate maintenance planning and considerations into design and  
7 construction decisions. This individual must be an employee of (i) Developer, (ii) an Equity  
8 Member that will hold at least a 1/3 beneficial interest in Developer, or (iii) the Lead  
9 Maintenance Firm, and must be present during the Maintenance Period. This individual must  
10 serve as the point of contact during the Maintenance Period. The individual's relevant  
11 experience includes the following:

- 12 A. 15 years maintaining complex highway infrastructure projects.
- 13 B. 10 years coordinating maintenance programs on major urban freeway project.
- 14 C. 5 years of management of reconstruction associated with major urban freeways.

### 15 **110.08.2.11 DBE/OJT Outreach and Compliance Manager**

16 The DBE/OJT Outreach and Compliance Manager must be assigned to the Project full time, be  
17 available during the D&C Period and the Capital Asset Replacement Work, and must coordinate  
18 with ADOT's General Engineering Consultant DBE/OJT Compliance Specialist, Project Federal  
19 Compliance Committee, and ADOT's Business Engagement & Compliance Office to help  
20 ensure Project goals are met. This individual ~~will~~must be responsible for DBE/OJT, equal  
21 employment opportunity (EEO), and small business recruitment, outreach, management,  
22 monitoring, oversight, and reporting. The individual's relevant experience includes the following:

- 23 A. Must have strong knowledge and understanding of the federal DBE, OJT, and EEO
- 24 program requirements.
- 25 B. 5 years of experience working with DBE, OJT, or EEO programs.

### 26 **110.08.3 Other Personnel**

#### 27 **110.08.3.1 Professional Services Quality Manager**

28 Developer shall designate a Professional Services Quality Manager (PSQM) for the Project. The  
29 PSQM must report directly to the Quality Manager and Developer shall ensure that the PSQM is  
30 responsible for overall management of the PSQMP, including implementing and managing staff  
31 for QA/QC functions. The PSQM must be responsible for implementing quality planning,  
32 overseeing the Professional Services review, auditing, and coordinating with ADOT Professional  
33 Services oversight review. The PSQM must be 100 percent committed to the Project through  
34 the acceptance of the Final Design Documents by ADOT and must have no other role, duties, or  
35 responsibilities. The PSQM and Construction Quality Manager (CQM) must be different people.  
36 The individual's relevant experience includes the following:

- 37 A. 10 years of experience in design quality management and/or Professional Services
- 38 quality management of major urban freeway projects.

#### 39 **110.08.3.2 Construction Quality Manager**

40 Developer shall designate a CQM for the Project. The CQM must report directly to the Quality  
41 Manager and Developer shall ensure that the CQM is responsible for overall management of  
42 the CQMP. The CQM must be responsible for implementing, monitoring, and adjusting the  
43 processes to make certain that acceptable quality is achieved and maintained and for  
44 implementing quality planning and coordinating with the Independent Quality Firm (IQF). The

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1 CQM must be 100 percent committed to the Project and must have no other role, duties, or  
2 responsibilities. The CQM must be authorized to stop any Construction Work that does not  
3 comply with the standards, specifications, or criteria established for the Project. The PSQM and  
4 CQM must be different people. The CQM's relevant experience includes the following:

5 A. 10 years of experience in the construction quality management of major urban freeway  
6 projects.

### 7 **110.08.3.3 Construction Quality Control Staff**

8 Developer's and Subcontractors' construction work force are all considered to be members of  
9 Developer's construction QC staff as each and every one is responsible for the quality of the  
10 Work. Personnel performing QC ~~Inspections~~inspections must ensure quality of workmanship.  
11 QC sampling and testing must ensure that materials meet the required specifications prior to  
12 acceptance testing performed by the IQF. Personnel responsible for performing QC  
13 ~~Inspection~~inspection must be knowledgeable and receive training to perform their QC duties.  
14 Personnel performing QC sampling and testing must be knowledgeable in the testing methods  
15 and procedures and do not need to be direct employees of Developer, but cannot be employees  
16 of the IQF.

### 17 **110.08.3.4 Construction Independent Quality Manager**

18 Developer's IQF must ~~assign~~identify an on-site Construction Independent Quality Manager  
19 (CIQM) who must be responsible for management of the quality acceptance aspect of the  
20 CQMP. The CIQM must review, approve, authorize, examine, interpret, and confirm methods or  
21 procedures performed by Developer. The CIQM must be responsible for overseeing the quality  
22 acceptance testing and inspection and coordinating with ADOT's oversight inspection and  
23 testing staff in accordance with the requirements of the Contract Documents.

24 The CIQM must be a Professional Engineer and must be an employee of the IQF, with no  
25 responsibilities in connection with the production of the Work. The CIQM must report jointly to  
26 Developer's management team and ADOT. The CIQM must not report to any person or party  
27 directly responsible for Design Work or Construction Work.

28 The CIQM must be 100 percent committed to the Project and must have no other role, duties, or  
29 responsibilities. The CIQM must be authorized to stop any Construction Work that does not  
30 comply with the standards, specifications, or criteria established for the Project. The PSQM and  
31 CIQM must be different people.

### 32 **110.08.3.5 Independent Quality Acceptance Staff**

33 ~~An~~Developer shall provide an Independent Quality Firm (IQF) staff ~~must be provided~~  
34 direction of the CIQM to perform ~~Inspection~~inspection and material sampling and testing of all  
35 Work performed and materials incorporated into the Project. If approved in writing in advance by  
36 ADOT, qualified individuals who are employees of or retained by manufacturers, vendors, or  
37 Suppliers may ~~Inspect~~inspect certain portions of Work.

38 The IQF testing and sampling staff must be employees of the IQF, with no responsibilities in  
39 connection with the production of the Work, and must meet the requirements of Section VII of  
40 the ADOT Materials Quality Assurance Program ("Sampling and Testing Personnel Qualification  
41 Requirements"). The IQF staff must be experienced in highway inspection and material testing.  
42 The training and experience of the construction quality acceptance staff must be commensurate  
43 with the scope, complexity, and nature of the activity to be controlled and tested. Qualifications  
44 must be consistent with ADOT's Materials Quality Assurance Program. Construction quality  
45 acceptance staff must report to the CIQM.

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1 The IQF staff must provide appropriate level of oversight and perform audits of the QC  
2 Inspection and material sampling and testing operation. The construction quality acceptance  
3 Inspection staff must check compliance of all material, equipment, construction, installations,  
4 and operations. Personnel assigned to perform ~~Inspection~~inspection, testing, or monitoring of  
5 characteristics for acceptance must not be those personnel performing or directly supervising  
6 the Work being accepted.

### 7 **110.08.3.6 Maintenance QC Manager**

8 Developer shall assign an on-site Maintenance QC Manager who must be responsible for  
9 management of the MQMP. The Maintenance QC Manager must not be involved with  
10 scheduling or production activities, and must report directly to Developer's management team.  
11 The Maintenance QC Manager is responsible for independently overseeing and performing QC  
12 for the Maintenance Work. The Maintenance QC Manager reports, develops, and implements  
13 corrective actions for any deviations to the methods and procedures contained in approved  
14 MQMP in the performance of the Work.

### 15 **110.08.3.7 Maintenance Quality Control Staff**

16 The members of Developer's and Subcontractors' Maintenance Services work force are all  
17 considered to be members of Developer's QC staff as each and every one is responsible for the  
18 quality of the Work. Personnel performing QC ~~Inspection~~inspection must ensure quality of  
19 workmanship and QC sampling and testing must ensure that materials meet the required  
20 specifications. Personnel responsible for performing QC ~~Inspection~~inspection must be  
21 knowledgeable and receive training to perform their QC duties. Should any sampling and testing  
22 be required during the Maintenance Work, Maintenance QC Manager must be responsible for  
23 ensuring that sampling and testing procedures and methods meet the requirements in the  
24 MQMP.

### 25 **110.08.3.8 ROW Quality Control Specialist(s)**

26 Developer shall designate a ROW Quality Control Specialist(s) for the Project. The ROW  
27 Quality Control Specialist(s) must be responsible for internal QA/QC for Project ROW Work and  
28 review all ~~Developer~~ Submittals associated with ROW Exhibits, Legal Descriptions, title,  
29 appraisal, acquisition, relocation, and eminent domain prior to the Submittal being delivered to  
30 ADOT for review. The ROW Quality Control Specialist(s) must be familiar with ADOT  
31 procedures, standards, and law pertaining to acquisition of Project ROW.

### 32 **110.08.3.9 Survey Manager**

33 Developer shall designate a Survey Manager for the Project. The Survey Manager must be the  
34 point of contact for all survey Work and must be responsible for all survey Work, including  
35 directing and reviewing Subcontractor survey Work. The Survey Manager must be familiar with  
36 ADOT procedures and standards pertaining to ROW, design, and construction surveying. The  
37 Survey Manager must be a registered or licensed land surveyor, comparable to an Arizona  
38 registration, in some state or foreign jurisdiction at the time of Proposal submittal, and must be a  
39 registered land surveyor in the State by the date of contract award. The individual's relevant  
40 experience includes the following:

- 41 A. 10 years of experience with Right-of-Way, Design, and Construction surveys.
- 42 B. A minimum of 10 years of registration as a Land Surveyor.

### 43 **110.08.3.10 Geotechnical Manager**

44 Developer shall designate a Geotechnical Manager for the Project. The Geotechnical Manager  
45 must be the point of contact for all geotechnical Work and must be responsible for all

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1 geotechnical Work, including directing and reviewing Subcontractor geotechnical Work. The  
2 Geotechnical Manager must be familiar with ADOT guidelines, procedures, and standards  
3 pertaining to geotechnical investigation, analysis, and design. The Geotechnical Manager must  
4 be a registered or licensed professional engineer, comparable to an Arizona registration, in  
5 some state or foreign jurisdiction at the time of Proposal submittal, and must be a Professional  
6 Engineer by the date of contract award. The individual's relevant experience includes ~~the~~  
7 ~~following:~~

8 ~~A.~~ 15 years of experience in matters relating to geotechnical subsurface exploration,  
9 geotechnical site characterization, analysis, design, and construction of bridge foundations,  
10 retaining walls and soundwalls, drainage structures, roadway embankments and roadway  
11 pavements, and excavation and fill slopes in soil and rock.

### 12 110.08.3.11 Rock Engineer/Blasting Professional

13 Developer shall designate a Rock Engineer/Blasting Professional for the Project, if warranted by  
14 Developer's design. The Rock Engineer/Blasting Professional must be the point of contact  
15 regarding all blasting Work. The Rock Engineer/Blasting Professional must be responsible for  
16 ensuring that all blasting Work is in accordance with the Contract Documents. The Rock  
17 Engineer/Blasting Professional must be a registered or licensed professional engineer,  
18 comparable to an Arizona registration, in some state or foreign jurisdiction at the time of  
19 Proposal submittal, and must be a registered Professional Engineer by the start of the  
20 associated Work. The individual's relevant experience includes ~~the following:~~

21 ~~A.~~ Aa minimum of 10 years of practical applied experience in geological engineering with  
22 an emphasis on blasting for rock excavation, including designing and construction engineering  
23 of rock blasting and stabilization of roadway cut slopes, blasting techniques for roadway cut  
24 slope excavation, blast monitoring, control procedures for vibration, air-blast and fly rock, and  
25 rock fall protection measures.

### 26 110.08.3.12 Blasting Supervisors

27 Developer shall designate Blasting Supervisors for the Project, if warranted by Developer's  
28 design. The Blasting Supervisors must be responsible for activities of the blasting crews, make  
29 decisions on the allocation of drilling and blasting personnel, drilling and blasting equipment,  
30 drilling and blasting methods, and be responsible for the procurement, storage, handling and  
31 use of explosives, blasting materials and agents, and supplies. Blasting Supervisors must  
32 demonstrate ~~the following:~~

33 ~~A.~~ Aa minimum of 10 years of experience in the loading and firing of charges for rock  
34 excavation for heavy civil construction.

### 35 110.08.3.13 Blasters in Charge

36 Developer shall designate Blasters in Charge for the Project, if warranted by Developer's  
37 design. The Blasters in Charge must have all necessary licenses and permits required by  
38 ADOT, the State, and other Governmental Entities having jurisdiction by the start of the  
39 associated Work. The Blaster in Charge must directly supervise the activities of the blasting  
40 crew(s) in the course of laying-out, drilling, loading and firing of charges for a particular blast.  
41 The Blasting Supervisor may or may not also serve as a Blaster in Charge. The Blasters in  
42 Charge must demonstrate ~~the following:~~

43 ~~A.~~ Aa minimum of 7 years of experience in supervising the loading and firing of charges for  
44 rock excavation.



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### 110.08.3.14 Hazardous Materials Manager

Developer shall designate a Hazardous Materials Manager for the Project. The Hazardous Materials Manager must provide expertise in the safe handling of Hazardous Materials required to perform the Work and those that may be discovered or impacted during the Term. The Hazardous Materials Manager must schedule and/or conduct Hazardous Materials training for Developer's employees, verify all necessary certifications prior to and required for any handling of Hazardous Materials, and maintain records of all Incidents involving Hazardous Materials and notify the Environmental Compliance Manager, ADOT, and appropriate Governmental Entities in writing of any such Incidents.

The Hazardous Materials Manager must be a qualified professional with 40-hour HAZWOPER certification. In addition, the Hazardous Material Manager must have at least 5 years of experience in similar projects ~~in the following areas:~~

~~A. Experienced~~ in developing remedial action plans or equivalent reports necessary and acceptable to the ADOT in Hazardous Material investigation, discovery, and remediation efforts of Hazardous Materials.

### 110.08.3.15 Principal Investigator

Developer shall designate a Principal Investigator for the Project. The Principal Investigator must demonstrate the ability to comply with Arizona State Museum (ASM) standards as a principal investigator and demonstrate experience in producing reports and curating materials and documents to meet ASM and State Historic Preservation Office (SHPO) standards. The Principal Investigator must possess a valid State Antiquities Act Permit and demonstrate an understanding of the Section 106 of the *National Historic Preservation Act* process and familiarity with cultural resources policies, procedures, and goals, through published reports and/or past performance.

### 110.08.3.16 Qualified Biologist

Developer shall designate a Qualified Biologist for the Project. The Qualified Biologist must demonstrate:

- A. A bachelor's degree with an emphasis in biology, ecology, natural resource management, or related science
- B. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society
- C. Previous experience with applying the terms and conditions of a Biological Opinion
- D. The appropriate permit and/or training for conducting focused or protocol surveys for listed species of concern to the Project including burrowing owls
- E. Previous experience in writing biological review, survey, and monitoring documents
- F. Previous experience in general federal threatened and endangered species habitat evaluations
- G. Previous experience in federal, State and ~~Tribal~~tribal sensitive species habitat evaluations and surveys
- H. Previous experience in surveying for native plants and noxious weeds of central Arizona
- I. Previous experience in handling reptiles



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### 1 110.08.3.17 Erosion Control Coordinator

2 Developer shall designate an Erosion Control Coordinator (ECC) for the Project. The ECC must  
3 be responsible for implementing, monitoring, and revising the approved SWPPP throughout the  
4 Construction Period, for making the required inspections, and for implementing any other permit  
5 requirements stipulated in the AZPDES general permit.

6 The ECC must be capable of identifying existing and predictable effects of Developer's  
7 operations, and ~~shall~~must have complete authority to direct Developer's personnel and  
8 equipment to implement the requirements described herein, including prompt placement of  
9 corrective measures to minimize or eliminate pollution and damage to downstream  
10 watercourses. The ECC must also be familiar with procedures and practices identified in the  
11 SWPPP, and must ensure that emergency procedures are up to date and available at the Site.

12 The ECC must at all times be aware of Developer's work activities, schedule, and effect of the  
13 Work on the environment, and must, at any time, be accessible to direct Developer's personnel  
14 to replace or repair erosion control measures as necessary, ~~and Developer shall ensure the~~  
15 ~~same.~~ The ECC ~~shall~~must be present at the Site on a full-time basis. Developer shall provide  
16 ADOT with a phone number through which the ECC can be contacted at any time, 24 hours a  
17 day, 7 days a week, including holidays. The ECC must be present at the jobsite within 24 hours  
18 of such call being placed.

19 The ECC must also be aware of and comply with all requirements of the AZPDES general  
20 permit to address discharges at the ~~site~~Site associated with Developer's activities other than  
21 construction, including staging areas, and other potential pollutant and material storage and  
22 borrow areas.

23 The ECC must have successfully completed the mandatory two-day (16 hour) "Erosion Control  
24 Coordinator" training class provided by the Associated General Contractors (Arizona Chapter);  
25 telephone (602) 252-3926. No other training can be substituted. The ECC must maintain the  
26 training class certification and must not let it expire.

27 In addition, the ECC must have documented experience equal to a minimum of 1 year from  
28 either of the following two categories:

- 29 A. Experience in the implementation of SWPPPs. The ECC's experience must demonstrate  
30 full-time responsibility for directly supervising construction personnel in the installation,  
31 monitoring, and maintenance of control measures.
- 32 B. Experience in stabilization of disturbed areas in environments similar to those on the  
33 Project. Experience in re-vegetation or restoration of disturbed areas. The ECC's  
34 experience must demonstrate full-time responsibility for directly supervising personnel in  
35 stabilization of disturbed areas.

36 In addition to the general ECC requirements, one of the following is required and must be  
37 maintained for the duration of the Work.

- 38 A. Registration in the State ~~of Arizona~~ as a Landscape Architect, with a minimum of 1 year  
39 of experience in the fields of erosion control and sediment transport.
- 40 B. Registration as a Professional Engineer with a minimum of 1 year of experience in the  
41 fields of erosion control and sediment transport.
- 42 C. Certification by the EnviroCert International, Inc. as a Certified Professional in Erosion  
43 and Sediment Control.

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### 110.08.3.18 Hydraulics Engineer

Developer shall designate a Hydraulics Engineer for the Project. The Hydraulics Engineer must report directly to the Design Manager. Developer shall ensure that the Hydraulics Engineer is responsible for all matters regarding hydraulics for the Project. The Hydraulic Engineer must be a registered or licensed professional engineer, comparable to an Arizona registration, in some state or foreign jurisdiction at the time of Proposal submittal, and must be a Professional Engineer by the date of Award. Registration must be kept active throughout the duration of the Work. The individual's relevant experience includes ~~the following:~~

~~A.~~ 5 years of experience with hydraulics design for the projects on the Arizona State Highway System.

### 110.08.3.19 Landscape Architect

Developer shall designate a Landscape Architect for the Project. The Landscape Architect must report directly to the Design Manager. The Landscape Architect must be responsible for the landscaping and aesthetics for the Project and must be familiar with ADOT construction plan preparation. The Landscape Architect must be a registered or licensed landscape architect, comparable to an Arizona registration, in some state or foreign jurisdiction at the time of Proposal submittal, and must be a registered landscape architect in the State of Arizona by the time of contract award. The individual's relevant experience includes ~~the following:~~

~~A.~~ 5 years of experience in developing landscape and aesthetic plans.

### 110.08.3.20 Irrigation System Designer

Developer shall designate an Irrigation System Designer for the Project. The Irrigation System Designer must report directly to the Landscape Architect. The Irrigation System Designer must be responsible for the irrigation system design for the Project and must be familiar with ADOT construction plan preparation. The Irrigation System Designer must have a minimum of 5 years of experience designing on complex highway infrastructure projects using drip irrigation and have familiarity with reclaimed irrigation water design requirements and regulations.

### 110.08.3.21 Landform Graphic Layout Artist

Developer shall designate a Landform Graphic Layout Artist for the Project. The Landform Graphic Layout Artist must be responsible for the complete layout and adjustment, as needed, of the landform graphics to meet actual site and visual conditions. The Landform Graphic Layout Artist ~~is~~must be responsible for providing all layout labor assistance, materials, tools, equipment, and roadway safety items necessary to layout the landform graphics. The Landform Graphic Layout Artist must have completed work on two major landform graphic projects that involved working with variable contours, grading and drainage, and site conditions with grade level changes other just flat surfaces. The Landform Graphic Layout Artist must have experience in the use of professional methods of construction, materials, and equipment for the construction of large-scale landform graphics.

The Landform Graphic Artist must be on the landform graphic site during layout, layout approval, and installation of graphic outlines and as required by ADOT during placement of granite and rock mulch materials.

### 110.08.3.22 Appraiser(s) and Appraisal Reviewer(s)

Each Appraiser and Appraisal Reviewer must be certified by the Arizona Board of Appraisers as a General Certified Real Estate Appraiser. Each Appraiser and Appraisal Reviewer must have a minimum 5 years of experience in appraising real property for eminent domain purposes,

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1 including partial taking appraisal, partial taking appraisal review, and expert witness testimony,  
2 unless otherwise approved by ADOT. Each Appraiser and Appraisal Reviewer must be familiar  
3 with appraisal and appraisal report review processes pursuant to the Uniform Standards of  
4 Professional Appraisal Practice (USPAP) and Federal requirements in Title 49 CFR Part 24.  
5 Both Appraisers and Appraisal Reviewers may be required to testify. The Appraisers and the  
6 Appraisal Reviewers must have separate and distinct duties, and Appraisers must be employed  
7 by different firms from the Appraisal Reviewers. Each Appraiser must submit three samples of  
8 previous appraisal work prepared for eminent domain purposes prior to performing any Work.  
9 All Appraisers preparing and signing appraisals must be approved by ADOT prior to performing  
10 any appraisals on the Project.

### 11 **110.08.3.23 Relocation Agent(s)**

12 Each Relocation Agent must have a minimum of 3 years of experience in relocation assistance  
13 for ROW projects pursuant to the Uniform Relocation Assistance and Real Property Acquisition  
14 Policies Act. Relocation Agents responsible for business relocations must have an additional 2  
15 years of experience with business relocation. A Relocation Agent's responsibilities must include  
16 the following: ~~determining of~~Determining eligibility of all displacees; contacting all displacees  
17 and informing them of their benefits; maintaining a file of all documentation concerning the  
18 relocation of the displacees; and extending all relocation assistance advisory services.

### 19 **110.08.3.24 Acquisition Agent(s)**

20 Each Acquisition Agent must be licensed either as a real estate sales person or broker pursuant  
21 to the Arizona Revised Statutes, Title 32, Chapter 20, Article 2 or rules established by the  
22 Arizona Real Estate Department, and must be familiar with appraisal and appraisal report  
23 review processes pursuant to the Uniform Standards of Professional Appraisal Practice  
24 (USPAP) and Federal requirements in Title 49 CFR Part 24. The Acquisition Agents must have  
25 a minimum 3 years of experience in ROW negotiations. The Acquisition Agent's responsibilities  
26 must include the following: contact with property owners on the Project to discuss the  
27 acquisition of property needed for the Project, maintaining complete and accurate files of all  
28 transactions and contacts with the property owners and/or their representatives, and actively  
29 working toward a joint resolution to acquire the property with the property owner.

### 30 **110.08.3.25 Other ROW Personnel**

31 All other ROW personnel must have at least 3 years of experience in title review and curative  
32 matters. ROW personnel's responsibilities must include the following: maintain complete and  
33 accurate files of all transactions and contacts with the property owners and/or their  
34 representatives, coordinate and clear all title issues, and assist at closing for properties acquired  
35 for the Project.

### 36 **110.08.3.26 Deputy Maintenance Manager**

37 Developer shall designate a Deputy Maintenance Manager for the Project. The Deputy  
38 Maintenance Manager must report directly to the Maintenance Manager and must be assigned  
39 to the Project full time. The Deputy Maintenance Manager must have at least 5 years of  
40 experience managing or leading maintenance or operations of federally funded controlled  
41 access freeway system, including responsibility for structures, pavements, roadside  
42 appurtenances, and traffic control. This individual must not be assigned any other duties or  
43 responsibilities on this Project or any other projects. The Deputy Maintenance Manager or  
44 designee must be available on call within 1 hour of emergency notification.

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### 110.08.3.27 ITS Design Manager

Developer shall designate an ITS Design Manager for the Project. The ITS Design Manager must report directly to the Design Manager. Developer shall ensure that the ITS Design Manager is responsible for all matters regarding ITS elements for the Project. The ITS Design Manager must be familiar with the overall functionality of the FMS, its field elements and their technologies, and the connectivity between the field elements and their users. The ITS Design Manager must be a registered or licensed professional engineer, comparable to an Arizona registration, in some state or foreign jurisdiction at the time of Proposal submittal, and must be a Professional Engineer by the date of contract award. Registration must be kept active throughout the duration of the Work. The individual's relevant experience includes ~~the following:~~

A. A minimum of 10 years of experience in leading ITS design.

### 110.08.3.28 ITS Construction Manager

Developer shall designate an ITS Construction Manager for the Project. The ITS Construction Manager must report directly to the Construction Manager. Developer shall ensure that the ITS Construction Manager is responsible for the construction, installation, and systems acceptance testing (SAT) for the entire ITS system. The ITS Construction Manager must be familiar with the overall functionality of the ADOT FMS, its field elements and their technologies, and the connectivity between the field elements and their users. The individual's relevant experience includes the following;

A. A minimum of 10 years of experience in leading ITS construction, installation, and system acceptance testing.

B. A minimum of 50 miles of previous fiber optic cable installation experience.

## 110.09 Safety Management

### 110.09.1 General Requirements

Developer shall perform all Work in compliance with the requirements of Section GP 110.09 of the TPs.

Developer shall have sole responsibility for safety ~~and convenience~~ on the Site until Final Acceptance. Developer shall ensure that all Developer employees and Subcontractors comply with the Safety Management Plan, applicable Laws, and associated elements of Developer's injury and illness prevention program.

Developer shall comply with OSHA Regulations, including, ~~but not limited to,~~ 29 CFR, Part 1926, and 29 CFR, Part 1910, as well as all applicable standards of the U.S. Environmental Protection Agency (EPA), the Arizona Department of Environmental Quality (ADEQ), and the U.S. Mine Safety and Health Administration (MSHA). Developer shall maintain a copy of the specified OSHA Standards on the Site at all times.

### 110.09.2 Administrative Requirements

#### 110.09.2.1 Safety Management Plan

Developer shall develop, implement, and maintain a comprehensive written Safety Management Plan that describes the policies, plans, training programs, Project controls and reporting, Incident response plans, and enforcement for the safety of personnel involved in the Project and the general public affected by the Project during the Term.

The Safety Management Plan must be Project-specific, and must include Work to be performed by Subcontractors.

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1 Developer's Safety Management Plan must:

2 A. Be consistent with the Project insurance requirements;

3 B. Be consistent with railroad safety requirements;

4 C. Clearly establish the safety organization described in Section GP 110.09.2.1.1 of the  
5 TPs;

6 D. Describe the process of conducting safety orientation for all employees;

7 E. Describe Developer's alcohol and drug free workplace policy;

8 F. Describe employee training requirements;

9 G. Describe safety ~~inspection~~inspection procedures;

10 H. Describe procedures and policies for working in active traffic locations;

11 I. Describe Incident reporting procedures including near-miss Incidents;

12 J. Describe Developer's hazard communication program;

13 K. Describe Developer's management and auditing of the Safety Management Plan;

14 L. Describe personal protective equipment (PPE) requirements and policy;

15 M. Describe safety procedures for Developer's employees working around and handling  
16 Hazardous Materials;

17 N. Describe the availability of first-aid, medical, and emergency equipment and services at  
18 the Site, including arrangements for emergency transportation;

19 O. Describe security procedures to prevent theft, vandalism, and other losses at the Site;  
20 and

21 P. Describe the process for submittal of *OSHA Forms for Recording Work-Related Injuries*  
22 *and Illnesses* to ADOT.

23 Prior to issuance of ~~NTP2~~NTP 2, Developer shall submit the Safety Management Plan to ADOT  
24 for approval in ADOT's good faith discretion.

### 25 **110.09.2.1.1 Safety Organization**

26 The Safety Management Plan must clearly establish the specific chain of command and specify  
27 the lines of authority, responsibility, and communication with regard to safety compliance  
28 activities. The Safety Management Plan must identify full-time dedicated safety professionals or  
29 managers covering all production shifts. The Safety Management Plan must delineate  
30 administrative responsibilities for implementing the Project safety program. The Safety  
31 Management Plan must describe the process of including representatives from Developer and  
32 all Subcontractors, as well as ADOT personnel working on the Project. The Safety Management  
33 Plan must specify which on-site personnel have the authority to stop on-site activities when  
34 unanticipated and/or uncontrolled hazards are recognized and also specify those personnel with  
35 the authority to restart site activities after the previously unrecognized hazards have been  
36 controlled. The Project Manager ~~is accountable~~must be responsible for the overall health and  
37 safety performance. The Safety Management Plan must specifically define the safety  
38 responsibilities of each level of supervision.

### 39 **110.09.2.1.2 Process of Employee Safety Orientation**

40 The Safety Management Plan must describe the safety orientation process, including the  
41 following:

42 A. The extent and nature of the Project



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- 1 B. Any hazards that can typically be expected during the course of Work that are specific to
- 2 the job assignment
- 3 C. Required Work practices, job conduct, and injury-reporting procedures
- 4 D. Acquainting the employee with special Work and safety requirements at the site

### 5 **110.09.2.1.3 Employee Training Requirements**

6 Developer shall establish a safety training program that includes requirements for general and  
7 Project-specific training. All levels of staff must be trained.

8 Developer shall conduct, at a minimum, weekly safety meetings that are relevant to the specific  
9 types of Work at the Site, which comply with applicable Laws. Developer shall prepare  
10 documentation of meeting content and employee attendance.

### 11 **110.09.2.1.4 Personal Protective Equipment Requirements and Policy**

12 The Safety Management Plan must define specific personal protective equipment (PPE)  
13 requirements for all employees for each task. At a minimum, Developer shall provide a  
14 consistent type of high-visibility safety vest (ANSI 107-2004 Class 2 daytime, Class 3 nighttime)  
15 to be worn by all personnel, as well as an ANSI-approved hard hat, safety glasses with side  
16 shields, and work boots, specific for the job being performed.

17 Developer shall ensure that all vendors and visitors wear hard hats, as well as other required  
18 PPE, while on the Site. Developer shall ensure that anyone not complying with these  
19 requirements does not to enter the Site or is required to leave the Site. Developer shall  
20 document all such Incidents. Developer's job hazard analysis must include all required PPE for  
21 the specific task.

### 22 **110.09.2.1.5 Alcohol and Drug Free Workplace Policy**

23 Developer shall provide a policy for promoting a safe, alcohol-free, and drug-free workplace.  
24 The policy must be consistent, fair, manageable, and subject to audit. The policy must provide  
25 for disciplinary action or termination for an employee reporting for work under the influence of  
26 alcohol or a prohibited substance or in possession of a prohibited substance. It must include the  
27 policy at the Site and any pre-job site and post-incident drug testing to satisfy Project insurance  
28 requirements.

### 29 **110.09.2.1.6 Safety Inspection Procedures**

30 The Safety Management Plan must describe safety inspection procedures of Work areas,  
31 materials, and equipment to ensure compliance with the safety management program.  
32 Developer shall schedule, conduct, and document safety inspections in all Work areas to  
33 identify and reduce physical and/or environmental hazards that could contribute to injuries or  
34 illnesses.

### 35 **110.09.2.1.7 Emergency Procedures**

36 As it may pertain to Developer staff and Site procedures, Developer shall develop an  
37 Emergency action plan for the Project that specifies the procedures for each identified potential  
38 Emergency, notification requirements, and training, and identify those individuals responsible for  
39 implementing the plan, if the plan is activated. The potential for an Emergency (fire, explosion,  
40 chemical release, etc.) exists at all construction areas and operational areas. The Emergency  
41 action plan must identify the various response activities necessary to minimize the dangers and  
42 confusion associated with an Emergency. The Emergency action plan must address fire,  
43 explosions, Hazardous Materials, natural disasters, and civil disruptions.



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### 110.09.2.1.8 Incident Response Procedures

The Safety Management Plan must include processes to investigate and report accidents and Incidents and to retain safety records. Developer shall develop a list of Project-specific requirements for documentation and reporting. Developer shall include the reporting of near-miss Incidents. Developer shall provide verbal notification and a written report to ADOT of all Incidents arising out of or in connection with the performance of the Work, whether on or adjacent to the Site, which cause death, personal injury, or property damage. Developer shall verbally notify ADOT within 1 hour from time of occurrence of an Incident (or Developer's discovery of the occurrence thereof) causing public injury, and include date and time, location, brief description, extent of property damage, and extent of injuries. When such Incidents take place, Developer shall promptly initiate an investigation and notify appropriate individuals (ADOT, etc.).

Developer shall maintain a 24-hour-per-day, 7-day-per-week Emergency contact telephone number with a responsible Person/individual in charge, empowered to take any necessary actions on behalf of Developer.

### 110.09.2.1.9 Job Hazard Analysis and Communications

Developer shall provide policy and procedures for job hazard analysis and how that analysis is communicated to forepersons and workers as the day's work and tasks are outlined. All employees involved with the task must discuss the hazards anticipated, equipment needed to work safely, and PPE to be provided and worn. The communications may include on-site gatherings where the task is to be performed. Developer shall give employees an opportunity to provide input regarding task steps, hazards identified, and appropriate control measures. Developer shall document all job hazard analysis training.

### 110.09.2.1.10 Materials Safety Procedures and Communication Policy

Developer shall ensure that the Safety Management Plan describes safety procedures and communication policy for Developer's employees working around and handling Hazardous Materials.

Developer shall provide employees with information and training regarding any Hazardous Materials to which they may be exposed. Additionally, Developer shall ensure that Hazardous Materials are not delivered, stored, or used at the Site, unless they are properly labeled, tagged, or marked and the safety data sheets are readily available.

### 110.09.2.1.11 Managing and Auditing of Safety Management

The Safety Management Plan must describe the audit process for safety management. The Safety Management Plan must describe frequency and scope of audit, how it is to be conducted, how the results are to be communicated, and how findings and corrective actions are to be tracked.

### 110.09.2.1.11.1 Safety Performance Analysis

Developer shall complete a detailed analysis of safety performance each quarter. Developer shall conduct the safety performance analysis to document that Developer and its Subcontractors are performing Work in a safe way and in compliance with the Safety Management Plan and applicable Laws. The analysis must define and measure specific proactive program elements designed to prevent Incidents, such as employee training and orientations, toolbox meetings, audits and inspections, immediately dangerous to life and health interventions, etc. Developer shall document the measures to verify proactive efforts relative to safety performance results. Developer shall prepare a Safety Performance Analysis Report that

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1 includes the analysis and results as described in this Section GP 110.09.2.1.11.1. Each quarter  
2 by the 15th of the month after the quarter ends, Developer shall submit a Safety Performance  
3 Analysis Report to ADOT.

4 If the safety performance analysis reveals an error or deficiency, Developer shall take  
5 immediate measures to correct the observed error and immediately prepare a Safety Corrective  
6 Measure(s) that includes a description of all measures to correct the safety error or deficiency.  
7 Developer shall immediately submit the Safety Corrective Measure(s) to ADOT.

### 8 **110.09.2.1.11.2 Safety Results and Statistics**

9 Developer shall prepare a Monthly Safety Report detailing the specific types of injuries, Incident  
10 rates, ~~and~~ corrective actions taken to prevent reoccurrence of similar Incidents for Developer  
11 and all Subcontractors. ~~Developer shall evaluate, and~~ individual supervisor safety performance  
12 evaluations. Within 5 Business Days after the end of the month, Developer shall submit the  
13 Monthly Safety Report to ADOT.

### 14 **110.09.2.1.11.3 Periodic Updates to Safety Management Plan**

15 Developer shall update the Safety Management Plan yearly to incorporate corrective action  
16 recommendations and other minor clarifications. At a minimum, every year or as Work scope  
17 changes the workplace environment, a major regulation change requirement occurs, or at the  
18 request of ADOT, Developer shall review and update the Safety Management Plan for  
19 compliance with regulations, policies, and procedures.

### 20 **110.09.2.2 Temporary Fencing and Steel Plating**

21 In conjunction with the Safety Management Plan, Developer shall provide 72-inch temporary  
22 chain link fencing, or ADOT approved equal, around all major structure construction areas (i.e.,  
23 bridges, pump houses, drop structures, retaining walls, etc.) and around any unattended  
24 excavation deeper than 4 feet, with slopes steeper than 1:2 (V:H). Temporary fencing must  
25 completely enclose the referenced construction activity and must be secured after normal  
26 working hours to prevent unauthorized access.

27 Developer shall limit open utility trenches to 50 feet in length, except for cast-in-place pipe  
28 installations, ~~during non-working hours, and shall be covered with steel plate during non-working~~  
29 hours. Developer shall cover all open trenches with steel plates. Developer shall prepare an  
30 Open Trench Safety and Security Plan for all trenches greater than 50 feet in length that  
31 describes and details how Developer intends to construct the trench and to make it safe and  
32 secure for workers and the general public. Within 10 Business Days of excavating trenches  
33 greater than 50 feet in length, Developer shall submit the Open Trench Safety and Security Plan  
34 to ADOT for approval.

### 35 **110.09.2.3 Audits/Inspections**

36 ADOT reserves the right to perform audits and inspections to confirm that Developer is  
37 complying with health and safety rules and procedures. ADOT has the right to have a qualified  
38 safety representative perform audits and/or Inspections on a periodic basis.

### 39 **110.09.2.4 Noncompliance with the Safety Program**

40 ADOT, through ADOT designated personnel, has the authority to stop any activity that  
41 constitutes or is perceived to present a threat of imminent danger. If any conditions or activities  
42 may present an imminent danger that could result in serious injury, death, or extensive property  
43 damage, Developer shall stop the affected portion of the Work immediately and shall not  
44 recommence until the practices or conditions are corrected to the satisfaction of ADOT.

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1 Developer shall discipline and/or dismiss employees who violate established safety rules and  
 2 regulations. This includes immediate termination for serious violations, repeated violations, or  
 3 the refusal to follow health and safety rules. Developer shall be solely responsible for all cost or  
 4 schedule impacts, in the event the Project or any portion thereof is stopped or shut down by any  
 5 Governmental Entity because of an unsafe condition.

6 **110.09.3 Submittals**

7 Table 110-11 reflects a nonexclusive list of Submittals identified in Section GP 110.09 of the  
 8 TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 9 determine and submit all Submittals as required by the Contract Documents, Governmental  
 10 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 11 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 12 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 13 formats described in Section GP 110.10.2.2 of the TPs:

Table 110-11 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Safety Management Plan	2	2	1	Prior to issuance of <del>NTP2</del> <u>NTP 2</u>	GP 110.09.2.1
Safety Performance Analysis Report	5	2	1	Each quarter by the 15th of the month after the quarter ends	GP 110.09.2.1.11 .1
Safety Corrective Measures, as needed	5	2	1	Immediately	GP 110.09.2.1.11 .1
Monthly Safety Report	5	2	1	Within 5 Business Days after the end of the month	GP 110.09.2.1.11 .2
<u>Open Trench Safety and Security Plan</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>Within 10 Business Days of excavating trenches greater than 50 feet in length</u>	<u>GP 110.09.2.2</u>

\*Levels of Review

1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement)
2. Good faith discretion approval (Section 3.1.3.2 of the Agreement)
3. Reasonableness approval (Section 3.1.4.2 of the Agreement)
4. Review and comment (Section 3.1.5 of the Agreement)
5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)

14 **110.10 Submittal Review Management**

15 **110.10.1 General Requirements**

16 Developer shall perform all Work in compliance with the requirements of Section GP 110.10 of  
 17 the TPs. Section GP 110.10 of the TPs includes requirements related to Submittals and the  
 18 Submittal review process for all Submittals required by the TPs. Developer shall be responsible  
 19 for obtaining all required approvals from the applicable Governmental Entities, Utilities, and  
 20 railroad ~~requirements with the owning jurisdiction for the Project.~~

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### 1 110.10.2 Administrative Requirements

#### 2 110.10.2.1 General

3 Developer shall provide Submittal packages via the Project document management system in  
 4 accordance with the Contract Documents and the PMP ~~for any Submittal package~~ along with all  
 5 supporting information necessary for ADOT, Governmental Entities, Utility Owners, and  
 6 railroads to conduct a review and to ensure that the design is progressing appropriately.  
 7 Submittal packages must include the following:

8 A. Administrative documents (PMP, other plans, etc.)

9 B. Design Documents

10 C. Construction Documents

#### 11 110.10.2.2 Submittal Format

12 Submittal packages must have a unique alphanumeric identifier that remains with the package  
 13 and identifies each Submittal stage (e.g., Initial Design Submittal, Final Design Submittal,  
 14 ~~Release for Construction~~RFC Submittal, etc.). The alphanumeric identifier must remain constant  
 15 and track the design package through the life of the Project.

16 Developer shall submit all Submittal documents in hardcopy and electronic format as specified  
 17 in Table 110-12 unless otherwise specified in the Contract Documents.

<b>Table 110-12 Submittal Format</b>				
<b>Submittal Stage/Deliverable</b>	<b>Hardcopy</b>		<b>Electronic</b>	
	<b>Paper</b>	<b>11x17</b>	<b>Native</b>	<b>PDF</b>
Administrative Documents (e.g., PMP, Project Schedule)	X		X	X
Specifications, Technical Reports, Calculations, Modeling, Input and Output Files, etc.	X		X	X
Initial Design Submittal		X	X	X
Final Design Submittal		X	X	X
<del>Release for Construction</del> RFC Submittal		X	X	X
Final Design Documents Submittal		X	X	X
Shop and Working Drawings	X			X
Request for Information				X
Design Changes		X		X
Record Drawings	X		X	X
Other Governmental Entities, Utility Companies, and railroad <del>submittals</del> Submittals*				X
<b>Note:</b> * Developer shall determine the additional format requirements required by the applicable Governmental Entity, Utility Company, and/or railroad.				

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### 110.10.2.3 CAD Requirements

Developer shall prepare all drawings, plans, and exhibits in accordance with the ADOT 2010 ADOT Drafting Guides for Use in Office and Field (Drafting Guide) and the Computer Aided Design (CAD) Requirements included on <http://www.azdot.gov/business/engineering-and-construction/CADD>, unless otherwise modified by the TPs.

### 110.10.2.4 Hardcopy Format

Developer shall prepare all Plans on sheets 22 inches in height and 34 inches in length with 1-1/4-inch margins on the left and right sides, and 3/4-inch margins on the top and bottom, unless otherwise noted in the Contract Documents. A blank space, 4 inches wide by 3 inches high, must be left inside the margin in the lower right hand corner. All Plans must be made in such a manner that clear and legible copies can be made from them. Developer shall prepare half-size copies on standard 11 inch x 17 inch sheets. The number of hardcopies ~~for~~ indicated in the "Nonexclusive Submittals List" tables in the TPs for Plans indicates half-size copies. Developer shall prepare exhibits on 8.5 inch x 11 inch, 11 inch x 17 inch, or 22 inch x 34 inch sized sheets.

All documents, reports, and calculations must be prepared on 8.5 inch x 11 inch sheets, unless otherwise noted in the Contract Documents.

### 110.10.2.5 Electronic Format

Developer shall submit, as identified in the Contract Documents, electronic Submittals compatible with existing ADOT program systems and/or software. Systems and software currently being used by ADOT include the following:

- A. Microsoft Windows 7 (operating system)
- B. Microsoft Office with Word, Excel, Outlook, and Media Player
- C. Bentley's MicroStation V8i (2D and 3D files)
- D. Bentley's InRoads Suite SS2 (Existing Ground Model and design files) or newer
- E. SignCAD
- F. HEC-RAS
- G. FLO2D
- H. HEC-HMS
- I. Oracle Primavera P6

Developer shall submit electronic files to ADOT as identified in the Contract Documents on electronic media (e.g., CDs, DVDs, flash drives) or electronically through the EDMS. Developer shall submit Plans in both full-size (22 inch x 34 inch) and half-size (11 inch x 17 inch) PDFs.

#### 110.10.2.5.1 Existing Ground Model

Developer shall create an integrated-model of the existing condition to create a digital terrain model (DTM) using Bentley's InRoads/Site/Survey Select CAD. The ~~Existing Ground Model~~ existing ground model must include existing ground surface and subsurface elements (including the best available information for: drainage structures, Utilities, and bridge and wall foundations), features utilizing data from light detection and ranging (LiDAR), subsurface Utility evaluation, field surveys, and existing plans data collection including currently available LiDAR or other existing ground surface data (.dtm or .tin format). Developer shall verify the DTM for accuracy through field procedures of locating well-defined and random check points (not included in the creation of the DTM surface) systematically dispersed throughout the Site and compared to the DTM. Developer shall comply with the requirements in the following manuals

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1 available from ADOT at [http://www.azdot.gov/business/engineering-and-](http://www.azdot.gov/business/engineering-and-construction/EngineeringSurvey)  
2 [construction/EngineeringSurvey](http://www.azdot.gov/business/engineering-and-construction/EngineeringSurvey) in creating DTMs: (1) *Manual for Field Surveys*, (2) Location  
3 Survey P-codes for Bentley InRoads, and (3) *General Specifications for Photogrammetric*  
4 *Mapping*. Developer shall ~~submit~~include the ~~Existing Ground Model~~existing ground model in  
5 both DTM and LandXML format with the 3D Models.

### 6 **110.10.2.5.2 InRoads Files (Design Files)**

7 Developer shall prepare InRoads Design Files including template library (\*.itl), the preference  
8 files (\*.xin), alignment files in both \*.alg and LandXML formats, and new design surfaces in  
9 LandXML format.

### 10 **110.10.2.5.3 MicroStation Files (3D and 2D)**

11 Developer shall utilize 3D methodologies and techniques to develop the geometric design and  
12 3D design model for the Project. The 3D model must include 3D graphical elements including  
13 roadway components for horizontal and vertical alignments, contours, superelevation transitions  
14 limits, and existing and proposed finish grade triangles that are representative of the design  
15 model and DTM surface files.

16 Developer shall include the following key existing and proposed 3D design features in the 3D  
17 ~~model~~Model:

- 18 A. Roadway (including intersections, turnouts, driveways, curb and gutter, barrier,  
19 sidewalks, guardrail and pads, etc.);
- 20 B. Drainage (including pipes, catch basins, manholes, and junction structures);
- 21 C. Structures (including sufficient detail to show top of deck surface, structure type, bottom  
22 of beam surface, and pier, abutment and retaining wall locations)
- 23 D. Utilities (including zones of protection);
- 24 E. Signing (including overhead span or cantilever sign structure locations and structure  
25 type);
- 26 F. Lighting (including pole and foundation locations);
- 27 G. Signals (including controller, pole and foundation locations); and
- 28 H. Existing and proposed railroad horizontal and vertical alignments, superelevation data,  
29 surfaces and features as follows:
  - 30 1. All elements of the Work;
  - 31 2. Foundations, including drilled shafts, of columns, abutments, retaining walls, high  
32 mast lighting, and any other ground penetration to be shown to scale of width and  
33 depth; and
  - 34 3. Existing structures to remain inside of the Project ROW.

35 Developer shall prepare all Plans in 2D using Bentley's MicroStation.

### 36 **110.10.2.5.4 3D Models, 4D Model, and Visual Animation**

37 Developer shall use 3D, 4D, and visual animation techniques to improve quality, reduce risk,  
38 and improve Developer, ADOT, and Project Stakeholder collaboration; in communicating the  
39 construction sequence, existing and design feature conflict avoidance, and provisions for  
40 maintenance of traffic. Developer shall prepare 3D Models, a 4D Model ~~Simulation~~Simulations,  
41 and Visual Animation for the Project.



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### 1 110.10.2.5.4.1 General

2 Developer shall prepare the 3D Models, 4D Model Simulations, and Visual Animation in any  
3 commercially available software (e.g., Bentley, Autodesk, etc.).

### 4 110.10.2.5.4.2 3D Model

5 Developer shall prepare 3D Models that contain existing conditions in 3D format and the  
6 proposed 3D key design features. 3D Models are virtual models that contain representations of  
7 physical objects in 3D (x, y, and z) as surfaces or solids. 3D Models must include, ~~but are not~~  
8 ~~limited to~~ existing conditions model(s), design model(s), and construction model(s).

9 The existing condition 3D ~~model~~Model(s) must contain existing ground surface and certain  
10 subsurface elements including drainage structures, utilities and zones of protection, and bridge  
11 and wall foundations, shown on the Plans or the existing ground surface data (\*.dtm).

12 Design and construction 3D ~~models~~Models must incorporate proposed 3D design features for  
13 the following elements of ~~work~~Work:

- 14 A. Roadway
- 15 B. Drainage (including ~~, at a minimum,~~ pipes, catch basins, and junction structures)
- 16 C. Structures (including, ~~at a minimum,~~ sufficient detail to show top of deck surface,  
17 structure type, bottom of beam surface, pier locations, abutment locations, and retaining  
18 wallswall locations, and clearances)
- 19 D. Foundations, including ~~at a minimum,~~ all ground penetrations shall be shown to scale of  
20 width and depth
- 21 E. Utilities (including zones of protection)
- 22 F. Signing (including ~~at a minimum~~ overhead signs and foundations)
- 23 G. Signals & Lightinglighting (including ~~at a minimum,~~ controller, pole and foundation  
24 locations)

25 Prior to the first pre-construction coordination meeting, Developer shall submit the 3D Models to  
26 ADOT for review and comment.

### 27 110.10.2.5.4.3 4D Model Simulation

28 Developer shall prepare ~~a~~ 4D Model SimulationSimulations that presents the key design  
29 features in a time scaled appearance of model elements/objects. The 4D Model  
30 SimulationSimulations must be an aggregation of virtual models that are linked to the Project  
31 Schedule that shows an ordered, time scaled appearance of model elements/objects. The  
32 Project Schedule that is integrated to the 3D ~~model~~Model (4D model) ~~shall~~must be kept current  
33 (all revisions and updates) on a monthly basis. The 4D Model SimulationSimulations must  
34 contain one or more virtual models and at least one link to the Project Schedule. 4D Model  
35 Simulations must include the utility requirements in the Contract Documents. With every Project  
36 Schedule Submittal, Developer shall submit the 4D Model SimulationSimulations to ADOT for  
37 review and comment.

### 38 110.10.2.5.4.4 Visual Animation

39 Developer shall prepare a Visual Animation that is a walkthrough of a virtual model of the  
40 constructed Project that supports movement and display and contains photo-simulations to  
41 more accurately depict existing and construction build-out conditions both under and above  
42 ground. Visual animations prepared by Developer must be based on either 3D Models or 4D  
43 models. Prior to Substantial Completion, Developer shall submit the Visual Animation to ADOT  
44 for review and comment.

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### 1 110.10.2.6 Design Review Process

2 Developer shall not be relieved of its responsibility for the satisfactory completion of the Work in  
3 accordance with the Contract Documents by ADOT's participation in design reviews. ADOT may  
4 require resubmittal of any Design Documents and/or Construction Documents, as it deems  
5 appropriate. ADOT will have the right to refuse and reject any Submittal that does not comply  
6 with the Contract Documents, including QA/QC requirements. If any Submittal is rejected,  
7 Developer shall notify all recipients to remove all copies from circulation. Developer shall  
8 redistribute the replacement Submittal to ADOT and other appropriate Governmental Entities,  
9 as authorized by ADOT.

10 ADOT will provide review comments to Developer numbered in a manner corresponding to the  
11 drawing or report page in question. Developer shall provide space after each comment for a  
12 brief response by Developer. Developer is advised that comments on the Submittals received  
13 from parties other than ADOT may not follow the above-described ADOT comment format. In  
14 addition, Developer may receive separate comment packages from each party that reviews a  
15 Submittal. With the PSQMP, Developer shall prepare and submit a Comment Resolution Form ~~f~~  
16 to ADOT. Developer shall compile all Submittal review comments on a Comment Resolution  
17 Form. The Comment Resolution Form is a living document in which Developer shall incorporate  
18 all comments and resulting resolutions for the Submittal package for the duration of the  
19 Submittal. Developer shall include previous Submittal comments, if applicable, and Comment  
20 Resolution Form(s) with each subsequent Submittal identified with an alphanumeric tracking  
21 number corresponding to the package submission in accordance with Section GP 110.10.2.2 of  
22 the TPs. With the subsequent Submittal, Developer shall prepare and submit ~~Written~~  
23 Review Comment Responses to ~~Review Comments to~~ ADOT.

24 Developer shall schedule a comment resolution meeting (CRM) to address unresolved  
25 comments. Developer may request ADOT to waive a CRM. ADOT may waive a CRM at its sole  
26 discretion. The purpose of the CRM is to discuss Developer's responses to review comments,  
27 determine which of the review comments Developer shall incorporate into the Work, and  
28 discuss and resolve the pending comments. More than one CRM per Submittal may be  
29 necessary to discuss all review comments provided to Developer. Developer shall attend the  
30 CRM. Within 5 Business Days of the CRM, Developer shall prepare and submit CRM Notes ~~f~~ to  
31 ADOT. The Project Manager, Design Manager, responsible engineer, and all Developer staff  
32 requested by ADOT must attend the CRM. The Parties will escalate review comments not  
33 resolved after the first complete CRM to the CRM comment resolution board consisting of  
34 ADOT, Project Manager, and Design Manager. The Parties will use the Project's partnering  
35 process in accordance with Section 22.1 of the Agreement to address review comments not  
36 resolved at the CRM comment resolution board.

37 Developer shall address ~~Initial Design Submittal comment resolution that requires a change in~~  
38 ~~the Submittal package in the Final Design Submittal. Developer shall address~~ all Initial Design  
39 Submittal comments ~~in~~ by the Final Design Submittal prior to submitting the RFC Submittal.

40 Developer acknowledges and agrees that resubmittal of the Final Design Documents, RFC  
41 packages, or other design Submittals may be required by ADOT. Developer shall resubmit the  
42 Final Design Documents as many times as necessary to obtain approval of the Final Design  
43 Documents. No additional compensation and/or time extension is allowed for any resubmittals.

#### 44 110.10.2.6.1 Over-the-Shoulder Reviews

45 Over-the-shoulder reviews are informal examinations by ADOT of Design Documents during the  
46 Project design process and are not considered formal reviews as specified in Section GP  
47 110.10.2.7 of the TPs. Over-the-shoulder reviews are mainly intended to assess whether the

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1 requirements and design criteria of the Contract Documents are being followed and whether  
2 ~~Developer's~~ Professional Services Quality Management Plan (PSQMP) activities are being  
3 undertaken in accordance with the QMP.

4 The intent of these reviews is to check for concept, level of detail, design criteria, and patent  
5 flaws. Comments made by ADOT are considered nonbinding. Developer shall conform to the  
6 requirements of the Contract Documents. These reviews are not intended to routinely include  
7 detailed calculation or drawing reviews, although ADOT will have the right to perform detailed  
8 reviews of any item at any time. If mutually agreed upon between the Parties for specific review  
9 items, the over-the-shoulder review may consist of an exchange of electronic files between  
10 Developer's designer and ADOT.

11 The QMP must define the frequency, timing, content, and format of the over-the-shoulder  
12 reviews. Developer shall schedule over-the-shoulder reviews with ADOT during the course of  
13 the development of each design package. The over-the-shoulder reviews are not critical activity  
14 points that restrict the progress of design. They are simply reviews of the design as it  
15 progresses and opportunities for ADOT to provide comments and feedback on the design.

16 If over-the-shoulder reviews are performed, ADOT will conduct them, as appropriate, in either  
17 Developer's office or at ADOT's offices, and in the presence of Developer's personnel with the  
18 intent to minimize disruption of ongoing Design Work. Formal assembly and submittal of  
19 drawings or other documents may not be required. The review may be of progress prints,  
20 computer images, draft documents, working calculations, draft specifications or reports, or other  
21 ~~design documents. If mutually agreed for specific review items, the over-the-shoulder review~~  
22 ~~may consist of an exchange of electronic files between Developer's designer and ADOT~~Design  
23 Documents.

24 ADOT will have no obligation to conduct over-the-shoulder reviews.

### 25 110.10.2.6.2 Segment Limits Map and Submittal Schedule

26 Developer shall prepare a Segment Limits Map and Submittal Schedule for the development,  
27 scheduling, and characterization of Developer's design segment plan. The intent of the  
28 Segment Limits Map and Submittal Schedule is to enable ADOT to adequately plan its review  
29 resources.

30 Developer shall prepare a Segment Limits Map that identifies how Developer intends to divide  
31 the Project into design segments for the intent of submitting design Submittal packages to  
32 ADOT. ADOT will not accept or review a single design package for the entire Project, with the  
33 exception of the Final Design Documents Submittal. Developer may, with prior approval by  
34 ADOT, modify the Segment Limits Map as the design effort progresses.

35 Developer shall prepare a Submittal Schedule that identifies all design Submittal packages up to  
36 and including RFC Submittal for each design segment Developer intends to submit to ADOT.  
37 The Submittal Schedule must identify individual Submittal packages for each bridge and wall  
38 structure.

39 Prior to issuance of ~~NTP~~NTP 2, Developer shall submit the Segment Limits Map and Submittal  
40 Schedule to ADOT for approval in ADOT's good faith discretion. Developer may request, as part  
41 of the Segment Limits Map and Submittal Schedule deliverables, authorization from ADOT for  
42 the right to make weekly Submittals in excess of the stipulated maximum number during the  
43 design period. ADOT will have the right to withhold approval if it deems the request  
44 unreasonable or if ADOT personnel cannot accommodate the additional reviews.

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1 Developer shall incorporate in the Project Schedule the review periods for each Submittal  
 2 package to be submitted as identified in the Segment Limits Map. ADOT will not guarantee any  
 3 specific review period for Governmental Entities, Utility Companies, and railroads ~~reviews~~. The  
 4 review period for each review to be performed by a Governmental Entity is established by the  
 5 Governmental Entity, at its discretion, after a Submittal package has been provided to the  
 6 Governmental Entity.

**7 110.10.2.6.3 Submittal Review Periods**

8 Developer shall coordinate with other Governmental Entities, Utility Owners, and railroads to  
 9 determine those entities' submittal review requirements.

10 Developer acknowledges and agrees that Submittals at all Submittal stages require the review  
 11 period duration applicable for that category of Submittal as reflected in Table 110-13 below.  
 12 Review times are applicable only for the submission of complete and comprehensive  
 13 documents that are deemed acceptable by ADOT for review.

<b>Table 110-13 Submittal Review Periods</b>		
<b>Category</b>	<b>Submittal To</b>	<b>Review Period (Business Days)</b>
<b><u>Professional Services</u></b>		
A	ADOT	10
B	ADOT (Design Variances)	20
C	ADOT (Design Exceptions and Change of Access)	20 <sup>2</sup>
D	ADOT (ROW Submittals)	10 <sup>1</sup>
E	Other Governmental Entities, Utility Companies, and railroads	Varies <sup>2</sup>
<b><u>Construction</u></b>		
F	Design Changes	10 <sup>2</sup>
G	Record Drawings	20 <sup>2</sup>
Notes: 1. Additional requirements for ADOT review of ROW Submittals are further described in <u>Section GP 110.10.2.6.3.1 of the TPs</u> . 2. Developer shall coordinate with other Governmental Entities, Utility Companies, and railroads to determine the entities' submittal requirements.		

14 A maximum of 10 Submittals can be submitted per week per technical discipline. Technical  
 15 disciplines for the purpose of maximum review Submittals include:

- 16 A. Land Surveying
- 17 B. Geotechnical/Earthwork
- 18 C. Pavement
- 19 D. Environmental
- 20 E. Public Information
- 21 F. Utilities

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- 1 G. Railroad
- 2 H. Roadway
- 3 I. Drainage
- 4 J. Aesthetics and Landscaping
- 5 K. Structures
- 6 L. Hydraulics
- 7 M. Traffic
- 8 N. Maintenance of Traffic
- 9 O. Intelligent Transportation System

10 Developer acknowledges and agrees that no more than 10 Submittals per technical discipline in  
11 the aggregate may be pending for review by ADOT at any given time. Developer may request  
12 authorization from ADOT for the right to make Submittals in excess of the stipulated maximum  
13 number stated in this Section GP 110.10.2.6.3. ADOT will have the right to withhold  
14 authorization if ADOT deems the request unreasonable or if ADOT personnel cannot  
15 accommodate the additional reviews.

### 16 **110.10.2.6.3.1 ADOT Review of ROW Submittals**

17 The maximum review period of 10 Business Days for Project ROW reviews applies separately  
18 to each of the following:

- 19 A. ROW Exhibits;
- 20 B. Legal Descriptions;
- 21 C. Appraisals;
- 22 D. Acquisition Packages;
- 23 E. Condemnation Packages; and
- 24 F. All other ROW Submittals.

25 No more than 10 ROW Submittals for each of the following may be pending for review by ADOT  
26 at any given time:

- 27 A. ROW Exhibits;
- 28 B. Legal Descriptions;
- 29 C. Appraisals;
- 30 D. Acquisition Packages;
- 31 E. Condemnation Packages; and
- 32 F. All other ROW Submittals.

33 Developer shall indicate the priority of review of ROW Submittals when Developer Submittals  
34 exceed the requirements above.

### 35 **110.10.2.7 Design Requirements**

36 Developer shall prepare all Design Documents by or under the supervision of a Professional  
37 Engineer of the applicable discipline. All RFC packages and Final Design Documents must be  
38 stamped, signed, and dated by the responsible engineer.

39 Except as otherwise specified in the Contract Documents or approved by ADOT, Developer  
40 shall develop formal Submittals of Design Documents ~~Submittals~~ following the steps described  
41 in Section GP 110.10.2.7 of the TPs. The primary design Submittal package stages are:



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- 1 A. Initial Design Submittal
- 2 B. Final Design Submittal
- 3 C. ~~Release for Construction~~RFC Submittal
- 4 D. Final Design Documents Submittal

5 Notwithstanding the foregoing, Developer may request the right to propose to eliminate a design  
6 package step ~~defined~~identified herein, as reflected by Developer's proposed Project Baseline  
7 Schedule. ADOT will have the right to withhold approval of such request.

8 Developer shall coordinate with other Governmental Entities, Utility Owners, and railroads to  
9 determine those entities' submittal requirements and make appropriate Submittals, providing  
10 concurrent copies of any such submittals and respective correspondence to ADOT. Developer  
11 shall immediately notify ADOT of any additional Governmental Entity's requirements. Developer  
12 shall be responsible for all costs and schedule impacts for all Governmental Entities'  
13 requirements.

### 14 **110.10.2.7.1 Plans**

15 Developer shall prepare Plans for the Project in accordance with the Contract Documents.  
16 Developer shall ensure that all non-ADOT standards drawings/details are detailed on Plans. All  
17 Plans must include all proposed and actual changes to the Schematic ROW. If Developer's  
18 design requires changes to the Schematic ROW, the Submittal package must clearly indicate  
19 the Project ROW changes proposed, and must include a narrative detailing the need for the  
20 change.

### 21 **110.10.2.7.2 Specifications**

22 Developer shall prepare specifications for the Project that must be complete and ready for  
23 construction, including all specifications to support the Plans, description of Work, material  
24 requirements, methods of construction, and indicate inspection and testing requirements.

### 25 **110.10.2.7.3 Initial Design Submittal**

26 To supplement or augment Developer's design schematic included in the Proposal and when  
27 the design for a given element or segment is approximately 60 percent complete, Developer  
28 shall prepare and submit Design Documents to ADOT. The Initial Design Submittal must include  
29 Plans, specifications, ~~technical memorandums, reports, studies, calculations,~~ and other  
30 pertinent data needed to verify the design, as applicable with each Initial Design Submittal.

### 31 **110.10.2.7.4 Final Design Submittal**

32 When the design for a given element or area is approximately 95 percent complete, Developer  
33 shall prepare and submit a Final Design ~~Submittals~~Submittal to ADOT for review and comment.  
34 ~~The~~Each Final Design Submittal must include Plans, specifications, technical memorandums,  
35 reports, studies, calculations, and other pertinent data, as applicable ~~with each Final Design~~  
36 ~~Submittal.~~ The Final Design Submittal must also include a ~~comment resolution form~~Comment  
37 Resolution Form showing how the Final Design Submittal ~~has addressed~~addresses the review  
38 comments generated during the previous Submittal reviews.

### 39 **110.10.2.7.5 ~~Release for Construction~~RFC Submittal**

40 When the design for a given element or area is 100 percent complete and all previous  
41 comments have been addressed and appropriately incorporated, Developer shall prepare and  
42 submit the RFC Submittal to ADOT. The RFC Submittal must include Plans, specifications,  
43 technical memorandums, reports, studies, calculations, and other pertinent data, as applicable  
44 with the RFC Submittal. The RFC Submittal must also include a ~~comment resolution~~



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1 ~~form~~Comment Resolution Form showing how the RFC Submittal has addressed the review  
2 comments generated during previous submittal reviews. The engineer-of-record (by discipline)  
3 must sign and seal the RFC Submittal prior to construction of the relevant Project component.

4 ADOT's review of any RFC package ~~will neither~~does not constitute approval of subsequent  
5 construction ~~nor~~and does not relieve Developer of its responsibility to comply with the  
6 requirements of the Contract Documents. Developer shall ensure construction complies with the  
7 requirements of the Contract Documents, Laws, and Governmental Approvals. Developer shall  
8 bear the risk of any required modifications to the component construction due to subsequent  
9 ~~design changes~~Design Changes resulting from further design development.

### 110.10.2.7.6 Final Design Documents Submittal

11 Developer shall combine the RFC packages for the entire Project upon completion of all design  
12 Work into a Final Design Documents package. The purpose of the Final Design Documents  
13 Submittal is to create a single package of the design Plans for the entire Project, for ADOT  
14 record-keeping purposes. Developer shall organize the RFC Submittals for individual Work  
15 items, components, elements, or phases such that the Final Design Documents Submittal is  
16 assembled in a manner similar to the standard construction documents typically provided to  
17 ADOT for conventional project bidding.

18 Within 20 Business Days after the submittal of the final RFC Submittal to ADOT, Developer  
19 shall submit the Final Design Documents Submittal to ADOT for review and comment.  
20 Developer acknowledges and agrees that resubmittal of the Final Design Documents Submittal  
21 or other design submittals may be required by ADOT. ~~Developer shall resubmit the Final Design~~  
22 ~~Documents Submittal as many times as necessary to obtain all final approval of the Final~~  
23 ~~Design Documents Submittal.~~

### 110.10.2.8 Construction Requirements

#### 110.10.2.8.1 Shop Drawings and Working Drawings

26 Developer shall prepare Shop Drawings and Working Drawings necessary to construct the  
27 Project. Shop Drawings and Working Drawings ~~Submittals~~ must include drawings on 22 inch x  
28 34 inch sized sheets, calculations, and certifications, describe the methods of construction  
29 proposed, and adequately define and control the Work. PSQM must review and certify Shop  
30 Drawings and Working Drawings in accordance with Section GP 110.07 of the TPs. At least 10  
31 Business Days prior to implementation, Developer shall submit Design Manager  
32 ~~Approved~~approved Shop Drawings and Working Drawings to ADOT.

#### 110.10.2.8.2 Request for Information

34 Design issues may arise in ongoing Work reflected in RFC packages. Developer may utilize the  
35 RFI process as a communication tool between design and construction. RFIs may be initiated  
36 by Developer or ADOT. Developer-initiated RFIs must reflect the following: the general nature,  
37 location, and description of the issue; Developer's proposed mitigation with supporting  
38 documentation of the issue; and the CQM's approval ~~en~~of such mitigation. ADOT will provide  
39 Developer an RFI for issues identified by ADOT. ADOT will submit ADOT-initiated RFIs to  
40 Developer for incorporation into the RFI process. Developer shall submit RFIs to the Design  
41 Manager, Construction Manager, or Project Manager, as appropriate, to obtain the proposed  
42 mitigation with supporting documentation.

43 When an issue or change arises, including those identified by ADOT-initiated RFIs, Developer  
44 shall place the RFI in an RFI Log to track all open issues. Every week, Developer shall submit  
45 RFIs and the updated RFI Log to ADOT. Developer shall provide an independent and unique

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1 numbering system for Developer-initiated RFIs, different from ADOT-initiated RFIs or those of  
2 any other Governmental Entity. Within 5 Business Days of receipt of the ADOT-initiated RFIs,  
3 Developer shall ~~prepare and~~ submit a Response to ADOT-initiated RFIs to ADOT.

### 4 110.10.2.8.3 Design Changes

5 During Construction Work, adjustments to the design may be required to fit field conditions. The  
6 engineer-of-record for the design at the time of the ~~design change~~Design Change must provide  
7 written approval for any ~~design changes~~Design Change that occur during construction, or  
8 ~~design changes~~Design Changes that occur to Design Documents, unless otherwise specifically  
9 authorized in writing by ADOT. All ~~design changes~~Design Changes must undergo the same  
10 QMP checks, reviews, and certifications and are subject to the same review process beginning  
11 at Final Design Submittal, as the original design. Design ~~changes~~Changes must include plan  
12 sheets, specifications, technical memorandums, reports, studies, calculations, and other  
13 pertinent data, as applicable per the deliverable content required by the level of the submittal.

14 Plan change documentation must include confirmation that:

- 15 | A. The ~~design change~~Design Change has been designed in accordance with the  
16 requirements of the Contract Documents, applicable Laws, and Governmental Approvals
- 17 | B. The ~~design change~~Design Change has been checked in accordance with Developer's  
18 PSQMP
- 19 | C. The ~~design change~~Design Change has been prepared consistently with other elements  
20 of the original design
- 21 | D. The ~~design change~~Design Change complies with the design certification requirements  
22 as set forth in the QMP
- 23 E. ADOT comments are resolved

24 Developer shall request and schedule an interim and final Design Review(s) for all ~~design~~  
25 ~~changes~~Design Changes made during construction or to the Final Design Documents.  
26 Developer shall document all changes made through the ~~design change~~Design Change process  
27 in the Record Drawings in accordance with Section GP 110.10.2.8.4 of the TPs.

### 28 110.10.2.8.4 Record Drawings

29 Developer shall prepare Record Drawings in accordance with the ADOT *Redline and As-Built*  
30 *Procedures and Guidelines*. Record Drawings must show locations and number of potential  
31 Grand Canyon State Logo Signs. As a condition of Final Acceptance in accordance with Section  
32 6.6.4.2 of the Agreement, Developer shall submit Record Drawings as a composite set of plans  
33 for the Project and the As-Built Schedule as set forth in Section GP 110.06.2.12 of the TPs to  
34 ADOT for review and comment. The Design Manager or engineer of record must professionally  
35 endorse (sign and seal) the Record Drawings. The Professional Services Quality Manager must  
36 certify the Record Drawings comply with the QMP.

### 37 110.10.3 Submittals

38 Table 110-14 reflects a nonexclusive list of Submittals identified in Section GP 110.10 of the  
39 TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
40 determine and submit all Submittals as required by the Contract Documents, Governmental  
41 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
42 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
43 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
44 formats described in Section GP 110.10.2.2 of the TPs:

Table 110-14 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
3D Models	4	0	1	Prior to the first pre-construction coordination meeting	GP 110.10.2.5.4.2
4D Simulation	4	0	1	With every Project Schedule Submittal	GP 110.10.2.5.4.3
Visual Animation	4	0	1	Prior to Substantial Completion	GP 110.10.2.5.4.4
Comment Resolution Form	5	2	1	With the PSQMP	GP 110.10.2.6
<del>Written Review</del> Comment Responses to Review Comments	5	2	1	With the subsequent Submittal	GP 110.10.2.6
CRM Notes	5	2	1	Within 5 Business Days of the CRM	GP 110.10.2.6
Segment Limits Map	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.10.2.6.2
Submittal Schedule	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	GP 110.10.2.6.2
Initial Design Submittal	5	2	1	When the design for a given element or segment is approximately 60 percent complete	GP 110.10.2.7.3
Final Design Submittal	4	2	1	When the design for a given element or area is approximately 95 percent complete	GP 110.10.2.7.4
RFC Submittal	5	2	1	When the design for a given element or area is 100 percent complete and all previous comments have been addressed and appropriately incorporated	GP 110.10.2.7.5
Final Design Documents Submittal	4	2	1	20 Business Days after the submittal of final RFC Submittal by ADOT	GP 110.10.2.7.6
<del>Design Manager Approved</del> Shop and Working Drawings	5	2	1	10 Business Days prior to implementation	GP 110.10.2.8.1
RFIs and RFI Log	5	2	1	Every week	GP 110.10.2.8.2

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Table 110-14 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Response to ADOT-initiated RFIs	5	2	1	Within 5 Business Days of receipt of the ADOT-initiated RFIs	GP 110.10.2.8.2
Design Changes	54	2	1	Varies	GP 110.10.2.8.3
Record Drawings	4	2	1	As a condition of Final Acceptance in accordance with <u>Section 6.6.4.2 of the Agreement</u>	GP 110.10.2.8.4
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1 **110.11 Documentation of the Site**

2 Developer shall perform all Work in compliance with the requirements of this Section GP  
 3 110.11. Developer shall be responsible for the preservation of all public and private property  
 4 and shall protect carefully from disturbance or damage all land monuments and property marks.  
 5 Land monuments and property marks shall not be moved by Developer until directed by ADOT.  
 6 Existing fences, pole lines, signs, buildings and structures that are to remain in place shall be  
 7 protected from injury or damage.

8 **110.11.1 Existing Conditions Site Documentation**

9 Developer shall prepare an Existing Conditions Site Documentation that identifies and  
 10 documents the existing conditions within the Site, including videotaping the whole Project.  
 11 Developer shall investigate, videotape, and photograph existing elements in the Project ROW  
 12 that are planned to remain in place to determine its condition, size, material, location, and other  
 13 pertinent information. The Existing Conditions Site Documentation must include adjacent  
 14 roadways, drainage channels or flowing waterways, fences, walls, houses, buildings, wells,  
 15 sensitive habitats, irrigation systems, and areas where activities will be performed by Developer  
 16 or Subcontractors. Developer shall document include in the Existing Condition Site  
 17 Documentation all facilities and Utilities that may be impacted by the Work including  
 18 downstream drainage channels, adjacent roadway conditions, and sensitive habitats. The  
 19 videotape must show details of the condition of all properties and structures, pavement  
 20 conditions of crossroads, and proposed and potential haul routes. Prior to construction,  
 21 Developer shall submit the Existing Conditions Site Documentation to ADOT for review and  
 22 comment.

23 **110.11.2 Site Documentation**

24 At commencement of construction, and every month following through Final Acceptance,  
 25 Developer shall photograph and videotape construction activities covering the following:

- 26 A. All structures and properties;
- 27 B. The Work reflecting the activities underway during the month; and

**ADDENDUM #12**

1 C. Any accidents, unusual conditions, and complaints.

2 Developer shall prepare the Site Documentation so that it includes video footage and digitally  
3 produced photographs. Developer shall organize all such photographs and video footage  
4 according to activity and date. Developer shall obtain all necessary permission from property  
5 owners to enter their property for any ~~documentation~~ Site Documentation of the Site. Upon  
6 ADOT's request, Developer shall submit the Site Documentation on digital versatile disc (DVD)  
7 format to ADOT for review and comment.

8 **110.11.3 Submittals**

9 Table 110-15 reflects a nonexclusive list of Submittals identified in Section GP 110.11 of the  
10 TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
11 determine and submit all Submittals as required by the Contract Documents, Governmental  
12 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
13 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
14 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
15 formats described in Section GP 110.10.2.2 of the TPs:

Table 110-15 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Existing Conditions Site Documentation	4	2	1	Prior to construction	GP 110.11.1
Site Documentation	4	0	3	Upon ADOT's request	GP 110.11.2
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1  
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**End of Section**



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1 **DR 408 THIRD-PARTY AGREEMENTS**

2 **408.1 GENERAL REQUIREMENTS**

3 Developer shall perform all Third-Party Agreement Work in compliance with the requirements of  
 4 Section DR 408 of the TPs.

5 **408.2 ADMINISTRATIVE REQUIREMENTS**

6 The Third-Party Agreements are listed in Table 408-1. TP Attachment 408-1 lists ADOT's  
 7 responsibility for each Third-Party Agreement. Developer shall perform all ADOT obligations  
 8 under or pursuant to the Third-Party Agreements except to the extent that TP Attachment 408-1  
 9 states that an obligation is allocated to ADOT. In the event that the Work necessitates a change  
 10 to an existing Third-Party Agreement, or issuance of a new Third-Party Agreement, Developer  
 11 shall be responsible for all Work necessary to obtain the amended or new Third-Party  
 12 Agreement.

Table 408-1 Third-Party Agreements				
TP Attachment	Governmental Entity	Description	Status	Availability Date
408-1.1	City of Phoenix	Project Master Maintenance Agreement	Development In Progress	[to be provided in Addendum <del>34</del> ]
408-1.2	City of Phoenix	Local Street Turnback	Development In Progress	[to be provided in Addendum <del>34</del> ]

13

14

**End of Section**

1 **DR 410 LAND SURVEYING**

2 **410.1 GENERAL REQUIREMENTS**

3 Developer shall perform all land surveying Design Work in compliance with the requirements of  
 4 Section DR 410 of the TPs. Developer shall ensure that all land surveying Design Work is  
 5 performed under the supervision of the Survey Manager. All survey data provided by Developer  
 6 to ADOT must be certified by the Survey Manager.

7 **410.2 ADMINISTRATIVE REQUIREMENTS**

8 **410.2.1 Standards**

9 Developer shall perform all land surveying Design Work in accordance with the standards,  
 10 manuals, and guidelines listed in Table 410-1.

Table 410-1 Standards		
No.	Agency	Title
1	ADOT	Intermodal Transportation Division Engineering Technical Group Engineering Survey Section Manual for Field Surveys
2	Arizona State Board of Technical Registration	Arizona Boundary Survey Minimum Standards

11 All mapping created for the Project, whether by aerial photogrammetry or LIDAR scanning must  
 12 adhere to the accuracy standards contained in the ADOT *General Specifications for Aerial*  
 13 *Mapping*. Photogrammetric mapping must comply with ADOT *Intermodal Transportation*  
 14 *Division Engineering Technical Group Engineering Survey Section General Specifications for*  
 15 *Photogrammetric Mapping*.

16 **410.2.2 Survey Data Provided to Developer**

17 The existing survey and mapping data that ADOT provides to Developer is contained in the  
 18 RIDs. Developer shall review existing survey and mapping data and determine the requirements  
 19 for updating or extending the survey and mapping data. Developer shall be responsible for the  
 20 precision, accuracy, and comprehensiveness of all survey and mapping data. Developer shall  
 21 verify all survey control information contained in the *Results of Survey for Project No. 202L MA*  
 22 *000 H5439*, by Stanley Consultants, included in the RIDs, and shall immediately and in any  
 23 event prior to proceeding with any land surveying Design Work notify ADOT of any  
 24 discrepancies. Developer shall be responsible for all surveys necessary for the Work.

25 **410.3 DESIGN REQUIREMENTS**

26 **410.3.1 Units of Measure**

27 Developer acknowledges and agrees as follows:

- 28 A. The unit of linear measurement is international feet;
- 29 B. Linear measurements and station/offsets must be expressed to two places to the right of  
 30 the decimal point;
- 31 C. Coordinates must be expressed to three places to the right of the decimal point;

- D. Angular measurement units must be in degrees, minutes, and seconds expressed to the nearest second; and
- E. Directional units must be in bearings expressed in degrees, minutes, and seconds expressed to the nearest second.

**410.3.2 Survey Control**

Developer shall establish Project survey control by utilizing those primary horizontal control points depicted on the *Results of Survey for Project No. 202L MA 000 H5439*, by Stanley Consultants, included in the RIDs. Developer shall establish secondary survey control points throughout the Project alignment at intervals not to exceed 1,000 feet. These points must include horizontal and vertical data sufficient to control construction. These survey control points and bench marks must be shown on the Plans and expressed in northings, eastings, elevations, stations, and offsets.

**410.3.2.1 Survey Control Datum**

Developer shall base the horizontal coordinate system on North American Datum (NAD) 1983 (HARN 92), Arizona State Plane Coordinate System, Central Zone. Developer shall achieve the Project survey control system by applying the grid adjustment factor of 1.00016 to the Arizona State Plane Coordinate System grid values as depicted on the *Results of Survey for the Loop 202L (Ref. 3) Project*, by Stanley and Consultants, included in the RIDs. Developer shall base the vertical control on North American Vertical Datum (NAVD) 1988, originating and terminating at a First Order Bench Mark.

**410.3.2.2 Survey Control Adjustments and Accuracy**

Developer shall ensure that survey control accuracy is as follows:

- A. Horizontal control accuracy must be in accordance with the Arizona State Board of Technical Registration *Arizona Boundary Survey Minimum Standards*.
- B. Vertical control accuracy must not be less than Second Order, Class 2 or 0.035 X square root of miles in accordance with the ADOT *Intermodal Transportation Division Engineering Technical Group Engineering Survey Section Manual for Field Surveys*.
- C. Angular accuracy must not be less than 3 seconds per station in accordance with the ADOT *Intermodal Transportation Division Engineering Technical Group Engineering Survey Section Manual for Field Surveys*.

After achieving these accuracy levels, Developer shall apply a least squares adjustment to the horizontal control. Developer shall also proportionately apply vertical control errors to established elevations.

**410.3.3 Design Survey Records and Reports**

Developer shall maintain neat, accurate, and complete documentation in connection with all land surveying Design Work. This documentation must include all calculations, mapping, staking notes, and field crew daily diaries. Developer shall compile and prepare a formal Design Survey Report that includes all those items specified in the ADOT *Intermodal Transportation Division Engineering Technical Group Engineering Survey Section Manual for Field Surveys*, as well as the following:

- A. All survey calculations related to control survey and design survey data;
- B. Documentation of the information and rationale used to perform the land surveying Work;
- C. Field notes;

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- 1 D. Data collection downloads;
- 2 E. Research information, including deeds, title reports, assessors' data, plats, records of
- 3 surveys, etc.;
- 4 F. Maps; and
- 5 G. CAD files.

6 Developer shall ensure that the Design Survey Report is sealed by a land surveyor registered in  
 7 the State. Prior to the first Initial Design Submittal for each Project segment, Developer shall  
 8 submit the Design Survey Report to ADOT.

**9 410.4 SUBMITTALS**

10 Table 410-2 reflects a nonexclusive list of Submittals identified in Section DR 410 of the TPs  
 11 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 12 determine and submit all Submittals as required by the Contract Documents, Governmental  
 13 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 14 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 15 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 16 formats described in Section GP 110.10.2.1.1 of the TPs:

<b>Table 410-2 Nonexclusive Submittals List</b>					
<b>Submittals</b>	<b>Level of Review*</b>	<b>Number of Copies</b>		<b>Submittal Schedule</b>	<b>Section Reference</b>
		<b>Hardcopies</b>	<b>Electronic</b>		
Design Survey Report	5	0	1	Prior to the first Initial Design Submittal for each Project segment	DR 410.3.3
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

17

18

**End of Section**



1 **DR 416 GEOTECHNICAL**

2 **416.1 GENERAL REQUIREMENTS**

3 Developer shall perform all geotechnical Design Work in compliance with the requirements of  
4 Section DR 416 of the TPs.

5 **416.2 ADMINISTRATIVE REQUIREMENTS**

6 **416.2.1 Standards**

7 Developer shall perform all geotechnical Design Work in accordance with the standards,  
8 manuals, and guidelines listed in Table 416-1.

Table 416-1 Standards		
No.	Agency	Name
1	AASHTO	LRFD (Load and Resistance Factor Design) Bridge Design Specifications, 2012, 6th Edition
2	FHWA	Rockfall Catchment Area Design Guide: Final Report, Report No. SPR-3(032)
3	FHWA	Geotechnical Engineering Circular No. 10, Drilled Shafts: Construction Procedures and LRFD Design Methods, NHI Training Course No. 132014, Publication No. FHWA-NHI-10-016, 2010
4	FHWA	Geotechnical Engineering Circular No. 11, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, NHI Courses No. 132042 and 132043, Publication No. FHWA-NHI-10-025, Volumes I and II, 2009
5	FHWA	Geotechnical Engineering Circular No. 7, Soil Nail Walls, Report No. FHWA-IF-03-017, 2003

9 **416.2.2 Existing Geotechnical Information**

10 Geotechnical reports prepared by ADOT and additional geotechnical information available from  
11 other sources are provided in the RIDs. Although the geotechnical reports and geotechnical  
12 information included in the RIDs may include interpretations, extrapolations, analyses, and  
13 recommendations concerning data, design solutions, technical issues and solutions, and  
14 construction means and methods, such interpretations, extrapolations, analyses, and  
15 recommendations are subject to all the provisions of Sections 1.6 of the Agreement and are:

- 16 A. Preliminary in nature;
- 17 B. Not intended to represent the views or preferences of ADOT or any other Governmental  
18 Entity or represent any statement of approval or acceptance thereof by ADOT or any  
19 other Governmental Entity; and
- 20 C. Without representation or warranty by, or recourse to, ADOT

21 Developer shall perform its own complete and thorough investigation and analysis to design and  
22 construct the Project. Developer shall determine the need for additional geotechnical data and  
23 testing in accordance with the applicable standards and sound engineering judgment, shall  
24 perform geotechnical investigations to obtain any additional data required, and shall perform  
25 tests, analyses, and calculations to develop independent geotechnical recommendations for the  
26 Project to support Developer's design.

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### 416.2.3 Software Requirements

Developer may use the ~~following~~ software programs set forth below in this Section DR 416.2.3 of the TPs for geotechnical Work. In the event that Developer proposes to use any software other than that listed and as part of the Basis of Design Report in accordance with Section GP 110.01.2.2 of the TPs, Developer shall submit ~~Proposed~~proposed Geotechnical Software ~~and Verification Data~~ (including input and output files for verification data) to ADOT for approval ~~in ADOT's reasonable discretion~~.

Acceptable ~~geotechnical~~Geotechnical Software for Design Work ~~software~~ includes: ALLPILE, APILE, CBEAR, EMBANK, Shoring Suite, Driven, FoSSA, gINT, GSTABL, Goldnail, GRL WEAP, GROUP, LPILE Plus, MSEW, ReSSA, RetainPro, RockPack, RocFall Version 4.0 or 5.0, Settle3D, Shaft 2012, Slide, Snail, SNAILZWin, TZPile, UNISETTLE, PCSTABL, XSTABL, CRSP Version 4.0 or 5.0 (CRSP 3D Version must not be used), and Strain Wedge Model.

### 416.2.4 Equipment Requirements

Developer shall ensure that SPT hammers to be used for the geotechnical investigation have been tested for energy efficiency within the last 12 months prior to use, with the energy efficiency ratio reported in the boring logs and drilling records.

## 416.3 DESIGN REQUIREMENTS

Developer shall conduct field explorations and subgrade testing necessary to design the Work in accordance with the requirements of the applicable standards listed in Section DR 416.2.1 of the TPs.

### 416.3.1 Subsurface Geotechnical Investigation by Developer

The subsurface investigation must include soil borings, test pits, rock coring, geophysical surveys, and other field testing deemed necessary by Developer. Developer shall perform subsurface geotechnical investigations, testing, research, and analysis as necessary to design the roadway, pavement, foundations, structures, embankments, excavation, slopes, and other facilities for the Project.

Developer shall employ field investigation measures that avoid groundwater contamination and pollutant discharge and shall perform for all geotechnical investigation associated mitigation and/or restoration in accordance with Sections DR 420 and CR 420 of the TPs.

### 416.3.2 Geotechnical Engineering Reports

Developer shall prepare and update Geotechnical Engineering ~~Report(s)~~Reports documenting the assumptions, conditions, and results of the geotechnical investigations and analyses. The report(s) must include the following:

- A. Cover page.
- B. Table of contents.
- C. Description of the study area and existing site conditions, including vicinity map.
- D. Description of the geology and topography of the study area, including soil and rock types, and drainage characteristics.
- E. Description of the field investigations and laboratory testing used to characterize subsurface conditions. Field investigations must include descriptions of the soil/rock types, penetration test results, in situ test results, and recovery and rock quality designation for rock cores. Laboratory test results must include classification and engineering properties for all major soil and rock strata in the study area.

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- 1 F. A discussion of geological and geotechnical conditions and results with reference to  
2 specific locations on the Project.
- 3 G. Recommendations for:
- 4 1. Structures, including foundation type studies, capacities, lateral earth pressures, and  
5 related design parameters for bridges, culverts, retaining walls, noise walls, sign  
6 supports and standards, and lighting standards.
  - 7 2. Roadway embankments, including material types and suitability, foundation  
8 conditions and improvements, settlement impacts and remediation, and evaluation of  
9 borrow areas.
  - 10 3. Roadway excavations, including material types and suitability for use in  
11 embankments.
  - 12 4. Temporary and permanent cut and fill slopes, including slope stability analyses for  
13 embankment fill slopes and cut slopes, rock cut slope designs, rockfall containment,  
14 and slope stabilization designs.
  - 15 5. Impacts of compressible, hydro-collapsible, and/or expansive soils, if present, and  
16 proposed mitigations.
  - 17 6. Scour and stream bank erosion protection.
  - 18 7. Erosion abatement design for permanent cut and fill slopes.
  - 19 8. Corrosion potential of soils on construction materials.
  - 20 9. Impacts on, and from, groundwater, including necessary remedial actions.
  - 21 10. Construction and inspection considerations.
  - 22 11. Specification requirements and special provisions related to geotechnical  
23 recommendations.
  - 24 12. Details and objectives of any instrumentation plan.
  - 25 13. Suitability of materials (borrow, aggregates, riprap, etc.) that can be obtained from  
26 Project excavations, including source, quality, and availability.
- 27 H. Appendix, including the following:
- 28 1. Plan view locations of field sampling/testing (e.g., borings, test pits, test trenches,  
29 surface samples, geologic maps, geophysical surveys, etc.).
  - 30 2. Copies of the boring logs and field/laboratory test data used for the analysis and  
31 design.
  - 32 3. Other field test data (e.g., geophysical surveys, pressure meter tests, percolation  
33 tests, etc.).
  - 34 4. Summary of laboratory testing methods and tabulated results.
  - 35 5. Copies of geotechnical calculations used for analysis and design, background  
36 information, published verification or hand-calculated verification, and other pertinent  
37 data on computer programs or spreadsheets.
  - 38 6. Copy of the SPT hammer(s) energy calibration.
  - 39 7. Photographs of all rock cores and proper identification labels.
  - 40 8. Instrumentation Plan.

41 ~~With~~At the same time as the Initial Design Submittal of the associated design, Developer shall  
42 submit an ~~Initial~~Initial Geotechnical Engineering Report(s) to ADOT. ~~With~~At the same time as  
43 Final Design Submittal of the associated design, Developer shall submit a ~~Final~~Final  
44 Geotechnical Engineering Report(s) to ADOT for review and comment. The ~~Final~~Final

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1 | Geotechnical Engineering Report(s) must be signed and sealed by the responsible Professional  
2 | Engineer and include the Comment Resolution Form showing how the Final Design Submittal  
3 | addressed ADOT's review comments.

4 | Developer shall prepare Geotechnical Supplements to incorporate changes made during the  
5 | development of the Work and shall incorporate any such Geotechnical Supplements into the  
6 | ~~Final~~ Geotechnical Engineering Report(s). ~~With~~At the same time as subsequent Submittal  
7 | of the associated design, Developer shall submit Geotechnical Supplements to ADOT for review  
8 | and comment.

9 | Developer shall prepare an As-Built Geotechnical Engineering Report that compiles all ~~Final~~  
10 | Geotechnical Engineering Reports and Geotechnical Supplements into one report. As part of  
11 | the Record Drawings Submittal, Developer shall submit the As-Built Geotechnical Engineering  
12 | Report to ADOT for review and comment.

### 13 | **416.3.3 Geotechnical Analyses and Design**

#### 14 | **416.3.3.1 Rock Cut Slopes**

15 | Developer shall design rock cut slopes and shall use global slope stability safety factors in  
16 | accordance with the applicable American Association of State Highway and Transportation  
17 | Office (AASHTO) and FHWA standards listed in Section DR 416.2.1 of the TPs. Developer shall  
18 | provide continuous finished cut slopes in accordance with ADOT Slope Sculpting Details  
19 | (Exhibits L5.5 and L5.6 of the LAADCR), except terracing will not be allowed.

20 | Developer shall design rockfall containment facilities and catchments to provide a minimum  
21 | 95 percent rockfall retention rate with 100 percent of the retained rockfall not intruding into travel  
22 | lanes in accordance with the applicable standards listed in Section DR 416.2.1 of the TPs.  
23 | Developer shall perform computer simulation rockfall modeling for the design of all rock slope  
24 | configurations not addressed in the applicable standards. Version 4.0 or 5.0 of the CRSP, or  
25 | Version 4.0 or 5.0 of the RocFall program must be used for modeling purposes. Developer shall  
26 | field verify the input parameters to the computer simulation rockfall modeling. Developer shall  
27 | design rockfall containment facilities that are accessible and maintainable by heavy equipment  
28 | with a minimum width of 12 feet.

#### 29 | **416.3.3.2 Instrumentation**

30 | Developer shall prepare an Instrumentation Plan for all geotechnical Work that requires  
31 | monitoring in accordance with the applicable standards listed in Section DR 416.2.1 of the TPs.  
32 | The Instrumentation Plan must include proposed types of instruments, locations, depths,  
33 | installation details, manufacturers' information, monitoring frequency, and reporting. As part of  
34 | the ~~Initial~~ Geotechnical Engineering Report(s), Developer shall submit the Instrumentation  
35 | Plan to ADOT for review and comment.

#### 36 | **416.3.3.3 Tolerable Deformations**

37 | Developer shall design the Work in accordance with the following deformation criteria:

##### 38 | A. Highway bridge substructures:

- 39 | 1. Maximum total settlement of 1 inch after bridge superstructure has been constructed  
40 | 2. Maximum differential settlement of ~~3/4~~3/4 inch after the bridge superstructure has  
41 | been constructed

##### 42 | B. Retaining walls and miscellaneous structures:

43 | Maximum total and differential settlements and lateral movements (including settlement  
44 | and lateral movements attributable to stresses imposed by embankments) must result in

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1 no distress to the structures and visual treatments of walls, including cracking and  
 2 spalling of concrete, tilting of wall panels, and separation or crushing at joints.

3 C. Embankments and subgrade

4 Developer shall address settlement of embankment (total and differential settlements) so  
 5 that the settlement will not negatively impact the functionalities and performance of  
 6 facilities, immediately on top or adjacent to the embankment, and service life of these  
 7 facilities in accordance with the Contract Documents.

8 **416.4 SUBMITTALS**

9 Table 416-2 reflects a nonexclusive list of Submittals identified in Section DR 416 of the TPs  
 10 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 11 determine and submit all Submittals as required by the Contract Documents, Governmental  
 12 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 13 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 14 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 15 formats described in Section 110.09.2.1.1 of the TPs:

Table 416-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<del>Proposed</del> Geotechnical Software <del>and Verification Data</del>	3	0	1	As part of the Basis of Design Report	DR 416.2.3
Initial Geotechnical Engineering Report(s)	5	4	1	<del>With</del> At the same time as Initial Design Submittal of the associated design	DR 416.3.2
Final Geotechnical Engineering Report(s)	4	4	1	<del>With</del> At the same time as Final Design Submittal of the associated design	DR 416.3.2
Geotechnical Supplement(s)	4	4	1	<del>With</del> At the same time as subsequent Submittal of the associated design	DR 416.3.2
As-Built Geotechnical Engineering Report	4	4	1	As part of the Record Drawing Submittal	DR 416.3.2
Instrumentation Plan	4	4	1	As part of the Geotechnical Engineering Report(s)	DR 416.3.3.2
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

16

17

**End of Section**

1 **DR 417 EARTHWORK**

2 *Intentionally left blank*

3

4

**End of Section**



**DR 419 PAVEMENT**

**419.1 GENERAL REQUIREMENTS**

Developer shall perform all pavement design Work in compliance with the requirements of Section DR 419 of the TPs. Pavements for roadways and streets other than ADOT shall be performed in accordance with the authority having jurisdiction.

Developer shall identify the necessary limits of work on roadways and streets to meet the requirements of the Project. The localized limit of work shall conform to the following:

- A. Widening or reconstruction of any portion of an asphaltic roadway shall require that the entire roadway width be, at a minimum, resurfaced within the longitudinal limits of the widening or reconstruction;
- B. Addition of sidewalks outside an existing roadway or curb and gutter replacement shall not require that the existing road be resurfaced;
- C. Developer shall resurface the entire width of a roadway after any portion of the roadway has been subject to eradication of permanent or temporary pavement markings for a longitudinal distance of 50 feet beyond the last eradicated marking; and
- D. Utility patching on roadways within 150 feet of the otherwise established paving or resurfacing limits shall require that the paving or resurfacing limits be extended to cover the utility patching.

The limits of milling and resurfacing for roadways intersecting the Project shall extend beyond the curb return or to the limits of Construction Work required to tie into existing pavement, whichever is greater.

**419.2 ADMINISTRATIVE REQUIREMENTS**

**419.2.1 Standards**

Developer shall perform all pavement design Work in accordance with the standards, manuals, and guidelines listed in Table 419-1.

Table 419-1 Standards		
No.	Agency	Name
1	AASHTO	Guide for Design of Pavement Structures, 1993 (I-GDPS-4) and 1998 Supplement
2	ADOT	Materials Preliminary Engineering and Design (MPE&D) Manual
3*	ADOT	Pavement Design Standard <a href="#">Report</a> Items
4*	ADOT	Construction Standard Drawings (C-standards)
*Developer must use items 3 and 4 for Non-Maintained Elements to be owned by ADOT. These items are not required for Developer maintained areas.		

**419.3 DESIGN REQUIREMENTS**

**419.3.1 Pavement Design**

Developer shall base pavement design for general purpose lanes, high occupancy vehicle (HOV) lanes, auxiliary lanes, frontage roads, ramps, and crossroads upon Developer’s determination of the design traffic loading forecast. Developer may use the [data sources noted](#)

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1 ~~below~~ MAG Travel Demand Model (2013-08 MAG Travel Demand Model Output.zip) for  
2 reference to determine the design traffic loading forecasts and truck percentages. Developer is  
3 responsible for forecasting the traffic loading and truck percentages for periods beyond the  
4 forecasts ~~in the below noted documents provided.~~

5 ~~A. Final L/DCR;~~

6 ~~B. MAG Travel Demand Model; and~~

7 ~~C. ADOT Multimodal Planning Division (MPD) database~~

8 The required residual pavement design life (in years) at the time of Handback must comply with  
9 the requirement in Section MR 501 of the TPs.

### 10 **419.3.2 Related Pavement Materials Specifications**

11 Unless otherwise specified herein, pavement materials for Non-Maintained Elements owned by  
12 ADOT must comply with the requirements of the documents noted below.

13 A. *ADOT Standard Specifications for Road and Bridge Construction;*

14 B. *ADOT Stored Specifications;* and

15 C. *ADOT Materials Pavement Design Standard Items* (refer to  
16 [http://www.azdot.gov/docs/default-source/materials-library/design-report-standard-](http://www.azdot.gov/docs/default-source/materials-library/design-report-standard-items.pdf?sfvrsn=16)  
17 [items.pdf?sfvrsn=16](http://www.azdot.gov/docs/default-source/materials-library/design-report-standard-items.pdf?sfvrsn=16)).

### 18 **419.3.3 Pavement Type Selection**

19 Pavement types must be as follows:

20 A. Mainline. Pavement for the SR 202 mainline must comply with the requirements of  
21 Section DR 419 of the TPs. Pavement for the I-10 Papago mainline must be the same  
22 pavement section (materials and depths) as the existing roadway pavement

23 B. Shoulders. Pavement for the shoulders of all roadways must be constructed with  
24 the same pavement section (materials and depths) as the adjacent roadway pavement.

25 C. Ramp Pavements. Ramp pavements must be constructed with the same pavement  
26 ~~section materials~~ material type as the adjacent mainline pavement.

27 D. Widened Pavement Sections. For all widened sections, the interface between the new  
28 widened pavement and the existing pavement must provide a uniform surface of the  
29 same material type across all adjacent lanes.

30 E. Frontage Roads, Crossroads and Local Streets. Developer shall design pavements for  
31 Frontage Roads, Crossroads and Local Streets in accordance with the procedures and  
32 requirements of the authority having jurisdiction. The minimum pavement section for City  
33 of Phoenix arterial streets consists of 7.5 inches of asphaltic concrete overlying prepared  
34 subgrade.

### 35 **419.3.4 Asphaltic Rubber-Asphaltic Concrete Friction Course**

36 Developer shall include ~~a one-inch~~ an asphaltic rubber - asphaltic concrete friction course (AR-  
37 ACFC) overlay ~~on pavement sections for mainline lanes, HOV ramps, and system interchange~~  
38 ~~ramps as specified below.~~

#### 39 **419.3.4.1 General Placement Limits & Requirements**

40 For a 1-inch thick AR-ACFC overlay, Developer shall provide a 20-foot long transition from 1  
41 inch to ~~½ inch~~ 0.5 inches thickness at the end of all AR-ACFC placement limits.

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1 ~~For all placement of~~Where a 1-inch thick AR-ACFC overlay does not ~~extendingextend~~ to the  
2 face of curb or barrier, the last 1-~~0-~~foot of width of the AR-ACFC ~~shall~~overlay must incorporate  
3 a transition in thickness from 1 inch to ~~½ inch~~0.5 inches.

4 Developer shall show the location of the AR-ACFC limits on the final plans, the limits of which  
5 are to be approved by ADOT.

### 6 **419.3.4.2 Mainline**

7 AR-ACFC placement along the mainline ~~shoulders~~ shall extend to the limits noted below.

8 A. Low side shoulder – place AR-ACFC to 2 feet beyond the edge line/stripe.

9 B. High side shoulder – place AR-ACFC to face of barrier or curb flowline.

### 10 **419.3.4.3 Bridges**

11 ~~If AR-ACFC placement along bridge decks shall~~is used on bridges, it must extend to the limits  
12 noted below.

13 A. Place AR-ACFC to the face of barrier on the high side of the bridge deck.

14 B. Place AR-ACFC to 2 feet beyond the edge line/stripe on the low side of the bridge deck  
15 if the shoulder on the bridge deck is 12 feet or more in width.

16 If AR-ACFC is not used on bridges, Developer shall not include AR-ACFC on bridge approach  
17 slabs and protective pavement systems.

### 18 **419.3.4.4 Service Interchange Ramps**

19 AR-ACFC placement along service interchange ramps shall extend to 50 feet beyond the back  
20 of paved gore.

### 21 **419.3.4.5 System Interchange Ramps**

22 AR-ACFC placement along system interchange ramps shall extend from the face of barrier or  
23 curb flow line on the high side to the face of barrier or lip of curb on the low side.

### 24 **419.3.4.6 Removal and Replacement Limits**

25 Developer shall remove and replace existing AR-ACFC without damaging the existing PCCP as  
26 noted below.

27 A. I-10 Papago mainline roadway from the back of the 75th Avenue TI west ramp gores to  
28 the back of the 43rd Avenue TI east ramp gores.

29 B. I-10 Papago service interchange ramps between 75th Avenue TI and 43rd Avenue TI.  
30 When the existing AR-ACFC extends beyond the limits of Ramp reconstruction then the  
31 existing AR-ACFC shall be replaced to the existing limits.

32 C. SR 202 Santan mainline roadway to the HOV lanes east of the system interchange.

33 D. SR 202 Santan ramps to the back of gores.

### 34 **419.3.5 Pavement Design Summary**

35 Developer shall prepare an ~~Initial~~initial Pavement Design Summary (PDS) and ~~Final~~final PDS  
36 ~~for the Project.~~

37 The initial and final PDS must include, ~~but not be limited to,~~ the following, as appropriate:

38 A. A summary of the existing pavement history.

39 B. A full description of the planned improvements.

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- 1 C. A discussion of the design traffic loadings used for determination of pavement sections.
- 2 D. The design parameters used for the developmentdetermination of pavement sections.
- 3 E. Recommended pavement structural sections.

4 ~~With~~At the same time as Initial Design Submittal of the pavement structural section Plans,  
5 Developer shall submit an ~~Initial~~initial PDS to ADOT. ~~With~~At the same time as Final Design  
6 Submittal of the pavement structural section Plans, Developer shall prepare and submit a  
7 ~~Final~~final PDS that addresses ADOT's comments to ADOT for review and comment.

### 8 **419.3.6 Materials Design Report**

9 Developer shall prepare and submit to ADOT for review and comment an ~~Initial~~initial Materials  
10 Design Report (MDR) and a ~~Final~~final MDR ~~for the Project. Developer's. The initial and final~~  
11 MDR must include, ~~but not be limited to~~, the following, as appropriate:

- 12 A. Required pavement structural sections.
- 13 B. Vicinity map.
- 14 C. Typical sections and joint details.
- 15 D. Subgrade acceptance chart.
- 16 E. Subgrade, subbases, and bases standard report items.
- 17 F. Surface treatments and pavements standard report items.
- 18 G. Material sources standard report items.
- 19 H. Geotechnical information standard report items: ground compaction, earthwork factors  
20 and slopes, water, pH and resistivity, borrow requirements, etc.
- 21 I. Other standard report items as required by the proposed pavement design.

22 ~~With~~At the same time as Initial Design Submittal of the pavement structural section Plans,  
23 Developer shall submit an ~~Initial~~initial MDR to ADOT. ~~With~~At the same time as Final Design  
24 Submittal of the pavement structural section Plans, Developer shall prepare and submit a  
25 ~~Final~~final MDR that addresses ADOT's comments to ADOT for review and comment.

### 26 **419.4 SUBMITTALS**

27 Table 419-2 reflects a nonexclusive list of Submittals identified in Section DR 419 of the TPs  
28 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
29 determine and submit all Submittals as required by the Contract Documents, Governmental  
30 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
31 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
32 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
33 formats described in Section GP 110.10.2.1.1 of the TPs:

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<b>Table 419-2 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Initial PDS	5	2	1	<del>With</del> At the <u>same time</u> as Initial Design Submittal of the pavement structural section Plans	DR 419.3.5
Final PDS	4	2	1	<del>With</del> At the <u>same time</u> as Final Design Submittal of the pavement structural section Plans	DR 419.3.4.6 <sub>1</sub> <u>419.3.5</u>
Initial MDR	5	2	1	<del>With</del> At the <u>same time</u> as Initial Design Submittal of the pavement structural section Plans	DR 419.3.6
Final MDR	4	2	1	<del>With</del> At the <u>same time</u> as Final Design Submittal of the pavement structural section Plans	DR 419.3.6
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1  
2

**End of Section**

1 **DR 420 ENVIRONMENTAL**

2 **420.1 GENERAL REQUIREMENTS**

3 Developer shall perform all Design Work in compliance with the requirements of Section DR 420  
 4 of the TPs.

5 **420.2 ADMINISTRATIVE REQUIREMENTS**

6 **420.2.1 Standards**

7 Developer shall perform all Design Work in accordance with the standards, manuals, and  
 8 guidelines listed in Table 420-1.

Table 420-1 Standards		
No.	Agency	Title
1	ADOT	South Mountain Freeway (Loop 202) Final Environmental Impact Statement and Section 4(f) Evaluation (FEIS)
2	ADOT	South Mountain Freeway (Loop 202) Record of Decision (ROD)
3	ADOT	Noise Abatement Policy dated July 13, 2011

9 **420.2.2 Environmental Management Program**

10 Developer shall develop, operate, and maintain a comprehensive Environmental Management  
 11 Program for the Work that complies with all applicable Law (including Environmental Law),  
 12 Project commitments, and Governmental Approvals issued thereunder, whether obtained by  
 13 ADOT, a Utility Company, or Developer. The Environmental Management Program must  
 14 obligate Developer to and Developer shall:

- 15 A. Protect the environment and document the measures taken during the performance of  
 16 the Work to avoid and minimize impacts on the environment from the design,  
 17 construction, and maintenance activities of the Project;
- 18 B. Effectively demonstrate in detail Developer’s knowledge of all applicable environmental  
 19 Governmental Approvals, environmental issues, and environmental commitments and  
 20 any applicable Environmental Laws;
- 21 C. Provide concise, consistent environmental monitoring and reporting activities throughout  
 22 the Term, applicable to the environmental activities being performed;
- 23 D. Describe the processes that are followed during the course of the Work to comply with  
 24 those environmental Governmental Approvals, environmental issues, environmental  
 25 commitments, and Law, as well as the documentation required to verify and validate  
 26 environmental compliance;
- 27 E. Describe the documentation required to verify and validate compliance of the  
 28 Environmental Management Program with all applicable Environmental Laws,  
 29 environmental Governmental Approvals, and Contract Documents;
- 30 F. Establish a goal of zero environmental violations during the performance of all Work, and  
 31 provide detailed processes for rectifying such violations in an appropriate and timely  
 32 way;



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- 1 G. Provide design certifications with every Design Submittal indicating that an
- 2 environmental review of the design package has been completed and that the design
- 3 does not change any conditions of the original National Environmental Policy Act
- 4 (NEPA) Approval; and
- 5 H. Provide qualified staff for each of the environmental disciplines.

### 6 **420.2.3 Environmental Management Plan**

7 Developer shall prepare an Environmental Management Plan (EMP) that describes Developer's  
8 approach to implementing the environmental commitments. The EMP must include, at a  
9 minimum, the following elements:

- 10 A. Developer's ~~and ADOT's~~ environmental personnel and training
- 11 B. Environmental/Developer's environmental commitments
- 12 C. Environmental monitoring plan that indicates times, locations, and other primary
- 13 monitoring parameters
- 14 D. Weekly environmental monitoring report content
- 15 E. Monthly report content that combines the weekly report forms into a document that
- 16 summarizes the month's environmental monitoring activities
- 17 F. Documentation confirming that Developer has provided each Subcontractor, including its
- 18 agents associated with the design, construction, and maintenance of the Project with a
- 19 copy of all permits issued by Governmental Entities for the Project
- 20 G. Environmental notification contact list
- 21 H. Pre-construction survey plan for sensitive species, including Western burrowing owls,
- 22 Sonoran desert tortoises, other reptiles and amphibians, and nesting birds.
- 23 I. Schedule of EMP activities
- 24 J. Spill containment and countermeasure plan describing Developer's plans to prevent,
- 25 contain, clean up, remove, dispose of, and mitigate all regulated material spills caused
- 26 by Developer or its subcontractors and/or agents associated with the design,
- 27 construction, and maintenance of the Project. The spill containment and countermeasure
- 28 plan must be in accordance with the July 2002 United States Environmental Protection
- 29 Agency (EPA) update. The spill containment and countermeasure plan must include a
- 30 notification list for containing and reporting.
- 31 K. Plan for verifying that all personnel entering the Site have completed the Project-specific
- 32 environmental awareness training
- 33 L. Hazardous Materials Management Plan, including procedure for discovery of
- 34 unanticipated hazardous waste or contaminated materials
- 35 M. Unanticipated archeological discovery plan
- 36 N. Noise analysis and mitigation plan
- 37 O. Pre- and post-construction surveys for structures located within one-half mile of the area
- 38 of blasting and/or heavy ripping in the event any blasting and/or heavy ripping is planned
- 39 for construction purposes
- 40 P. Air quality management plan
- 41 Q. Asbestos control management plan (demolition)
- 42 R. Lead-based paint control management plan (demolition)
- 43 S. Sedimentation and erosion control plan

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1 | Prior to issuance of NTP2NTP 2, Developer shall submit the EMP to ADOT for approval in  
2 | ADOT's good faith discretion. Developer shall not perform any Construction Work prior to  
3 | ADOT's and FHWA's approval of the EMP. Developer shall review, revise, and update the EMP  
4 | annually to reflect the Project's current state and to incorporate any changes attributable to  
5 | revisions of State or Federal guidelines. Developer shall prepare interim EMP revisions, in the  
6 | form of addenda, if revisions to the EMP are needed before the annual update.

### 7 | **420.2.3.1 Environmental Communications Protocol**

8 | The EMP must provide for the development, documentation, and implementation of an  
9 | environmental communications protocol (ECP). The ECP must describe the process to be used  
10 | for compliance and non-compliance reporting, unanticipated archaeological or hazardous  
11 | material discoveries, personnel's roles, procedures for internal and external communications,  
12 | and communications with ADOT. The ECP must be consistent with Developer's Public  
13 | Involvement Plan and the EMP. The ECP must include organizational charts that identify  
14 | Developer's Environmental Compliance Manager (ECM) and other personnel who will be  
15 | assisting the ECM to ensure compliance with all permit conditions, performance standards, and  
16 | environmental commitments.

#### 17 | **420.2.3.1.1 Internal Communications**

18 | For internal communications procedures, Developer shall ensure that the EMP:

- 19 | A. Describes Developer's organizational hierarchy and identify compliance roles and  
20 | internal reporting responsibilities;
- 21 | B. Includes a clear discussion regarding which Key Personnel, in addition to the ECM, have  
22 | the authority to stop Work to prevent a violation from occurring; and
- 23 | C. Describes the process for identifying and reacting to Non-compliance Events.

#### 24 | **420.2.3.1.2 External Communications**

25 | For external communications procedures, Developer shall ensure that the EMP describes- the  
26 | procedures that defines how all external communications received by Developer shall be  
27 | documented and handled, including how ADOT will be involved. External communications may  
28 | originate from Tribes, local jurisdictions, regulatory agencies, and the public. Issues may range  
29 | from public noise complaints to violation notices from regulatory agencies. Where appropriate,  
30 | this communication procedure must be consistent with the EMP. ADOT will remain the main  
31 | point of contact (unless Developer is otherwise directed by ADOT) with the public and for  
32 | environmental and permit coordination with Tribes, local jurisdictions, and regulatory agencies.  
33 | ADOT will lead all communication related to cultural resources and the Section 106 of the  
34 | *National Historic Preservation Act* process. Developer shall be responsible for external  
35 | notification and reporting requirements associated with the permits Developer obtains and for  
36 | which Developer is listed as the permittee, including reporting protocols identified within  
37 | Developer's spill containment and countermeasure plan.

#### 38 | **420.2.3.1.3 ADOT Communications**

39 | For communications with ADOT, Developer shall ensure that the EMP:

- 40 | A. Describes interactions between Developer and ADOT in regard to reporting non-  
41 | compliance issues.
- 42 | B. Describes Developer's communication process and Key Personnel who are responsible  
43 | for recognizing when a design change and/or alternative construction technique may  
44 | require a permit modification or new approval.

C. Describes Developer's strategy for managing design changes that may require permit modifications or additional approvals.

**420.2.4 Project Environmental Commitment Requirements**

Developer shall comply with environmental commitments and requirements included in the ROD. The table provided in TP Attachment 420-1 includes the Project-specific environmental commitments associated with the ROD. Environmental mitigation measures have been reviewed and approved by FHWA for the construction of the Project. These mitigation measures are not subject to change without prior written approval from FHWA. Developer shall be responsible for all environmental commitment requirements in TP Attachment 420-1, except those requirements that are specifically identified as an ADOT action.

If, at any time, Developer is not in compliance with any applicable Laws, including any Environmental Laws, and Governmental Approvals, ADOT may suspend the Work, in whole or in part, under Section 18.2.1 of the Agreement until such time as the Errors, deficiencies, or noncompliant situations have been corrected. Developer shall be responsible for any associated monetary fines and any environmental restoration activities required to resolve violations are the responsibility of Developer.

**420.2.5 Environmental Protection Training Program**

Developer shall design and implement an environmental protection training program for all Developer and Subcontractor employees. Every Developer and Subcontractor employee who Works on the Project (management through workers, including each new employee who begins Work after issuance of NTP+NTP 1) must participate in an environmental protection training program. The environmental protection training program must be complete prior to an individual performing any Work on the Site. The training program must orient Developer employees and Subcontractors to the following:

- A. The overall importance of environmental issues in achieving a successful Project
- B. The particular environmental sensitivities of the Project (including environmental monitoring requirements)

ADOT will provide assistance regarding clarification and understanding of ADOT environmental goals and policies. Developer shall notify the Governmental Entities and Project staff of the training sessions and invite them to participate.

Developer shall include a schedule for implementation of the environmental protection training program in the EMP. The schedule must include training sessions on the environmental commitment requirements in TP Attachment 420-1 and must include a 6 week written notification to ADOT for requesting cultural sensitivity training conducted by the Gila River Indian Community (GRIC).

**420.2.6 Governmental Approvals**

**420.2.6.1 NEPA Approval**

The Governmental Approvals that ADOT is responsible for acquiring (ADOT-provided approvals), and their status, are set forth in Table 420-2. The ADOT-provided approvals are based on the ADOT *Final L/DCR* that is provided in the RIDs. Copies of ADOT-provided approvals that ADOT has already secured are provided in the RIDs.

Table 420-2 ADOT-Provided Approvals				
TP Attachment	Governmental Entity	ADOT-Provided Approval	Status	Availability Date
420-1	FHWA	South Mountain Freeway (Loop 202) Interstate 10 (Papago Freeway) to Interstate 10 (Maricopa Freeway) Final Environmental Impact Statement and Section 4(f) Evaluation, and Record of Decision (ROD) (“NEPA Approval”)	Executed	September 26, 2014; March 13, 2015

1 Developer acknowledges and agrees that changes to the Schematic ROW or incorporation of  
 2 Developer-Designated ROW into the Project may require re-evaluation, amendment, or  
 3 supplement to the NEPA Approval as the Work progresses. Developer shall be responsible for  
 4 all Work in connection with such re-evaluation, amendment, or supplement in accordance with  
 5 Section 4.3 of the Agreement. Developer shall identify any such changes and notify ADOT  
 6 immediately. ADOT, in conjunction with FHWA, will determine whether an additional  
 7 environmental study, re-evaluation, amendment, or modification is necessary.

8 Developer may request ADOT’s assistance and cooperation in connection with re-evaluations,  
 9 amendments, or supplements to the NEPA Approval in accordance with and subject to the  
 10 requirements in Section 4.3.8 of the Agreement. Developer shall prepare a NEPA Approval  
 11 Package that includes material in connection with the re-evaluations, amendments, or  
 12 supplements to the NEPA Approval, including the application for amended approvals. Developer  
 13 shall submit the NEPA Approval Package to ADOT for review and approval by ADOT, in  
 14 ADOT’s sole discretion. Upon ADOT’s approval with the NEPA Approval Package, ADOT will  
 15 submit the NEPA Approval Package to the Governmental Entity having jurisdiction for  
 16 consideration.

17 Developer shall comply with the obligations appearing in the NEPA Approval. Developer shall  
 18 perform all obligations of the NEPA Approval except to the extent allocated to ADOT or FHWA  
 19 as identified in TP Attachment 420-1. Developer shall not construct Work outside of the NEPA  
 20 cleared areas.

21 Developer shall provide ADOT all documentation and perform analysis, as required, to ensure  
 22 that ADOT can complete coordination and resolution of all environmental issues with affected  
 23 interests and regulatory agencies as noted in the TP Attachment 420-1. Developer shall  
 24 document the resolution of issues for the correspondence file, including meeting minutes and  
 25 memoranda for the record. Developer shall document the permit requirements and contacts with  
 26 the permitting agencies.

27 **420.2.6.2 Governmental Approvals Applied For or Issued in ADOT’s Name**

28 Developer shall provide assistance for Governmental Approvals that must be formally submitted  
 29 and/or issued in ADOT’s name ~~require Developer’s assistance, including providing complete~~  
 30 ~~design and information packages~~. In cases that require ADOT or FHWA to act as the  
 31 coordinating party for Governmental Approvals, Developer shall provide all required data to  
 32 support, to secure, or comply with the conditions of such Governmental Approvals. ADOT has  
 33 undertaken certain preliminary work, including applications, exhibits, and correspondence,  
 34 concerning such Governmental Approvals which are included in the RIDs. The following is a list

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1 of Governmental Approvals that must be applied for or issued in ADOT's name, including a  
2 description of the preliminary work that ADOT has performed to date and certain requirements  
3 to be performed by Developer with respect to such approvals:

4 A. *Section 404 of the Clean Water Act Permitting.*

5 ADOT has undertaken certain preliminary work concerning this application and has  
6 obtained an approved Preliminary Jurisdictional Delineation by the United States Army  
7 Corps of Engineers (USACE).

8 Developer shall submit a complete design and information package in conformance with  
9 the 404 permit application requirements to ADOT for ADOT to coordinate with USACE  
10 for submittal of the Section 404 permit application.

11 B. *Section 401 of the Clean Water Act Certification.*

12 Developer shall submit a complete design and information package in conformance with  
13 the 401 application requirements to ADOT for ADOT to coordinate with Arizona  
14 Department of Environmental Quality for certification under Section 401.

15 Typical USACE application review periods are contained within the *Operating*  
16 *Agreement between the FHWA, USACE, and ADOT* provided in the RIDs.

17 ~~For Governmental Approvals that must be applied for or issued in ADOT's name,~~ Developer  
18 shall prepare Governmental Approval Package(s) that ~~includes provide complete design~~  
19 ~~information and include~~ applications and all ~~other~~ required documentation ~~to obtain~~  
20 ~~Governmental Approvals that must be applied for or issued in ADOT's name.~~ Developer shall  
21 submit the Governmental Approval Package(s) to ADOT for approval in ADOT's good faith  
22 discretion.

### 23 420.2.6.3 All Other Governmental Approvals

24 Developer shall obtain all Governmental Approvals, other than the NEPA Approval, to complete  
25 the Work. Prior to submittal to the Governmental Entity having jurisdiction, Developer shall  
26 submit any and all Applications for Governmental Approvals to ADOT.

## 27 420.3 ENVIRONMENTAL REQUIREMENTS

28 Developer shall comply with the environmental requirements contained in the TP Attachment  
29 420-1 during the Term. Developer shall not conduct or perform any ground disturbance activities  
30 until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or  
31 biological evaluations) has been issued for the applicable parcel. Developer shall coordinate  
32 with ADOT to confirm if appropriate environmental clearance is issued.

### 33 420.3.1 Environmentally Sensitive Areas

34 Developer shall protect environmentally sensitive areas. Environmentally sensitive areas include  
35 cultural resources as defined in the NEPA Approval, as well as those areas that may be  
36 identified during the permitting and the preconstruction environmental survey(s) process.  
37 Developer shall map environmentally sensitive areas on all Design Documents and identify and  
38 address them in the EMP.

39 The Project is subject to inspections from the Governmental Entities. Developer shall allow  
40 access to and follow the instructions from any Governmental Entities pertaining to requirements  
41 for the protection or mitigation of impacts on environmentally sensitive areas.

#### 42 420.3.1.1 Environmentally Sensitive Avoidance Areas

43 Developer shall fence the boundary of Environmentally Sensitive Avoidance Areas in  
44 accordance with Section DR 420.3.1.2 of the TPs, ~~prior to the performance of any Construction~~



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~~Work or ground disturbing activities within the Environmentally Sensitive Avoidance Area.~~  
Developer shall ensure that all Construction Work or ground disturbing activities within the Environmentally Sensitive Avoidance Area Buffer is monitored by ADOT or its designee. If the mainline is located within the airspace of the Environmentally Sensitive Avoidance Area, Developer shall ensure that it is aligned at the farthest extents of the Environmentally Sensitive Avoidance Area and is entirely outside of the Environmentally Sensitive Avoidance Area Protected Air Space.

### 420.3.1.2 Environmentally Sensitive Area Fencing

At the direction of ADOT, Developer shall protect environmentally sensitive areas by installing ~~high visibility markings, flagging, or 34-foot minimum hightall orange plastic barrier~~ fencing with metal t-posts at the direction of ADOT around all environmentally sensitive areas within the Project ROW, Temporary Construction Easements, or Developer's Temporary Work Areas prior to any ground-disturbing activities. Developer shall notify ADOT a minimum of 14 Business Days prior to installing environmentally sensitive area fence to schedule coordination of installation of fence. During Construction Work near these areas, Developer shall provide daily inspection of environmentally sensitive areas in accordance with the EMP, and immediately report any damage or impact to ADOT and appropriate Governmental Entity. Developer shall coordinate with ADOT on such damage or impacts and provide potential on-site or off-site mitigation for such impacts, as required by permitting and Governmental Entities.

Developer shall remove fencing from environmentally sensitive areas prior to Final Acceptance. Developer shall notify ADOT a minimum of 14 Business Days prior to the removal of fencing around environmentally sensitive areas to schedule the coordination of the fence removal.

### 420.3.2 Archaeological

Archaeological testing and recovery is not required within the environmentally cleared Project area. However, Developer shall survey any access or other ancillary use areas outside of what is currently environmentally cleared to locate and evaluate cultural resources. Developer shall be responsible for any additional permitting, surveying, testing, or data recovery that might be necessary, in accordance with the *Section 106 Programmatic Agreement*. Prior to any ground disturbance, Developer shall prepare and submit all Archaeological Documentation and Reporting to ADOT for review and comment. ADOT, in conjunction with FHWA, will be responsible for submitting any draft or final report to the State Historic Preservation Office (SHPO) or other consulting Governmental Entities.

### 420.3.3 Cultural Resources

ADOT will ~~fulfill~~ fulfill the commitments made in the ROD and *Section 106 Programmatic Agreement* for the known cultural resources. A draft of the *Section 106 Programmatic Agreement* (2015-01 Draft SMF EIS Revised PA.PDF) is included in the RIDs. This will include any required data recovery and the implementation of the *Traditional Cultural Property* enhancement and mitigation plan for the Project as presented in TP Attachment 420-1. ADOT will notify Developer of clearance of parcels with cultural resources in accordance with Section DR 470 of the TPs.

If human remains or funerary objects are encountered during activity related to the construction of the freeway, Developer shall cease all further disturbances and activities ~~in any area or nearby area suspected to overlie~~ within 300 feet of the human remains or funerary objects and notify ADOT. Developer shall manage unexpected cultural resources discoveries according to WUS-3 and CUL-10 of TP Attachment 420-1.



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1 To comply with the 2015 Section 106 Programmatic Agreement, ADOT will submit Developer's  
2 Schematic Design and the Initial Design Submittal(s) to consulting parties for a 30 day review  
3 and comment period. ADOT will not provide the consulting parties the Final Design Submittal or  
4 RFC Submittal for review, unless the changes between Initial Design Submittal and Final  
5 Design Submittal or Final Design Submittal and RFC Submittal are significant, as determined by  
6 ADOT in its sole discretion. If such changes are determined significant, ADOT will submit the  
7 Submittals to the consulting parties for a 30 day review and comment period.

### 8 **420.3.4 Hazardous Materials**

9 Developer shall manage Hazardous Materials discovered during construction in accordance  
10 with HZM-7 of TP Attachment 420-1.

### 11 **420.3.5 Noise**

12 Developer shall prepare a Final Technical Noise Analysis and Mitigation Report that complies  
13 with the ADOT *Noise Abatement Policy* dated July 13, 2011. With At the same time as the Initial  
14 Design Submittal of the roadway design, Developer shall submit the Final Technical Noise  
15 Analysis and Mitigation Report to ADOT for approval in ADOT's good faith discretion. In  
16 accordance with Section 4a of the ADOT Noise Abatement Policy, Developer shall use a design  
17 year of 2035 for prediction of future noise levels. In accordance with Section 4d of the ADOT  
18 Noise Abatement Policy, Developer shall use the MAG regional travel demand output provided  
19 in the RIDs (2013-08 MAG Travel Demand Model Output.zip) as the future traffic volumes. For  
20 vehicle mix, Developer shall assume that the heavy vehicle volume from the MAG model  
21 represents FHWA vehicle category classes 4 through 13, inclusive. Developer shall use hard  
22 soil settings for ground type characteristics in the traffic noise model.

### 23 **420.3.6 Biological Resources**

24 ADOT has completed an initial survey of habitat suitability for the Sonoran desert tortoise. This  
25 study (2014-12 AGFD Sonoran Desert Tortoise Survey Report.PDF) and any additional studies  
26 are included in the RIDs. Developer shall use this information in the design of the Project.

### 27 **420.3.7 Waters of the United States**

28 Developer shall make every effort to not:

- 29 A. Create new drainage ditches or channels that the USACE would consider jurisdictional
- 30 or
- 31 B. Increase waters of the US jurisdictional area.

### 32 **420.3.8 Stormwater**

33 Developer shall:

- 34 A. Comply with the current Arizona Pollutant Discharge Elimination System (AZPDES)
- 35 Municipal Separate Storm Sewer System (MS4) permit;
- 36 B. Design and install post-construction controls for all newly developed or redeveloped
- 37 roads that discharge stormwater runoff in accordance with the ADOT *Post-Construction*
- 38 *Best Management Practices Manual for Water Quality*;
- 39 C. Coordinate with regulated MS4s within the Project regarding existing connections and
- 40 comply with the regulated MS4s' requirements; and
- 41 D. Design first flush treatmentProvide permanent best management practices for the first
- 42 flush volume (0.5--inches of rainfall--on) for impervious surfaces tributary to and areas
- 43 within the Project ROW.

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### 1 420.3.9 Wildlife Crossings

#### 2 420.3.9.1 Fencing

3 Developer shall include complete exclusion barrier or fencing (also called funnel or non-  
4 permeable fencing) that ties into crossing structures (culvert headwalls, bridge abutments, etc.)  
5 or other barriers to movement (noise walls, rock cut, etc.) at the multiuse crossings.

6 | A. For deer, the fence shall be a minimum of 6.5 feet tall above ground, secured or buried  
7 | in ground.

8 | B. For tortoise, the fence shall be buried 2 feet deep, 1.5 feet tall above ground, and of  
9 | materials with no openings or small openings, such as mesh or chain link fence. Fence  
10 | shall overhang at top to inhibit climbing; maintain without vegetation directly adjacent to  
11 | fence or barrier. Guardrail mounted fence has worked well on some projects; reptile  
12 | exclusion walls are an alternate approach.

13 Escape options such as ramp on the road side of barrier for tortoise and one-way jump-out for  
14 deer shall be included.

#### 15 420.3.9.2 Structures

16 | ~~Drainage~~ Developer shall design new drainage structures (pipes and culverts) ~~along the Pecos~~  
17 | ~~Road section between 17th Avenue and 51st Avenue~~ of the Project ~~will be designed~~ to promote  
18 | crossing by tortoises and riparian amphibians and reptiles. Developer shall:

19 | A. Include natural substrate

20 | B. Minimize length of culvert perpendicular to road and line up culverts across divided  
21 | highways

22 | C. Not include drop-offs such as may be caused by erosion on downstream side of a  
23 | concrete-bottom drainage structure or stepped elevation within a structure

24 | D. Not include rip rap blocking access to the structure; rip rap shall be grouted or buried  
25 | and maintained so that it does not block tortoises from entering structure

26 | E. Use materials that are not toxic to aquatic life and are not prone to erosion

27 Developer shall provide multiuse crossing structures in the area of the South Mountains for deer  
28 and other mammals. The multiuse crossing structures must be bridges and have:

29 | A. A minimum opening of 100 feet from toe of slope to toe of slope (piers may be located  
30 | within the opening as long as the component areas remain 50 feet between piers or  
31 | between a pier and a toe of slope);

32 | ~~B. Sloped walls;~~

33 | B. An open appearance (no exposed vertical walls greater than 25 percent of the vertical  
34 | clearance and slopes no steeper than 2:1);

35 | C. Natural substrate floors; and

36 | D. Not have rip-rap across any portion of the wildlife pathway.

### 37 420.4 SUBMITTALS

38 Table 420-3 reflects a nonexclusive list of Submittals identified in Section DR 420 of TPs and is  
39 not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine  
40 and submit all Submittals as required by the Contract Documents, Governmental Approvals,  
41 and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in  
42 both electronic format and hardcopy format. At a minimum and unless otherwise specified in the

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- 1 Contract Documents, Developer shall submit the following to ADOT in the formats described in  
 2 Section GP 110.10.2.1.1 of the TPs:

Table 420-3 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Environmental Management Plan	2	6	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	DR 420.2.3
NEPA Approval Package	1	2	1	As determined by Developer	DR 420.2.6.1
Governmental Approval Package(s)	2	2	1	As determined by Developer	DR 420.2.6.2
Applications for Governmental Approvals	5	2	1	Prior to submittal to the Governmental Entity having jurisdiction	DR 420.2.6.3
Archaeological Documentation and Reporting	4	2	1	Prior to any ground disturbance	DR 420.3.2
Final Technical Noise Analysis and Mitigation Report	2	2	1	<del>With</del> <u>At</u> the <u>same time</u> <del>as</del> Initial Design Submittal of the roadway design	DR 420.3.5
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

- 3  
4

**End of Section**

1 **DR 425 PUBLIC INFORMATION**

2 Refer to Section CR 425 of the TPs for public information provisions during the design phase.

3

4

**End of Section**

**DR 430 UTILITIES**

**430.1 GENERAL REQUIREMENTS**

Developer shall perform all Utility Design Work in compliance with the requirements of Section DR 430 of the TPs. Traffic signals, street lighting, and intelligent transportation systems (ITS) and freeway management systems are not considered “Utilities” to be adjusted under Section DR 430 or the TPs.

**430.2 ADMINISTRATIVE REQUIREMENTS**

**430.2.1 Standards**

Developer shall perform all Utility design Work in accordance with the standards, manuals, and guidelines listed in Table 430-1.

Table 430-1 Standards		
No.	Agency	Name
1	ADOT	<del>Guide</del> Guideline for Accommodating Utilities on Highway <del>Right</del> Rights-of-Way
2	ADOT	Encroachment Permit (azdot.gov/business/permits/encroachment-permits)
3	Varies	Utility Company Standards

Developer shall perform the Utility Adjustment Work in accordance with the applicable Utility Company’s standards, 23 CFR 645 for Utilities, and the Contract Documents.

**430.2.2 Utility Coordination**

**430.2.2.1 Utility Coordination Plan**

Developer shall prepare a Utility Coordination Plan that includes the following information:

- A. Description of the Utility Adjustment Coordinator staff, their roles, and responsibilities
- B. Description of the procedures and schedule for contacting Utility Companies
- C. Description of the documentation of all Work with the Utility Companies
- D. Description of the process of coordinating Utility Design Work with Utility Companies
- E. Description of the process of coordinating Utility Construction Work with Utility Companies
- F. Appendix
  - 1. Utility coordination staff organizational chart
  - 2. Utility contact list
  - 3. Utility coordination flow chart
  - 4. Utility coordination check list
  - 5. Utility conflict matrix
    - a. Conflict
    - b. Proposed mitigation
    - c. Relocation/adjustment cost analysis

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### 6. Prior rights determination matrix

Prior to issuance of NTP2NTP 2, Developer shall submit the Utility Coordination Plan to ADOT for review and comment.

#### 430.2.2.2 Utility Coordination Meetings

The Utility Adjustment Coordinator shall hold utility coordination meetings on a weekly basis or more often as needed, with ADOT and the Utility Companies to communicate with the Utility Companies, Developer's staff, and others to ensure that conflicts are being resolved throughout the duration of the design of the Project.

#### 430.2.3 ADOT-Provided Information

A Utility data search has been conducted for the Project that includes the collection of as-built drawings and system maps from Utility Companies and the designation of Utilities by field location surveys. Potholing was not performed. Utilities have been designated along the Schematic Design; however, the designation may not include all Utilities within the Project ROW. Developer shall verify the presence of all Utilities within the Project ROW. An existing Utility CAD file and inventory matrix was developed for the Project. The Utility inventory matrix, Utility CAD file, and any maps provided by the Utility Companies are included in the RIDs. Maps and plans provided by the City of Phoenix Water Services Department are not included in the RIDs. Developer shall secure the appropriate security clearance required to receive that information from the City of Phoenix.

Several Utility meetings were held with the Utility Companies. A general Utility informational meeting was held with Utility Companies on October 23, 2014. The purpose of the meeting was to inform the Utility Companies of the Project, the method of Project delivery, and potential Utility Adjustment process.

Additional meetings were held with Utility Companies to discuss their facilities in greater detail and document any issues or requirements. For such meetings, a discussion items document was produced; this document details the Utility Company's facilities known to be present, any prior rights claims, anticipated Utility Adjustments, and any coordination, review requirements, or construction issues that may be associated with the Utility. These discussion items documents are provided in the RIDs, along with any other system maps, guidelines, conflict reviews, or prior rights documents that were provided.

#### 430.2.4 Procedures and Agreements

##### 430.2.4.1 Prior Rights Determination

Utilities that have prior rights are those that existed before the construction of a public highway, or by ownership of the land, or by possession of an easement or other compensable land right. ADOT will approve or disapprove of any prior right claims. ~~Prior~~Final prior rights determinations have not been made for all Utilities on the Project and must be determined. ~~For Utilities that claim Preliminary~~ rights, determinations are included in the RIDs. Developer shall coordinate with ADOT and the Utility Company to ensure all required documents have been provided by the Utility Company, evaluate the information, provide a recommendation to ADOT and ~~to~~ ensure a final prior rights decision is made by ADOT. Developer shall document all coordination throughout the approval process, including the final approval disposition.



**430.2.4.2 Utility Agreements**

Developer is responsible for preparing, negotiating and entering into Utility Agreements with all Utility Companies affected by Utility Adjustment Work. The Utility Agreement shall define who will have the responsibility to perform the design and construction of the Utility Adjustment Work, the time frames under which the Utility Adjustment Work will occur, and compensation terms, if any, between the parties performing the Utility Adjustment Work. Refer to Section 5.10.2.4 of the Agreement for Utility Agreement requirements.

Except as provided in Sections 5.10.2.5 or 5.10.2.6 of the Agreement, ADOT will not be a party to Utility Agreements. If a Utility Company has proper Prior Rights Documentation in connection with a Utility Adjustment, then ADOT, together with Developer and the Utility Company, will be a party to the corresponding Utility Agreement. In such a case, ADOT will be a signatory to the Utility Agreement for the sole purpose of indicating its consent thereto and agreeing to the terms and conditions in the Utility Agreement respecting the Utility Company's prior rights. ADOT will be signatory to all Utility Adjustments with the City of Phoenix, or other Governmental Entity, as may be required, for the Project.

Developer shall coordinate and facilitate the securing of all Utility Agreements. Developer shall prepare all Utility Agreements in coordination with ADOT and shall provide originals, not copies, of the Utility Agreements. A sample ADOT Utility Agreement format is included in the RIDs.

**430.2.4.3 Utility Clearance Letters**

Developer shall prepare ~~Initial Utility Clearance Letters and Final~~ Utility Clearance Letters for each Project Segment. A sample utility clearance letter is included in the RIDs; however, the ~~Initial~~ Utility Clearance Letters must include the following:

- A. Each Utility Company within the Project Segment listed separately, showing the information below:
  - 1. The name of the Utility Company and contact information
  - 2. For each of the Utility Company's Utilities, a description of each Utility and one or the other of the following statements:
    - a. The Utility is not in conflict with construction. This statement is to be used only if:
      - i. A Utility is present, but does not need to be the subject of a Utility Adjustment, or
      - ii. A Utility is present, and it needs to be specifically avoided or protected in place
    - b. The Utility is in conflict and a Utility Adjustment is needed. A description of the required adjustment must be included, and the status of each adjustment, which must include one of the following statements:
      - i. Adjustment completed
      - ii. Adjustment to be done by Developer during construction
      - iii. Adjustment to be done by the Utility Company during construction, with estimated completion date or number of working days tied to another milestone
      - iv. Adjustment is currently in progress, by who, with an estimated completion date

At least 10 Business Days prior to any Construction Work within the Project Segment, Developer shall submit ~~Initial~~ Utility Clearance Letter(s), along with copies of

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1 correspondence from Utility Companies verifying the information contained in the letter is  
2 accurate, to ADOT for review and comment.

3 Developer shall prepare a ~~Final~~ Utility Clearance Letter for each Project Segment indicating  
4 that all needed Utility Adjustments have been completed and all Utilities have been mitigated.  
5 Within 10 Business Days of the completion of all Utility Adjustments within the applicable Project  
6 Segment, Developer shall submit a ~~Final~~ Utility Clearance Letter for each Project Segment  
7 to ADOT for review and comment.

### 8 **430.3 DESIGN REQUIREMENTS**

#### 9 **430.3.1 General Requirements**

10 Developer shall minimize impacts to all Utilities. Utility Adjustments or protection of Utilities  
11 within the Project ROW must comply with the requirements of the ADOT *Guide for*  
12 *Accommodating Utilities on Highway Right-of-Way*, except as modified in the Contract  
13 Documents.

#### 14 **430.3.2 Utility Identification**

15 Developer shall verify the location of all Utilities within the Project limits or otherwise affected by  
16 the Work. Utility Companies known to have facilities within the Project limits include the  
17 following:

- 18 A. Arizona Public Service – 230 kV power
- 19 B. AT&T – fiber optic
- 20 C. CenturyLink – telephone and fiber optic
- 21 D. City of Phoenix – water and sewer; also maintains Laveen Area Conveyance Channel
- 22 E. Cox Communications – cable and fiber optic
- 23 F. Kinder Morgan El Paso Natural Gas – pipeline for natural gas
- 24 G. Kinder Morgan Petro – pipelines for petroleum
- 25 H. Level3 (and former Williams) – fiber optic
- 26 I. Peninsula-Horowitz - irrigation
- 27 J. Roosevelt Irrigation District – irrigation canal and pipes
- 28 K. Salt River Project Irrigation – irrigation pipelines, ditches, and wells
- 29 L. Salt River Project Power – 500 kV, 230 kV, 69 kV, 12 kV, and primary power
- 30 M. Southwest Gas – pipelines for natural gas
- 31 N. Sprint – fiber optic
- 32 O. Verizon (and former MCI) – fiber optic
- 33 P. Western Area Power Administration – 230 kV power
- 34 Q. Zayo Group – fiber optic

35 Developer shall ensure that all Utilities within the Project ROW have been designated and  
36 included in the base CAD file(s). Permit logs that may contain additional information are  
37 available from ADOT, Maricopa County, and City of Phoenix for review.

#### 38 **430.3.3 Utility Report**

39 Developer shall prepare Utility Reports for each Project Segment that documents the progress  
40 of the Utility coordination efforts. The Utility Report must be signed and sealed by the  
41 responsible Professional Engineer and must contain a narrative detailing the various Utility

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1 conflicts and resolutions, the updated Utility matrix, and copies of all correspondence, including  
2 meeting minutes. The narrative must include:

- 3 A. A list of all Utility Companies and contact information;
- 4 B. The basis of the Utility Information;
- 5 C. A summary, by Utility Company, of the Utility facilities, conflicts, and considerations for  
6 relocation or mitigation;
- 7 D. Pothole data acquired;
- 8 E. Anticipated Utility Adjustment costs, broken out by prior right/non-prior right;
- 9 F. Agreement status;
- 10 G. Right-of-Way needed for relocations and acquisition status;
- 11 H. Anticipated relocation design and construction schedules; and
- 12 I. ADOT *Encroachment Permit* status.

13 Every 3 months, Developer shall submit the Utility Report(s) to ADOT for review and comment.  
14 Within 20 Business Days of the completion of construction for each Project Segment Developer  
15 shall prepare and submit a Final Utility Report to ADOT for review and comment.

### 16 430.3.4 Utility Adjustments

17 Except for those Utility Adjustments for which ADOT is entering into Utility Agreements as noted  
18 herein, Developer shall perform Utility Adjustments or ensure that the adjustments are made by  
19 the Utility Companies to accommodate the Project in accordance with the ADOT  
20 Guide for Accommodating Utilities on Highway Right-of-Way and the Contract  
21 Documents.

22 ADOT is executing Utility Agreements for certain Utility Adjustments as follows:

23 A. SRPP 69kV and APS 230kV power lines that currently cross the corridor centered  
24 approximately 540 feet east of 40th Street. The adjustment will result in two crossings of  
25 the corridor. The adjusted SRP 69kV lines will cross the corridor in the same location as  
26 the western-most existing crossing utilizing one new pole within the Project ROW, and  
27 will provide clearance to the Schematic Design. The existing SRP 69kV lines which run  
28 east from this crossing will remain and their easements must remain accessible. The  
29 easternmost SRP 69kV existing crossing will be removed. The adjusted APS 230kV  
30 lines will cross the corridor approximately 730 feet east of it's existing crossing utilizing  
31 two new poles within the Project ROW, and will provide clearance to the Schematic  
32 Design.

33 This Utility Adjustment is expected to be complete by November 30, 2016.

34 B. WAPA 230kV power lines that currently cross the corridor centered approximately 1,225  
35 feet east of 51st Avenue. The adjustment will result in pole #26/3 being removed and  
36 replaced with two poles to be placed approximately 250 feet northeast, outside of the  
37 Project ROW, and will provide clearance to the Schematic Design. The H-poles located  
38 within the Project ROW will remain in place. Pole #26/2 located north of the Project  
39 ROW will be replaced in approximately the same location.

40 This Utility Adjustment is expected to be complete by March 31, 2017.

41 C. WAPA 230kV power lines that currently cross the corridor approximately one-half mile  
42 north of Broadway Road (Elwood Street alignment). The Utility Adjustment will remove  
43 the existing poles located either side of the corridor and will place two new taller poles

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1 approximately 50 feet east of the current poles, and will provide clearance to the  
2 Schematic Design.

3 This Utility Adjustment is expected to be complete by April 30, 2017.

4 Developer shall incorporate the Utility Adjustments that ADOT is executing in its design and  
5 schedule.

6 No Utilities will be allowed on or within any existing or proposed bridges. Abandonment of  
7 Utilities within the Project ROW must comply with the requirements in the ADOT ~~Guide~~Guideline  
8 ~~for Accommodating Utilities on Highway~~ RightRights-of-Way.

9 Developer shall coordinate access requirements of the Utility Companies. Developer shall  
10 provide for such access as may be requested by the Utilities and shall ensure that it is  
11 acceptable to ADOT. For prior right Utilities, Developer shall design any replacement access  
12 roads that may be displaced by the proposed improvements.

13 Developer shall replace all eight existing SRP Irrigation siphons ~~impacted by the Project along I-~~  
14 10 (Papago) between 77th Avenue and 43rd Avenue.

### 15 **430.3.5 Utility Service Connections**

16 Developer shall provide new Utility service connections as required for the Project, including  
17 lighting, freeway management systems, traffic signals, irrigation controllers, or other facilities in  
18 accordance with the Contract Documents. Developer shall also provide any temporary service  
19 connections as may be needed during construction. Developer shall coordinate with the  
20 appropriate Utility Companies and Governmental Entities to disconnect existing services that  
21 may be present and set up new or temporary services in accordance with the appropriate Utility  
22 Company's or Governmental Entity's requirements.

23 Developer shall prepare Utility Service Request Letters(s) to establish new services in  
24 accordance with the applicable Utility Company standards. At least 10 Business Days prior to  
25 planned submittal of ~~the~~ Utility Service Request Letter to the associated Utility Company,  
26 Developer shall ~~prepare and~~ submit Utility Service Request Letter(s) to ~~establish new services~~  
27 ~~to~~ ADOT. Utility Service Request Letters must include the service address and information for  
28 the individual responsible for paying the utility bill. Developer shall obtain and comply with all  
29 permit requirements for all Utility service establishment and disconnections needed for the  
30 Project.

31 Developer shall remove any temporary Utility facilities no longer required. Developer shall  
32 furnish the necessary equipment and furnishings required by the Utility Companies, as  
33 applicable, at the point of source. This includes any and all necessary special trench, conduit  
34 and backfill, and fence enclosures or gates required by each Utility Company. If extensions of a  
35 Utility are required to provide the new service, Developer shall be responsible for the extension,  
36 including any land rights that may be needed.

### 37 **430.3.6 Utility Plans**

38 Developer shall incorporate all Utility information into the Design Documents. Developer's utility  
39 base CAD file must indicate the quality and reliability of existing Utility information. Vertical  
40 locations of underground Utilities must be shown on all cross sections and details in the Design  
41 Documents.

42 Prior to permit application, Developer shall obtain Utility Company approval of Utility Adjustment  
43 design plans prepared by Developer. Developer shall provide Utility Adjustment design plans  
44 approved by the Utility Company to ADOT as part of the Utility Report(s).

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1 Developer shall design all Utility Adjustments to city- or county-owned water, sanitary sewer,  
2 and storm drain facilities, as needed, and shall obtain approval of the design from the  
3 appropriate Governmental Entities. Unless otherwise agreed to in writing by Developer, the  
4 applicable Utility Company must design all other Utility Adjustments.

### 5 **430.3.7 ADOT Encroachment Permits**

6 Developer shall coordinate with the Utility Companies and ADOT to secure, prior to  
7 commencing any construction within the Project ROW, an ADOT encroachment permit is  
8 obtained for each Utility that will be installed, adjusted, or remain in the Project ROW. The Utility  
9 Company must file the permit application. See the ADOT website  
10 (<http://azdot.gov/business/Permits/encroachment-permits>) for more information regarding  
11 encroachment permits.

### 12 **430.3.8 Utility Encasement**

13 ~~Encasement pipes shall be provided for pipelines carrying oil, gas, petroleum products, or other~~  
14 ~~flammable or volatile substances, or steam, water, or other nonflammable substances under~~  
15 ~~pressure in accordance with the following:~~

16 ~~A. The length of casing pipe required shall vary, but shall extend 10 feet beyond the edge~~  
17 ~~of pavement, at a minimum;~~

18 ~~B. Ferrous metal casing pipes shall be protectively coated against corrosion; and~~

19 ~~Encasement pipes shall be of a suitable diameter and length~~Developer shall determine if  
20 Utilities require encasement and shall encase Utilities in accordance with the ADOT Guideline  
21 for Accommodating Utilities on Highway Rights-of-Way, unless otherwise specified in the  
22 Contract Documents.

23 All proposed siphons must include a casing pipe.

24 ~~C. Existing utility crossings that are to permit removal and replacement of the carrier pipe~~  
25 ~~without impacting roadway operations.~~

26 ~~Electric~~remain, electric and telephone conduits, ductbanks, gravity sewers, and storm drains  
27 crossing beneath the roadways ~~shall~~does not require encasement, provided that the strength of  
28 the utility line is capable of withstanding the load.

### 29 **430.4 SUBMITTALS**

30 Table 430-2 reflects a nonexclusive list of Submittals identified in Section DR 430 of the TPs  
31 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
32 determine and submit all Submittals as required by the Contract Documents, Governmental  
33 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
34 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
35 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
36 formats described in Section GP 110.10.2.1.1 of the TPs:

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<b>Table 430-2 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Utility Coordination Plan	4	2	1	Prior to issuance of <del>NTP</del> <b>NTP 2</b>	DR 430.2.2.1
Initial Utility Clearance Letter(s)	4	2	1	At least 10 Business Days prior to any Construction Work within the Project Segment	DR 430.2.4.3
Final Utility Clearance Letter(s)	4	2	1	Within 10 Business Days of the completion of all Utility Adjustments within the applicable Project segment	DR 430.2.4.3
Utility Report(s)	4	0	1	Every 3 months	DR 430.3.3
Final Utility Report(s)	4	2	1	Within 20 Business Days of the completion of construction for that Project segment	DR 430.3.3
Utility Service Request Letter(s)	5	2	1	At least 10 Business Days prior to submitting the Utility Service Request Letter to the associated Utility Company	DR 430.3.5
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

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**End of Section**



1 **DR 436 RAILROAD**

2 **436.1 GENERAL REQUIREMENTS**

3 Developer shall perform all Design Work impacting the railroad in compliance with the  
4 requirements of Section DR 436 of the TPs.

5 **436.1.1 Existing Railroad Crossings**

6 The Project interfaces with the railroad corridor owned and operated by Union Pacific Railroad  
7 (UPRR). There is an existing railroad at-grade crossing of the UPRR within the Project, which  
8 has specific a USDOT number as reflected in Table 436-1.

Table 436-1 Existing Railroad Crossing Locations		
Railroad Crossing Locations	USDOT Crossing No.	Railroad MP
59th Avenue	741811U	899.69

9 **436.2 ADMINISTRATIVE REQUIREMENTS**

10 **436.2.1 Standards**

11 Developer shall perform all design Work impacting the railroad in accordance with the  
12 standards, manuals, and guidelines listed in Table 436-2.

Table 436-2 Standards		
No.	Agency	Name
1	BNSF/UPRR	Guidelines for Railroad Grade Separation Projects
2	AREMA	Manual for Railway Engineering

13 Developer shall perform the design Work impacting the railroad in accordance with the 23 CFR  
14 646, *UPRR Construction and Maintenance Agreements*, and Arizona Corporation Commission  
15 (ACC) authorization.

16 **436.2.2 Railroad Scope**

17 Developer's design and coordination related railroad Work includes at least the following  
18 activities:

- 19 A. Preparation and furnishing of Railroad Submittal Packages for each of the proposed  
20 roadway and off-site drainage crossings of the railroad.
- 21 B. Providing any information required to support ADOT with the UPRR review and approval  
22 processes.
- 23 C. Providing any information required to support ADOT with the ACC review and approval  
24 processes required for all needed grade separation, temporary and permanent crossings  
25 of the railroad.

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1 D. Assisting ADOT in securing executed *UPRR Construction and Maintenance Agreements*  
2 for each crossing as further described herein.

3 E. Complying with the requirements of the *UPRR Construction and Maintenance*  
4 *Agreements*, including entering into a right of entry agreement and entering into or  
5 obtaining any other necessary agreements, etc.

6 ~~F. Entering into, for each proposed crossing, an "Agreement between UPRR and the~~  
7 ~~Contractor"; an example is included in the RIDs.~~

8 ~~G.F.~~ Obtaining and complying with all applicable design specifications and  
9 requirements for each Work location that is on or adjacent to UPRR right-of-way.

10 ~~H.G.~~ Arranging for and obtaining all temporary rights-of-entry and access onto railroad  
11 property, and comply with all railroad requirements for access, entry, and safety training  
12 for all personnel involved.

13 ~~I.H.~~ Identifying and coordinating with UPRR for railroad flagging operations, and pay for  
14 costs of flagging.

15 ~~J.I.~~ Complying with and performing roadway worker training courses for all personnel that  
16 may enter any UPRR right-of-way.

17 Based on Design Documents provided by Developer as further defined herein, ADOT will  
18 provide the information to UPRR in accordance with Section DR 436.3.1 of the TPs. UPRR and  
19 ADOT will be signatories to the *UPRR Construction and Maintenance Agreements*. ADOT will  
20 apply to the ACC for authorization for each railroad crossing. Developer shall ensure that all  
21 railroad track Work, all railroad signal Work, and any UPRR-owned facilities impacted by the  
22 Project are designed by UPRR.

### 23 **436.2.3 UPRR Requirements**

24 Developer shall obtain a temporary UPRR construction license to construct the improvements at  
25 each crossing location within UPRR right-of-way. Developer shall arrange for UPRR to provide  
26 flagging services necessary for the safety of UPRR's property and the operation of UPRR's  
27 trains during all Project-related activities which occur within UPRR right-of-way. Developer shall  
28 ensure that its initial UPRR contact is the Manager of Industrial and Public Projects. As part of  
29 obtaining the necessary rights of entry and licenses, Developer shall arrange for UPRR to  
30 provide a contract project coordinator to serve as the UPRR contact.

### 31 **436.2.4 UPRR Agreements**

32 Developer shall comply with the requirements of all executed *UPRR Construction and*  
33 *Maintenance Agreements* in connection with the performance of the Work on proposed railroad  
34 crossings. Standard language and requirements of a *UPRR Construction and Maintenance*  
35 *Agreement* is included in the example agreement included in the RIDs. Each final executed  
36 UPRR Construction and Maintenance Agreement language may differ from the example  
37 provided in the RIDs. Developer's rights and responsibilities regarding *UPRR Construction and*  
38 *Maintenance Agreements* approval are included in Section 5.11.2 of the Agreement.

39 Prior to entering UPRR right-of-way, Developer shall obtain railroad *Right-of-Entry Agreements*  
40 with UPRR and shall coordinate entry directly with UPRR. Additionally, Developer shall obtain  
41 any other permits and approvals necessary to perform Work in UPRR right-of-way. Prior to  
42 entering UPRR right-of-way, Developer shall submit a copy of the executed Railroad Right-of-  
43 Entry Agreement to ADOT.

1 **436.3 DESIGN REQUIREMENTS**

2 **436.3.1 Railroad Submittal Packages**

3 Developer shall prepare a Railroad Submittal Package for each proposed railroad crossing to  
4 assist ADOT in securing an *executed UPRR Construction and Maintenance Agreement* for each  
5 crossing. No Work may occur within UPRR right-of-way prior to receipt of executed and  
6 recorded *UPRR Construction and Maintenance Agreements*, unless otherwise authorized by  
7 ADOT and UPRR.

8 Developer shall provide Railroad Submittal Packages consistent with the requirements set forth  
9 in Section DR 436.2.1 of the TPs, unless modified herein. A complete Railroad Submittal  
10 Package must include, ~~at a minimum~~, the following:

- 11 A. Plans reflected as a 100% Submittal as defined by UPRR;
- 12 B. All information required for a design Submittal, with the incorporation of ADOT design  
13 Submittal comments;
- 14 C. Temporary and permanent horizontal clearances in accordance with Burlington Northern  
15 Santa Fe (BNSF)/UPRR *Guidelines for Railroad Grade Separation Projects*;
- 16 D. Temporary and permanent vertical clearances in accordance with TP Attachment 440-1;
- 17 E. Provision for underdeck lighting for bridges as required by the BNSF/UPRR *Guidelines*  
18 *for Railroad Grade Separation Projects*;
- 19 F. Pier protection in conformance with BNSF/UPRR *Guidelines for Railroad Grade*  
20 *Separation Projects* and AREMA requirements;
- 21 G. Bridge cross sections with sufficient data to determine geometry;
- 22 H. Demolition considerations;
- 23 I. Top of rail survey per BNSF/UPRR *Guidelines for Railroad Grade Separation Projects*;
- 24 J. Access roads and bridge elevation;
- 25 K. Railroad identification information (mile post, subdivision, etc.);
- 26 L. Foundation plans showing bent(s), column(s), and foundation locations for foundations  
27 located in UPRR right-of-way;
- 28 M. Construction impact limits to construct all improvements adjacent to and within UPRR  
29 right-of-way;
- 30 N. Estimated cost of flagging work, so that the estimate can be included in each of the  
31 *UPRR Construction and Maintenance Agreements*; Developer acknowledges and  
32 agrees that such estimate does not relieve Developer of its obligations to pay the actual  
33 costs of flagging; and
- 34 O. Any additional information, data, and/or supporting information as required by ADOT.

35 Developer shall submit all Railroad Submittal Package(s) to ADOT for ~~review and~~ approval ~~by~~  
36 ~~ADOT~~, in ADOT's solegood faith discretion, and to UPRR for review and approval. If  
37 acceptable, Developer shall prepare and submit Finalfinal Railroad Submittal Package(s) to  
38 ADOT for ~~review and~~ approval ~~by ADOT~~, in ADOT's solegood faith discretion. ADOT will submit  
39 the Railroad Submittal Package to UPRR within 7 Business Days of receipt of a complete  
40 Railroad Submittal Package.

41 **436.3.2 ACC Submittal**

42 Developer acknowledges and agrees that all grade separation and temporary and permanent  
43 crossings of the railroad require ACC approval. *Procedures for Requesting a New Crossing or*

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1 *Upgrading of an Existing Crossing* includes typical requirements for ACC approval and is  
2 included in the RIDs.

3 After receiving UPRR approval of the plans and having executed and delivered all *UPRR*  
4 *Construction and Maintenance Agreements*, Developer shall prepare an ACC Submittal  
5 Package for each crossing. An on-site meeting between ACC and Developer may be required, if  
6 requested by ACC. A complete ACC Submittal Package is comprised of Plans and information  
7 as follows:

8 A. Introductory letter;

9 B. Executed *UPRR Construction and Maintenance Agreement*;

10 C. 100% Plans as defined by UPRR and approved by UPRR; and

11 D. Other information as required by ACC.

12 Developer shall submit one original and thirteen copies of each ACC Submittal Package to  
13 ADOT for review and approval by ADOT, in ADOT's sole discretion, and ACC. If acceptable,  
14 ADOT will submit each ACC Submittal Package to ACC within 7 Business Days of receipt of a  
15 complete ACC Submittal Package.

### 16 **436.3.3 Railroad Operations**

17 Developer shall coordinate and schedule with UPRR all activities that affect the railroad.  
18 Developer shall coordinate and schedule all Work within UPRR right-of-way to occur within the  
19 time gaps between trains.

20 Prior to performing any Work within UPRR right-of-way, Developer shall execute Exhibit C and  
21 C-1 of the "Agreement between UPRR and the Contractor," which is attached to each executed  
22 *UPRR Construction and Maintenance Agreements* between ADOT and UPRR.

### 23 **436.3.4 Railroad Flagging**

24 Developer shall determine the number of flagging days required and submit a request to UPRR  
25 for any flagging Work. Developer shall be responsible for any schedule impacts and costs  
26 associated with flagging required for the Project, and such flagging Work must be performed by  
27 UPRR flaggers in accordance with the executed *UPRR Construction and Maintenance*  
28 *Agreements*.

29 Developer shall not commence the Work or permit the Work to commence until Developer  
30 receives, in writing, assurance from UPRR's designated representative that arrangements have  
31 been made for flagging service, ~~as may be necessary~~, and receives ~~permission from UPRR's~~  
32 ~~designated representative to proceed with the~~ UPRR Work Authorization. Prior to any Work  
33 within UPRR right-of-way, Developer shall submit copies of ~~Written Documentation of UPRR's~~  
34 ~~Authorization of the~~ UPRR Work Authorization(s) to ADOT.

### 35 **436.3.5 Operational Safety**

36 Developer must prove successful completion of roadway worker training courses by all  
37 personnel entering UPRR right-of-way. Developer shall ensure that all personnel working within  
38 UPRR right-of-way comply with roadway worker training courses requirements and the railroad  
39 requirements regarding personal protective equipment (PPE) and Work within the UPRR right-  
40 of-way.

## 41 **436.4 SUBMITTALS**

42 Table 436-3 reflects a nonexclusive list of Submittals identified in Section DR 436 of the TPs  
43 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall

| **ADDENDUM #~~1~~2**

- 1 determine and submit all Submittals as required by the Contract Documents, Governmental
- 2 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all
- 3 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise
- 4 specified in the Contract Documents, Developer shall submit the following to ADOT in the
- 5 | formats described in Section GP 110.10.2.1.1 of the TPs:

**ADDENDUM #12**

<b>Table 436-3 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<u>Railroad Right-of-Entry Agreement</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>Prior to entering UPRR right-of-way</u>	<u>DR 436.2.4</u>
Railroad Submittal Package(s)	<del>4</del> <u>2</u>	0	1	As determined by Developer	DR 436.3.1
Final Railroad Submittal Package(s)	<del>4</del> <u>2</u>	1	1	As determined by Developer	DR 436.3.1
ACC Submittal Package(s)	1	14	1	As determined by Developer	DR 436.3.2
<u>Written Documentation of UPRR's UPRR Work Authorization of Work(s)</u>	5	2	1	Prior to any Work within UPRR right-of-way	DR 436.3.4
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

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**End of Section**



1 **DR 440 ROADWAY**

2 **440.1 GENERAL REQUIREMENTS**

3 Developer shall perform all roadway Design Work in compliance with the requirements of  
4 Section DR 440 of the TPs.

5 **440.2 ADMINISTRATIVE REQUIREMENTS**

6 **440.2.1 Standards**

7 Developer shall perform all roadway Design Work in accordance with the standards, manuals,  
8 and guidelines listed in Table 440-1.

Table 440-1 Standards		
No.	Agency	Name
1	ADOT	Design Exception and Design Variance Process Guide
2	U.S. Access Board	ADA Accessibility Guidelines
3	U.S. Access Board	Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
4	AASHTO	A Policy on Geometric Design of Highways and Streets
5	AASHTO	Roadside Design Guide
6	AASHTO	A Policy on Design Standards – Interstate System

9 **440.3 DESIGN REQUIREMENTS**

10 **440.3.1 Access Control**

11 ~~Developer shall provide~~The access control ~~in accordance~~line for a fully access controlled  
12 freeway must be broken at its intersection with ~~Section 506~~the crossroad at an interchange as  
13 depicted in Figure 506A of the ADOT Roadway Design Guidelines. Full access control must  
14 extend along ~~crossroads must be the crossroad~~ a minimum of ~~300-660~~ feet beyond the ~~end~~end  
15 of the ~~exit~~ ramp radius returns ~~unless otherwise approved by.~~ From entrance ramps, full access  
16 control must extend along the crossroad a minimum of 330 feet beyond the radius return.  
17 Between 330 feet and 660 feet from the entrance ramp returns, access along the crossroad  
18 must be limited to right-in / right-out only.

19 When frontage roads join the ramps at an interchange with a crossroad, the access control must  
20 be broken across the frontage road from the back of the ramp paved gore to the outside of the  
21 frontage road. The access control must continue along the outside of combined ramp and  
22 frontage road from 100 feet beyond the back of ramp paved gore to the intersection with the  
23 crossroad and extend along the crossroad as described above and depicted in Figure 506B of  
24 the ADOT Roadway Design Guidelines.

25 Access control limits must be depicted graphically on the roadway Plans. The actual control  
26 dimensions must be shown and described on the ROW plans. Variances to the minimum  
27 access control requirements are included in the RIDs.

1 **440.3.2 Design Criteria**

2 Developer shall design the roadway in accordance with the design criteria shown in TP  
3 Attachment 440-1 and TP Attachment 440-2. All Design Work on the interstate system must  
4 comply with the requirements in the AASHTO *A Policy on Design Standards – Interstate*  
5 *System*.

6 **440.3.2.1 Sight Distance**

7 Sight distance requirements for all roadways must comply with Section 201 of the ADOT  
8 *Roadway Design Guidelines*.

9 Developer shall provide 2 times the stopping sight distance given in Figure 201.2 of the ADOT  
10 *Roadway Design Guidelines* on the mainline at lane drops.

11 Developer shall provide 1.5 times the stopping sight distance given in Figure 201.2 of the ADOT  
12 *Roadway Design Guidelines* on the mainline at the approaches to ramp entrances and exits.  
13 The sight distance is measured from the center of the right-hand approach lane to the center of  
14 the right-hand ramp lane at the entrance and exit nose control points as shown in Figures 504.7  
15 and 504.8A of the ADOT *Roadway Design Guidelines*.

16 **440.3.2.2 Superelevation**

17 Mainline axis of rotation must comply with the requirements in Section 202.2 of the ADOT  
18 *Roadway Design Guidelines*. Maximum superelevation rates for roadways are shown in TP  
19 Attachment 440-1. Superelevation transitions must comply with the requirements in Section  
20 202.3 of the ADOT *Roadway Design Guidelines*. Roadway design must not include spiral  
21 curves.

22 **440.3.2.3 Horizontal Alignment**

23 Mainline horizontal alignment must comply with the requirements in Section 203 of the ADOT  
24 *Roadway Design Guidelines*. Roadway design must not include spiral curves.

25 **440.3.2.4 Vertical Alignment**

26 Mainline vertical alignment must comply with the requirements in Section 204 of the ADOT  
27 *Roadway Design Guidelines*. The maximum mainline grade shall be 3 percent except for the  
28 area east of Ivanhoe Street and west of 27th Avenue where the maximum grade shall be 4  
29 percent.

30 **440.3.2.5 Mainline Transitions and Tapers**

31 When adding a lane, the approach transition must have a taper rate of 25 to 1. The transition  
32 when dropping a lane must have a taper rate of design speed to one. Add lanes and drop lanes  
33 must occur on the right.

34 Taper rates from narrow to wider shoulder widths in the direction of traffic must be 15 to 1.  
35 When tapering from wider to narrower shoulder widths, the taper rate must be design speed to  
36 one.

37 **440.3.2.6 Cross Section Elements**

38 The standard cross slope for all types of paved surfaces shall be 0.02 ft/ft. The entire width of  
39 each roadway shall have a uniform cross slope. The cross slope of the shoulder must match the  
40 cross slope of the adjacent lane, except at ramp gores.

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1 Mainline and ramp shoulder wedges must be 6:1 or flatter and a minimum of 10 feet from edge  
2 of shoulder to the slope hinge as depicted in Figure 303.1 of the ADOT *Roadway Design*  
3 *Guidelines*.

4 Mainline and ramp curbs must comply with the requirements in Section 302.2 of the ADOT  
5 *Roadway Design Guidelines*. Crossroads within access control limits must be curbed.

6 Shoulder widths provided in TP Attachment 440-1 must be the minimum continuous usable  
7 width of paved shoulder. Widening to provide minimum shoulder widths at median pier locations  
8 must comply with the requirements in Section 304.2 of the ADOT *Roadway Design Guidelines*.

9 Roadside recovery areas must comply with the requirements in Section 303.2 of the ADOT  
10 *Roadway Design Guidelines*. A barn-roof approach shall not be used to eliminate barrier.

11 Median slopes must be 6:1 or flatter.

12 Side slopes shall comply with Figure 306.4B and Figure 504.4A of the ADOT *Roadway Design*  
13 *Guidelines*. Fill slopes must be 6:1 or flatter for embankment heights up to 8 feet. Fill slopes of  
14 2:1 maximum are permitted in the area east of Ivanhoe Street and west of 27th Avenue.

15 Slopes within rock cuts must comply with the geotechnical recommendations in the  
16 Geotechnical Engineering Report(s) and the Contract Documents. Cut slopes steeper than 3:1  
17 must be outside the recovery area width as determined by using the foreslope of the cut as the  
18 appropriate fill slope rate or be barrier protected.

19 Developer shall provide a minimum clearance of 12 feet between the drainage channel or ROW  
20 line and the toe of a fill slope. For cut slopes, the clearance from the outer edge of slope  
21 rounding or crown drainage system must be a minimum of 10 feet from the ROW, except as  
22 otherwise provided in Section DR 440.3.2.9 of the TPs.

### 23 **440.3.2.7 Roadside Safety Devices**

24 All roadside safety devices must comply with the requirements of the National Cooperative  
25 Highway Research Program (NCHRP) Report 350, *Recommended Procedures for the Safety*  
26 *Performance Evaluation of Highway Features* or the *AASHTO Manual for Assessing Safety*  
27 *Hardware (MASH)*.

28 Permanent roadway barriers must be F-shape concrete barriers, exclusive of end treatments.  
29 Median barrier must be a minimum of 42 inches in height. Barrier on the outside of the roadway  
30 must be a minimum of 32 inches in height. Barriers must meet minimum test level TL-4 when  
31 placed against the top of retaining walls or protecting slopes to the top of walls located within  
32 the clear zone.

33 Unshielded ends of the concrete barrier within the clear zone must have crashworthy end  
34 treatments and meet minimum test level TL-3. Developer shall not bury the end of the barrier as  
35 an end treatment at the approach end. Developer shall not solely taper the height of the barrier  
36 at the approach end.

37 Median barriers shall be provided for median widths of 75 feet or less.

38 Median barrier transitions must be in accordance with Figure 305.9 of the ADOT *Roadway*  
39 *Design Guidelines*. Barrier height transitions must be at the rate of 10:1 or flatter.

40 Light poles located in the median must comply with the configuration shown in Figure 305.9 of  
41 the ADOT *Roadway Design Guidelines*. The top of the median barrier must have adequate  
42 width to place the pole anchor in lieu of notching the barrier and placing the anchor at a location  
43 below the top of the barrier.

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1 Developer shall replace cable barrier systems that are removed with new cable barrier or  
2 F-shape concrete barrier.

3 Developer shall not use temporary concrete barrier in a permanent configuration.

### 4 **440.3.2.8 Frontage and Collector Distributor Roads**

5 Developer shall design all frontage and collector distributor roads in accordance with Section  
6 309 of the ADOT *Roadway Design Guidelines*.

### 7 **440.3.2.9 Maintenance Access**

8 Developer shall provide 12-foot-wide maintenance access at the toe of fill and cut slopes along  
9 both sides of the Freeway. The maintenance access must be continuous with the exception of  
10 through the South Mountain ridges, across the Laveen Area Conveyance Channel, across the  
11 Salt River, and across the Union Pacific Railroad. Developer may use frontage and access  
12 roads as maintenance roads.

13 Developer shall design maintenance access to channels in accordance with Section DR  
14 445.3.6.4 of the TPs.

### 15 **440.3.2.10 Sidewalk**

16 Developer shall provide sidewalk on all crossroads within the access control limits. Sidewalk  
17 must be a minimum of 5 feet in width; unless there is existing sidewalk greater than 5 feet in  
18 width, Developer shall replace in-kind or protect in-place the existing sidewalk. Outside of the  
19 access control limits, Developer shall replace sidewalk in-kind, including any sidewalks that  
20 must be included with proposed frontage roads in accordance with the standards in Table  
21 440-1.

### 22 **440.3.2.11 ROW Fencing**

23 Developer shall provide fencing at the ROW or along the control of access, except where walls  
24 or other physical barriers define the ROW, where public access to the ROW is permitted, or as  
25 defined in Section DR 420 of the TPs.

26 ROW fence must be 6 foot tall chain link, or as defined in Section DR 420 of the TPs.

### 27 **440.3.2.12 Temporary Roads**

28 Detour roadways must comply with the requirements in Section 316 of the ADOT *Roadway*  
29 *Design Guidelines*.

### 30 **440.3.2.13 Traffic Interchanges and Crossroads**

31 Ramp-crossroad intersections must comply with the requirements in Section 403 and  
32 Section 505 of the ADOT *Roadway Design Guidelines* and must meet the desirable criteria.  
33 Median Urban Designs shall not be used. Ramp-crossroad intersections must not have stop  
34 control.

35 Crossroad improvements must not encroach on GRIC ROW.

36 Developer shall provide the number of through lanes at all interchanges as shown in TP  
37 Attachment 440-2. Sight distances at ramp-crossroad intersections must comply with the  
38 requirements in Section 408 of the ADOT *Roadway Design Guidelines* and permit for right turns  
39 on red signals.

40 The maximum grade of crossroads within 400 feet of ramp termini is 3 percent.

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1 Crossroad median widths under structures must provide 2 feet minimum from the face of curb to  
2 the face of pier. The median width without piers must be at least 4 feet.

3 Ramps must comply with the requirements in Section 504 of the ADOT *Roadway Design*  
4 *Guidelines*. Service interchange entrance ramps must be two lanes and taper to a single lane at  
5 the entrance to the mainline in accordance with Figure 504.8B of the ADOT *Roadway Design*  
6 *Guidelines*. Directional interchange ramps must be two lanes with the exception of HOV ramps  
7 that may be one lane. Lanes added to I-10 by directional entrance ramps must be dropped no  
8 sooner than one per successive service interchange crossroad location.

9 Entrance or exit ramps on the left are not allowed with the exception of HOV ramps.

### 10 **440.3.3 Local Streets and Intersections**

11 Local streets and intersections outside of ADOT access control limits that are affected by the  
12 Project must be designed in accordance with City of Phoenix standards and guidelines and the  
13 criteria shown in TP Attachment 440-2.

#### 14 **440.3.3.1 Bus Stops and Amenities**

15 Developer shall coordinate the location of existing bus stops within the Project limits with the  
16 City of Phoenix Street Transportation Department. Developer shall design, construct, and  
17 relocate bus stops and associated amenities in accordance with the standards and  
18 requirements of City of Phoenix Street Transportation Department. Developer shall be  
19 responsible for the relocation of existing shelters and amenities.

20 Developer shall keep all bus stops open and operational within the Project limit unless otherwise  
21 approved by the City of Phoenix. Developer shall provide temporary bus stop relocations, as  
22 required by the City of Phoenix.

### 23 **440.3.4 ADA Compliance**

24 All pedestrian facilities must comply with the U.S. Access Board *Americans with Disabilities Act*  
25 *and Architectural Barriers Act Accessibility Guidelines (ADAAG)* and the U.S. Access Board  
26 *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way*  
27 (PROWAG). Developer shall evaluate all existing pedestrian facilities within the Project ROW,  
28 including the I-10 intersections from 43rd Avenue to 75th Avenue for conformance with ADAAG  
29 requirements. Developer shall prepare an ~~Initial~~ ~~initial~~ ADA Compliance and Feasibility Report  
30 that demonstrates that the Project complies with all applicable ADAAG requirements. Existing  
31 pedestrian facilities that comply with ADAAG requirements may remain in place. Existing  
32 pedestrian facilities that do not comply with ADAAG must be replaced with facilities that comply  
33 with PROWAG requirements. All new pedestrian facilities must comply with PROWAG  
34 requirements.

35 ~~With~~ At the same time as Initial Design Submittal for the Design Work, Developer shall submit  
36 the ~~Initial~~ ~~initial~~ ADA Compliance and Feasibility Report to ADOT. Developer shall update the  
37 ~~Initial~~ ADA Compliance and Feasibility Report and prepare ~~and with the final ADA Compliance~~  
38 ~~and Feasibility Report. At the same time as~~ Final Design Submittal of the Design Work,  
39 Developer shall submit the ~~Final~~ ~~final~~ ADA Compliance and Feasibility Report to ADOT.

### 40 **440.3.5 Design Exceptions and Design Variances**

41 The Schematic Design includes design elements that require Design Exceptions for horizontal  
42 stopping sight distance at the I-10 (Papago)/South Mountain Freeway System traffic  
43 interchange (TI), including the HOV ramp, ramp NE, ramp NW, ramp WS, and ramp ES. FHWA  
44 has reviewed the designs, but has not approved Design Exceptions based on the preliminary



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1 nature of the design and potential for design changes by Developer. Developer shall prepare  
2 Design Exception requests for these design elements based on Developers design.

3 Developer is discouraged from creating additional Design Exceptions or Design Variances. If  
4 Developer’s design creates additional Design Exceptions or Design Variances, Developer must  
5 demonstrate on a case-by-case basis that substantial benefits to the project would result from  
6 the request.

7 For each Request for Design Exception or Request for Design Variance request, Developer  
8 shall prepare all documentation in accordance with the ADOT *Design Exception and Design*  
9 *Variance Process Guide*. WithAt the same time as Initial Design Submittal for the associated  
10 Work, Developer shall submit any Request(s) for Design Exception(s) or Request(s) for Design  
11 Variance(s) to ADOT for review and approval by ADOT, in ADOT’s sole discretion. Developer is  
12 advised that ADOT may withhold approval of any requestssuch request(s) at its sole discretion  
13 and must schedule sufficient time for evaluation of all requests. Following review of any  
14 Request(s) for Design ~~Exceptions requests,Exception(s)~~, ADOT will submit the Request(s) for  
15 Design ~~ExceptionsException(s)~~ to FHWA for review and approval. All Design Exceptions must  
16 be reviewed by ADOT and reviewed and approved by FHWA. All Design Variances must be  
17 approved by ADOT.

18 Developer shall prepare a Design Exception and Design Variance Report that consolidates all  
19 Design Exceptions and Design Variances, all supporting documentation, and copies of the  
20 ADOT and FHWA approval letters. WithAt the same time as Final Design Submittal for the  
21 associated Work, Developer shall submit the Design Exception and Design Variance Report to  
22 ADOT.

**23 440.4 SUBMITTALS**

24 Table 440-2 reflects a nonexclusive list of Submittals identified in Section DR 440 of the TPs  
25 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
26 determine and submit all Submittals as required by the Contract Documents, Governmental  
27 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
28 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
29 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
30 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 440-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Initial ADA Compliance and Feasibility Report	5	0	1	<u>WithAt</u> the <u>same time as</u> Initial Design Submittal for the associated Work	DR 440.3.4
Final ADA Compliance and Feasibility Report	5	0	1	<u>WithAt</u> the <u>same time as</u> Final Design Submittal for the associated Work	DR 440.3.4
Request(s) for Design Exception	1	0	1	<u>WithAt</u> the <u>same time as</u> Initial Design Submittal for the associated Work	DR 440.3.5



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Table 440-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Request(s) for Design Variance	1	0	1	<del>With</del> At the same time as Initial Design Submittal for the associated Work	DR 440.3.5
Design Exception and Design Variance Report	5	0	1	<del>With</del> At the same time as Final Design Submittal for the associated Work	DR 440.3.5
*Levels of Review 1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement) 2. Good faith discretion approval (Section 3.1.3.2 of the Agreement) 3. Reasonableness approval (Section 3.1.4.2 of the Agreement) 4. Review and comment (Section 3.1.5 of the Agreement) 5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)					

1  
2

**End of Section**

1 **DR 445 DRAINAGE**

2 **445.1 GENERAL REQUIREMENTS**

3 Developer shall perform all drainage Design Work in compliance with the requirements of  
 4 Section DR 445 of the TPs. Developer shall provide a highway drainage design that minimizes  
 5 off-site impacts while maintaining a frequency of protection for the highway in accordance with  
 6 Section DR 445 of the TPs.

7 **445.2 ADMINISTRATIVE REQUIREMENTS**

8 **445.2.1 Standards**

9 Developer shall perform all drainage Design Work in accordance with the standards, manuals,  
 10 and guidelines listed in Table 445-1.

Table 445-1 Standards		
No.	Agency	Title
1	FHWA	Hydraulic Design of Highway Culverts, Hydraulic Design Series No. 5
2	FHWA	Urban Drainage Design Manual, Hydraulic Engineering Circular No. 22

11 **445.2.2 Data Collection**

12 Developer shall collect all data, including those elements outlined in Section DR 445 of the TPs  
 13 and in accordance with Section 5.2 of the ADOT *Highway Drainage Design Manual –*  
 14 *Hydraulics*, to determine all historic and proposed tributary flows to the proposed drainage  
 15 system.

16 Developer shall investigate and videotape or photograph existing drainage elements in the  
 17 Project ROW that are planned to remain in place to determine its condition, size, material,  
 18 location, and other pertinent information when documentation is not available. Developer shall  
 19 use this information, at a minimum, to assess whether the elements need to be replaced due to  
 20 its condition.

21 The data collected must be documented as outlined in Section DR 445 of the TPs and in  
 22 accordance with Chapter 4 of the ADOT *Highway Drainage Design Manual – Hydraulics*.

23 **445.2.3 Coordination with Other Agencies and Governmental Entities**

24 Developer shall coordinate all drainage designs with all affected interests, Governmental  
 25 Entities, Utility Owners, and railroads, as applicable.

26 If a FEMA map revision is found to be warranted ~~on Developer's Preliminary or Final~~based on  
 27 the Drainage Reports, Developer shall prepare documentation, perform the design, and provide  
 28 to the local floodplain administrators all information and technical data needed to file conditional  
 29 letter of map revision and letter of map revision with Federal Emergency Management Agency  
 30 (FEMA).

31 **445.2.4 Software**

32 Developer shall use drainage software that is compatible with the software in use by ADOT or  
 33 fully transferrable to the software currently in use by ADOT in accordance with Section GP

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1 110.10 of the TPs. Culvert hydraulic software must comply with the requirements of FHWA  
2 Hydraulic Design Series Number 5.

### 3 **445.3 DESIGN REQUIREMENTS**

#### 4 **445.3.1 General**

5 Developer shall design all elements of the drainage system(s) for the Project to provide a  
6 complete and functional drainage system that complies with the requirements in Section DR 445  
7 of the TPs. Developer shall design all drainage improvements in a manner that accounts for all  
8 existing and proposed tributary areas within or outside the Schematic ROW. Tributary areas  
9 must incorporate future land-use plans and/or potential land uses from applicable Governmental  
10 Entities with drainage areas discharging to the Project ROW. Developer may assume the  
11 following for existing and future land uses:

- 12 A. Retention/detention basins are 80 percent effective, including underground retention;
- 13 B. Local retention/detention basin storage volumes may be estimated using a 100 year-2  
14 hour retention requirement if existing drainage reports are not available;
- 15 C. Commercial, schools, industrial, and multi-family use areas provide the required 100  
16 year-2 hour retention for areas east of Main Ridge South;
- 17 D. Retention/detention is not provided between the North Ridge and South Ridge;
- 18 E. North of the Salt River, the 75th Avenue storm drain is in place and no additional 100  
19 year-2 hour retention/detention is assumed in sub-basins that are currently agricultural  
20 or open land; and
- 21 F. Land use coverage based on the May 2009 aerials included in the RIDs.

22 The drainage improvements must be designed based on the future land use as determined by  
23 the Governmental Entity with jurisdiction and must not cause objectionable backwater and/or  
24 excessive velocities as specified in the standards listed in Table 445-1, which may negatively  
25 affect traffic safety, embankment stability, adjacent property, natural drainage courses, drainage  
26 facilities, floodplain developments, upstream drainage systems, and the use of downstream  
27 receiving waters. The drainage improvements must be designed such that post-Project flow  
28 conditions are at or below pre-Project flow conditions. Developer shall design the drainage  
29 systems aesthetics in accordance with Section DR 450 of the TPs.

30 Where drainage patterns are changed from existing patterns, Developer shall obtain all permits,  
31 drainage easements, and ADOT and Governmental Entity approval prior to construction of any  
32 drainage improvements.

#### 33 **445.3.2 Drainage Master Plan**

34 Developer shall prepare a Drainage Master Plan that depicts the existing and proposed  
35 drainage system, including size, for the Project in accordance with the requirements for a  
36 drainage report identified in Chapter 4 of the ADOT *Highway Drainage Design Manual –*  
37 *Hydraulics*. The Drainage Master Plan is intended to be a schematic analysis of the drainage  
38 systems that provides an overview of the overall drainage system for the Project. Developer  
39 shall ensure that the Drainage Master Plan is the basis for the roadway drainage design.  
40 Developer shall update the Drainage Master Plan as the development of the roadway drainage  
41 design proceeds. The Drainage Master Plan must include hydrology calculations, evaluation of  
42 existing conditions, documentation used to size the ultimate off-site drainage improvements,  
43 and a comparison of the existing and proposed flow conditions.

44 | WithAt the same time as Initial Design Submittal of the roadway drainage, roadway design,  
45 and/or bridge hydraulic design, Developer shall submit the Drainage Master Plan to ADOT for

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1 review and comment by ADOT. Prior to submitting a drainage design Submittal that is not  
 2 consistent (e.g. Changes in tributary areas, concentration points, basin locations, etc.) with the  
 3 Drainage Master Plan, Developer shall submit aan updated Drainage Master Plan-~~Update~~ to  
 4 ADOT.

5 **445.3.3 Drainage Report**

6 Developer shall prepare a Preliminarypreliminary Drainage Report(s) for the Project drainage  
 7 system(s) in accordance with Chapter 4 of the ADOT *Highway Drainage Design Manual –*  
 8 *Hydraulics* and shall include all calculations and analysis in the report as required by the  
 9 Contract Documents. Developer may prepare the Preliminarypreliminary Drainage Report(s) per  
 10 drainage system, Project Segment, or for the entire Project.

11 WithAt the same time as Initial Design Submittal for the associated drainage improvements,  
 12 Developer shall submit a Preliminarypreliminary Drainage Report to ADOT for review and  
 13 comment. Developer shall prepare a Finalfinal Drainage Report based on the final drainage  
 14 design ~~and that addresses.~~ The final Drainage Report must address ADOT comments from the  
 15 Preliminarypreliminary Drainage Report. WithAt the same time as Final Design Submittal for the  
 16 associated drainage improvements, Developer shall submit a Finalfinal Drainage Report to  
 17 ADOT.

18 Developer shall prepare an As-Built Drainage Report that compiles all Finalfinal Drainage  
 19 Reports into one report. As part of the Record Drawing Submittal, Developer shall submit the  
 20 As-Built Drainage Report to ADOT.

21 **445.3.4 Storm Frequency and Design Discharge**

22 **445.3.4.1 Design Frequencies**

23 Developer shall use the design frequencies listed in Table 445-2 and Table 445-3.

Table 445-2 Minimum Design Storm Frequency	
Highway Level and Condition	Design Storm Frequency* (years)
New construction	50
Reconstruction	50
Structure affected by major project	50
*Design storm frequencies may be controlled by other considerations.	

24

Table 445-3 Design Storm Frequency for Pavement Drainage Systems	
Roadway Type and Condition	Design Storm Frequency (years)
<b>Non-Depressed Roadways:</b>	
Storm drain systems:	
Hydraulic grade line 6 inches below top of grate	10
Cut and median ditches:	

Table 445-3 Design Storm Frequency for Pavement Drainage Systems	
Roadway Type and Condition	Design Storm Frequency (years)
Hydraulic grade line no higher than subgrade	10*
Hydraulic grade line no higher than 3 inches below pavement	See Table 445-2
<b>Depressed Roadways:</b>	
Storm drain systems:	
Hydraulic grade line 6 inches below top of grate	50
Note: Pavement drainage systems include inlets, catch basins, storm sewers, main drains, storage reservoirs, and pump stations.	
* For divided highways with median widths ≤ to 50 feet, it may not be practical to achieve criteria	

1 **445.3.4.2 Allowable Spread**

2 Developer shall design drainage systems to limit ponding to the widths for the design frequency  
 3 event in accordance with the requirements in Table 445-4 and Figure 603.2A of the ADOT  
 4 *Roadway Design Guidelines*.

Table 445-4 Allowable Spread, 10-year Storm Event	
Roadway	Spread Criterion
Two-lane roadway and two-way frontage road	Shoulder, turn lane, or parking lane
Multilane roadway and one-way frontage road	½ lane + shoulder, turn lane, or parking lane
<b>Ramp</b>	
One lane	Unponded width of 12 feet
Two lane	½ lane + shoulder
One-lane directional ramp	Less than or equal to 8 feet
Two-lane directional ramp	½ lane + shoulder
At ramp gores	See Figure 603.2A of the ADOT <i>Roadway Design Guidelines</i>
Auxiliary lanes	½ auxiliary lane + shoulder
Note: Refer to roadway cross section and apply appropriate one- or multilane roadway criteria. For one-directional crowned roadways, the ½-lane spread shall be included only on one side.	

5 **445.3.4.3 Additional Requirements**

6 Developer shall not permit any increase in water surface elevation from existing conditions  
 7 upstream or downstream of the Project ROW. Modifications must be made to new or existing  
 8 drainage features to achieve no rise in water surface elevation outside ADOT ROW or in  
 9 existing drainage easements due to the Work.

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1 Discharge, velocity, or water surface elevation at the outfalls to existing drainage conveyance  
2 features must not increase from the existing conditions. Mitigation to offset any increase of  
3 discharge, velocity, or water surface elevation at the outfalls to existing drainage conveyance  
4 features must be in the form of providing storage capacity at locations within the Schematic  
5 ROW.

6 Runoff from roadway ditches must not cause additional erosion, scour, or undermining to bridge  
7 abutments.

8 Developer shall verify that the proposed flow to the existing pump station does not exceed the  
9 existing pump station's capacity if the proposed improvements convey flow to an existing pump  
10 station. Developer shall design the changes to the existing pump station to comply with the  
11 design requirements in the ADOT *Highway Drainage Design Manual, Hydraulics* if the capacity  
12 is exceeded at any impacted pump station.

### 13 **445.3.5 Hydrology**

14 Developer shall determine design flows based on the following sources, given in order of  
15 relative importance:

16 A. Existing hydrologic studies: Where highway facilities encroach on established or planned  
17 regulatory floodplains, the flood frequency curve approved by FEMA for the site must be  
18 the primary source of data for use in design. In the absence of a FEMA flood frequency  
19 curve, runoff rates from drainage studies by other Governmental Entities must be  
20 evaluated for use in establishing a design flood frequency curve. Such studies must be  
21 reviewed for appropriateness with regard to the needs of the facility being designed.  
22 There may be instances where two hydrologic values must be used: (1) the FEMA or  
23 other agency value, to evaluate the impacts of the ADOT system on the existing FEMA  
24 floodplain/floodway; and (2) an ADOT value, to size the drainage facilities.

25 B. Rainfall-runoff models: Rainfall-runoff models must be used where stream runoff data  
26 are not available. For drainage areas of 160 acres or less, the rational method may be  
27 used. For drainage areas greater than 160 acres, the USACE computer program HEC-  
28 **4HMS** must be used. Developer shall comply with the approved procedures and  
29 recommended parameter values for the Rational Method and HEC-**4HMS** based on the  
30 local jurisdiction requirements. Developer shall use the Green and Ampt method to  
31 estimate rainfall losses. Developer shall use the S-curve or the Clark unit hydrograph to  
32 calculate the unit hydrograph parameters.

### 33 **445.3.6 Drainage Improvements**

#### 34 **445.3.6.1 Inlets**

35 Developer shall provide stormwater drainage improvements behind proposed retaining walls  
36 and barriers to convey side slope runoff to the wall into the proposed storm drain system and  
37 prevent stormwater from ponding or draining over the walls.

38 Non-standard ADOT inlets must adhere to the standards in Section DR 445.2.1 of the TPs.  
39 Inlets on roadways that allow bicycle travel must be bicycle-safe grates.

40 Developer shall design all off-roadway inlets within the roadway recovery area with 3 inches or  
41 less local depression. Developer shall account for a potential reduction of inflow capacity  
42 attributable to clogging using the capture ratios shown in Table 445-5.



Table 445-5 Inlet Capture Ratios	
Grate Inlets	Capture Ratio
On grade	0.50
Sump	0.50
Curb Inlets	
On grade	0.80
Sump	0.80
Combined Curb and Grate	
On grade	
Curb inlet	0.80
Grate inlet	0.50
Sump	
Curb inlet	0.80
Grate inlet	0.50
Combined Slotted and Grate	
On grade	
Slotted inlet	0.67
Grate inlet	0.50
Sump	
Slotted inlet	0.50
Grate inlet	0.50

1 **445.3.6.2 Storm Drain System**

2 Where precluded from handling runoff with open channels by physical site constraints, or as  
 3 directed in Section DR 445 of the TPs, Developer shall design enclosed storm drain systems to  
 4 collect and convey runoff to appropriate discharge points.

5 Developer shall prepare storm drain documentation encompassing all storm drain systems that  
 6 contains, at a minimum, the following items:

- 7 A. Drainage area maps for each storm drain inlet with pertinent data, such as boundaries of
- 8 the drainage area, topographic contours, runoff coefficients, time of concentration, and
- 9 land use, design runoff coefficients, discharges, and ponding;

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- 1 B. Location and tabulation of all existing and proposed pipe and drainage structures,  
2 including size, class, or gauge; catch basin spacing; detailed structure designs; and any  
3 special designs;
- 4 C. Specifications for the pipe bedding material and structural pipe backfill on all proposed  
5 pipes and pipe alternates; and
- 6 D. Complete pipe profiles, including pipe size, type, and gradient; station offsets from the  
7 centerline of the roadway; length of pipe; class/gauge of pipe; and numbered drainage  
8 structures with elevations.

9 Developer shall include the storm drain documentation as part of the ~~Preliminary~~preliminary and  
10 ~~Final~~final Drainage Reports.

11 The maximum allowable hydraulic grade line elevation for the design frequency must not  
12 exceed 6 inches below the lip of gutter, the top of manhole cover, and as specified in Table 445-  
13 3 of Section DR 445.3.4.1 of the TPs.

14 Manhole covers must be identified as shown on the ADOT *Construction Standard Drawing*  
15 *No. C-18.10.*

16 **445.3.6.3 Pipes**

17 Developer shall design storm drain pipes with a minimum velocity of 3 fps when flowing full, for  
18 "self cleaning" purposes using the appropriate design flow. Developer shall design all storm  
19 drains to sustain all loads using fill heights and D-loads for determining pipe classifications.  
20 Developer shall design pipes in accordance with the following requirements:

- 21 A. Pipe diameter: 18 inches minimum
- 22 B. Pipe depth of cover: 6 inches minimum (top of pipe to bottom of finished subgrade)
- 23 C. Provide outfall protection when the outlet velocity is greater than 1.4 times the natural  
24 stream velocity
- 25 D. When outfall protection is required, Developer shall provide calculations to document the  
26 design.

27 The design life of new pipe and pipe extensions must comply with the criteria for a 75-year  
28 "maintenance free" service life for the Project. Developer shall determine the class of new pipe  
29 in accordance with the ADOT *Standard Pipe Selection Guidelines*. Evaluation documentation  
30 must be included with the design calculations. Developer shall include "new pipe summary  
31 sheets" in the Plans.

32 Developer shall use the Manning's "n" values included in Table 445-6.

Table 445-6 Manning's "n"	
Pipe Type	"n"
Concrete pipe	0.012
Cast-in-place concrete	0.014
Smooth plastic: polyethylene	0.012
Spiral rib: galvanized steel	0.014

1 **445.3.6.4 Channels and Ditches**

2 Developer shall ensure that the design for drainage channels provides 10-foot-wide vehicular  
3 maintenance access ramps, from the maintenance road where possible, to the channel bottom  
4 upstream and downstream of hydraulic structures. Developer shall not locate access ramps  
5 closer than 100 feet from the nearest channel transition and must be located on the high side  
6 of the channel invert. Access ramps must slope downward in the downstream direction.

7 Developer shall include erosion control measures in the drainage channels and ditches,  
8 including flexible or rigid channel linings, to prevent scour and sedimentation.

9 Side slopes of aggregate lined and unlined channels must not be steeper than 3:1 (H:V).  
10 Concrete-lined channels must have side slopes no steeper than 2:1. Developer shall provide  
11 maintenance access for channels having a length of 500 feet or more.

12 Developer shall ensure that the minimum freeboard is 1 foot for a 100-year storm event, where  
13 overtopping would permit stormwater to break out of ADOT ROW and whose failure would  
14 endanger life or property.

15 For leveed channels where the water surface elevation is higher than natural ground, Developer  
16 shall provide an additional 1 foot of freeboard to accommodate surface irregularities and  
17 alignment adjustments.

18 If a ditch drains to a drainage structure designed to a lower frequency storm, Developer shall  
19 take into account the lower frequency storm in the ditch design at the discharge location of the  
20 ditch. At the discharge location, Developer shall size ditches for the structure design storm  
21 capacity at the bank-full depth instead of adding freeboard to the water depth of the design  
22 storm. Developer shall also take into account the backwater attributable to the ponding at  
23 culverts and other structures in the water depth computations.

24 **445.3.6.4.1 Drainage Outlets into Major Watercourses**

25 Developer shall design the drainage outlet to the design peak flow of the channel concurrent  
26 with the 10-year peak flow in the main watercourse. Developer shall also design for the 10-year  
27 peak flow in the channel concurrent with the design peak flow in the main watercourse.  
28 Developer shall take into account water levels of the design peak flow in either the main  
29 watercourse or flood channel (not concurrent peaks) for bank protection measures at the outlet  
30 and nearby channel.

31 **445.3.6.5 Stormwater Storage Facilities**

32 Developer shall design stormwater storage facilities in accordance with the Arizona national  
33 pollutant discharge elimination system regulations for water quality and rate control  
34 requirements or the Governmental Entity with jurisdiction, whichever is more stringent. All  
35 stormwater storage facilities calculations must be included in the ~~Preliminary~~preliminary and  
36 ~~Final~~final Drainage Report.

37 Developer shall ensure that stormwater storage facilities comply with the following  
38 requirements:

- 39 A. Outflow discharges from the stormwater storage facilities must not cause peak  
40 discharges downstream greater than peak discharges without the Project.
- 41 B. Detention basins must not retain standing water longer than 36 hours after inflow.
- 42 C. The maximum depth of a stormwater storage facility must not exceed 25 feet.
- 43 D. Stormwater storage facilities must have an emergency spillway that is designed to allow  
44 overflow of runoff when the outlet is blocked and the storage is exhausted.

1 E. Bottoms of storage facilities must be stabilized.

2 Developer shall design the Project without jurisdictional dams. Jurisdictional dams are defined  
3 as an artificial barrier for the impounding or diversion of water either 25 feet or more in height or  
4 having a storage capacity of more than 50 acre-feet.

5 **445.3.6.6 Culverts**

6 Developer shall analyze existing and proposed culverts, drainageways, and associated  
7 appurtenances affected, replaced, or created by the Project design for any localized flooding  
8 deficiencies.

9 Where the culvert design is influenced by upstream storage owned by a Governmental Entity for  
10 the purpose of stormwater storage, Developer shall incorporate the analysis of the storage into  
11 the design of the culvert. Developer shall analyze all water levels for backwater and design all  
12 culverts so backwater does not increase above existing conditions that extend onto adjacent  
13 properties.

14 Developer shall ensure that culverts comply with the following requirements:

- 15 A. The minimum box culvert height, inside dimension, must be 4 feet.
- 16 B. For the design flood, the headwater level must be no higher than 3 inches below the  
17 pavement. The headwater depth to culvert height ratio must not exceed 1.5.
- 18 C. The 100-year floodwater levels must not increase the flood damage potential on areas  
19 outside of ADOT ROW.
- 20 D. Flow capacity of any culvert must be investigated whenever the invert of the culvert is  
21 embedded below the natural streambed thalweg. Developer shall not include embedded  
22 area in the effective culvert waterway opening where the embedded area is backfilled  
23 with erosion-resistant material or where siltation to the original grade can be anticipated.
- 24 E. All culverts must have end sections or headwalls.
- 25 F. Culverts with a span or diameter greater than or equal to 48 inches must have concrete  
26 headwalls.
- 27 G. Concrete box culverts must have inlet cut-off walls. Concrete box culverts must have an  
28 outlet cut-off wall with a minimum 4 foot depth.
- 29 H. Culverts with a span or diameter 48 inches or greater must have an apron with cut-off  
30 wall.
- 31 I. Concrete cut-off walls, headwalls, and partial headwalls must extend at least 2 feet  
32 below the ultimate bed elevation and a minimum of 4 feet below culvert inverts.
- 33 J. Cut-off walls, headwalls, partial headwalls, and aprons must be attached to the culvert.
- 34 K. Outlets must have riprap whenever the outlet velocity is between 4 and 15 feet per  
35 second.
- 36 L. Outlets with velocity greater than 15 feet per second must have an energy dissipator.

37 Developer shall design bridge culverts subject to traffic loading in accordance with Section DR  
38 455 of the TPs. Culverts crossing beneath railroad tracks must be of size and material approved  
39 by the railroad in accordance with Section DR 436 of the TPs.

40 **445.3.6.7 Temporary Drainage Facilities**

41 Developer shall design temporary drainage systems to:

- 42 A. Provide safe operation during construction;

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- 1 B. Accommodate both existing and construction area runoff water; and
- 2 C. Comply with Good Industry Practice.

3 Developer shall provide drainage design details for each stage of construction. Developer shall  
 4 design temporary stormwater conveyance systems such that stormwater is confined to the  
 5 shoulders and no water encroaches into the travel lanes.

**445.4 SUBMITTALS**

7 Table 445-7 reflects a nonexclusive list of Submittals identified in Section DR 445 of the TPs  
 8 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 9 determine and submit all Submittals as required by the Contract Documents, Governmental  
 10 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 11 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 12 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 13 formats described in Section GP 110.10.2.1.1 of the TPs:

<b>Table 445-7 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Drainage Master Plan	4	2	1	<del>With</del> At the <u>same time</u> as Initial Design Submittal of the roadway drainage, roadway design, and/or bridge hydraulic design	DR 445.3.2
Updated Drainage Master Plan	5	2	1	Prior to submitting a drainage design Submittal that is not consistent with the original Drainage Master Plan	DR 445.3.2
Preliminary Drainage Report(s)	4	2	1	<del>With</del> At the <u>same time</u> as Initial Design Submittal for the associated drainage improvements	DR 445.3.3
Final Drainage Report(s)	5	2	1	<del>With</del> At the <u>same time</u> as Final Design Submittal for the associated drainage improvements	DR 445.3.3
As-Built Drainage Report	5	2	1	As part of the Record Drawing Submittal	DR 445.3.3
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

14  
15

**End of Section**

**DR 450 AESTHETICS AND LANDSCAPING**

**450.1 GENERAL REQUIREMENTS**

Developer shall perform all aesthetics and landscaping Design Work in compliance with the requirements of Section DR 450 of the TPs.

**450.2 ADMINISTRATIVE REQUIREMENTS**

**450.2.1 Standards**

*Intentionally left blank*

**450.2.2 Meetings**

**450.2.2.1 Pre-design Coordination Meeting**

Developer shall conduct an aesthetics and landscaping pre-design coordination meeting prior to beginning aesthetics and landscaping design Work. The aesthetics and landscaping predesign coordination meeting must include all personnel involved in the design and construction of the aesthetics and landscaping for the Project.

**450.2.2.2 Task Force Meetings**

Developer and ADOT shall establish an ~~Aesthetics~~aesthetics and ~~Landscaping (A&L) Task Force~~landscaping task force, including representatives of Developer, ADOT, and representatives of ~~agencies~~Governmental Entities as determined by ADOT.

The purpose of the ~~Aesthetics~~aesthetics and ~~Landscaping Task Force~~landscaping task force is to:

- A. Review and refine the Aesthetics and Landscape Master Plan and
- B. Review, refine, and approve Developer's ~~aesthetics~~Aesthetics and ~~landscaping~~Landscaping Plans, specifications, and details.

~~The A&L Task Force~~The aesthetics and landscaping task force must be established, hold the initial meeting, and meet at the frequency noted in Section GP 110.02.4 of the TPs.

**450.2.2.3 Technical Work Group Meeting**

Developer shall conduct aesthetics and landscaping TWG meetings every other week throughout the Design Work of the aesthetics and landscaping ~~and in accordance with Section GP 110.02.4 of the TPs~~for any Project segment, unless otherwise directed by ADOT. ADOT staff will participate in these TWG meetings and be available for over-the-shoulder plan reviews. Developer may combine design aesthetics and landscaping TWG meetings with construction aesthetics and landscaping TWG meetings.

**450.2.3 Plant Inventory**

Developer shall inventory all saguaros, barrel cacti, ocotillos, and all native trees, including blue palo verde, foothills palo verde, ironwood, and mesquite, with a caliper 4 inches or greater, measured 6 inches above existing ground, and noxious and invasive species within the Project ROW. Developer shall inventory the plants as parcels become available for Developer's use-per Project segment. Developer shall inventory the Center Segment no earlier than one year prior to issuance of NTP 3. Each plant inventoried must be given an identification (ID) number that is associated with that plant through the salvaging, nursery, and replanting process. Developer shall prepare a matrix of inventoried plants that includes plant ID number, the species, caliper, and height of all trees, as well as the height of all saguaros and barrel cacti.



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1 The matrix must also identify whether each plant listed is salvageable or non-salvageable for all  
2 inventoried plants. Developer shall prepare plant inventory exhibits that indicate the location of  
3 each inventoried plant and its associated ID number.

4 Developer shall prepare a Plant Inventory for the Project that includes the following:

- 5 A. Cover page
- 6 B. Table of contents
- 7 C. Discussion
- 8 D. The matrix of inventoried plants
- 9 E. Plant ~~inventory~~Inventory exhibits

10 Prior to issuance of ~~NTP~~NTP 2, Developer shall submit the ~~initial~~ Plant Inventory for review  
11 and comment by ADOT. Within 15 Business Days after new parcels become available for  
12 Developer's use, Developer shall prepare and submit updated Plant ~~Inventory~~  
13 UpdatesInventories to ADOT for review and comment.

### 14 **450.2.4 Salvage Operation Plan**

15 Developer shall prepare a Salvage Operation Plan that details the processes for plant salvage,  
16 nursery setup and operation, and replanting of salvaged plants. Developer shall salvage all  
17 native woody vegetation under healthy condition that has a single trunk diameter or combined  
18 trunk diameter of at least 4 inches, measuring 6 inches above existing ground at the root  
19 location. The Salvage Operation Plan must include the following:

- 20 A. Cover page
- 21 B. Table of contents
- 22 C. Timing for salvage operations for optimum success
- 23 D. Anticipated phasing schedule for salvage and replanting of plant materials
- 24 E. Details on how Developer shall accomplish:
  - 25 1. Field pruning
  - 26 2. Side boxing
  - 27 3. Boxing support and bottoming
  - 28 4. Transporting boxed materials to the nursery
  - 29 5. Salvaging and transporting saguaros and cacti
- 30 F. Nursery details, including:
  - 31 1. Anticipated nursery location(s)
  - 32 2. Security measures for nursery site(s)
  - 33 3. Plant irrigation at the nursery(ies)
- 34 G. Methods and details for replanting boxed trees, saguaros, and cacti

35 WithAt the same time as the submittal of the Plant Inventory, Developer shall submit the  
36 Salvage Operation Plan to ADOT for review and comment. Developer shall update the Salvage  
37 Operation Plan as the Plant Inventory is updated. WithAt the same time as the submittal of each  
38 updated Plant Inventory ~~Update~~, Developer shall submit the updated Salvage Operation Plan  
39 Update to ADOT for review and comment.

### 40 **450.2.5 Noxious and Invasive Species Control Plan**

41 Developer shall prepare a Noxious and Invasive Species Control Plan that describes the  
42 proposed methods and products for minimizing the spread and growth of noxious and invasive

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1 species found during the Plant Inventory, from the beginning of construction through Project  
 2 Handback. If noxious and invasive species were not found during the Plant Inventory, Developer  
 3 shall state so in the Noxious and Invasive Species Control Plan. A list of Arizona introduced  
 4 invasive and noxious plants can be found on the United States Department of Agriculture  
 5 website. The Noxious and Invasive Species Control Plan must include the following:

- 6 A. Cover page
- 7 B. Table of contents
- 8 C. Discussion, including the following:
  - 9 1. Information on the species that are found in the Project ROW
  - 10 2. Proposed chemical or mechanical means to minimize germination of these plants

11 At least 15 Business Days prior to any ground disturbance, Developer shall submit the Noxious  
 12 and Invasive Species Control Plan to ADOT for review and comment. Developer shall prepare  
 13 an updated Noxious and Invasive Species Control Plan ~~Update~~ as the Plant Inventory is  
 14 updated. No later than 10 Business Days after the submittal of each updated Plant Inventory  
 15 ~~Update~~, Developer shall submit the updated Noxious and Invasive Species Control Plan ~~Update~~  
 16 to ADOT for review and comment.

17 **450.2.6 Plating Report (Topsoil)**

18 Developer shall conduct soils sampling throughout the entire Project ROW. Sampling must be  
 19 performed in accordance with the Natural Resource Conservation Service requirements and  
 20 must include a minimum of 12 samples from each of the soil types found in the Project ROW.  
 21 Boring samples must vary in depth from 1 to 6 feet below existing site grade. Developer shall  
 22 analyze the samples for the agronomic-based saturated paste determinations of pH, soluble  
 23 salts, sodium adsorption ratio, and estimated exchangeable sodium percent. Developer shall  
 24 also analyze the samples for organic matter, nitrate, bicarbonate phosphorus, potassium, sulfur,  
 25 DTPA soluble zinc, iron, manganese, copper, boron, gypsum requirement, and gravel.

26 From this sampling, Developer shall determine what amendments are needed for optimum plant  
 27 growth. Topsoil must comply with the soil characteristics included in Table 450-1.

Table 450-1 Soil Characteristics		
Characteristics	Test Method	Requirement (Average of Six Samples)
pH	ARIZ 237	6.0–8.3
Soluble salts (ppm)	ARIZ 237	2,000 maximum
Calcium carbonate	ARIZ 732	8% maximum
Exchangeable sodium	ARIZ 729	5% maximum
Exchangeable sodium (ppm)	ARIZ 729	300 maximum
P.I.	AASHTO T 90	5–20
Gradation: 2 inch ½ inch No. 40	ARIZ 201	% Passing 100 85–100 35–100

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Table 450-1 Soil Characteristics		
Characteristics	Test Method	Requirement (Average of Six Samples)

1 If alternative topsoil is to be used in lieu of or in addition to on-site material, Developer shall  
2 provide independent soil laboratory results showing that the topsoil complies with the  
3 requirements in Table 450-1. Developer shall prepare a Plating Report that includes the  
4 following:

- 5 A. Cover page
- 6 B. Table of contents
- 7 C. Discussion, including the following:
  - 8 1. Introduction
  - 9 2. Description of existing soil
  - 10 3. Proposed amendments
  - 11 4. How Developer shall excavate, transport, stockpile, and place topsoil
  - 12 5. What equipment Developer shall use
- 13 D. Appendix, including the following:
  - 14 1. Summary and results of the soil analyses
  - 15 2. Sources of all topsoil
  - 16 3. Laboratory testing results
  - 17 4. Independent soil laboratory testing results
  - 18 5. Sampling map showing where test samples were taken

19 ~~With~~At the same time as first Initial Design Submittal of any landscape Submittal, Developer  
20 shall submit the Plating Report to ADOT for review and comment.

21 **450.2.7 Aesthetics and Landscape Master Plan**

22 ~~At the first Task Force meeting,~~ Developer shall prepare ~~and submit~~ an Aesthetics and  
23 Landscape Master Plan ~~to ADOT for review and comment. The Master Plan shall be a roll that~~  
24 includes the following:

- 25 A. Roll plot(s) showing the proposed freeway layout at a legible scale. ~~that shows the~~  
26 Project layout and the following:
  - 27 1. Areas to be planted (Character Areas 1, 3, 4, 5) or seeded (Character Area 2) will be  
28 coloredshaded in green, landform;
  - 29 2. Landform graphic areas will be coloredshaded in brown, areas;
  - 30 3. Areas to receive decomposed granite only will be colored inshaded yellow. In a  
31 separate matrix, provide the total square footage within each character area for:  
32 planted or seeded areas, landform graphic areas, and decomposed granite only  
33 areas.;
  - 34 4. Sound walls with accents indicated by symbol or line pattern; and
  - 35 5. Sound walls and retaining walls will be highlighted with color or thick line weight.  
36 Indicate with a symbol the proposed locations of the sound wall accents.

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B. A separate matrix that provides the total square footage within each Character Area and Aesthetic Area for:

1. Planted or seeded areas;
2. Landform graphic areas; and
3. Decomposed granite only areas.

At the first Task Force meeting, Developer shall submit the Aesthetics and Landscape Master Plan to ADOT for review and comment.

### 450.2.8 Visual Analysis

~~When~~Developer shall prepare a Visual Analysis for each Character Area when the layout of the freeway mainline is complete for each ~~character area~~Character Area and there is a preliminary understanding of the cut and fill slopes, the height and location of bridges, retaining walls, and similar features, the extents of the mountain cuts, and the layout of drainage features and crossings, ~~the Landscape Architect will prepare a visual analysis of the character area to.~~ Each Visual Analysis must include the following:

- A. determine~~Title sheet;~~
- B. Table of contents;
- C. Narrative describing and quantifying the existing visual quality;
- D. Narrative describing and quantifying how the Project will impact viewers, both of the Project and from the Project; and
- E. An appendix that includes photographs, renderings, simulations

The Visual Analysis must allow the reader to:

- A. Determine elements and conditions that will impact the use and design of the landscape;
- B. ~~locate~~Locate built and natural elements;
- C. ~~locate~~Locate microclimates based on prevailing wind directions, patterns of sun and shade, existing topography, and soil type;
- D. ~~identify~~Identify positive vistas and views; and
- E. ~~identify~~Identify unappealing views.

After the Design Kickoff meeting and prior to submitting a planting Initial Design Submittal, Developer shall submit ~~at~~the Visual Analysis to ADOT for review and comment.

### 450.3 DESIGN REQUIREMENTS

The Project is divided into five Aesthetic Areas and five Character Areas. Each Aesthetic Area has its own theme, rustication pattern, and landform graphic pattern and is described in the LAADCR. Each Character Area has its own character theme and planting theme and is described in the LAADCR.

#### 450.3.1 Aesthetics

~~The Project is divided into five character areas. Each character area has its own character theme, rustication pattern, landform graphic pattern, and planting theme and is described in the LAADCR.~~

Rustication is defined as any change in the pattern or texture of built structure as compared with a standard smooth finish. Rustication, whether it protrudes out or is inset into the wall, must comply with the structure requirements in Section 455 of the TPs. The dimensions of rustication relief as shown in Exhibits L2.13 through L2.35 of the LAADCR are the minimums allowed.

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1 All exposed surfaces of built structures must be rusticated, except the undersides of bridges.  
 2 Built structures, as defined hereherein, include bridge barrier walls, bridge abutments, bridge  
 3 wing walls, bridge piers, noise walls, retaining walls, lightweight panels, and other similar site  
 4 structures. Built structures do not include lined drainage channels, drainage head walls, or  
 5 roadside or median barriers.

6 Developer shall paint the exposed structural surfaces specified in Section 610-3.05 of the ADOT  
 7 *Standard Specifications for Roadway and Bridge Construction* and paint all light and sign  
 8 foundations located on the outside shoulder of the roadway, that are exposed by 2 feet or more,  
 9 with the colors as shown in Table 450-2. Developer shall paint concrete with a flat finish,  
 10 accents with a gloss finish, masonry with a gloss finish, and metal with a semigloss finish. Paint  
 11 must extend to 2 feet below finished grade. Lined drainage channels, drainage head walls, and  
 12 roadside and median barriers shall not be painted.

Table 450-2 Color Palette	
Location	Color
Entire freeway corridor base field color	Silt
<del>Character</del> <u>Aesthetic</u> Area 1 Ocatillo Settlement Pattern accent color	Ocotillo Bloom
<del>Character</del> <u>Aesthetic</u> Area 2 Cholla Ocotillo Pattern accent color	Earth Red
<del>Character</del> <u>Aesthetic</u> Area 3 River Bank Pattern accent color	Yellow Ochre
<del>Character</del> <u>Aesthetic</u> Area 4 Leaf Portal Pattern accent color	Field Green
<del>Character</del> <u>Aesthetic</u> Area 5 Mountain Urban Link Pattern accent color	Ocotillo Bloom and Warm Earth
Salt River Bridge accent colors	Earth Red

**450.3.1.1 All ~~Character~~Aesthetic Areas**

**450.3.1.1.1 Bridge**

Developer shall provide rustication on the non-traffic side of all bridge barriers. Developer shall provide rustication on the non-traffic side of all median barriers separated by 2 feet or more.

**~~450.3.1.1.1~~450.3.1.1.2 Walls**

18 All bridge abutment walls, sound walls, and retaining walls throughout the freeway corridor must  
 19 receive the same horizontal rustication and base field paint color. Simulations of all the  
 20 ~~character areas~~Aesthetic Areas, including the Salt River Bridge pattern, with the horizontal  
 21 rustication pattern on the bridge abutment and sound walls are shown in Exhibits L2.2, L2.4,  
 22 L2.6, L2.8, L2.10, and L2.12 of the LAADCR.

23 Existing~~Developer shall paint existing ADOT~~ walls ~~will need to be painted~~ in the new base color  
 24 in order between 55th Avenue and 63rd Avenue to transition between the existing I-10 ~~themes~~  
 25 at Pecos Road and~~theme~~ at 59th Avenue and the new South Mountain Freeway ~~themestheme~~.

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### 450.3.1.1.2450.3.1.1.3 Landform Graphics

Developer shall provide landform graphics in Aesthetic Areas 1, 3, and 4 that cover ~~approximately 50~~15 percent of the total ~~project~~Project landscaped area for each Aesthetic Area, excluding basins, channels, and maintenance roads. Developer shall provide landform graphics that cover 35 percent of the total Project landscaped area in Aesthetic Area 5, excluding channels and maintenance roads. Landform graphics may be either concrete graphics or graphics using decomposed granite. For calculating cover, landscaped areas do not include drainage basins or channels, right-of-way in wash crossings, maintenance roads, and side slopes between 17th Avenue and 51st Avenue.

Landform graphics are intended for sloped areas at interchanges between the mainline and the on- and off-ramps. Landform graphics may also be located along sloped mainline sections, but single landform graphic area shall not exceed one-half mile in length. Developer shall show locations of landform graphics in the Visual Analysis.

Developer shall provide landform graphic for each ~~Character~~Aesthetic Area that resembles Exhibits L2.39 through L2.44 of the LAADCR.

### 450.3.1.1.3450.3.1.1.4 Crossroad Landscape

Crossroad medians between the on- and off-ramp intersections shall not be vegetated. Medians shall be hardscaped with pavers or concrete a pattern or finish to complement the ~~character area~~Aesthetic Area aesthetics in which they occur.

~~Median~~Developer shall design median and road side landscape areas beyond the on- and off-ramp intersections ~~will be designed~~ in coordination with the City of Phoenix.

### 450.3.1.1.4450.3.1.1.5 Accessory Structures

Accessory structures such as ~~FMS~~node buildings and irrigation equipment enclosures shall be designed in materials and colors to match the ~~character area~~Aesthetic Area in which it is located and in accordance with the LAADCR.

### 450.3.1.2 CharacterAesthetic Area 1

~~Character Area 1, referred to as the Ahwatukee Neighborhoods, is located between 48th Street and a half mile east of Desert Foothills Parkway. It is defined by the proximity of existing medium density residential development.~~ Aesthetic Area 1 is located between 48th Street and a half mile east of Desert Foothills Parkway. The aesthetic theme ~~of Character Area 1~~ is the Ocatillo Settlement Pattern, expressed through crisp geometric forms, horizontal lines, and triangular shapes. Exhibit L2.2 of the LAADCR is a simulation of these forms on a typical sound wall and bridge structure. The final designs shall resemble these simulations.

#### 450.3.1.2.1 Bridges

Developer shall provide rustication patterns on all bridge barrier walls, bridge piers, and bridge abutment walls in ~~Character~~Aesthetic Area 1 in accordance with Exhibits L2.14, L2.15, and L2.17 of the LAADCR. The final designs shall resemble these simulations. The 48th Street bridge does not need to be painted to match the Aesthetic Area unless the bridge is modified by Developer's design.

#### 450.3.1.2.2 Walls

Developer shall provide rustication patterns on all walls, except drainage headwalls, in ~~Character~~Aesthetic Area 1 in accordance with Exhibit L2.16 of the LAADCR. The final designs shall resemble these simulations.



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### 450.3.1.3 Aesthetic Area 2

~~450.3.1.3.1~~ 450.3.1.3.1 Aesthetic Area 2 is located between a half mile east of Desert Foothills Parkway to just east of 51st Avenue (north of the GRIC boundary). The aesthetic theme ~~Character Area 2~~

~~Character Area 2, referred to as the Ahwatukee Foothills, is located between a half mile east of Desert Foothills Parkway to just east of 51st Avenue (north of the GRIC boundary). It is defined by the proximity of existing lower density residential development, increased topography, and large areas of undisturbed native desert. The aesthetic theme of Character Area 2~~ is the Cholla/Ocotillo Pattern, expressed through forms that are representative of the simple shapes and forms found on cholla and ocotillo cactus. Exhibit L2.4 of the LAADCR is a simulation of these forms on a typical sound wall and bridge structure. The final designs shall resemble these simulations.

### ~~450.3.1.3.1~~ 450.3.1.3.2 **Bridges**

Developer shall provide rustication patterns on all bridge barrier walls, bridge piers, and bridge abutment walls in ~~Character~~Aesthetic Area 2 in accordance with Exhibits L2.18, L2.19, and L2.21 of the LAADCR. The final designs shall resemble these simulations.

### ~~450.3.1.3.2~~ 450.3.1.3.3 **Walls**

Developer shall provide rustication patterns on all walls, except drainage headwalls, in ~~Character~~Aesthetic Area 2 in accordance with Exhibit L2.20 of the LAADCR. The final designs shall resemble these simulations.

### 450.3.1.4 Aesthetic Area 3

~~450.3.1.4.1~~ 450.3.1.4.1 Aesthetic Area 3 is located between just east of 51st Avenue (north of the GRIC boundary) and half a mile north of Baseline Road. The aesthetic theme ~~Character Area 3~~

~~Character Area 3, referred to as the Laveen Village, is located between just east of 51st Avenue (north of the GRIC boundary) and the Salt River. It is defined by agricultural fields, pastures, and low density residential development. The aesthetic theme of Character Area 3~~ is the River Bank Pattern, expressed through shapes that are representative of water carving river banks, channels, and steep mountain slopes. Exhibit L2.6 of the LAADCR is a simulation of these forms on a typical sound wall and bridge structure. The final designs shall resemble these simulations.

### ~~450.3.1.4.1~~ 450.3.1.4.2 **Bridges**

Developer shall provide rustication patterns on all bridge barrier walls, bridge piers, and bridge abutment walls in ~~Character~~Aesthetic Area 3 in accordance with Exhibits L2.22, L2.23, and L2.25 of the LAADCR. The final designs shall resemble these simulations.

### ~~450.3.1.4.2~~ 450.3.1.4.3 **Walls**

Developer shall provide rustication patterns on all walls, except drainage headwalls, in ~~Character~~Aesthetic Area 3 in accordance with Exhibit L2.24 of the LAADCR. The final designs shall resemble these simulations.

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### 450.3.1.5 Aesthetic Area 4

~~450.3.1.5~~450.3.1.5.1 Aesthetic Area 4 is located between half a mile north of Baseline Road and Elwood Street alignment. The aesthetic theme~~Character Area 4~~

~~Character Area 4, referred to as the Estrella Village, is located between the Salt River and I-10. It is defined by a mix of agricultural fields, pastures, and medium density residential development transitioning to industrial and commercial land uses. The aesthetic theme of~~  
Character Area 4 is the Leaf Portal Pattern, expressed through shapes that suggest the agricultural heritage of this area. Circular shapes in the pattern represent portals into the future or out of the past. Exhibit L2.8 of the LAADCR is a simulation of these forms on a typical sound wall and bridge structure. The final designs shall resemble these simulations.

### ~~450.3.1.5.1~~450.3.1.5.2 **Bridges**

Developer shall provide rustication patterns on all bridge barrier walls, bridge piers, and bridge abutment walls in ~~Character~~Aesthetic Area 4 in accordance with Exhibits L2.26, L2.27, and L2.29 of the LAADCR. The final designs shall resemble these simulations.

### ~~450.3.1.5.2~~450.3.1.5.3 **Walls**

Developer shall provide rustication patterns on all walls, except drainage headwalls, in ~~Character~~Aesthetic Area 4 in accordance with Exhibit L2.28 of the LAADCR. The final designs shall resemble these simulations.

### 450.3.1.6 Aesthetic Area 5

~~450.3.1.6~~450.3.1.6.1 Aesthetic Area 5 is located between Elwood Street alignment and I-10 and along I-10 between 75th and 43rd Avenues. The aesthetic theme~~Character Area 5~~

~~Character Area 5, referred to as the I-10 Traffic Interchange, is located along I-10 between 75th and 43rd Avenues. It is defined by the existing freeway landscape character as well as the adjacent residential development to the north and industrial development to the south. The aesthetic theme of~~  
Character Area 5 is the Mountain Urban Link Pattern, expressed through interlocking shapes that representationally tie the South Mountain Freeway to the I-10 freeway. Exhibit L2.10 of the LAADCR is a simulation of these forms on a typical sound wall and bridge structure. The final designs shall resemble these simulations.

### ~~450.3.1.6.1~~450.3.1.6.2 **Bridges**

Developer shall provide rustication patterns on all new bridge barrier walls, bridge piers, and bridge abutment walls in ~~Character~~Aesthetic Area 5 in accordance with Exhibits L2.30, L2.31, and L2.33 of the LAADCR. The final designs shall resemble these simulations. Developer shall paint the existing 59th Avenue bridge with the ~~Character~~Aesthetic Area 5 base color. If the 63rd Avenue bridge is replaced, it shall have the same rustication as the existing structure, and Developer shall paint bridge with the same ~~Character~~Aesthetic Area 5 base color.

### ~~450.3.1.6.2~~450.3.1.6.3 **Walls**

Developer shall provide rustication patterns on all walls, except drainage headwalls, in ~~Character~~Aesthetic Area 5 in accordance with Exhibit L2.32 of the LAADCR. The final designs shall resemble these simulations.

### 450.3.1.7 River Bridge ~~Character~~Aesthetics

The ~~Salt River river bridge aesthetics~~Bridge ~~Character~~ applies only to the bridge crossing the Salt River. The bridge barrier walls, as shown in Exhibit L2.12 of the LAADCR, have a

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1 rustication pattern called the wave pattern that relates this bridge to other ADOT bridges  
2 crossing the Salt River.

### 3 **450.3.1.7.1 Bridge**

4 Developer shall provide rustication patterns on bridge barrier walls on bridges crossing the Salt  
5 River in accordance with Exhibit L2.12 of the LAADCR. The final designs shall resemble these  
6 simulations.

### 7 **450.3.1.7.2 Walls**

8 Developer shall provide horizontal rustication on Salt River Bridge abutment walls in accordance  
9 with Exhibits L2.12 and L2.13 of the LAADCR. The final designs shall resemble these  
10 simulations.

### 11 **450.3.2 Landscape**

12 Developer shall select all landscape plant materials from the lists defined ~~below~~TP Attachment  
13 450-1 and/or from the plants salvaged and transplanted from on site. All plants from a Character  
14 Areas list shall be used in the planting design in a manner that provides variety of the species  
15 throughout the Character Area, and makes the best use of the low-water use plants, reserving  
16 the higher water-use plants for select areas. No substitution of species will be allowed.

### 17 **450.3.2.1 Planting Design**

18 The plant material shall provide an evident sense of uniformity and continuity in pattern,  
19 material, size, color, and intensity throughout the five ~~character areas~~Character Areas.  
20 Landscape shall be designed to address the following broad objectives:

- 21 A. Use vegetative buffers to screen views both of the roadway and from the roadway.
- 22 B. Use strategic gaps in plantings to frame positive views.
- 23 C. Transplant large saguaros, mature trees, and cacti to visually sensitive or critical  
24 roadway areas.
- 25 D. Use measures to blend retention basins and their landscape treatments into the  
26 surroundings.
- 27 E. Place landscape treatments on the periphery of right-of-way areas, at overpass  
28 locations, and on areas adjacent to residential development.
- 29 F. Cluster groupings of plant material in informal patterns to break up the linear form of the  
30 freeway.
- 31 G. Emphasize shade in key pedestrian areas along city crossroads.
- 32 H. Consider ease and efficiency of landscape and irrigation maintenance.
- 33 I. Avoid creating "hidden" areas for transient habitation.
- 34 J. Ensure that maintenance access areas, pull boxes, light poles, sign foundations and  
35 impact devices are free of vegetation.
- 36 K. Do not plant in areas of total shade.

37 Trees shall be used in mass plantings and groups, where possible, to provide vertical structure  
38 and relief, vegetative texture accent, and seasonal interest, while breaking up the monotony of  
39 the horizontal plane. Tree plantings shall be used to focus desirable views while screening  
40 undesirable ones.

41 Shrubs and accents shall be used to provide a year round layer of texture and color that shall  
42 serve to articulate the ground plane and provide intermediate vertical relief. Given limited right-

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1 of-way and plant spacing requirements, mass plantings of shrubs shall further delineate  
2 naturalistic or geometric forms as identified by the surrounding landscape configuration.

3 Developer shall lay out plant material as it relates to planting in the recovery zone in accordance  
4 with the ADOT *Roadway Design Guidelines*. Developer shall not place trees or shrubs so as to  
5 conceal the view of any highway sign or signal.

### 6 **450.3.2.1.1 Character Area 1**

7 Character Area 1, referred to as the Ahwatukee Neighborhoods, is located between 48th Street  
8 and a half mile east of Desert Foothills Parkway. It is defined by the proximity of existing  
9 medium-density residential development.

10 The Character Area 1 planting concept blends the landscape of the existing I-10/SR 202  
11 interchange landscape with that of the existing surrounding residential neighborhoods. Plants  
12 used in Character Area 1 must be from the plants listed in TP Attachment 450-1A. Per each  
13 category of plant (large tree, small tree, large shrub, small shrub, accent), minimum are given  
14 for how much each species shall be represented in the final plan. The remaining percentage  
15 shall be at the discretion of the Landscape Architect. The landscape layout design shall create a  
16 transition between existing I-10 at Pecos Road landscape and the new South Mountain  
17 Freeway Character Area 1 landscape.

18 The minimum tree size must be 15 gallons at a minimum density of 14 per acre. Desert type  
19 trees shall be multitrunk. The minimum shrub size must be 1 gallon at a minimum density of 30  
20 per acre. The minimum accent size must be 5 gallons at a minimum density of 10 per acre.

21 City crossroad minimums are trees at 15 gallon, 1 per 40 linear feet; ~~shrubs at 1 gallon~~  
22 ~~minimum, 5 shrubs per tree;~~ and accents/cacti at 5 gallon minimum, ~~quantity included as part of~~  
23 ~~the required 5 shrubs~~ 5 accents/cacti per tree.

### 24 ~~450.3.2.1.2 Character Area 2~~

### 25 ~~450.3.2.2~~ **450.3.2.1.2 Character Area 2**

26 Character Area 2, referred to as the Ahwatukee Foothills, is located between a half mile east of  
27 Desert Foothills Parkway to just east of 51st Avenue (north of the GRIC boundary). It is defined  
28 by the proximity of existing lower-density residential development, increased topography, and  
29 large areas of undisturbed native desert.

30 The Character Area 2 planting concept is native desert. Salvaged desert trees and cacti and  
31 seeding with native desert shrubs must blend the freeway landscape with the adjacent South  
32 Mountain Park/Preserve (SMPP). All inventoried, salvageable plants must be located within  
33 Character Area 2, and each location must be identified with the plant's ID number. Plants used  
34 in Character Area 2 must be from the plants listed in TP Attachment 450-1B. Per each category  
35 of plant (large tree, small tree, large shrub, small shrub, accent), minimum are given for how  
36 much each species shall be represented in the final plan. The remaining percentage shall be at  
37 the discretion of the Landscape Architect.

38 Tree density shall be a minimum of 14 trees per acre using all the salvaged trees and  
39 supplementing them as needed with nursery grown trees at a minimum 15 gallon size. The  
40 minimum shrub size must be 1 gallon at a minimum density of 15 per acre. Saguaros must be at  
41 a minimum density of 1 per acre using all the salvaged saguaros and supplementing them as  
42 needed with purchased saguaros at a minimum size of 8-foot spear. Accents/cacti must be at a  
43 minimum density of 2 per acre, using all the salvaged material and supplementing as needed  
44 with nursery grown material at a minimum 1 gallon size. These minimums are in addition to the  
45 seeding.

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1 City crossroad minimums are trees at 15 gallon, 1 per 40 linear feet; ~~shrubs at 1 gallon~~  
2 ~~minimum, 5 shrubs per tree;~~ and accents/cacti at 5 gallon minimum, ~~quantity included as part of~~  
3 ~~the required 5 shrubs~~ 5 accents/cacti per tree.

### 4 ~~450.3.2.2.1~~ **Character Area 3**

#### 5 ~~450.3.2.3~~ 450.3.2.1.3 Character Area 3

6 Character Area 3, referred to as the Laveen Village, is located between just east of 51st Avenue  
7 (north of the GRIC boundary) and the Salt River. It is defined by agricultural fields, pastures,  
8 and low-density residential development. The portion of Character Area 3 landscape limits  
9 between just east of 51st Avenue (north of the GRIC boundary) to half a mile north of Elliot  
10 Road must be landscaped in accordance with the requirements for Character Area 2.

11 The Character Area 3 planting concept is agriculturally themed. Plantings must be arranged in  
12 straight lines to mimic the furrows and hedgerows found in the adjacent farm fields. Plants used  
13 in Character Area 3 must be from the plants listed in TP Attachment 450-1C. Per each category  
14 of plant (large tree, small tree, large shrub, small shrub, accent), minimum are given for how  
15 much each species shall be represented in the final plan. The remaining percentage shall be at  
16 the discretion of the Landscape Architect.

17 The minimum tree size must be 15 gallons at a minimum density of 14 per acre. Desert type  
18 trees shall be multitrunk. The minimum shrub size must be 1 gallon at a minimum density of 30  
19 per acre. The minimum accent size must be 5 gallons at a minimum density of 10 per acre.

20 City crossroad minimums are trees at 15 gallon, 1 per 40 linear feet; ~~shrubs at 1 gallon~~  
21 ~~minimum, 5 shrubs per tree;~~ and accents/cacti at 5 gallon minimum, ~~quantity included as part of~~  
22 ~~the required 5 shrubs~~ 5 accents/cacti per tree.

### 23 ~~450.3.2.3.1~~ **Character Area 4**

#### 24 ~~450.3.2.4~~ 450.3.2.1.4 Character Area 4

25 Character Area 4, referred to as the Estrella Village, is located between the Salt River and I-10.  
26 It is defined by a mix of agricultural fields, pastures, and medium-density residential  
27 development transitioning to industrial and commercial land uses.

28 The Character Area 4 planting concept is to blend with the plant palette for the City of Phoenix's  
29 Estrella Urban Village and the surrounding residential and industrial developments. Plants used  
30 in Character Area 4 must be from the plants listed in TP Attachment 450-1D. Per each category  
31 of plant (large tree, small tree, large shrub, small shrub, accent), minimum are given for how  
32 much each species shall be represented in the final plan. The remaining percentage shall be at  
33 the discretion of the Landscape Architect.

34 The minimum tree size must be 15 gallons at a minimum density of 14 per acre. Desert type  
35 trees shall be multitrunk. The minimum shrub size must be 1 gallon at a minimum density of 30  
36 per acre. The minimum accent size must be 5 gallons at a minimum density of 10 per acre.

37 City crossroad minimums are trees at 15 gallon, 1 per 40 linear feet; ~~shrubs at 1 gallon~~  
38 ~~minimum, 5 shrubs per tree;~~ and accents/cacti at 5 gallon minimum, ~~quantity included as part of~~  
39 ~~the required 5 shrubs~~ 5 accents/cacti per tree.



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### 450.3.2.5 450.3.2.1.5 Character Area 5

~~450.3.2.5.1~~ Character Area 5, referred to as the I-10 Traffic Interchange, is located along I-10 between 75th and 43rd Avenues. It is defined by the existing freeway landscape character as well as the adjacent residential development to the north and industrial development to the south. ~~Character Area 5~~

The Character Area 5 planting concept blends the new South Mountain Freeway landscape with that of the existing I-10 landscape. Plants used in Character Area 5 must be from the plants listed in TP Attachment 450-1E. Per each category of plant (large tree, small tree, large shrub, small shrub, accent), minimum are given for how much each species shall be represented in the final plan. The remaining percentage shall be at the discretion of the Landscape Architect. The landscape layout design shall create a transition between existing I-10 at 59th Avenue landscape and the new South Mountain Freeway Character Area 1 landscape.

The minimum tree size must be 15 gallons at a minimum density of 14 per acre. Desert type trees shall be multitrunk. The minimum shrub size must be 1 gallon at a minimum density of 30 per acre. The minimum accent size must be 5 gallons at a minimum density of 10 per acre.

City crossroad minimums are trees at 15 gallon, 1 per 40 linear feet; ~~shrubs at 1 gallon minimum, 5 shrubs per tree;~~ and accents/cacti at 5 gallon minimum, ~~quantity included as part of the required 5 shrubs~~ 5 accents/cacti per tree

### ~~450.3.2.5.2~~ 450.3.2.1.6 Seeding

Seeding shall be used in Character Area 2 as the method of establishing understory plants. Developer shall seed within the traffic clear zone/recovery areas. The seed mixes below represent the desired mix of species and density.

Developer shall provide low grasses and forbs seed mix in the bottom of all retention basins and within the traffic clear zone/recovery areas within Character Area 2. Developer shall apply clear zone seed mix within 20 feet behind guardrails/barrier walls, or within 20 feet of the inlets and outlets of drainage facilities or to the flow paths of the inlets and outlets of drainage facilities. Low grass and forb seed mix must be in accordance with TP Attachment 450-2A.

Developer shall apply tall background seed mix to revegetate areas beyond the traffic clear zone/recovery areas and all other unpaved disturbed areas, except maintenance roads, within Character Area 2. The Tall Background Seed Mix shall not be applied within 20 feet behind guardrails/barrier walls, or within 20 feet of the inlets and outlets of drainage facilities or to the flow paths of the inlets and outlets of drainage facilities. Tall background seed mix must be in accordance with TP Attachment 450-2B.

Developer shall apply wash seed mix as a landscape ecological restoration buffer next to the edge of drainage areas along the flow path and beyond the traffic clear zone/recovery areas within Character Area 2. ~~Developer shall not apply wash seed mix within 20 feet behind guardrails/barrier walls, or within 20 feet of the inlets and outlets of drainage facilities or to the flow paths of the inlets and outlets of drainage facilities.~~ Wash seed ~~Seed~~ mix must be in accordance with TP Attachment 450-2C.

## 450.3.3 Irrigation Design

### 450.3.3.1 Irrigation Water Use and Conservation Plan

Developer shall analyze and determine the projected water use, for all phases of the project, for planting in each ~~character area~~ Character Area identified in the *SR 202 South Mountain Freeway*



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1 *Landscape Architecture & Aesthetics Design Concept Report (LAADCR)*, which is included in  
2 the RIDs. Developer shall perform irrigation calculations for water needs during the construction  
3 phase, the plant establishment period, and the Maintenance Period. The irrigation calculations  
4 must account for estimated monthly water needs.

5 The irrigation water use shall not exceed the City of Phoenix maximum annual water use  
6 requirements specified in Table 450-23.

<b>Year</b>	<b>Annual Water Use (MGal/Year)</b>
1-2	6.6
3-4	10.9
5-7	13.0
8-10	17.9
11-14	21.8
15-18	19.6
19-25	17.9
26-30	15.3

7 Developer shall prepare an Initial/initial Irrigation Water Use and Conservation Plan based on the  
8 aesthetics/Aesthetics and landscape/Landscape Plans. The Initial/initial Irrigation Water Use and  
9 Conservation Plan must include the following:

- 10 A. Cover page
- 11 B. Table of contents
- 12 C. Discussion, including the following:
- 13 D. Detailed methodology proposed to determine how much irrigation water will be applied  
14 during the planting, establishment, and maintenance phases of the contract. The Plan  
15 shall include an approved method of measuring soil moisture at the root balls of trees  
16 and shrubs at four locations per controller at locations and intervals approved by the  
17 Engineer.
  - 18 1. Description of how the schedule will be developed and how water use will be  
19 monitored
  - 20 2. Plan for conserving irrigation water
  - 21 3. Plan for recording water meter use at regular monthly intervals and delivering the  
22 results for review
  - 23 4. Proposed controller programming schedule
  - 24 5. Description of planting design theory describing how the majority of plants to be used  
25 will be the lowest water users and where and how the higher water using plants will  
26 be located.

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1 E. Appendices, including the following, at a minimum:

2 1. Calculations.

3 ~~With~~At the same time as Initial Design Submittal of any landscape Submittal, Developer shall  
4 submit the ~~Initial~~initial Irrigation Water Use and Conservation Plan to ADOT for review and  
5 comment.

6 Developer shall prepare the ~~Final~~final Irrigation Water Use and Conservation Plan based on the  
7 updated planting and irrigation design. ~~With~~At the same time as Final Design Submittal of any  
8 landscaping Submittal Developer shall submit the ~~Final~~final Irrigation Water Use and  
9 Conservation Plan to ADOT for review and comment.

### 10 **450.3.3.2 Irrigation Requirements**

11 Developer shall not provide a permanent irrigation system for Character Area 2. Developer shall  
12 design the irrigation system in accordance with the following criteria:

13 A. Minimum design pressure 60 pounds per square inch.

14 B. Maximum pipe water velocity 5 feet per second.

15 C. Minimum 50 pounds per square inch operating pressure at individual remote control  
16 valve locations.

17 D. Minimum 86% distribution uniformity.

18 E. Include flow monitoring and flow control.

19 F. Include remote monitoring of controllers through a central control.

20 G. Include the ability to operate the irrigation system with hand-held devices.

21 H. Include pressure compensating low-flow drip emitter system for all planting.

22 I. Trees and shrubs must be valved separately.

23 J. All control valves, mainlines, and pressure regulators must be placed a minimum of:

24 1. 20 feet behind curb and gutter;

25 2. 8 feet behind all barriers when along freeway mainline and ramps; or

26 3. Within first 5 feet behind sidewalks.

27 K. Irrigation pipes and equipment must comply with all applicable health code  
28 requirements.

29 L. Irrigation systems for Character Areas 1, 3, 4, and 5 must tap into existing City of  
30 Phoenix water lines.

31 M. Irrigation control system shall have the ability to monitor current weather conditions and  
32 monitor soil moisture conditions at specific representative plant locations throughout the  
33 project area using advanced soil sensing equipment.

34 N. Irrigation control system shall have the ability to initiate, adjust, or cancel an irrigation  
35 cycle based on actual real-time soil moisture readings.

### 36 **450.3.3.3 City Right-of-Way Irrigation**

37 Irrigation systems for landscape within the City of Phoenix right-of-way must be independent  
38 from the freeway irrigation system.

### 39 **450.3.4 Ground Treatment**

40 All rock mulch and rock riprap used for erosion/sediment control must be fractured/crushed rock  
41 that is angular in shape. Natural river-run materials, including rounded natural river  
42 rocks/cobblestones and pebbles, are not acceptable for erosion/sediment control. Developer

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- 1 shall provide decomposed granite and granite mulch in a gradation that minimizes erosion
- 2 (rilling of the slopes) ~~based on a 50-year, 30-minute rainfall, equivalent to a precipitation~~
- 3 ~~intensity of approximately 0.0052 feet/minute.~~
- 4 All ground surfaces within the Project limits not paved with asphalt or concrete must receive
- 5 ~~material~~ 1 ¼ inch minus granite mulch to minimize dust pollution and erosion and as an aesthetic
- 6 ground treatment. The granite mulch must comply with the gradation requirements listed in
- 7 Table 450-4.

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**Table 450-4  
Gradation Requirements**

<u>Passing Sieve</u>	<u>Percent</u>
<u>1 ¼ inch</u>	<u>100</u>
<u>¾ inch</u>	<u>60-80</u>
<u>½ inch</u>	<u>45-65</u>
<u>No. 40</u>	<u>5-20</u>

1 Character Areas 1, 3, 4, and 5 must receive ~~3-~~1 ¼ inch minus granite mulch, at the nominal  
 2 depth of 2 inches, in the colors listed in Table 450-~~125~~. See Section CR 450.3.2.3 of the TPs for  
 3 approved suppliers.

**Table 450-5  
Ground Treatment**

<b>Character Area</b>	<b>Granite Color</b>
1	Coral
2	Not applicable
3	Brown
4	Gold
5	Gold

4 Landscaped areas of city ~~cross roads~~crossroads must receive ¾ inch screened decomposed  
 5 granite at the nominal depth of 2 inches. Character Area 2 and all other areas not otherwise  
 6 specified herein must receive 3 inch minus desert pavement, at the nominal depth of 2 inches,  
 7 and seeding. Desert pavement is an approximation of the native desert ground cover found in  
 8 undisturbed desert areas. It is a combination of cobble, vegetation, and soil from the top 4 to 8  
 9 inches of the native desert areas of Character Area 2.

10 Mountain cut slopes steeper than 1:1 (H:V) are exempt from receiving a ground treatment.

**450.3.5 Aesthetics and Landscape Plans**

12 Developer shall prepare Full Elevations, Colored Renderings, and 3D Animations with  
 13 MicroStation software of Aesthetic Architectural rustication for each ~~character area-Aesthetic~~  
 14 Area. This includes roll plots, rendered in color, of the landscape design. Prior to preparing the  
 15 Aesthetics and Landscape ~~Design~~-Plans as described below, Developer shall submit the Full  
 16 Elevations, Colored Renderings, and 3D Animations to ADOT for review and comment.

17 Developer shall prepare Aesthetics and Landscape ~~Design~~-Plans that ~~includes~~include the  
 18 following:

- 19 A. Face sheet

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- 1 B. Standard sheets, if applicable
- 2 C. Design sheet
- 3 D. Summary sheet, including the following:
- 4 1. Legends
- 5 2. General notes
- 6 E. Rustication detail sheets
- 7 F. Rustication layout sheets
- 8 G. Landform graphics and inert materials detail sheets
- 9 H. Landform graphics and inert materials layout sheets
- 10 I. Planting and inert materials detail sheets
- 11 J. Planting and inert materials layout sheets
- 12 K. Irrigation detail sheets, including the following:
- 13 1. Installation details for each product used
- 14 2. Trenching
- 15 3. Emitter layout
- 16 L. Irrigation layout sheets, including the following:
- 17 1. Plans show layout of piping and placement of valves, controllers, backflow
- 18 preventers, and all other irrigation equipment
- 19 M. SWPP index sheet
- 20 N. SWPP detail sheets, if applicable

21 Developer shall submit Aesthetics and Landscape Plans to ADOT for review and comment.

**450.4 SUBMITTALS**

23 Table 450-~~136~~ reflects a nonexclusive list of Submittals identified in Section DR 450 of the TPs  
 24 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 25 determine and submit all Submittals as required by the Contract Documents, Governmental  
 26 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 27 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 28 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 29 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 450-6 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Plant Inventory	4	2	1	Prior to issuance of <del>NTP2</del> <u>NTP 2</u>	DR 450.2.3
<del>Updated Plant Inventory</del> <del>Update Inventories</del>	4	2	1	15 Business Days after parcels become available for Developer's use	DR 450.2.30
Salvage Operation Plan	4	2	1	<del>With</del> <u>At the same time as the submittal of</u> the Plant Inventory	DR 450.2.4

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<b>Table 450-6 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<u>Updated</u> Salvage Operation Plan- <del>Update</del>	4	2	1	<del>With</del> <u>At the same time as the submittal of each updated Plant Inventory-Update</u>	DR 450.2.4
Noxious and Invasive Species Control Plan	4	2	1	15 Business Days prior to any ground disturbance	DR 450.2.5
<u>Updated</u> Noxious and Invasive Species Control Plan- <del>Update</del>	4	2	1	No later than 10 Business Days after the submittal of each <u>updated</u> Plant Inventory- <del>Update</del>	DR 450.2.5
Plating Report	4	2	1	<del>With</del> <u>At the same time as</u> the first Initial Design Submittal of any landscape Submittal	DR 450.2.6
<del>Initial Irrigation Water Use and Conservation Plan</del>	4	2	4	<del>With the first Initial Design Submittal of any landscape Submittal</del>	<del>DR Error! Reference source not found.</del>
<del>Final Irrigation Water Use and Conservation Plan</del>	4	2	4	<del>With the Final Design Submittal for any landscaping Submittal</del>	<del>DR Error! Reference source not found.</del>
Aesthetics and Landscape Master Plan	4	2	1	Prior to the Design Kickoff meeting.	DR 450.2.7
Visual Analysis	4	2	1	After the Design Kickoff meeting and prior to submitting a planting Initial Design Submittal	DR 450.2.8
<u>Initial Irrigation Water Use and Conservation Plan</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>At the same time as the first Initial Design Submittal of any landscape Submittal</u>	<u>DR 450.3.3.1</u>
<u>Final Irrigation Water Use and Conservation Plan</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>At the same time as the Final Design Submittal for any landscaping Submittal</u>	<u>DR 450.3.3.1</u>
Aesthetics and Landscape Plans	4	2	1	As determined by Developer	DR 450.3.5
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1



End of Section

1 **DR 455 STRUCTURES**

2 **455.1 GENERAL REQUIREMENTS**

3 Developer shall perform all structures Design Work in compliance with the requirements of  
4 Section DR 455 of the TPs.

5 **455.2 ADMINISTRATIVE REQUIREMENTS**

6 **455.2.1 Standards**

7 Developer shall perform all structures Design Work in accordance with the standards, manuals,  
8 and guidelines listed in Table 455-1.

Table 455-1 Standards		
No.	Agency	Title
1	AASHTO	LRFD Bridge Design Specifications
2	AASHTO	LRFD Bridge Construction Specifications
3	AASHTO	Construction Handbook for Bridge Temporary Works
4	AASHTO	Guide Specifications – Thermal Effects in Concrete Bridge Superstructures
5	AASHTO	Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals
6	AASHTO	Manual on Subsurface Investigations
7	AASHTO/AWS	D1.5 Bridge Welding Code
8	AASHTO	Guide Design Specifications for Bridge Temporary Works
9	AASHTO	Manual for Bridge Evaluation
10	AASHTO	Guide Specifications for Design and Construction of Segmental Concrete Bridges
11	AASHTO	Guide Specifications for Structural Design of Sound Barriers
12	AASHTO	LRFD Guide Specifications for the Design of Pedestrian Bridges
13	AASHTO	Manual for Assessing Safety Hardware (MASH)
14	AWS	American Welding Society (AWS) 1.1 Welding Code
15	UPRR/BNSF	Guidelines for Railroad Grade Separation Projects, BNSF Railway – Union Pacific Railroad
16	SRP	Design Guidelines and Specifications for Bridge Crossings of Salt River Project (SRP) Canals, Salt River Project Water Shareholder Operations

9 **455.3 DESIGN REQUIREMENTS**

10 Structures design aesthetic features must comply with the requirements in Section DR 450 of  
11 the TPs.

1 Foundations for bridges and retaining walls must be shallow (spread) foundations, driven piles,  
2 or drilled shafts for both abutments and piers. In the case of piers, the transition from drilled  
3 shafts to columns must occur below finished grade, in which case the drilled shaft reinforcing  
4 steel must extend above finished grade to form the pier columns, provided arrangements have  
5 been made for removal of temporary casing and the ability to provide an acceptable concrete  
6 finish.

7 Developer shall not use spread footings in locations where potential for scour is present.

#### 8 **455.3.1 Structure Type Selection**

9 Developer shall prepare a Foundation Report(s) for bridges and retaining walls in accordance  
10 with the applicable standards and guidelines listed in Table 445-1. As part of the Structure Type  
11 Study Report(s), Developer shall submit each Foundation Report(s) to ADOT for review and  
12 comment for the selection of particular foundation types.

13 Developer shall prepare a Structure Type Study Report(s) for all bridges and retaining walls.  
14 Cost analysis between several structure types is not required. The Structure Type Study  
15 Report(s) must identify which bridges are designed to carry construction overload vehicles. The  
16 Structure Type Study Report(s) must include Plans for each structure that includes, at a  
17 minimum, the following information:

- 18 A. Location plan
- 19 B. Elevation
- 20 C. Typical sections
- 21 D. Girder type and spacing
- 22 E. Superstructure depth
- 23 F. Bridge deck thickness
- 24 G. Minimum vertical and horizontal clearance dimensions and location
- 25 H. Abutment, pier, and foundation type
- 26 I. Expansion and fixity conditions
- 27 J. Deck joint type
- 28 K. Flow rate and high water elevation for 50- and 500-year storm events (if applicable)
- 29 L. Roadway lane, roadway shoulder, and total bridge widths
- 30 M. General notes with all loading conditions for bridge elements
- 31 N. General notes with design stresses for all bridge elements

32 Prior to submitting any Initial Design Submittals for the associated structure Developer shall  
33 submit the Structure Type Study Report(s) to ADOT for review and comment . Developer shall  
34 not make any subsequent design submittal with respect to any particular structure until the all  
35 Structure Type Study Report comments for such structure have been addressed.

#### 36 **455.3.2 Roadway Bridges**

37 Developer shall design all new roadway bridges and retaining walls in accordance with the  
38 *AASHTO LRFD Bridge Design Specifications*. Developer shall design bridges for a 75 year  
39 design life.

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**1 455.3.2.1 Geometry**

2 All fill and cut slopes along the longitudinal axis of bridges with spill through abutments must not  
3 be steeper than 2:1 (H:V). Slopes steeper than 3:1 must have concrete slope paving with  
4 exposed aggregate surface.

5 Vertical clearances must be in accordance with TP Attachment 440-1.

**6 455.3.2.2 Loads**

7 Developer shall design bridges for the following loading:

8 A. Dead load – A reserve superimposed dead load of 25 psf must be included in the design  
9 of all bridge elements to provide for a future deck overlay.

10 B. Live load – All new vehicular structures must be designed for HL93 live loading. Bridges  
11 proposed to carry construction overload vehicles must be designed per Section 16 of the  
12 *ADOT Bridge Group Practice Guidelines*.

**13 455.3.2.3 Uplift**

14 Developer shall proportion bridge spans to prevent uplift at supports for all LRFD limit states  
15 except for the extreme event limit state per the *AASHTO LRFD Bridge Design Specifications*.

**16 455.3.2.4 Stress Limits for Concrete**

17 Developer shall ensure that all concrete structures comply with the stress limits identified in  
18 Table 455-2.

Table 455-2 Stress Limits for Concrete						
		Before Time- Dependent Losses	After Losses			
			DC + Prestress	Service Limit I	Service Limit III	0.5(DW + DC + Prestress) + (LL + IM)
<b>Compression (ksi)</b>		$0.6f'_{ci}$	$0.45f'_c$	$0.6\phi_w f'_c$	N/A	$0.4f'_c$
<b>Tension (ksi)</b>	Any region of a prestressed component in which prestressing causes compressive stresses and service load effects cause tensile stresses	N/A	0 for post-tensioned boxes  N/A for precast prestressed members	N/A	$0.0948\sqrt{f'_c}$ (For post-tensioned structures built on falsework, this value shall be zero. No tension shall be allowed.)	N/A
	Other Regions	$0.0948\sqrt{f'_{ci}}$ $\leq 0.2$ ksi	N/A	N/A	N/A	N/A

**19 455.3.2.5 Structural Concepts and Design**

20 Developer shall satisfy the following criteria for structure types and components:

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- 1 A. Cable stayed bridge types must not be used.
- 2 B. External post-tensioning must not be used.
- 3 C. A minimum of three girders must be used to provide redundant load path structures.
- 4 D. Fracture critical members must not be used.
- 5 E. The use of the approximate analysis methods for curved bridges in Article 4.6.2.2.4 of
- 6 the AASHTO *LRFD Bridge Design Specifications* is not permitted. Curved bridges are
- 7 defined in Article 4.6.1.2 of the AASHTO *LRFD Bridge Design Specifications*.
- 8 F. The use of the V-load method for curved steel I-girders or the M/R method for curved
- 9 steel box girders is not permitted.

### 10 455.3.2.6 Bridge Barriers

11 Bridge barriers must be F-Shape concrete bridge barriers complying with NCHRP Report 350,  
12 *Recommended Procedures for the Safety Performance Evaluation of Highway Features* or the  
13 AASHTO *Manual for Assessing Safety Hardware (MASH)* and AASHTO *LRFD Bridge Design*  
14 *Specification* requirements with minimum test level TL-4, unless described otherwise specified  
15 in the Contract Documents. Bridge barriers in system interchanges with directional ramps must  
16 be minimum test level TL-5. Bridge barriers where pedestrian traffic is accommodated must be  
17 combination pedestrian-bridge barriers complying with NCHRP Report 350, *Recommended*  
18 *Procedures for the Safety Performance Evaluation of Highway Features* or the AASHTO *Manual*  
19 *for Assessing Safety Hardware (MASH)* and AASHTO *LRFD Bridge Design Specification*  
20 requirements. Fencing on structures shall be  $\frac{1}{2}$ "1/2" - #13 expanded metal, flattened smooth  
21 with no sharp edges.

22 Outside bridge railings for system-to-system traffic interchanges must be a 44-inch barrier.  
23 Outside bridge railings for all other bridges must be a 34-inch barrier. Median barriers for all  
24 bridges must be a 44-inch barrier. Bridge barriers must not be slip formed.

### 25 455.3.2.7 Approach Slabs

26 Developer shall provide a 15-foot minimum length reinforced concrete bridge approach slab with  
27 approach slab anchors at the ends of each new bridge. The bridge approach slabs must extend  
28 the full width of the roadway. For concrete pavement, Developer shall provide a protective  
29 pavement system to prevent movement and damage of the pavement to induce loads on the  
30 bridge.

### 31 455.3.2.8 Bridge Deck

32 All structural deck slabs must be concrete. Developer shall minimize the number of deck joints  
33 wherever possible. Aluminum, finger, or sliding plate bridge joints must not be used. The bridge  
34 deck designs must:

- 35 A. Be controlled by Service Limit State I;
- 36 B. Be considered elastic for bridge deck behavior;
- 37 C. Be designed by the working stress method;
- 38 D. Have allowable tensile stress in reinforcing steel,  $f_s$ , be limited to 24 ksi; and
- 39 E. Have a minimum clear cover for reinforcing steel in new deck slabs of  $2\frac{1}{2}$ ".5-inches for  
40 top reinforcement and 1-inch for the bottom reinforcement for corrosion protection.

41 New bridge deck thicknesses must be designed in  $\frac{1}{2}$ "0.5-inch increments with the minimum  
42 thicknesses shown in Table 455-3. Effective span lengths greater than 13 feet is not be allowed.

Table 455-3 Minimum Bridge Deck Thickness					
S (feet)	≤7	7< and ≤8.5	8.5< and ≤10	10< and ≤11.5	11.5< and ≤13
t (inches)	8.0	8.5	9.0	9.5	10.0
Where: S = the effective span length specified in the AASHTO LRFD Article 9.7.2.3 t = Minimum thickness of deck slab					

- 1 Sidewalks on bridges must be in compliance with ADA standards. The minimum width of
- 2 useable sidewalk on bridges must be 6'-0".
- 3 **455.3.3 Pedestrian Bridges**
- 4 Developer shall design pedestrian bridges in accordance with *AASHTO LRFD Guide*
- 5 *Specifications for the Design of Pedestrian Bridges*.
- 6 **455.3.4 Retaining Walls and Wingwalls**
- 7 Developer shall provide 42-inch metal hand rail on top of retaining walls of 48 inches in height or
- 8 greater, except when protected by barrier wall against the top of retaining wall.
- 9 Mechanically stabilized earth (MSE) walls must not be used to support abutment foundations on
- 10 the Project.
- 11 **455.3.5 Noise Walls**
- 12 Developer shall design noise walls at the locations as determined by Developer in accordance
- 13 with Section DR 420 of the TPs.
- 14 Noise walls must be designed in accordance with *AASHTO LRFD Bridge Design Specifications*.
- 15 For noise walls supported on retaining walls (i.e., combination walls), strength and serviceability
- 16 requirements must apply per *AASHTO LRFD Bridge Design Specifications* for load conditions
- 17 that include wind loads.
- 18 Fire hose access holes must be provided at noise walls at approved locations. Covers must be
- 19 placed on each of the fire hose access holes. Developer shall coordinate with the local fire
- 20 departments adjacent to the Project to obtain design requirements and approval for locations
- 21 and cover type.
- 22 Noise walls adjacent to landscaped areas where failure due to vehicular collision does not result
- 23 in adjacent property damage or debris impact to travel ways; do not require designs to
- 24 accommodate collision forces.
- 25 Noise walls located on bridges and adjacent to traffic hazards must be designed to not allow a
- 26 catastrophic failure due to vehicle impact load and must limit the risk of falling debris resulting
- 27 from vehicle impact. Noise walls on the bridges must be placed behind bridge barrier.
- 28 Masonry walls shall be designed to prevent water seepage into the wall system.
- 29 **455.3.6 Drainage Structures, Sign Structures, Temporary Structures**
- 30 Developer shall design drainage structures, sign structures, and temporary structures in
- 31 accordance with the applicable standards in Table 455-1.



## ADDENDUM #12

### 1 455.3.7 Plans and Design Calculations

#### 2 455.3.7.1 Plans

3 Developer shall request structure names and structure numbers for each bridge from ADOT by  
4 the Initial Design Submittal. The following bridges have been assigned structure numbers and  
5 names:

- 6 A. Str. No. 20024 – UPRR OP
- 7 B. Str. No. 20025 – SB Frontage Rd UPRR OP
- 8 C. Str. No. 20026 – NB Frontage Rd UPRR OP

9 Developer shall prepare bridge plans in accordance with the ADOT *Standardized Dictionary of*  
10 *Work Tasks*. Multiple bridge designs must not be combined on the same Plans. Bridge Plans  
11 must be submitted separately for individual bridges. The structure Plans must include the  
12 following:

- 13 A. General plan, including Plan, elevation, and typical section
- 14 B. General notes, including bridge load rating
- 15 C. Foundation sheets
- 16 D. Abutment details
- 17 E. Wing wall details
- 18 F. Pier details
- 19 G. Slope protection
- 20 H. Superstructure sheets
- 21 I. Bearings
- 22 J. Prestressing details (if applicable)
- 23 K. Girder layout and elevation
- 24 L. Girder details
- 25 M. Special details (if applicable)
- 26 N. Pile records (if applicable)

#### 27 455.3.7.2 Design Calculations

##### 28 455.3.7.2.1 Structure Calculations

29 Developer shall prepare a Structure Calculations Report that includes a table of contents, all  
30 structure calculations, references to computer programs in the calculations, and computer  
31 documentation that includes name of program, vendor, version, and release date. The Structure  
32 Calculations Report must be bound and all pages must be numbered. Within 5 Business Days  
33 of ADOT's request, Developer shall submit a Structures Calculations Report(s) to ADOT.

##### 34 455.3.7.2.2 Bridge Load Rating

35 Developer shall load rate all NBI qualified bridges carrying vehicular traffic (20ft in length or  
36 more), including culverts that are defined as bridges and prepare a Load Rating Report(s) in  
37 accordance with the AASHTO *Manual for Bridge Evaluation*. The minimum operating load rating  
38 factor for all new bridges must be 2.0. The minimum length of structures that are required to be  
39 load rated and the loading requirements must be in accordance with the AASHTO *Manual for*  
40 *Bridge Evaluation*. WithAt the same time as the Initial Design Submittal of a bridge Plan,  
41 Developer shall submit an Initialinitial Load Rating Report(s) to ADOT for review and comment.

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1 ~~With~~At the same time as the Final Design Submittal of a bridge Plan, Developer shall submit a  
 2 ~~Final~~ Load Rating Report(s) to ADOT for review and comment.

3 **455.4 SUBMITTALS**

4 Table 455-4 reflects a nonexclusive list of Submittals identified in Section DR 455 of the TPs  
 5 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 6 determine and submit all Submittals as required by the Contract Documents, Governmental  
 7 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 8 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 9 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 10 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 455-4 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Foundation Report(s)	4	2	1	As part of the Structure Type Study Report(s)	DR 455.3.1
Structure Type Study Report(s)	4	2	1	Prior to submitting any Initial Design Submittals for the associated structure	DR 455.3.1
Structure Calculations Report	5	2	1	Within 5 Business Days of ADOT's request	DR 455.3.7.2.1
Initial Load Rating Report(s)	4	2	1	<del>With</del> At the same time as the Initial Design Submittal of a bridge Plan	DR 455.3.7.2.2
Final Load Rating Report(s)	4	2	1	<del>With</del> At the same time as the Final Design Submittal of a bridge Plan	DR 455.3.7.2.2
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

11

12

**End of Section**

1 **DR 457 BRIDGE HYDRAULICS**

2 **457.1 GENERAL REQUIREMENTS**

3 Developer shall perform all hydraulic Design Work in compliance with the requirements of  
4 Section DR 457 of the TPs.

5 **457.2 ADMINISTRATIVE REQUIREMENTS**

6 **457.2.1 Standards**

7 Developer shall analyze and design all hydraulic structures and appurtenances in accordance  
8 with the standards, manuals, and guidelines listed in Table 457-1.

Table 457-1 Standards		
No.	Agency	Title
1	ADOT	Bridge Hydraulics Guidelines

9 **457.2.2 Data Collection**

10 Developer shall collect all necessary data to design bridges to accommodate the historical  
11 hydrologic flows in the Project and that comply with the hydraulic requirements of Section DR  
12 457 of the TPs.

13 Developer shall collect available data identifying all water resource issues, including water  
14 quality requirements as imposed by State and federal government regulations, National Wetland  
15 Inventory and other wetland/protected waters inventories, Effective FEMA Special Flood Hazard  
16 Zone, and official documents concerning the Project, such as the FEIS or other drainage and  
17 environmental studies.

18 Developer shall give careful consideration to existing studies, such as any existing floodplain  
19 studies that may have been performed by FEMA or local jurisdictions.

20 All hydraulic computations, designs, and recommendations must consider past studies and  
21 projects in the area by USACE, FEMA, and other State or federal agency studies and projects.

22 Developer shall collect all available geotechnical reports and studies, including sediment  
23 transport analysis, regarding the scour resistance of the soil strata to stream forces.

24 **457.2.3 Coordination with Other Agencies and Disciplines**

25 Developer shall coordinate all hydraulics and water resource designs and obtain all applicable  
26 approvals from all affected Governmental Entities, Utility Owners, and Railroads.

27 **457.3 DESIGN REQUIREMENTS**

28 **457.3.1 General**

29 Developer shall determine if hydraulic structures and appurtenances are defined as a bridge in  
30 accordance with ADOT *Bridge Hydraulics Guidelines*. The aesthetics for hydraulics structures  
31 must be in accordance with Section DR 450 of the TPs.

1 **457.3.2 Discharge Rates**

2 Developer shall determine discharge rates in accordance with ADOT *Bridge Hydraulics*  
3 *Guidelines*. Design discharge rates must be confirmed with the applicable governing  
4 Governmental Entity prior to use.

5 For a crossing on the same waterway as a stream gauging station, Developer shall use the flow  
6 data available from the stream gauging station to determine design flows, if the stream gauging  
7 station has a length of record of at least 25 years within the last 50 years and there are no major  
8 control structures between the stream gauging station and the design site.

9 **457.3.3 Design Frequency**

10 The freeway that is part of the Project is designated as Class I route based on drainage  
11 frequency classification by ADOT. Storm frequency and hydraulic requirements within Effective  
12 FEMA Special Flood Hazard Zone must be in accordance with FEMA Code of Federal  
13 Regulations (CFR) for the National Flood Insurance Program: 44 CFR Parts 60 and 65, EO  
14 11988, and 23 CFR 650.

15 **457.3.4 Floodplains**

16 Developer shall evaluate water surface elevations within the regulatory 100-year FEMA effective  
17 floodway to ensure no rise in water surface elevation profile due to the hydraulic structure(s).  
18 Water surface elevation increases within the floodplain must be limited to the designated  
19 regulatory floodway elevation.

20 **457.3.5 Hydraulic Analysis**

21 Developer shall evaluate water surface elevations in the main channel for existing and proposed  
22 conditions for sizing of bridge waterway openings. The hydraulic analysis and design must  
23 account for the presence of any additional existing control structures that may affect the  
24 hydraulic performance and design of the structure. Developer shall identify and mitigate all  
25 negative hydraulic impacts caused by the Project.

26 Developer shall ensure that the hydraulic analysis of bridge crossings at Effective FEMA Special  
27 Flood Hazard Zone adhere to those mandates as outlined by the applicable Governmental  
28 Entity and federal mandates as contained within FEMA Code of Federal Regulations (CFR) for  
29 the National Flood Insurance Program: 44 CFR Parts 59, 60, 65, and 70.

30 Developer shall use HEC-RAS Water Surface Profile Program (the most current version as of  
31 the Setting Date) to perform hydraulic analyses at bridge crossings, including culvert structures  
32 that meet bridge definitions, for both existing and proposed conditions.

33 Developer shall perform a preliminary assessment of possible drainage (hydrology and  
34 hydraulics) effects on adjacent public and private properties. If existing hydrologic studies are  
35 used, validity of assumptions and accuracy of the results of such studies must be verified by  
36 Developer.

37 **457.3.6 Scour Analysis**

38 Bridge foundations must be designed to withstand the effects of scour, as estimated using the  
39 methods described in FHWA's HEC 18 and HEC 23 publications and ADOT's *Bridge Hydraulics*  
40 *Guidelines*, unless otherwise authorized in writing by ADOT. The recommendations from these  
41 publications must be the basis for the design of bridge foundations and for the design of scour  
42 countermeasures of waterway bridges.

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1 Deep foundations (piles and drilled shafts) must not rely on lateral support from soil within the  
2 estimated scour depth. If the pile or the drilled shaft is embedded into a rock formation,  
3 Developer shall confirm that the rock is not subject to erosion.

4 All bridges must account for debris loading in accordance with ADOT standards and HEC-18  
5 methodologies.

6 All piers and abutment foundations must be evaluated for superflood conditions and must be  
7 designed to be stable for the calculated scour. Revetment at abutments must be designed in  
8 accordance with the procedures outlined in HEC-23. Alternatives to random revetment for  
9 bridge abutments in urban areas or those frequently used by pedestrians is not allowed, unless  
10 authorized in writing by ADOT.

11 ~~Affects~~Developer shall evaluate the scour effects of any gravel mining operations within 1 mile  
12 upstream and 2 miles downstream ~~must be evaluated for long term scour affects~~of the bridges.

### 13 457.3.7 Bridge Deck Drainage

14 Runoff from Bridge decks must be conveyed off the bridge, unless otherwise specified in the  
15 Contract Documents, and must comply with Section DR 420 of the TPs. The roadway drainage  
16 design must include bridge approach drains to intercept gutter flow at both ends of the bridge.  
17 Developer shall ensure that all stormwater flowing toward any bridge is intercepted upstream  
18 from the approach or anchor slab. These drains, or temporary drains, are to be constructed at  
19 time of bridge deck placement to prevent erosion.

20 Deck drains shall be spaced to comply with the design spread criteria in Section DR 445.3.4.2  
21 of the TPs. Deck drainage outfalls must avoid corrosion of bridge structural members, erosion of  
22 embankments, and splashing of moving traffic and sidewalk areas below the bridge. The  
23 drainage system must intercept pavement drainage at both ends of bridges.

24 Runoff from bridge deck drainage must be treated as required by ADEQ or other applicable  
25 regulation prior to discharge to natural waters of the United States. Bridge deck drains must not  
26 discharge directly into natural waters of the United States, except for the Salt River after said  
27 treatment. The bridge deck drainage system must not discharge against any part of the  
28 structure.

29 Developer shall ensure that deck drains conform to the following requirements:

- 30 A. Bridge deck drainage downspouts at piers must have outfall erosion protection.  
31 B. Bridge deck drains must be in conformance with the guidelines included in FHWA's  
32 *HEC\_21 – Design of Bridge Deck Drainage*.

### 33 457.3.8 Bridge Hydraulics Report

34 Developer shall prepare an ~~Initial~~initial Bridge Hydraulics Report for each bridge over a  
35 waterway in accordance with the ADOT *Bridge Hydraulics Guidelines*. The ~~Initial~~initial Bridge  
36 Hydraulics Report must include, at a minimum, the following:

- 37 A. A comparison of water surface elevations at each bridge waterway opening between the  
38 existing condition and the proposed condition  
39 B. All electronic HEC-RAS files  
40 C. Concurrences from all applicable Governmental Entities that the design does not affect  
41 the effective floodplain in the ~~Final~~final Bridge Hydraulics Report  
42 D. A discussion regarding if the constraints from FEMA studies or the impact of the Project  
43 to the existing drainage patterns is significant enough to alter concentration of flow  
44 patterns to existing structures.

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1 ~~With~~At the same time as the Initial Design Submittal for each bridge, Developer shall submit an  
 2 ~~Initial~~initial Bridge Hydraulics Report to ADOT. ~~With~~At the same time as the Final Design  
 3 Submittal for each bridge, Developer shall address ADOT comments ~~and on the initial Bridge~~  
 4 Hydraulics Report in a final Bridge Hydraulics Report and shall submit a ~~Final~~the final Bridge  
 5 Hydraulics Report to ADOT for review and comment.

6 **457.3.9 Bridge Plans**

7 Bridge Plans must be prepared in accordance with the requirements in the Contract Documents.  
 8 Bridge Plans elevation view must also clearly indicate the following:

- 9 A. The design discharge value, the water surface elevation, and the channel cross section;
- 10 B. The 100-year design discharge elevations of the Effective FEMA Special Flood Hazard
- 11 Zone; and
- 12 C. The super flood discharge (either 500-year discharge or overtopping discharge).
- 13 D. Consensus scour depth.

14 **457.4 SUBMITTALS**

15 Table 457-2 reflects a nonexclusive list of Submittals identified in Section DR 457 of the TPs  
 16 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 17 determine and submit all Submittals as required by the Contract Documents, Governmental  
 18 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 19 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 20 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 21 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 457-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Initial Bridge Hydraulics Reports	5	0	1	<del>With</del> <u>At the same time as</u> the Initial Design Submittal for each bridge	DR 457.3.8
Final Bridge Hydraulics Reports	4	0	1	<del>With</del> <u>At the same time as</u> the Final Design Submittal for each bridge	DR 457.3.8
*Levels of Review					
1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> )					
2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> )					
3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> )					
4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> )					
5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

22

23

**End of Section**



1 **DR 460 TRAFFIC**

2 **460.1 GENERAL REQUIREMENTS**

3 Developer shall perform all traffic Design Work in compliance with the requirements of Section  
 4 DR 460 of the TPs.

5 **460.2 ADMINISTRATIVE REQUIREMENTS**

6 **460.2.1 Standards**

7 Developer shall perform all traffic Design Work in accordance with the relevant requirements of  
 8 the standards, manuals, and guidelines listed in Table 460-1.

Table 460-1 Standards		
No.	Agency	Title
1	FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
2	ADOT	Arizona Supplement to the MUTCD
3	ADOT	Manual of Approved Signs
4	FHWA	Road Safety Audit Guidelines

9 **460.2.2 Software**

10 Developer may use the following software programs to analyze and achieve the level of service  
 11 (LOS):

- 12 A. Traffic signal capacity, cycle length, split timing, and level of service: Synchro/SimTraffic  
 13 or HCM/Cinema 3.0
- 14 B. Traffic signal coordination timing, including optimal cycle length, phase sequence, and  
 15 offsets: Synchro
- 16 C. Signal coordination, queuing, and turn bay storage: SimTraffic, CORSIM, VISSIM, or  
 17 Trans Modeler
- 18 D. Roundabout analysis and design: RODEL

19 In the event that Developer proposes to use any software other than that listed, with the Basis of  
 20 Design Report in accordance with Section GP 110.01.2.2 of the TPs, Developer shall submit  
 21 Proposedproposed Traffic Software (including input and Verification–Dataoutput files for  
 22 verification data) to ADOT for approval ~~in ADOT's reasonable discretion.~~

23 **460.2.3 Existing Signs**

24 Developer shall prepare a Sign Inventory of existing signs within the Project ROW. The Sign  
 25 Inventory must extend outside the Project ROW, where necessary, to show how the existing  
 26 signs work with the proposed signing system to provide a complete and functional signing  
 27 system. The Sign Inventory must include the following:

- 28 A. Title sheet
- 29 B. Table of contents

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### 1 C. Inventory of signs

- 2 1. Listing of all existing signs (description, size, dimensions, mounting type, post type,  
3 etc.)
- 4 2. Approximate location of existing signs
- 5 3. Description if the existing signs do not comply with current standards
- 6 4. Proposed disposition (salvaged, relocated, replaced, etc.)

7 Prior to issuance of [NTP2NTP 2](#), Developer shall submit the Sign Inventory to ADOT.

## 8 **460.3 DESIGN REQUIREMENTS**

### 9 **460.3.1 General**

10 Developer shall design traffic improvements that require Utility service in accordance with  
11 Section DR 430 of the TPs. Developer shall utilize ADOT standards, manuals, and guidelines  
12 for all Non-Maintained Elements to be owned by ADOT.

13 Developer shall segregate lighting circuits based on the requirements of the authorities having  
14 jurisdiction.

### 15 **460.3.2 Traffic Operational Requirements**

16 Developer shall prepare an ~~Intersection/Interchange~~[intersection/interchange](#) Traffic Report(s)  
17 for the Project. Each Traffic Report must include all traffic analysis, including the following:

- 18 A. Cover page signed and stamped by a registered engineer
- 19 B. Table of contents
- 20 C. Discussion
  - 21 1. Purpose
  - 22 2. Methodology
  - 23 3. Summary
- 24 D. Calculations

25 Developer shall use a design year of 2035 for traffic analysis. Developer shall use the design  
26 year traffic projections from the MAG regional travel demand output provided in the RIDs (2013-  
27 08 MAG Travel Demand Model Output.zip). Developer shall assume heavy vehicles from the  
28 MAG model represent FHWA vehicle category classes 4 through 13, inclusive, for use in the  
29 design traffic loading forecast. Traffic intersections must not operate below an overall LOS C.  
30 Individual ~~movements~~[movement](#) must not operate below LOS D.

31 Prior to any highway Initial Design Submittal, Developer shall submit each Traffic Report(s) to  
32 ADOT.

### 33 **460.3.3 Pavement Markings**

34 Pavement marking layout must comply with the ADOT *Signing and Marking Standard Drawings*.  
35 Developer shall design a complete and functional pavement marking system for the Project that  
36 complies with the following requirements:

- 37 A. Provides for the orderly and predictable movement of all traffic;
- 38 B. Provides guidance and warnings as needed to ensure the safe and informed operation  
39 of individual elements of the traffic stream; and
- 40 C. Consistent with pavement markings on the ADOT transportation system.

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1 The minimum retro-reflectivity values for all preformed plastic pavement markings must be as  
2 follows:

- 3 A. White long line markings: 500 millicandelas per square meter per lux ( $\text{mcd}/\text{m}^2/\text{lux}$ )
- 4 B. Yellow long line markings: 300  $\text{mcd}/\text{m}^2/\text{lux}$
- 5 C. White arrows, symbols, legends, short lines: 350  $\text{mcd}/\text{m}^2/\text{lux}$

6 The minimum retro-reflectivity values for all other final pavement markings must be as follows:

- 7 A. White markings: 350 millicandelas per square meter per lane ( $\text{mcd}/\text{m}^2/\text{ln}$ )
- 8 B. Yellow markings: 200  $\text{mcd}/\text{m}^2/\text{ln}$

9 Developer shall not use paint for final pavement markings.

10 Developer shall provide bridge and barrier markers in accordance with ADOT *Standard*  
11 *Drawings M-32 and M-33*.

### 12 **460.3.3.1 Raised/Reflective Pavement Markers**

13 Reflective raised pavement markers shall be installed on ~~mainlanesthe mainline~~, ramps, and  
14 frontage roads in accordance with ADOT *Signing and Marking Standard Drawings*.

### 15 **460.3.3.2 Pavement Marking Plans**

16 Developer shall prepare permanent pavement marking plans that show edge and lane line  
17 striping, stop lines, crosswalks, arrows, legends, gore areas, symbols, elongated route markings  
18 and legends, raised pavement markers, object markers, delineation, or other required markings  
19 in accordance with the MUTCD and the *Arizona Supplement to the MUTCD*.

### 20 **460.3.4 Signs**

21 Signing layout must comply with the ADOT *Signing and Marking Standard Drawings* and Good  
22 Industry Practice. Developer shall design all components of the signing system for the Project to  
23 provide a complete and functional system that complies with the following requirements:

- 24 A. Relocate existing signs or provide temporary signs during all phases of construction until  
25 such time that the permanent signs are in place
- 26 B. Remove and dispose of all conflicting signs and sign structures
- 27 C. All signs and support structures must be new

28 Developer shall coordinate with Grand Canyon State Logo Signs, a program of ADOT, for the  
29 locations of specific service logo signs at each interchange and exit ramps. Grand Canyon State  
30 Logo Signs is responsible for contracting the fabrication and installation of the specific service  
31 logo signs.

32 The signing system must include HOV violation signs indicating a \$400 minimum fine.

33 All warning signs must use fluorescent yellow sheeting.

34 All signs to be maintained by ADOT during the Maintenance Period must comply with the ADOT  
35 *Traffic Engineering Policy Guidelines and Procedures* 480 for sign sheeting.

36 Developer shall not locate signs where they will be obstructed by future vegetation growth.  
37 Developer shall minimize placement of non-regulatory signs to obscure rustication patterns.

### 38 **460.3.4.1 Sign Panels**

39 All sign panels must be aluminum. Developer shall not use overlaid sign panels or overlaid  
40 plywood sign panels. All ground mounted sign supports used must be in accordance with the

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1 ADOT *Signing and Marking Standard Drawings*. Developer shall not use U-channel posts for  
2 sign mountings.

### 3 **460.3.4.2 Overhead Sign Structures**

4 Minimum sign clearance for overhead signs must be in accordance with TP Attachment 440-1  
5 over the entire width of the pavement, including shoulders and gutters. The minimum sign  
6 clearance for signs mounted on bridge structures must not be less than the bridge clearance  
7 requirements specified in the Contract Documents. The bottom of signs mounted on bridge  
8 structures must be 6 inches above the soffit of the structure. Developer shall locate overhead  
9 sign structures required in areas other than the mainline and ramps in such a manner as to  
10 provide a minimum of 2 feet of horizontal clearance from the face of vertical curb.

### 11 **460.3.4.3 Signing Plans**

12 Developer shall prepare a Signing Concept Plan showing all existing and proposed guide,  
13 warning, regulatory, marker signs, and DMS and their disposition for the Project. ~~With~~At the  
14 same time as the Initial Design Submittal for signing Plans, Developer shall submit a Signing  
15 Concept Plan to ADOT.

16 Developer shall prepare the following Plans as part of the Design Documents:

- 17 A. Signing Plans and signing summary sheets that include the location of signs, the size of  
18 the sign, the legend of the sign, and the mounting type
- 19 B. Sign format Plan sheets for all signs that are not included in the ADOT *Manual of*  
20 *Approved Signs*. Developer shall develop sign formats using SignCAD and ADOT's  
21 current policy for the formatting of guide signs.
- 22 C. Sign elevation sheets that show the sign position in relation to the travel lanes and the  
23 position of the sign lighting fixtures, if required, in relation to the sign panel for all  
24 overhead signs, spacing between stringers, and the number of stringers used.
- 25 D. Sign mounting details for all overhead signs mounted on bridges, non-standard sign  
26 structures details, and non-standard sign structure foundations details

### 27 **460.3.5 Traffic Signal Systems**

28 Traffic signal layout must comply with the ADOT *Signal and Lighting Standard Drawings*,  
29 MUTCD, and the ADOT *Arizona Supplement to the MUTCD*. Developer shall design all  
30 components necessary to provide a complete and functional traffic signal system that complies  
31 with the following requirements:

- 32 A. Developer shall modify, as appropriate, any existing traffic signals affected by  
33 Developer's design.
- 34 B. Developer shall coordinate with the appropriate Governmental Entities for  
35 interconnection and synchronization of traffic signal networks.
- 36 C. The traffic signal system must:
  - 37 1. Provide traffic movement based on Developer's analysis;
  - 38 2. Provide communication between all traffic signals and ADOT traffic operations  
39 center in accordance with Section DR 466 of the TPs;
  - 40 3. Accommodate pedestrians as required by local, state, and federal regulations, and  
41 the Contract Documents;
  - 42 4. Include vehicle detection, closed circuit television (CCTV) remote monitoring in  
43 accordance with Section DR 466 of the TPs, and communication links for signal  
44 coordination; and

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- 1 5. Provide temporary traffic signals at any location that currently has traffic signals and  
2 that are removed for construction or locations that are required to facilitate  
3 maintenance of traffic.
- 4 6. ~~Provide a traffic signal uninterruptible power supply (UPS) for each traffic signal to~~  
5 ~~maintain the operation of the traffic signals in the event of a power outage.~~ ~~The~~  
6 ~~traffic signal UPS must operate up to its rated power with all traffic signal~~  
7 ~~equipment, including any and all signal heads (i.e., Incandescent, LED, Neon, etc.).~~  
8 ~~The traffic signal UPS must be capable of providing a minimum of two hours of~~  
9 ~~normal operation and two hours of flashing operation, at its maximum power rating~~  
10 ~~at 110 degree Fahrenheit outdoor ambient temperature, that complies with the~~  
11 ~~requirements in TP Attachment 460-1.~~

12 All signal cabinets must be TS2 Type 1 with Econolite Cobalt Controllers. Developer shall  
13 design all signalized intersection approaches with adequate sight distance to allow for right turn  
14 on red in accordance with the MUTCD, ADOT *Arizona Supplement to the MUTCD*, and the  
15 ADOT *Roadway Design Guidelines*.

### 16 460.3.6 Lighting

17 ~~The Developer shall design the~~ roadway lighting system ~~must comply in accordance~~ with ~~the~~  
18 requirements ~~set forth in the~~ AASHTO *Roadway Lighting Design Guide*, the ADOT *Standard*  
19 *Specifications for Road and Bridge Construction*, and the ADOT *Standard Drawings*. The  
20 lighting system must be a continuous LED lighting system that provides illumination and  
21 uniformity levels on the highway in accordance with the AASHTO *Roadway Lighting Design*  
22 *Guide*. ~~Developer shall design frontage road lighting for the Project.~~

23 LED lighting must have a correlated color temperature of 4000° Kelvin.

24 Where opposing traffic shares a median barrier, roadway lighting is to be on a median lighting  
25 system that lights the freeway from the median edge line to the outside shoulder edge line in  
26 both directions. Service and system interchanges ~~will require~~ ~~must have~~ supplemental lighting  
27 with high mast poles and other lighting standards to attain lighting levels. On freeway ramps,  
28 roadway lighting must light the ramp between the lane lines from the gore area to within 75 feet  
29 of the crossroad. The required level of maintained horizontal illuminance, measured in foot-  
30 candles, on the roadway must be an average of 0.6 to 0.9 for intermediate areas and 0.6 to 1.1  
31 for commercial areas, with a 0.2 minimum, with an average to minimum uniformity ratio of 3:1.  
32 The light loss factor used in light level calculations must be 0.8, unless a manufacturer's fixture  
33 recommendation is less than 0.8. Developer shall not use a light loss factor greater than 0.8.

34 Developer shall design and construct an ~~under bridge~~ ~~underdeck~~ lighting system for all bridge  
35 crossings of the roadways, the railroad, and the pedestrian path at Laveen Channel. ~~Developer~~  
36 shall provide lighting ~~on for~~ pedestrian ~~bridges~~ ~~crossings~~ with a minimum of 1 ~~candle~~ ~~candela~~ per  
37 square foot.

38 Each LED light fixture shall support installation of an Electronic Control Module (ECM) for  
39 dimming and fixture performance monitoring.

40 Developer shall maintain consistent light levels within the Project ROW when adjacent to  
41 existing residential properties. Developer shall minimize luminaire glare and trespass lighting  
42 into neighboring residences. Developer shall check the light levels at the edge of the Project  
43 ROW every 100 feet along the entire Project limits to verify the light levels and to avoid any  
44 nuisance light outside the roadway prism. The roadway lighting design must keep light levels at  
45 the edge of right-of-way less than 0.20 foot-candles. Developer shall prepare a Photometric  
46 Analysis Strip Map that displays all 0.2 iso-contours. ~~Any Developer shall reevaluate for~~

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1 | ~~avoidance any~~ 0.2 iso-contour that falls outside of the Project ROW, adjacent to neighboring  
2 | residences, ~~shall be reevaluated for avoidance~~. As part of the Lighting Design Report,  
3 | Developer shall submit the Photometric Analysis Strip Map to ADOT.

4 | Developer shall perform load calculations and voltage drop calculations for each circuit.  
5 | Developer shall not use more than a 3 percent voltage drop from the load center cabinet to the  
6 | branch circuits to size conductors. The conductors from the load center to the point of service  
7 | must be sized using a 1 percent voltage drop. All new lighting load center cabinets must be  
8 | metered for 240/480 Volt.

9 | Light poles must comply with the requirements in the AASHTO *Standard Specifications for*  
10 | *Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. All new light poles must  
11 | be aluminum, except high mast poles and median barrier mounted type U poles. Developer  
12 | shall provide a permanent level maintenance pad for all high mast lighting. Developer shall  
13 | provide a maintenance platform where the roadway side slope is greater than 4:1 (H:V).

14 | Developer shall provide a pull box at the intersection of each foundation conduit and the  
15 | mainline conduit that runs parallel with the freeway. All lighting pull boxes and lids must comply  
16 | with ANSI/SCTE 77 requirements with a Tier 22 load requirement and must be tamper-resistant.

17 | -Developer shall prepare a Lighting Design Report that provides all necessary engineering data  
18 | to support the conclusions arrived at by Developer for the roadway lighting design. The Lighting  
19 | Design Report must include equipment type, photometric analyses, layout, voltage drop  
20 | calculations, load calculations, and conductor sizing information. The Lighting Design Report  
21 | must be signed and sealed by a Professional Engineer. ~~With~~ At the same time as the Initial  
22 | Design Submittal of the roadway lighting system Developer shall submit the Lighting Design  
23 | Report to ADOT.

### 24 | **460.3.6.1 Power Metering Requirements**

25 | Developer shall design lighting power supplies to separately meter the following lighting  
26 | systems:

- 27 | A. Power supplied for all Non-Maintained Elements to be owned by ADOT, including the  
28 | following:
- 29 | 1. Mainline lighting
  - 30 | 2. Ramp lighting
  - 31 | 3. ADOT ~~Frontage Road~~ frontage road lighting
  - 32 | 4. ADOT crossroad street lighting
  - 33 | 5. Underdeck lighting on all bridge crossings of ~~ADOT~~ roadways.
- 34 | B. Power supplied for elements within the Maintenance Service Limits, including the  
35 | following:
- 36 | 1. Mainline lighting
  - 37 | 2. Ramp lighting
  - 38 | 3. ADOT Frontage Road lighting
  - 39 | 4. ADOT crossroad street lighting
  - 40 | 5. Underdeck lighting on all bridge crossings of ADOT roadways and the railroad.
- 41 | C. Power provided by City of Phoenix
- 42 | 1. City Frontage Road lighting
  - 43 | 2. City streets and crossroad lighting (including Durango Connector)



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- 1 3. Pedestrian path lighting at Laveen Channel
- 2 4. Pedestrian bridgecrossing lighting (at Elwood)
- 3 5. Underdeck lighting on all bridge crossings of City crossroads

### 460.3.6.2 Lighting Plans

Developer shall prepare lighting system Plans for the Project. The lighting system Plans must show all existing and new electrical features, all details, pole and conductor schedules, distribution schedule for each lighting service, notes, and special provisions. The plans must include information regarding conduit used to intercept existing circuits to be used for new lighting and for new conduit crossing locations for median lighting. The lighting system plans must also include lighting summary sheets giving the location of the lighting poles, pull box, and load centers, and the conductor summary.

### 460.4 SUBMITTALS

Table 460-2 reflects a nonexclusive list of Submittals identified in Section DR 460 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.1 of the TPs:

Table 460-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<del>Proposed</del> Traffic Software <del>and Verification Data</del>	3	1	1	With the Basis of Design Report	DR 460.2.2
Sign Inventory	5	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	DR 460.2.3
Traffic Report(s)	5	2	1	Prior to any highway Initial Design Submittal	DR 460.3.2
Signing Concept Plan	5	2	1	<del>With</del> <u>At the same time as</u> the Initial Design Submittal for signing Plans	DR 460.3.4.3
Photometric Analysis Strip Map	5	3	1	As part of the Lighting Design Report	DR 460.3.6
Lighting Design Report	5	3	1	<del>With</del> <u>At the same time as</u> the Initial Design Submittal of the roadway lighting system	DR 460.3.6

\*Levels of Review

1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement)
2. Good faith discretion approval (Section 3.1.3.2 of the Agreement)
3. Reasonableness approval (Section 3.1.4.2 of the Agreement)
4. Review and comment (Section 3.1.5 of the Agreement)
5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)

1  
2

**End of Section**

**DR 462 MAINTENANCE OF TRAFFIC**

**462.1 GENERAL REQUIREMENTS**

Developer shall perform all maintenance of traffic (MOT) Design Work in compliance with the requirements of Section DR 462 of the TPs.

**462.2 ADMINISTRATIVE REQUIREMENTS**

**462.2.1 Standards**

Developer shall perform all MOT Design Work in accordance with the standards, manuals, and guidelines listed in Table 462-1.

Table 462-1 Standards		
No.	Agency	Name
1	FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
2	ADOT	Arizona Supplement to the MUTCD
3	ADOT	ENG 07-03 ITG Policy

**462.2.2 Maintenance of Traffic Task Force**

Developer shall establish a MOT Task Force, including representatives of Developer, ADOT, cities, counties, tribal entities, law enforcement agencies, emergency response providers, Governmental Entities, and other agencies whose operations affect or are affected by the Project.

The purpose of the MOT Task Force is to:

- A. Review and refine the Transportation Management Plan (TMP) and its implementation
- B. Review and refine Developer’s MOT plans, specifications, and details
- C. Disseminate MOT information to task force meeting attendees
- D. Determine additional membership invitees affected by the MOT, as needed

The MOT Task Force must be established, hold the initial meeting, and meet at the frequency noted in Section GP 110.02.4 of the TPs.

**462.2.3 Transportation Management Plan**

Developer shall develop, implement, and maintain a Transportation Management Plan (TMP) for the Project that complies with the ADOT *ENG 07-03 ITG Policy*. The TMP must include the following items:

- A. Work zone Traffic Control Plans including entrances and exits from the Site and proposed haul routes.
- B. Procedures to communicate TMP information to the Public Relations Officer, other public information personnel, and ADOT, and notify the public of MOT issues in accordance with Section CR 425 of the TPs.

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1 C. An emergency vehicle access plan that describes procedures to provide notification and  
2 access to Emergency responders (e.g., police, fire, ambulance, Arizona Department of  
3 Public Safety (DPS), school districts, Flood Control District of Maricopa County)  
4 throughout the Site, including critical flood control structures being constructed or  
5 reconstructed within the Project limits. Developer shall obtain approval of the emergency  
6 vehicle access plan from all applicable Emergency responders.

7 D. Descriptions of the duties of the traffic personnel, by name and level of authority, with  
8 MOT responsibilities.

9 E. Procedures to identify and incorporate the needs of Emergency service providers, law  
10 enforcement entities, Governmental Entities, Utility Companies, and other related  
11 corridor users and must be presented in the emergency vehicle access plan.

12 F. Procedures to provide access and minimize disruption to U.S. mail, parcel delivery  
13 services, school buses, refuse collection, Governmental Entities and Utility Owner  
14 maintenance activities, etc.

15 F.G. Procedures to address special circumstances, such as equipment malfunction,  
16 traffic incidents, Lane Closures not reopening on time, motorists' property being  
17 damaged, and special events.

18 G.H. Identification of, and procedures for addressing and resolving, Project-related  
19 construction traffic impact issues on the Project, and recommendation of mitigation  
20 measures for Project-related construction traffic impacts.

21 H.I. Identification of all special events.

22 I.J. Procedures to minimize Project-related traffic delays and potential accidents by the  
23 effective application of traditional traffic mitigation strategies and an innovative  
24 combination of public and motorist information, demand management, incident  
25 management, system management, alternate route strategies, construction strategies,  
26 or other strategies.

27 J.K. Procedures to modify the TMP as needed to adapt to current Project  
28 circumstances.

29 Prior to issuance of NTP2NTP 2, Developer shall submit the TMP to ADOT for review and  
30 comment. Developer shall present the TMP at the first pre-construction coordination meeting.  
31 The TMP is considered a living document. As changes occur in the MOT strategies proposed by  
32 Developer, but no later than 30 Business Days prior to submittal of any RFC Submittal,  
33 Developer shall amend and submit the updated TMP-Update to ADOT for review and comment.

### 34 462.3 DESIGN REQUIREMENTS

#### 35 462.3.1 Temporary Construction Traffic Control Conditions

36 Developer shall design and post speed limits in the construction zone in accordance with Good  
37 Industry Practice. Developer shall not reduce the posted speed limits on the I-10 freeway to less  
38 than 55 mph.

##### 39 462.3.1.1 Temporary Auxiliary Lanes and Exit Ramp Extensions

40 Temporary lanes and extension for exit ramps must be designed and constructed to comply with  
41 the following requirements:

42 A. Existing traffic must not have to slow down in the through lanes to less than 50 miles per  
43 hour (mph) in order to safely gain access to the temporary auxiliary lane

44 B. The temporary auxiliary lane must be long enough so that traffic leaving the through lane  
45 at 50 mph can slow down safely to a speed of 30 mph

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- 1 C. The temporary auxiliary lane must have a minimum paved surface width of 11 feet and a
- 2 minimum paved shoulder width of 3 feet
- 3 D. Acceleration lanes must be designed to comply with the requirements in Section DR 440
- 4 of the TPs
- 5 E. All temporary auxiliary lanes and extensions for exit ramps must be provided with
- 6 temporary overhead lighting
- 7 F. A minimum 2-foot lateral reaction distance must be provided for any temporary or
- 8 permanent barrier device, including portable temporary concrete barrier

**462.3.1.2 Lanes and Shoulders**

10 The minimum allowable lane widths are 11 feet on the mainline ~~and~~, Pecos Road, and 59th  
 11 Avenue and 10 feet on the crossroads. Developer shall maintain the minimum number of lanes  
 12 as reflected in Table 462-2.

<b>Table 462-2 Number of Lanes to Remain Open</b>	
<b>Location/Direction</b>	<b>Number of Lanes</b>
I-10 EB (Papago Freeway)	4 general purpose lanes and 1 HOV lane (SR 101L to I-17)
I-10 EB (Maricopa Freeway)	3 general purpose lanes and 1 HOV lane (Warner Road to SR 202L)
	3 general purpose lanes (SR 202L to Queen Creek Road)
I-10 WB (Papago Freeway)	4 general purpose lanes and one HOV lane (I-17 to SR 101L)
I-10 WB (Maricopa Freeway)	3 general purpose lanes (Queen Creek Road to SR 202L)
	3 general purpose lanes and 1 HOV lane (SR 202L to Elliot Road)
SR 202 (Santan Freeway)	A minimum of 2 lanes of traffic in each direction of traffic.
Pecos Road <u>and 59th Avenue</u>	A minimum of 2 lanes of traffic in each direction of traffic.
Crossroad Facilities	A minimum of 1 lane of traffic in each direction of traffic.
	Minimum of 1 left turn lane where left turn lanes exist

13 Differential pavement elevations within the same travel lanes or adjacent travel lanes will not be  
 14 allowed.

15 A nominal two-foot right and left shoulder must be provided during all phases of construction.

**462.3.1.3 Pedestrian and Bicycle Access**

17 Developer shall maintain and provide access along existing sidewalks, trails, bike lanes, and  
 18 intersections along all streets. Access along crossroads through bridge construction limits must  
 19 be maintained at a minimum on one side at all times. If access cannot be maintained, Developer  
 20 shall prepare a ~~Request for~~ Pedestrian Access Modification/Closure Request that includes plans  
 21 showing the proposed modification/closure and signs and indicating the applicable ADA path of  
 22 travel and associated ADA requirements. At least 10 Business Days prior to the planned

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1 modification/closure, Developer shall submit the ~~Request for~~ Pedestrian Access  
2 Modification/Closure Request to ADOT and the applicable Governmental Entities for review and  
3 comment.

### 4 **462.3.1.4 Detours**

5 Developer shall prepare Detour Plans for all proposed detours. Detour Plans must include  
6 detour dates and duration, horizontal and vertical clearances, weight restrictions, and all  
7 proposed signs, and must ensure that all detoured vehicle types can negotiate the detoured  
8 path. The Detour Plans must also address disruptions to public services, including the following:

- 9 A. Emergency responders
- 10 B. U.S. Mail and parcel delivery services
- 11 C. School buses
- 12 D. Public transportation services
- 13 E. Refuse collection
- 14 F. Normal commercial activities (e.g., materials and products pick-ups and deliveries,  
15 customer access)
- 16 G. Safe routes to school plans

17 At least 15 Business Days prior to implementation of the proposed detour, Developer shall  
18 submit Detour Plans to ADOT and all applicable Governmental Entities.

### 19 **462.3.1.5 Truck Routes**

20 Developer shall submit all truck routes, and any subsequent modifications to truck routes in  
21 effect, to ADOT and the applicable Governmental Entities for review and approval, in their sole  
22 discretion. Developer shall notify ADOT in writing a minimum of 20 Business Days prior of any  
23 proposed reduction of current vertical or horizontal clearance.

### 24 **462.3.1.6 Mail Services**

25 Developer shall temporarily or permanently relocate mail boxes, as required, in such a manner  
26 as to permit uninterrupted mail services. Developer shall comply with all applicable  
27 Governmental Entity requirements for the relocation of mail boxes.

### 28 **462.3.2 Traffic Control Plans**

29 Developer shall prepare Traffic Control Plans that provide for all construction stages and  
30 phasing in accordance with the requirements of the Contract Documents. The Traffic Control  
31 Plans must include any proposed changeable message board legends and proposed messages  
32 on existing DMS. Developer shall coordinate with all appropriate Governmental Entities and  
33 affected parties in the development of the Traffic Control Plans. Developer shall design Traffic  
34 Control Plans without the use of DPS. Prior to work involving traffic, Developer shall submit  
35 Traffic Control Plans to ADOT for ~~review and approval in ADOT's reasonable discretion.~~  
36 Developer shall obtain all permits and approvals from all applicable Governmental Entities.

### 37 **462.3.3 Lane and Shoulder Closures**

38 At least 10 Business Days in advance of any Lane Closure, except for major Lane Closures and  
39 Lane Closures in cases of emergencyEmergency, Developer shall submit a ~~Written Request~~  
40 ~~for written~~ Lane Closure Request along with Traffic Control Plans to ADOT for approval in  
41 ADOT's good faith discretion. ~~If approved, Developer shall~~ ADOT will input all ~~closures~~Closures  
42 into the ADOT Highway Condition Reporting System upon ADOT's approval of the Lane  
43 Closure Request or, if possible, in cases of Emergency. Approval is subject to availability as set



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1 | ~~forth in Section 6.5.2.1 of the Agreement. Developer shall participate in ADOT training prior to~~  
 2 | ~~obtaining read access to the ADOT highway condition and-reporting system-at least 5 Business~~  
 3 | ~~Days-prior-to-the-associated-closure.~~ Developer shall notify ADOT immediately as soon as  
 4 | Developer becomes aware of a delayed or canceled scheduled Lane Closure.

5 | Developer shall coordinate Lane Closure times with adjacent projects that may affect traffic  
 6 | during the same period and disclose all adjacent project closures when requesting Lane  
 7 | Closures.

8 | Developer shall not close two adjoining corridors in the same direction at the same time.  
 9 | Developer shall not close two corridors that would act as alternates to each other at the same  
 10 | time.

11 | **462.3.3.1 Freeway and Ramps**

12 | Unless approved by ADOT in its sole discretion, full or partial Lane Closures must occur only  
 13 | during the periods reflected in Table 462-3. Unless the closure results from construction  
 14 | emergencies or non-foreseeable events, Developer shall submit proposed freeway or ramp  
 15 | closures occurring outside the noted hours to ADOT for approval not less than 10 Business  
 16 | Days prior to the first day of such proposed closure. Lane Closure times include setup and take  
 17 | down of all traffic control devices.

18 | A full closure must not exceed 3 miles. During any partial closure, Developer shall maintain a  
 19 | minimum of two open through lanes, unless approved otherwise by ADOT.

Table 462-3 Allowable Lane Closure Periods	
Nighttime Lane Closures	Full Weekend Closures
9:00 p.m. Sun to 5:00 a.m. Mon	10:00 p.m. Fri to 5:00 a.m. Mon
9:00 p.m. Mon to 5:00 a.m. Tues	
9:00 p.m. Tues to 5:00 a.m. Wed	
9:00 p.m. Wed to 5:00 a.m. Thurs	
9:00 p.m. Thurs to 5:00 a.m. Fri	
10:00 p.m. Fri to 7:00 a.m. Sat	
10:00 p.m. Sat to 9:00 a.m. Sun	

20 | Developer shall not implement a full closure of mainline lanes in both directions at the same  
 21 | time.

22 | Developer shall not implement rolling closures to transfer any equipment or perform any Work  
 23 | except at night with ADOT approval a minimum of 10 Business Days in advance of the  
 24 | proposed rolling closure. Developer shall not implement consecutive ramp closures unless both  
 25 | are within an ADOT-approved full closure.

26 | Major Lane Closures are closures that reduce the number of mainline lanes to less than three  
 27 | as determined by ADOT at its sole discretion and that require a major Lane Closure approval

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1 process. In order to obtain approval for a major Lane Closure, Developer shall prepare Major  
2 Lane Closure Package(s) that contains the following:

- 3 A. Location and vicinity maps showing the State highway(s), local street network, and other  
4 adjacent Lane Closures or nearby work that may affect traffic during the same period  
5 (including special events)
- 6 B. Dates, times, and locations of the Lane Closure(s)
- 7 C. Description of the Work being performed during the Lane Closure(s)
- 8 D. Description of each Lane Closure and its anticipated effect on traffic
- 9 E. Amount of expected delay and corresponding queue length for each Lane Closure
- 10 F. Summary of TMP strategies that Developer shall use to reduce delay and motorist  
11 inconvenience during the Lane Closure(s)
- 12 G. A copy of the TMP
- 13 H. A contingency plan

14 During the Maintenance Period, shoulder closures will be allowed on weekdays as approved by  
15 ADOT. Weekday shoulder closures must be scheduled after 9:00 am and be opened by 3:00  
16 pm.

17 A minimum of 15 Business Days in advance of the proposed major Lane Closure, Developer  
18 shall submit Major Lane Closure Package(s) to ADOT for approval ~~in ADOT's reasonable~~  
19 ~~discretion.~~

### 20 **462.3.3.2 Crossroads**

21 Acceptable Lane Closures on crossroads must be in accordance with permit requirements from  
22 the applicable Governmental Entity. Developer shall maintain access to the Foothill Reserve  
23 Community at all times.

### 24 **462.3.3.3 Holiday Restrictions**

25 Lane or freeway closures are not allowed on holidays or weekends that are adjacent to or  
26 following a holiday. The restricted holidays include New Year's Day, Martin Luther King, Jr. Day,  
27 President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day,  
28 Thanksgiving Day, and Christmas Day. Lane Closures will not be allowed between  
29 November 15 and the weekend following January 1. Developer shall remove all traffic control for  
30 temporary Lane Closures prior to holidays or weekends that adjoin a holiday.

### 31 **462.3.3.4 Special Events Restrictions**

32 Developer shall coordinate Work activities with local special events in the area so that the  
33 special events will not be affected. Special events are events that attract more than  
34 30,000 people per day and may occur during the Term. Lane restrictions may be denied if  
35 severe traffic congestion is expected. Special events may include events that attract fewer  
36 people, but are considered special events by the applicable Governmental Entities due to  
37 economic impact to the community or events that attract dignitaries or politicians. Partial or full  
38 closures are not permitted where a special event is occurring.

39 Developer is responsible for identifying and verifying the actual dates of all special events and  
40 for planning Work activities around the events. Special events may take place at various  
41 venues, including the following locations:

- 42 A. University of Phoenix Stadium, Glendale;
- 43 B. Phoenix International Raceway, Avondale;

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- 1 C. Chase Field, Phoenix;
- 2 D. US Airways Center, Phoenix;
- 3 E. Gila River Arena, Glendale;
- 4 F. Ak-Chin Pavilion, Phoenix; and
- 5 G. Arizona State Fair Grounds.

### 6 462.3.4 Phasing and Construction Sequence Report(s)

7 Developer shall prepare a Phasing and Construction Sequence Report for each phase of  
 8 construction Work. Each Phasing and Construction Sequence Report must address, at a  
 9 minimum, construction activities, construction stage limits, construction sequencing, and traffic  
 10 control. ~~With~~At the same time as the Traffic Control Plans, Developer shall submit Phasing and  
 11 Construction Sequence Reports to ADOT for approval ~~in ADOT's reasonable discretion.~~

### 12 462.4 SUBMITTALS

13 Table 462-4 reflects a nonexclusive list of Submittals identified in Section DR 462 of the TPs  
 14 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 15 determine and submit all Submittals as required by the Contract Documents, Governmental  
 16 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 17 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 18 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 19 formats described in Section GP 110.10.2.1 of the TPs:

Table 462-4 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Transportation Management Plan	4	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	DR 462.2.3
<del>Updated</del> <u>TMP Update</u>	4	2	1	As changes occur in the MOT strategies proposed by Developer, but no later than 30 Business Days prior to submittal of any RFC Submittal	DR 462.2.3
<del>Request for</del> Pedestrian Access Modification/ Closure <u>Request</u>	4	2	1	15 Business Days prior to the planned modification/ closure	DR 462.3.1.3
Detour Plans	3	2	1	15 Business Days prior to implementation of the proposed detour	DR 462.3.1.4
Traffic Control Plans	3	2	1	Prior to Work involving traffic	DR 462.3.2
<del>Written Request for</del> Lane Closure <u>Request</u>	2	2	1	10 Business Days in advance of any Lane Closure	<del>DR 462.3.3.1D</del> <u>R 462.3.3</u>

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Table 462-4 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Major Lane Closure Package	3	2	1	A minimum of 15 Business Days in advance of the proposed major Lane Closure	DR 462.3.3.1
Phasing and Construction Sequence Reports	3	2	1	<del>With</del> At the same time as the Traffic Control Plans	DR 462.3.4
*Levels of Review 1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Agreement) 2. Good faith discretion approval (Section 3.1.3.2 of the Agreement) 3. Reasonableness approval (Section 3.1.4.2 of the Agreement) 4. Review and comment (Section 3.1.5 of the Agreement) 5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Agreement)					

1  
2

**End of Section**

1 **DR 466 INTELLIGENT TRANSPORTATION SYSTEM**

2 **466.1 GENERAL REQUIREMENTS**

3 Developer shall perform all intelligent transportation system (ITS) Design Work in compliance  
4 with the requirements of Section DR 466 of the TPs.

5 **466.2 ADMINISTRATIVE REQUIREMENTS**

6 **466.2.1 Standards**

7 Developer shall design the ITS in accordance with the standards, manuals, and guidelines listed  
8 in Table 466-1.

Table 466-1 Standards		
No.	Agency	Name
1	ADOT	Intelligent Transportation System Design Guide
2	ADOT	Ramp Metering Design Guide
3	ADOT	ITS Standard Drawings
4	ADOT	Statewide Dynamic Message Sign Masterplan
5	ADOT	FMS Communication Masterplan

Note: Developer acknowledges and agrees that all provisions in the standards, manuals, and guidelines, including figures and tables, listed in Table 466-1 are mandatory and Developer shall treat all such standards, manuals, and guidelines as requirements, to be satisfied and/or performed by Developer. All words such as “should,” “may,” “must,” “might,” “could,” and “can” appearing in the standards, manuals, and guidelines setting forth Developer’s obligations, liabilities and duties, including the requirements to be satisfied and/or performed by Developer, mean “shall” unless the context requires otherwise, as determined in the sole discretion of ADOT. Additionally, where the standards, manuals, and guidelines indicate that an item, thing, circumstance, or result, including any work, is “desired,” Developer shall treat such items, things, circumstances, or results, including work, as required or requirements. ADOT will determine, in its sole discretion, when the context does not require a provision to be mandatory.

9 **466.2.2 Technical Work Group Meetings**

10 Developer shall conduct monthly ITS TWG meetings throughout the ITS Design Work and in  
11 accordance with Section GP 110.02.4 of the TPs. The ITS Design Manager and ITS  
12 Construction Manager must attend all ITS TWG meetings.

13 **466.2.3 Existing ITS Elements**

14 Developer shall prepare an ITS Inventory of existing ITS elements within the Project ROW. The  
15 ITS Inventory must include items outside the Project ROW, where necessary, to show how the  
16 existing ITS is to function with the proposed ITS to provide a complete and functional ITS. The  
17 ITS Inventory must include the following:

- 18 A. Title Sheet
- 19 B. Table of Contents
- 20 C. Inventory of ITS elements
  - 21 1. Listing of all ITS elements (description, size, and type)

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- 1           2. Exact location of each ITS element
- 2           3. The condition, adequacy, and compatibility with the proposed ITS
- 3           4. Photo log

4 | Prior to issuance of ~~NTP~~NTP 2, Developer shall submit the ITS Inventory to ADOT.

### 5   **466.3           DESIGN REQUIREMENTS**

#### 6   **466.3.1        General**

7   Developer shall complete an ADOT Systems Engineering Checklist for the Project. Prior to  
8   submitting an Initial Design Submittal for any ITS element, Developer shall submit the ADOT  
9   Systems Engineering Checklist to ADOT for approval ~~in ADOT's reasonable discretion.~~  
10 | Developer shall comply with the requirements in the FHWA approved ADOT Systems Engineer  
11 | Checklist.

#### 12 | **466.3.2       ITS Master Plan**

13 | Developer shall prepare an ITS Master Plan that depicts the existing and proposed ITS.  
14 | Developer shall ensure that the ITS Master Plan is the basis for the ITS design. The ITS Master  
15 | Plan must be a plan that includes the following:

- 16       A. Proposed locations of all ITS elements
- 17       B. Spacing between DMS
- 18       C. Spacing between DMS and traffic signs

19 | WithAt the same time as the first Initial Design Submittal of any ITS element, Developer shall  
20 | submit the ITS Master Plan to ADOT. Developer shall update the ITS Master Plan as the  
21 | development of the Project design proceeds. Prior to submitting an ITS design to ADOT that is  
22 | not consistent with the ITS Master Plan ~~to ADOT~~, Developer shall submit the updated ITS  
23 | Master Plan ~~Update~~ to ADOT.

#### 24 | **466.3.3       ITS Elements**

25 | Developer shall design a fully operational ITS for the Project that integrates with the existing  
26 | ADOT ITS elements at the proposed I-10 (Maricopa) and I-10 (Papago) freeways interchanges  
27 | to the Traffic Operations Center (TOC). Developer shall inspect all existing ITS elements and  
28 | software for adequacy and compatibility with the proposed ITS. The ITS elements must include  
29 | the following:

- 30       A. ITS backbone communication network
- 31       B. Dynamic message signs
- 32       C. Closed circuit television cameras
- 33       D. Detection stations
- 34       E. Ramp meters
- 35       F. Node buildings
- 36       G. Weigh-in-motion systems

37 | Developer shall prepare a ~~Written Request for~~written ITS Element ~~Numbers~~Number Request  
38 | that includes the element type, the element location, and a site map or strip map of sufficient  
39 | detail to clearly define the relationship of the street names and names of the pertinent features  
40 | in the vicinity of the ITS element. With each ITS Final Design Submittal, Developer shall submit  
41 | ~~a~~ Written an ITS Element Number Request ~~for ITS Elements Numbers~~ to ADOT. ADOT will



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1 provide ITS element numbers to Developer within 10 Business Days of receipt of the written  
2 request. Developer shall ensure that ITS element numbers are shown on the Plans.

### 3 **466.3.3.1 ITS Backbone Communication Network**

4 Developer shall design the ITS backbone communication network. The network must include  
5 fiber communication, power, and conduits. Developer shall design the ITS backbone  
6 communication network as a redundant system located on both sides of the freeway and in  
7 accordance with the ADOT *Intelligent Transportation System Design Guide*. The ITS backbone  
8 conduit network must connect to the traffic signal cabinets and to all existing or proposed pump  
9 houses.

### 10 **466.3.3.2 Dynamic Message Signs**

11 Developer shall design ~~4615~~ Dynamic Message Signs (DMS) as part of the ITS for the Project  
12 in accordance with the ADOT *Statewide Dynamic Message Sign Masterplan*. Developer shall  
13 not locate DMS between 51st Avenue and 17th Avenue. Developer shall locate eight DMS  
14 (Four westbound and four eastbound) north of 51st Avenue and six DMS (Three westbound and  
15 three eastbound) east of 17th Avenue along the Loop 202 mainline. Developer shall locate one  
16 DMS on westbound I-10 (Papago Freeway), east of the Loop 202 to provide 2 DMS within 4  
17 miles of system interchange. Developer shall locate DMS at locations where they are visible by  
18 CCTV cameras for message verification. Developer shall design DMS on ADOT standard  
19 structural details and in accordance with Section DR 460.3.4.2 of the TPs. Developer shall show  
20 all proposed DMS on the Signing Concept Plan and the signing Plans.

### 21 **466.3.3.3 Closed Circuit Television Cameras**

22 Developer shall design a CCTV system as part of the ITS. The CCTV system must be  
23 compatible with the existing ITS system. Developer shall design all CCTV cameras with  
24 lowering devices integral to the pole. Developer shall place CCTV cameras to provide complete  
25 coverage of the freeway mainline, traffic interchanges ramps and gores, system interchange  
26 ramps from termini to termini, all interchange ramp junctions with crossroads, and DMS  
27 message verification. Developer shall account for all field conditions that may restrict required  
28 visibility and design the CCTV system accordingly.

### 29 **466.3.3.4 Detection Stations**

30 Developer shall include detection stations in the ITS in accordance with the ADOT *Intelligent*  
31 *Transportation System Design Guide*.

### 32 **466.3.3.5 Ramp Meters**

33 Developer shall prepare Ramp Meter Warrant Analysis for all proposed entrance ramps in  
34 accordance with the ADOT *Ramp Metering Design Guidelines*. Developer shall estimate speeds  
35 based on traffic engineering modeling or the Transportation Research Board *Highway Capacity*  
36 *Manual*. Developer shall base the Ramp Meter Warrant Analysis on year 2020 traffic projections  
37 and such analysis must include, ~~at a minimum,~~ the following:

- 38 A. Cover Page
- 39 B. Table of Contents
- 40 C. Discussion
- 41 D. Warrant Analysis
- 42 E. Exhibits

43 WithAt the same time as the Initial Design Submittal of the ITS, Developer shall submit Ramp  
44 Meter Warrant Analysis to ADOT.

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1 If ramp meters are warranted, Developer shall design and provide ramp meters in accordance  
2 with the ADOT Ramp Metering Design Guidelines.

### 3 **466.3.3.6 Node Buildings**

4 Developer shall design one new node building as part of the ITS. Such building must be located  
5 approximately half way between nodes 11 and 16. Developer shall size node building to house  
6 all associated equipment and the buildings must not have an inside dimension less than 8 feet  
7 4.5 inches in height by 19 feet 7.5 inches in length by 10 feet 7.75 inches in width. Developer  
8 shall locate all communication hardware for the proposed ITS elements between I-10  
9 (Maricopa) and I-10 (Papago) in the new node building.

10 Developer shall connect the proposed ITS system to existing node buildings 11 and 16.

### 11 **466.3.3.7 Weigh-In-Motion Systems**

12 Developer shall design two weigh-in-motion stations. The stations must connect to the ITS  
13 located approximately at the following locations:

- 14 A. North or south of the Salt River
- 15 B. Between 51st Avenue and 17th Avenue

### 16 **466.3.4 Specifications**

17 Those elements of the ADOT *Draft Intelligent Transportation Systems Specifications for South*  
18 *Mountain Freeway* included in the RIDs are set forth in or expressly incorporated into the TPs,  
19 are thereby made part of the Contract Documents and are mandatory minimum requirements  
20 for ITS Work. Developer shall prepare ITS specifications using the ADOT *Draft Intelligent*  
21 *Transportation Systems Specifications for South Mountain Freeway* and in accordance with  
22 Section GP 110.10.2.2.2 of the TPs.

### 23 **466.4 SUBMITTALS**

24 Table 466-2 reflects a nonexclusive list of Submittals identified in Section DR 466 of the TPs  
25 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
26 determine and submit all Submittals as required by the Contract Documents, Governmental  
27 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
28 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
29 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
30 formats described in Section GP 110.10.2.1.1 of the TPs:

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<b>Table 466-2 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
ITS Inventory	5	0	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	DR 466.2.3
<del>ADOT</del> Systems Engineering Checklist	3	0	1	Prior to submitting an Initial Design Submittal for an ITS element	DR 466.3.1
ITS Master Plan	5	2	1	<del>With</del> <u>At the same time as</u> the first Initial Design Submittal of any ITS element	DR 466.3.2
<del>Updated</del> ITS Master Plan <del>Update</del>	5	2	1	Prior to submitting an ITS design that is not consistent with the ITS Master Plan	DR 466.3.2
<del>Written Request for</del> ITS Element <del>Numbers</del> <u>Number</u> <del>Request</del>	5	0	1	With each ITS Final Design Submittal	DR 466.3.3
Ramp Meter Warrant Analysis	5	0	1	<del>With</del> <u>At the same time as</u> the Initial Design Submittal of the ITS	DR 466.3.3.5
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1  
2

**End of Section**

**DR 470 RIGHT-OF-WAY**

**470.1 GENERAL REQUIREMENTS**

Developer shall perform all Project ROW Work in compliance with the requirements of Section DR 470 of the TPs. Section DR 470 of the TPs sets forth the Project ROW requirements, including pre-acquisition, acquisition, and post-acquisition activities. Developer shall provide all services necessary to acquire title to the Project ROW in the name of the State, in a manner acceptable to ADOT, including relocation of displacees and clearance/demolition of the improvements from the Project ROW as more fully described in Section DR 470 of the TPs.

**470.2 ADMINISTRATIVE REQUIREMENTS**

**470.2.1 Standards**

Developer shall perform all Project ROW Work in accordance with the standards, manuals, and guidelines listed in Table 470-1.

Table 470-1 Standards		
No.	Agency	Name
1	FHWA	Uniform Relocation Assistance and Real Property Acquisition Policies Act, 42 U.S. Code, Chapter 61 (the "Uniform Act")
2	FHWA	FHWA 49 CFR Part 24 Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs
3	FHWA	FHWA 23 CFR 710 Right-of-Way and Real Estate. (Note, CFR 710.313 Design-Build Projects applies to this Project.)
4	Arizona Revised Statutes (A.R.S.)	A.R.S. Title 28, Chapter 20, Article 6 and Article 7
5	Arizona Administrative Code	Title 17, Article 3
6	ADOT	Right of Way Procedures Manual

Developer shall utilize the ADOT *Right of Way Procedures Manual* as a guideline, except to the extent it is inconsistent with the provisions of State or Federal Law or Section DR 470 of the TPs. All ADOT forms referenced in Section DR 470 of the TPs may be found in the ADOT *Right of Way Procedures Manual* or in TP Attachment 470-1.

**470.2.2 ROW Coordination Meetings**

Unless otherwise directed by ADOT, Developer shall hold weekly Project ROW coordination meetings with ADOT throughout the duration of the ROW Work, to discuss Project ROW Activities. The ROW Acquisition Manager must attend all ROW coordination meetings.

**470.2.3 Documentation and Reporting**

All correspondence with ADOT and property owners relating to Project ROW Work, and all reports and Submittals, must include, ~~at a minimum,~~ a heading with the following information:

- A. Transportation Accounting System (TRACS)/Federal Project number Highway Designation
- B. Project limits

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- 1 C. ADOT parcel number (when applicable)
- 2 D. Name of record owner(s) (when applicable)

3 In administering and managing its Project ROW Work, Developer shall:

4 A. Prepare and maintain a Project ROW Status Report that provides the status for each  
5 parcel in the Project ROW. The Project ROW Status Report must include, ~~at a minimum,~~  
6 the following information for each parcel:

- 7 1. Actual cost expended to date for Project ROW (acquisition, relocation, and  
8 demolition);
- 9 2. Monthly forecast of Project ROW costs;
- 10 3. Actual cost obligated, but not yet expended to date for Project ROW;
- 11 4. Appraisal status;
- 12 5. Acquisition status;
- 13 6. Relocation status; and
- 14 7. Demolition status.

15 Every week commencing upon the issuance of ~~NTP~~NTP 1, Developer shall submit the  
16 Project ROW Status Report to ADOT for approval ~~in ADOT's reasonable discretion.~~

17 B. Prepare and maintain a complete parcel file for each Developer-Acquired Parcel in  
18 accordance with the ADOT *Right of Way Procedure Manual*. Developer shall maintain all  
19 documentation related to the purchase of the real property interests (housed separately  
20 from the relocation files). Developer shall retain and secure the parcel files for  
21 Developer-Acquired Parcels in a locking file cabinet in the Project Collocated Office, or  
22 as otherwise approved by ADOT. Upon completion of the acquisition of each parcel,  
23 Developer shall submit all signed Original Documents to ADOT for approval in ADOT's  
24 good faith discretion.

25 C. Input and update parcel status in a web-based tracking system that is accessible by  
26 ADOT or its designees.

27 All ROW Submittals must include a written certification signed by the ~~Project~~ ROW Quality  
28 Control Specialist certifying that the ROW Submittal has been processed through QA/QC  
29 procedures and complies with the Contract Documents.

### 30 **470.2.4 ROW Activity Plan**

31 Developer shall prepare a ROW Activity Plan that ~~must include, at a minimum,~~includes the  
32 following:

- 33 A. Developer's ROW organizational chart, including any Subcontractors;
- 34 B. A description of the approach to the Project ROW Work, the goals and milestones  
35 established for Project ROW acquisition, Project ROW Plans, ROW Exhibits, and Legal  
36 Descriptions, relocation assistance, Appraisals, Appraisal Review, and  
37 clearance/demolition of the improvements from the Project ROW (except for parcels  
38 where ADOT will remain responsible for demolition);
- 39 C. A sample of typical parcel acquisition schedule, including survey, Appraisal, acquisition,  
40 relocation, closing by deed of conveyance, and eminent domain, and how this schedule  
41 is integrated into the Preliminary Project Baseline Schedule;
- 42 D. Quality control procedures and quality review standards for the acquisition of Project  
43 ROW in accordance with Section GP 110.07 of the TPs;
- 44 E. The name of the title company(ies) licensed in the State to be used for title services; and

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1 F. The name of the demolition Subcontractor to be used for demolition services. The  
2 demolition Subcontractor must comply with requirements in TP Attachment 470-2.

3 The ROW Activity Plan must establish the specific means by which Developer shall:

- 4 A. Ensure all ROW Work are properly documented and reported
- 5 B. Integrate the Project ROW schedule into the Project Baseline Schedule
- 6 C. Provide sufficient personnel to achieve, in accordance with the Project Baseline  
7 Schedule, the goals and milestones established for Project ROW acquisition, relocation  
8 assistance, Appraisals and Appraisal Review, and clearance/demolition of the  
9 improvements from the Project ROW.

10 Developer shall not contact property owners until ADOT approves the ROW Activity Plan.  
11 Developer shall ensure that the ROW Activity Plan remain valid and updated as appropriate  
12 throughout the Term. Developer shall propose updates to the ROW Activity Plan in the event of  
13 the following:

- 14 A. The occurrence of any changes to the ROW personnel, approach to the Project ROW  
15 Work, or ROW QC procedures;
- 16 B. The occurrence of other changes necessitating revision to the ROW Activity Plan; and
- 17 C. As otherwise directed by ADOT.

18 In accordance with Section 5.3.1 of the Agreement, Developer shall submit the ROW Activity  
19 Plan to ADOT for approval in ADOT's good faith discretion. No later than 10 Business Days  
20 after the occurrence of ~~the~~any change or direction triggering the need for the revisions to the  
21 ROW Activity Plan, Developer shall submit the updated ROW Activity Plan-~~Update~~ to ADOT for  
22 approval in ADOT's good faith discretion.

### 23 **470.2.5 Parcels within the Schematic ROW**

24 Real property interests that must be acquired to construct the Project as identified in the ROD  
25 are identified in TP Attachment 470-3. TP Attachment 470-3 identifies which parcels ADOT will  
26 acquire and anticipated dates for access. ADOT has no obligation to provide Developer access  
27 for the parcels ahead of the dates set forth in TP Attachment 470-3. Pursuant to applicable Law,  
28 Developer shall acquire Project ROW parcels assigned to Developer as shown on TP  
29 Attachment 470-3 and any Developer-Designated ROW on behalf of the State, but without the  
30 direct participation of ADOT except as otherwise set forth in this Section 470.2.5, subject to  
31 ADOT's rights of review, approval, and audit.

### 32 **470.2.6 Temporary Entry**

33 Developer shall obtain all temporary entry necessary to perform the Work in accordance with  
34 the ADOT *Right of Way Procedures Manual*.

### 35 **470.2.7 Utility Property Interests**

36 Developer shall acquire Replacement Utility Property Interests (even though not part of the  
37 Project ROW) required to complete the Project in accordance with the requirements of the  
38 Contract Documents.

## 39 **470.3 PRE-ACQUISITION ACTIVITIES**

### 40 **470.3.1 ROW Exhibits and Legal Descriptions**

41 For each Developer-Acquired Parcel, Developer shall prepare a ROW Exhibit. The ROW  
42 Exhibits must include gross Project ROW acquisition area and net Project ROW acquisition area



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1 and notations that reference the *Results of Survey for Project No. 202L MA 000 H5439*, by  
2 Stanley Consultants, included in the RIDs.

3 Developer shall tie Legal Descriptions to existing section corners and/or quarter corners,  
4 identified on the *Results of Survey for Project No. 202L MA 000 H5439*, by Stanley Consultants,  
5 included in the RIDs. Said section corners and quarter corner references must include a  
6 description of the found monument. Developer shall ensure that ADOT parcel numbers are  
7 consistent with these same plans. If Developer identifies parcels necessary for the Project, but  
8 said parcels do not have parcel numbers, then ADOT will assign the parcel number.

9 Developer shall prepare ROW Exhibits and Legal Descriptions for the Project. An Arizona  
10 registered land surveyor must sign and seal ROW Exhibits and Legal Descriptions. Developer  
11 shall perform all Work in the preparation of Project ROW Exhibits and Legal Descriptions in a  
12 manner that complies with the minimum requirements set forth by the Arizona Board of  
13 Technical Survey Registrants. Legal ~~descriptions~~Descriptions must also specify acquisition of  
14 underlying fee of public roadways that may exist by only easement.

15 Developer shall submit ROW Exhibits and Legal Descriptions for review and approval by ADOT  
16 in accordance with Section GP 110.10 of the TPs and Contract Documents. Whenever the  
17 Project ROW is updated, Developer shall prepare and submit ROW Electronic Files that include  
18 all sectional data, ~~legal description~~Legal Description coordinates and CAD files, survey  
19 centerlines, and Project ROW requirements to ADOT.

20 Developer shall stake the new Project ROW line prior to construction in a manner that complies  
21 with the requirements set forth by the Arizona State Board of Technical Registration and the  
22 requirements of Section CR 410.3 of the TPs.

23 Developer shall monument the new Project ROW line upon completion of construction in a  
24 manner that complies with the requirements set forth in Section CR 410.3 of the TPs.

25 Developer shall acquire fee title to Project ROW except in the following instances:

- 26 A. Temporary Construction Easements (TCEs)
- 27 B. Acquisitions occurring from public, municipal, Governmental, or utility entities where fee  
28 title is not routinely conveyed
- 29 C. Other easements for drainage and drainage slopes

30 Developer shall prepare all warranty deeds, special warranty deed and TCEs needed for the  
31 Project acquisition. Said instruments must include the ADOT parcel number, Federal project  
32 number, TRACS number, highway name, and section name.

### 33 **470.3.2 Title Services**

34 Developer shall perform title services Work in accordance with the relevant requirements of the  
35 ADOT *Right of Way Procedures Manual*. Developer shall:

- 36 A. Select and contract with one or more title companies licensed in the State and provide to  
37 ADOT a 5-year sales history, a preliminary title commitment or preliminary title report,  
38 and, if necessary or appropriate, copies of all underlying documents and a plot of all  
39 easements, including Existing Utility Property Interests, referenced therein for each  
40 parcel (including fee acquisitions and easements) to be acquired by ADOT for the  
41 Project. Each preliminary title commitment or preliminary title report must be dated not  
42 more than 90 days prior to the date of submittal to ADOT of the Acquisition Package or  
43 offer to the property owner for such parcel. Developer shall review each title report to  
44 ensure that it complies with the following required format: clearly indicate which

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1 exclusions and exceptions must be deleted upon acquisition of the subject parcel and  
2 must clearly indicate any required submittals to the title company to clear identified  
3 exclusions and exceptions. Title reports must be in accordance with Good Industry  
4 Practice. Developer shall notify the title company, by letter, which exceptions must be  
5 removed, including easements that (a) are appurtenant to and/or of benefit to the parcel  
6 but not included in the parcel to be acquired, and (b) are a burden on the parcel and not  
7 acceptable to ADOT.

8 B. Review the preliminary title commitment or report to ensure that all current owners of  
9 record title are contacted and that negotiations or condemnation actions are conducted  
10 with all appropriate parties.

11 C. Work with the current owners of record title to each parcel or interest in a parcel or their  
12 designee and all other appropriate parties to clear any title exceptions or exclusions not  
13 acceptable to ADOT.

14 D. Secure a Title Policy that is, a standard owner's policy of title insurance in the amount of  
15 the total acquisition cost, which includes cost of the property, and improvements for each  
16 parcel from a title company acceptable to ADOT for each parcel acquired insuring title.  
17 ~~Title~~The title insurance amount must exclude those amounts attributable to severance  
18 damages and cost to cure. All Project ROW must be acquired, and ADOT's title in the  
19 Project ROW must be insured, in fee simple absolute or easement interest, as  
20 appropriate, free and clear of any and all liens and encumbrances. The ~~title-policy~~Title  
21 Policy must show title vested in the "State of Arizona by and through its Department of  
22 Transportation".

### 470.3.3 Introduction to Property Owners for Purposes of ROW Acquisition

24 Developer shall prepare Letters of Introduction for ADOT's signature introducing Developer to  
25 the property owners. The Letters of Introduction must clearly describe the Project, as well as  
26 ADOT's need for the owner's property, and must include the name and telephone number of a  
27 Developer's representative. Developer shall submit the Letters of Introduction to ADOT for  
28 approval in ADOT's good faith discretion. ADOT will sign the letters on ADOT letterhead. ADOT  
29 will mail the Letters of Introduction to all property owners of Developer-Acquired Parcels and will  
30 provide copies to Developer. Developer cannot contact property owners, for purposes of Project  
31 ROW acquisition, unless and until the following conditions have been met:

32 A. ADOT has issued ~~NTP~~NTP 1;

33 B. ADOT has approved the ROW Activity Plan; and

34 C. 5 Business Days have passed since the mailing of the Letter of Introduction to the  
35 relevant property owner.

### 470.3.4 Environmental Site Assessment

37 Unless previously prepared by or on behalf of ADOT, Developer shall cause a Phase I  
38 Environmental Site Assessment Report to be prepared documenting the environmental  
39 condition of each parcel to be acquired by Developer. An environmental professional that  
40 complies with the qualifications set forth in ASTM E-1527-13 *Standard Practice for*  
41 *Environmental Site Assessments: Phase 1 Environmental Site Assessment Process* must  
42 prepare each Phase I Environmental Site Assessment Report that conforms to the American  
43 Society of Testing and Materials (ASTM) E 1527-13 requirements. As part of the Acquisition  
44 Package, Developer shall prepare and submit the Phase I Environmental Site Assessment  
45 Report to ADOT for review and approval by ADOT, in ADOT's sole discretion. Developer shall  
46 complete the Phase I Environmental Site Assessment Report in coordination with the  
47 Appraiser(s), and the Phase I Environmental Site Assessment Report must be available to the

1 Appraiser(s). If it is determined that a potential environmental risk (recognized environmental  
2 condition, controlled recognized environmental condition, or possibly historical recognized  
3 environmental condition) exists based on the Phase I Environmental Site Assessment Report,  
4 and if not previously prepared by or on behalf of ADOT, then Developer shall cause the  
5 environmental professional to perform a phase II ESA investigation and prepare a Phase II  
6 Environmental Site Assessment Report. Before a payment request is submitted for the  
7 purchase of the parcel or a Condemnation Package is submitted for approval, Developer shall  
8 submit the Phase II Environmental Site Assessment Report to ADOT for approval in ADOT's  
9 good faith discretion. The Phase II Environmental Site Assessment Report must contain  
10 sufficient information about the contaminant severity and distribution to estimate the  
11 approximate cost to remediate the parcel in accordance with applicable Law to achieve the  
12 goals of the Project. If, despite diligent efforts, Developer is unable to access a parcel to perform  
13 a phase II ESA or remedial efforts, Developer may submit a Condemnation Package to ADOT  
14 without the Phase II Environmental Site Assessment Report. However, Developer shall be  
15 responsible for performing and receiving approval from ADOT for all required ESAs after  
16 possession of the property has been obtained through condemnation.

17 **470.3.5 Appraisals**

18 **470.3.5.1 Appraisal Services**

19 Developer shall ensure that all Appraisals are prepared in conformance with applicable Law  
20 (including the Uniform Act), and in accordance with professional appraisal methods and USPAP  
21 for all parcels to be acquired, including a breakdown of realty vs. personality. Developer shall:

- 22 A. Select Appraisers that comply with the requirements in Section GP 110.08 of the TPs.
- 23 B. Require Appraisers to attempt to establish personal pre-appraisal contact with each  
24 owner of record title and each occupant, and document all contacts
- 25 C. Require Developer's Appraiser to contact the record title owners or their designated  
26 representatives, in writing, to offer them the opportunity to accompany the Appraiser on  
27 the Appraiser's inspection of the parcel, and to maintain a record of all such contacts and  
28 attempts to contact in the Appraiser's file.
- 29 D. Cause the Appraiser to prepare a complete Appraisal report for each parcel to be  
30 acquired, with the report covering the portion to be acquired, and any damage to the  
31 remainder, and cost to cure, when applicable. A complete before and after Appraisal  
32 must be performed for partial acquisitions. Appraisals must be completed for TCEs and  
33 any other easements needed for the Project. Each Appraisal must also apportion the just  
34 compensation between those with any compensable interest in the property. It must also  
35 include all improvements on the whole property. Developer shall include special  
36 analyses, studies, or reports, as necessary, as a part of each Appraisal, including all  
37 ESA reports. The Appraiser must use the most current edition of USPAP and must  
38 continually monitor these standards to ensure that the Appraisals conform to the most  
39 current requirements of professional appraisal practice and Federal requirements in Title  
40 49 CFR Part 24.
- 41 E. Obtain copies of all written leases, licenses, and other occupancy agreements, including  
42 outdoor advertising/sign agreements, that are not already included in the title  
43 commitment in order to identify lessees, licenses, and other occupants with potential  
44 compensable interests in each parcel and to determine the value of each such interest.
- 45 F. Enter into Subcontracts with the Appraisers and the Subcontracts must require the  
46 Appraiser to update the Appraisal and to testify as an expert witness or provide expert  
47 witness services required by ADOT in connection with all eminent domain proceedings

1 through the order to show cause hearing. Further, Subcontracts with all Appraisers must  
2 require the Appraiser to be available for depositions, other discovery, pre-hearings or  
3 pre-trial meetings, and expert witness testimony at trial, as directed by ADOT in  
4 consultation with the Office of the Attorney General though and including all appeals.

5 G. Cause the Appraiser to coordinate with the review Appraiser regarding corrections  
6 and/or additional information that may be required for a particular Appraisal.

7 H. Instruct the Approved Appraiser, upon notice by ADOT of the order to show cause, to  
8 prepare an Appraisal updated to the date of value for the condemnation suit (the date of  
9 the summons and complaint). No later than 5 Business Days before the order to show  
10 cause hearing date, Developer shall submit Appraisals to ADOT for review and approval  
11 by ADOT, in ADOT's sole discretion. Developer shall also prepare an Appraisal review  
12 of the updated Appraisal when required by ADOT. All updated Appraisals must include a  
13 copy of the Project Right-of-Way Plans, ROW Exhibits, and Legal Descriptions and  
14 current photographs of the property being acquired, clearly showing the area being  
15 acquired, even though the original Appraisal report contained photographs of the subject  
16 and the area of the acquisition. Developer shall discuss specific updating requirements  
17 for any complex Appraisals with ADOT before beginning the assignment.

18 I. Upon request by ADOT, Developer shall prepare and submit Appraiser's Parcel File(s)  
19 to ADOT.

20 J. Before the Appraisal is completed, complete and furnish, to the Approved Appraiser and  
21 relocation agent, *ADOT Realty Personally Classification Agreement*.

22 K. Enter into Subcontracts with any other experts retained by Developer to consult or  
23 provide opinions regarding the parcel to Developer or the Appraiser upon whom ADOT  
24 based the offer of just compensation, that require the expert to testify as an expert  
25 witness or provide expert witness services required by ADOT in connection with the  
26 eminent domain proceedings through the order to show cause hearing. Further,  
27 Subcontracts with all experts must require the expert to be available for depositions,  
28 other discovery, pre-hearings or pre-trial meetings, and expert witness testimony at trial,  
29 as directed by ADOT in consultation with the Office of the Attorney General up though  
30 and including all appeals.

31 L. Ensure that, if other experts retained by Developer have consulted or provided opinions  
32 regarding the parcel to Developer or the Appraiser who prepared the Appraisal upon  
33 which ADOT based the offer of just compensation, then the other expert report must be  
34 completed and forwarded to the Appraiser before the Appraiser completes an Appraisal  
35 or updated Appraisal.

36 **470.3.5.2 Appraisal Review**

37 In connection with Appraisal Review, Developer shall:

38 A. Select Appraisal Reviewers that satisfy the requirements in Section GP 110.08 of the  
39 TPs.

40 B. Cause an Appraisal Reviewer to review all Appraisal reports for each parcel to  
41 determine consistency of methodology, supporting documentation related to the  
42 conclusion reached, and compliance with the requirements set forth in Section DR  
43 470.3.5.1 of the TPs for Appraisal reports. The Appraisal Reviewer must use the most  
44 current edition of the standards referenced above and continually monitor these  
45 standards to ensure that the Appraisals conform to the most current requirement of  
46 professional appraisal practice.

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- 1 C. Cause the Appraisal Reviewer to determine, after reviewing an Appraisal and in  
2 consultation with ADOT, if additional appraisal reports are required in order to properly  
3 evaluate a parcel.
- 4 D. Cause the Appraisal Reviewer to personally inspect the subject properties and all the  
5 sale properties used in direct comparison for each Appraisal being reviewed.
- 6 E. Upon completion of the review outlined above, cause the Appraisal Reviewer to certify in  
7 writing to ADOT that all required standards have been met. This certification must occur  
8 by signing on page 1 of each *ADOT Form ROW-11.05 (Real Estate Appraisal Report)* or  
9 *ADOT Review Sheet (Real Estate Appraisal Report)* in the block provided.
- 10 F. In accordance with providing a ~~Project~~ ROW Quality Control Specialist(s) as stated in  
11 Section GP 110.08 of the TPs, ensure that Appraisal consistency and quality for the  
12 entire Project is monitored for Project-wide controls and consistency. Data and mapping  
13 must be maintained and readily available.

14 Developer shall prepare Appraisal Reviews in accordance with the requirements in this Section  
15 DR 470.3.5.2. With each Appraisal, Developer shall submit Appraisal Reviews to ADOT for  
16 review and approval by ADOT, in ADOT's sole discretion.

17 **470.3.6 Project ROW Acquisition Package Approval**

18 Developer shall prepare an Acquisition Package for each parcel that includes, at a minimum,  
19 the following:

- 20 A. A cover sheet setting forth the following information for each parcel:
  - 21 1. ADOT parcel number
  - 22 2. TRACS/Project number highway designation
  - 23 3. Name of record owner(s)
  - 24 4. Location of parcel
  - 25 5. Extent of acquisition (partial or whole acquisition)
  - 26 6. Type of conveyance (fee, easement, etc.)
- 27 B. A title report, current within 90 days, including copies of all documents identified in the  
28 exceptions listed therein and a plot of all easements identified therein.
- 29 C. Developer's analysis of each preliminary title report or title commitment to determine  
30 potential problems and proposed methods to cure title deficiencies. Developer shall  
31 perform title curative Work. Within 48 hours after obtaining knowledge of required  
32 curative measures, Developer shall submit copies of all Curative Documents to ADOT  
33 for approval ~~in ADOT's reasonable discretion.~~ Within 48 hours after obtaining  
34 knowledge, Developer shall inform ADOT of bankruptcies or other federal tax liens which  
35 could require condemnation to resolve title requirements. Decision to proceed directly to  
36 condemnation must be made by ADOT.
- 37 D. A copy of the ROW Exhibits and Legal Descriptions.
- 38 E. A copy of the Approved Appraisal with a date of value no more than 180 days prior to  
39 the date of the submittal of the Acquisition Package, together with all supporting  
40 documentation.
- 41 F. A copy of the Appraisal Review.
- 42 G. The proposed initial offer letter, purchase agreement, conveyance document, and any  
43 other documents, prepared on Developer's letterhead or as otherwise directed.  
44 Developer shall use the forms of such documents as set forth in the ADOT *Right of Way*  
45 *Procedure Manual*. Documents referred to in Section DR 470 of the TPs are



1 standardized by ADOT and Developer shall keep to a minimum modification of  
2 standardized documents. All changes are subject to ADOT's written approval, in ADOT's  
3 sole discretion.

4 H. *Summary Statement of Offer to Purchase and Improvement Report.*

5 I. *Mortgage 3rd Party Authorization Release.*

6 J. *Completed unsigned State W-9 Form.*

7 K. *Extended occupancy agreement on all fee acquisitions (three originals required), if*  
8 *applicable.*

9 L. *A copy of the Phase I Environmental Site Assessment Report, Phase II Environmental*  
10 *Site Assessment Report, as applicable, and all amendments as described in Section DR*  
11 *470.3.4 of the TPs, and an estimate of the mitigation costs if applicable and available.*

12 M. *A completed and signed real/personal property report detailing the items making up*  
13 *each parcel classified as real estate, tenant-owned improvements, or personal property.*  
14 *Developer shall pay particular attention to items that have questionable classifications.*

15 N. *Documentation establishing relocation eligibility and benefits, including replacement*  
16 *housing calculations, notification of business eligibility, all comparables used in*  
17 *estimating the replacement housing calculations, and letter to displacee(s) explaining*  
18 *replacement housing calculations. A relocation agent must prepare and review*  
19 *calculations and replacement housing benefit package in conformance with the Uniform*  
20 *Act and all other applicable Laws.*

21 O. *Any other ADOT forms required by the ADOT *Right of Way Procedure Manual*.*

22 Developer shall submit Acquisition Package(s) to ADOT for review and approval by ADOT, in  
23 ADOT's sole discretion to the extent provided in Section 5.5.2 of the Agreement.

## 24 **470.4 ACQUISITION ACTIVITIES**

### 25 **470.4.1 Project ROW Negotiations**

26 Developer shall conduct all Project ROW negotiations in accordance with the requirements of  
27 applicable Law. In conjunction with such negotiations, Developer shall:

28 A. *Within 5 Business Days of ADOT's approval of the initial 20 Acquisition Packages,*  
29 *contact each property owner or owner's designated representative, in person where*  
30 *possible, to present the offer and deliver the approved Appraisal and appropriate*  
31 *brochures. Developer shall provide the approved Appraisal to the property owner at the*  
32 *time of the initial offer. Developer shall also maintain a file record of receipt of Appraisal*  
33 *signed by the property owner. Developer shall also maintain follow-up contacts and*  
34 *secure the necessary documentation and title curative work upon acceptance of the*  
35 *purchase offer.*

36 B. *At the time of offer, distribute, to all property owners and displacees, ADOT provided*  
37 *acquisition, relocation and Title VI brochures, as applicable.*

38 C. *Within 5 days after presenting the first written offer, post the notice required by A.R.S.*  
39 *28-7098(C) for all parcels (whether commercial, residential, or other).*

40 D. *Confirm lessees, licensees, occupants, or other parties with potential compensable*  
41 *interests, including outdoor advertising sign owners and homeowner's associations, and,*  
42 *if appropriate, after consultation with ADOT, negotiate with such parties for the*  
43 *acquisition of their compensable interests.*

44 E. *Advise the property owners, lessees, licensees, occupants, and other holders of*  
45 *compensable interests, as applicable, of the Administrative Settlement Offer process.*



1 Developer shall confer with ADOT on any Administrative Settlement Offer from property  
2 owners, lessees, licensees, occupants, or other holders of any compensable interest, as  
3 applicable, including a detailed recommendation of whether to accept the offer or make  
4 a counter offer. Developer shall submit Administrative Settlement Offer(s) to ADOT for  
5 approval in ADOT's good faith discretion. ADOT will determine whether to accept or  
6 reject an Administrative Settlement Offer or continue negotiations. Delivery of the  
7 Administrative Settlement Offer and Developer's recommendation to ADOT must occur  
8 within 7 Business Days following Developer's receipt of the Administrative Settlement  
9 Offer request.

10 F. Provide a letter with ADOT's response to any Administrative Settlement Offer from the  
11 property owner, lessee, licensee, occupant, or other holder of a compensable interest,  
12 as applicable. Developer shall deliver ADOT's response to the owner's counter offer in  
13 person or by mail (return receipt requested) within 5 Business Days after receipt. If  
14 Developer selects the mailing option, Developer shall make a telephone call to the  
15 property owner to discuss the Administrative Settlement Offer prior to mailing the  
16 response letter.

17 G. Provide responses to the verbal or written inquiries of any property owner, lessee,  
18 licensee, occupant, or other holder of a compensable interest, within 5 Business Days  
19 after receipt.

20 H. Prepare a negotiator contact report detailing each meeting, conversation, or attempt to  
21 contact property owners (or their appointed representative(s) supported by a written  
22 confirmation of appointment) who have a compensable interest in each parcel, on the  
23 ADOT *Contact Report Form*.

24 I. Prepare and deliver to the property owner, lessee, licensee, occupant, or other holder of  
25 any compensable interest, as applicable, documents of conveyance, and obtain their  
26 execution of the same. All signatures on documents to be recorded must be notarized in  
27 accordance with Arizona Law.

28 J. All Administrative Settlement Offers must be approved by ADOT and ADOT reserves the  
29 right to require Developer to continue negotiations.

30 **470.4.2 Relocation Assistance**

31 Developer shall perform all activities necessary to relocate displacees in accordance with the  
32 Uniform Act and other applicable Laws. ADOT will determine relocation eligibility for all  
33 displacees.

34 Developer shall obtain and maintain a minimum of one relocation office within the 59th Avenue  
35 segment of the Project ~~and one office within the Pecos Road segment of the Project.~~ Developer  
36 shall not locate the relocation offices in the Project Collocated Office or field offices. The  
37 relocation offices must comply with all applicable building and fire codes and ADA requirements.  
38 Developer shall obtain all facility space, permits, licenses, and approvals and pay for all utility  
39 services for the relocation offices. The relocation offices must be staffed by qualified relocation  
40 personnel during office hours. Office hours must be posted and the office must, at a minimum,  
41 be open during the office hours below:

- 42 A. Monday through Friday: 8:00 am to 5:00 pm
- 43 B. Saturday: 9:00 am to 12:00pm
- 44 C. Sunday: office may be closed

45 In addition to the office hours listed above, Developer shall make reasonable attempts to be  
46 available to all displacees for relocation services at the convenience of the displacees.

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1 With respect to relocation assistance, Developer shall:

- 2 A. Assist with all relocation appeal requests and be responsible for carrying out decisions
- 3 made by ADOT or a court.
- 4 B. Direct in writing any questions as to the eligibility of a potential displacee to ADOT.
- 5 C. Locate available comparable functionally equivalent housing and maintain related files.
- 6 D. Locate available commercial, retail, and industrial sites and maintain related files.
- 7 E. Prior to submission to displacees, Developer shall compute and submit ~~Requests for~~
- 8 Relocation ~~Supplements~~Supplement Requests to ADOT for approval in ADOT's good
- 9 faith discretion.
- 10 F. Maintain contact report on a relocation advisory assistance – parcel record.
- 11 G. Attend all closings on replacement properties, if requested by any party involved, and
- 12 assure supplemental payments, if any, are properly distributed.
- 13 H. Notify ADOT immediately if a displacee has not moved after the required vacate date.
- 14 Developer shall ~~also prepare and~~ submit a Written Displacee Move Facilitation
- 15 ~~Recommendation to Facilitate the Displacee's Move~~ to ADOT for approval in ADOT's
- 16 good faith discretion.
- 17 I. Be available for any administrative appeals or court hearings.
- 18 J. Prepare and submit Relocation Payment Claim Submissions for all displacees and all
- 19 relocation assistance benefits to ADOT for review and approval by ADOT, in ADOT's
- 20 sole discretion.
- 21 K. Maintain a complete relocation file, separate from acquisition files, on each displacee
- 22 and make it available for inspection by ADOT.
- 23 L. Be responsible for all relocation activities that occur after deposit or payment of the bond
- 24 required by an order for immediate possession, when a parcel referred to the Office of
- 25 the Attorney General for eminent domain also has a relocation issue. Developer shall
- 26 adjust relocation computations based on the approved Administrative Settlement Offer
- 27 or court award.
- 28 M. Prepare all correspondence to the displacees or their representative(s) on Developer's
- 29 letterhead and have Developer's correspondence signed by Developer's relocation
- 30 agent.
- 31 N. Maintain Utility service to occupied properties until relocation is complete.
- 32 O. Provide adequate access to all occupied parcels until relocation is complete

### 33 **470.4.3 Closing Services**

34 For purposes of closing services, Developer shall:

- 35 A. Deliver the State warrant to the title company as requested by ADOT.
- 36 B. Immediately after closing, obtain and submit all Original Recorded Instruments of
- 37 Conveyance to ADOT for review and approval by ADOT, in ADOT's sole discretion.
- 38 C. Within 30 days following closing, obtain and submit an Original Issued Title Policy to
- 39 ADOT for approval in ADOT's good faith discretion.

### 40 **470.4.4 Payment of Property Owners and Displacees**

41 Developer shall prepare a Payment Submittal for any item that ADOT is responsible to pay to or

42 on behalf of property owners, displacees, and title companies. A Payment Submittal must

43 include:

## ADDENDUM #12

- 1 A. A completed *Payment Request* form for each type of payment
- 2 B. All required appropriate documents as shown on each *Payment Request* form.
- 3 C. A completed and signed *W-9 Form* for all payees.

4 The State's warrant will be returned to Developer's ROW Acquisition Manager. Upon request of  
5 ADOT, Developer shall deliver to the payee the State warrant. Developer shall submit Payment  
6 Submittal(s) to ADOT for approval in ADOT's good faith discretion.

### 7 **470.4.5 Condemnation Support**

8 If Developer and the property owner cannot negotiate an agreed-upon conveyance by deed  
9 acceptable to ADOT, Developer shall prepare a Condemnation Package that must include two  
10 copies each of the following documents:

- 11 A. A condemnation transmittal
- 12 B. Condemnation briefing statement summarizing the significant issues and conditions that  
13 lead to the file being submitted to condemnation.
- 14 C. All contact reports, including contact logs associated with the negotiations of the  
15 property
- 16 D. A summary statement of offer to purchase and improvement report
- 17 E. ROW Exhibits
- 18 F. Legal Descriptions
- 19 G. Appraisal (not more than 180 days old) upon which the final offer was based
- 20 H. The Appraisal Review sheet
- 21 I. An updated title report (not more than 30 days old)
- 22 J. ~~Copies of proposed~~Proposed condemnation letter
- 23 K. Documents creating a compensable interest as disclosed by the updated title report
- 24 L. ESAs relating to the parcel (if any)
- 25 M. A copy of the resolution of establishment adopted by the Arizona State Transportation  
26 Board authorizing the acquisition of the parcel
- 27 N. An Exhibit A (the legal description marked as Exhibit A)
- 28 O. An Exhibit B (a ROW Exhibit marked as Exhibit B)
- 29 P. An Exhibit C (a map of the Project marked as Exhibit C but without addresses)
- 30 Q. An Exhibit D (a "Parties Defendant List" marked as Exhibit D, with all parties' physical  
31 addresses for service of process)
- 32 R. Any purchase agreements, releases, property management agreements, lease  
33 agreements
- 34 S. ~~Copies of all~~All correspondence related to the parcel

35 Developer shall submit Condemnation Package(s) to ADOT for review and approval by ADOT,  
36 in ADOT's sole discretion. Upon written approval of the Condemnation Package by ADOT,  
37 Developer shall prepare and deliver an ADOT Condemnation Letter on Developer's letterhead,  
38 to the property owners. Developer's ROW Acquisition Manager must be sign the ADOT  
39 Condemnation Letter. Within 2 days after delivery to the property owner, Developer shall submit  
40 a copy of the ADOT Condemnation Letter to ADOT for approval ~~in ADOT's reasonable~~  
41 ~~discretion.~~ Developer shall not send an ADOT Condemnation Letter until ADOT provides  
42 written approval of the Condemnation Package.

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1 Developer shall be responsible for providing condemnation support services as directed by  
2 ADOT. Such support services include providing all expert witnesses requested by ADOT,  
3 including valuation experts and experts having sufficient knowledge of the design of the Project,  
4 to appear at all condemnation proceedings, including the order to show cause hearing for order  
5 for immediate possession and relocation appeals. (See Section DR 470.3.5.1(F) to (L) of the  
6 TPs.) Developer shall be responsible for preparing all exhibits and photographs associated with  
7 condemnation services and proceedings requested by ADOT through an order to show cause  
8 hearing for order for immediate possession and any relocation appeals. ADOT will coordinate  
9 with the Office of the Attorney General to provide legal counsel to prepare and file the complaint  
10 in condemnation. ADOT will obtain an order for immediate possession within 180 days of  
11 approval of the Condemnation Package. ADOT will provide a copy of the order for immediate  
12 possession to Developer within 5 Business Days after receiving the signed and certified order  
13 for immediate possession from the court.

14 Developer shall not contact the Office of the Attorney General or an Assistant Attorney General  
15 handling a specific parcel that has been filed for eminent domain action or is in the process of  
16 settlement unless authorized to do so by ADOT.

17 Developer shall conduct all applicable eminent domain-condemnation activities in accordance  
18 with the policies and procedures as described in Chapter 4.09 of the ADOT *Right of Way*  
19 *Procedure Manual*.

20 Developer shall require the Approved Appraiser to update the approved Appraisal as set forth in  
21 Section 470.3.5.1(H) of the TPs.

### 22 **470.4.6 Eviction**

23 After an acquisition of a property or entry of an order from immediate possession, Developer  
24 shall use diligent efforts to obtain the cooperation of each parcel owner/tenant in vacating the  
25 property. Developer shall notify ADOT immediately if Developer is unable (or anticipates that it  
26 will be unable), after diligent efforts, to reach agreement with a parcel owner/tenant on vacating  
27 the parcel. Developer shall not have any discussions regarding eviction or evict property  
28 owners/tenants.

29 Developer shall prepare an Eviction Memorandum explaining the circumstances warranting  
30 eviction for each parcel with respect to which Developer requests an eviction. Developer shall  
31 submit such an Eviction Memorandum for each parcel with respect to which Developer requests  
32 an eviction to ADOT for review and approval by ADOT, in ADOT's sole discretion. ADOT will  
33 determine if eviction proceedings are to commence.

### 34 **470.4.7 Clearance/Demolition of Project ROW**

35 Developer is responsible for clearance/demolition of all parcels not retained by ADOT as  
36 identified in TP Attachment 470-3. Developer shall only use asbestos testing, asbestos  
37 abatement, and asbestos oversight and demolition Subcontractors that comply with ADOT's  
38 prequalification standards set forth in TP Attachment 470-1. Prior to executing any Subcontract  
39 with any such Subcontractor, Developer shall submit the Subcontractor Qualifications of such  
40 Subcontractor to ADOT for approval ~~in ADOT's reasonable discretion~~.

41 Prior to demolition of any improvements, Developer shall prepare and submit Demolition  
42 Photographs, that include photographs of the Property and all improvements, to ADOT.  
43 Developer shall also take photographs of personal property, real property, and any other  
44 disputed items in a quality suitable for presentation as evidence in court, following acquisition  
45 and prior to demolition and clearance.

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1 Developer shall:

- 2 A. Within 10 days after vacancy of the property, complete the securing and protection of the  
3 buildings, improvements, and fixtures on the property until they are disposed of or  
4 demolished. Developer shall board-up, mow, fumigate, and winterize as required by  
5 applicable Law.
- 6 B. Secure swimming pools, spas, and all other water features with 6 foot chain link fence  
7 within 24 hours of ADOT's notification to Developer the property is vacated and drain in  
8 accordance with City of Phoenix codes/ordinances. Developer shall demolish and  
9 backfill swimming pools, spas, or any other depression or excavation exceeding 4-feet in  
10 depth within 48 hours of completion of asbestos testing and abatement and receipt of all  
11 necessary permits. If permits are not required to backfill, then Developer shall backfill  
12 within 48 hours of vacate.
- 13 C. Terminate all Utility service(s) to a parcel after the parcel is vacated. Developer shall  
14 assess all Utilities serving the property and make requests for each individual Utility  
15 Company to abandon their services to the Utility main in preparation for demolition.
- 16 D. Coordinate with the owner and occupants to ensure the clearance of personal property  
17 from the property as applicable.
- 18 E. Provide for any insect and rodent control and initiate extermination as required to protect  
19 adjacent properties and rid the property from infestations.
- 20 F. Dispose of improvements, fixtures, and buildings in accordance with applicable Laws  
21 and promptly submit Complete Disposal Documentation to ADOT.
- 22 G. Prepare a Vacated Parcel Notification for any real and/or personal property remaining on  
23 the Project ROW after vacated by the occupants and not acquired as part of the  
24 acquisition, after vacated by the occupants. Before posting, Developer shall submit the  
25 proposed Vacated Parcel Notification to ADOT.
- 26 H. Assess property being demolished for any Hazardous Materials, endangered/protected  
27 animals/plants, dry wells, and water wells. If any of such items are discovered,  
28 Developer shall make arrangements to have those items abated and/or abandoned.  
29 Developer shall remove and backfill septic tanks to natural grade.
- 30 I. Pending demolition, secure property to be demolished with temporary fencing or  
31 security, depending on individual circumstances associated with the subject property.
- 32 J. Prior to demolition, arrange for asbestos and lead paint testing by a Subcontractor that  
33 complies with State standards.
- 34 K. Obtain an Asbestos Hazard Emergency Response Act (AHERA) *Asbestos Report*  
35 completed by an AHERA certified building inspector with asbestos samples analyzed by  
36 a National Voluntary Laboratory Accreditation Program accredited lab referenced by the  
37 aforementioned asbestos and lead paint survey report. In accordance with Maricopa Air  
38 Quality Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP)  
39 regulations, Developer shall update all expired reports with re-inspection. Before  
40 demolition of any improvements, Developer shall submit an AHERA Asbestos Report(s)  
41 to ADOT for approval ~~in ADOT's reasonable discretion.~~
- 42 L. Cause the AHERA certified asbestos abatement Subcontractor to prepare a NESHAP  
43 Notification (based on the presence of any regulated asbestos material, if applicable) as  
44 required by 40 C.F.R. Section 61.145, and to prepare a NESHAP Notification for  
45 Renovation and Demolition Activities, Arizona Department of Transportation Facilities.  
46 Prior to submitting to ADEQ, Developer shall submit NESHAP Notification(s) to ADOT  
47 for review and approval. Prior to submitting to ADEQ, Developer shall submit the



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NESHAP Notification for Renovation and Demolition Activities, Arizona Department of Transportation Facilities to ADOT for review and approval.

- M. Ensure that no Project ROW Work begins prior to the 10 day maturity date of the NESHAP Notification, and the filing of the Maricopa County air quality dust permit, and after all Utilities being abandoned at the Site.
- N. Inspect during and after asbestos abatement in order to ensure NESHAP, OSHA, and air quality compliance.
- O. Upon completion of abatement Work, submit all Demolition Closeout Documents to ADOT for approval ~~in ADOT's reasonable discretion.~~
- P. Remove any refrigerants or ammonia from all refrigeration systems per EPA guidelines. Reference EPA Guidelines: 40 CFR 82.162.
- Q. Comply with the stormwater requirements in accordance with Section 420 of the TPs.
- R. Hold a pre-demolition meeting on the site of demolition Work with Developer, ADOT, and the demolition Subcontractor's superintendent and/or lead in order to familiarize everyone with the demolition Work.
- S. Ensure that all necessary documents are present on site during demolition.
- T. Cause the demolition Subcontractor to sign ADOT's demolition authorization form, a check list ensuring that all regulatory, environmental, and physical obligations will be met by Developer and demolition Subcontractor and any of their subcontractors.
- U. Ensure that any salvaging operations are performed only by the assigned demolition Subcontractor. Developer shall not use ADOT property for staging and/or the sale of salvaged materials to anyone not within the employ of Developer.

ADOT may, but is not obligated to, inspect the demolition site during and upon completion of the demolition and to ensure compliance with applicable Law and Governmental Approvals. Developer shall resolve all issues during the demolition process, including approval of removal of previously unidentified site improvements. Developer shall ensure that the demolition Subcontractor secures the site with a ditch, a berm, and/or fencing, and implements a dust preventive measure prior to demobilizing from the demolition site. Within 48 hours after completion of the demolition, Developer shall submit a ~~Written Notification of~~written Demolition Completion Notification to ADOT.

**470.5 SUBMITTALS**

Table 470-2 reflects a nonexclusive list of Submittals identified in Section DR 470 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.1.1 of the TPs:

Table 470-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Project ROW Status Report	3	0	1	Every week beginning at issuance of <del>NTP4</del> <u>NTP 1</u>	DR 470.2.3



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Table 470-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Original Documents	2	1	1	Upon completion of the acquisition of each parcel	DR 470.2.3
<u>ROW Activity Plan</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>In accordance with Section 5.3.1 of the Agreement</u>	<u>DR 470.2.4</u>
<u>Updated</u> ROW Activity Plan <del>Update</del>	2	0	1	<del>First Business Day of each month until all ROW activities are complete</del> <u>No later than 10 Business Days after the occurrence of any change or direction triggering the need for the revisions to the ROW Activity Plan</u>	DR 470.2.4
<u>ROW Exhibits</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>In accordance with Section GP 110.10 of the TPs and Contract Documents</u>	<u>DR 470.3.1</u>
<del>ROW Exhibits and</del> Legal Descriptions	1	1	1	In accordance with Section GP 110.10 of the TPs and Contract Documents	DR 470.3.1
ROW Electronic Files	5	0	1	Whenever the Project ROW is updated	DR 470.3.1
Letter(s) of Introduction	2	1	1	Varies	DR 470.3.3
Phase I Environmental Site Assessment Report	1	1	1	As part of the Acquisition Package(s)	DR 470.3.4
Phase II Environmental Site Assessment Report	2	1	1	Before a payment request is submitted for the purchase of the parcel or a Condemnation Package is submitted for approval	DR 470.3.4
Appraisals	1	1	1	No later than 5 Business Days before the order to show cause hearing date	DR 470.3.5.1
Appraiser's Parcel File	5	1	1	Upon request by ADOT	DR 470.3.5.1
Appraisal Reviews	1	1	1	With each Appraisal	DR 470.3.5.2

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Table 470-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Curative Documents	3	1	1	Within 48 hours after obtaining knowledge of required curative measures	DR 470.3.6
Acquisition Package(s)	1	1	1	As determined by Developer	DR 470.3.6
Administrative Settlement Offer(s)	2	1	1	As determined by Developer	DR 470.4.1
<del>Requests for all Relocation Supplements Supplement Requests</del>	2	1	1	Prior to submission to displacees	DR 470.4.2
<del>Written Displacee Move Facilitation Recommendation to Facilitate the Displacee's Move</del>	2	1	1	As requested by Developer	DR 470.4.2
Relocation Payment Claim Submissions	1	1	1	Varies	DR 470.4.2
Original Recorded Instruments of Conveyance	1	1	1	Immediately after closing	DR 470.4.3
Original Issued Title Policy	2	1	1	Within 30 days following closing	DR 470.4.3
Payment Submittal(s)	2	1	1	As determined by Developer	DR 470.4.4
Condemnation Packages	1	1	1	As requested by Developer	DR 470.4.5
ADOT Condemnation Letter(s)	3	1	1	Within 2 days after delivery to the property owner	DR 470.4.5
Eviction Memorandum	1	1	1	As requested by Developer	DR 470.4.6
Subcontractor Qualifications	3	2	1	Prior to executing any Subcontract with any such Subcontractor	DR 470.4.7
<del>Demolition Photographs of the Property and all Improvements</del>	5	1	1	Prior to demolition of any improvements	DR 470.4.7
Complete Disposal Documentation	5	1	1	Promptly	DR 470.4.7
Vacated Parcel Notification	5	0	1	After vacated by the occupants	DR 470.4.7
AHERA Asbestos Report(s)	3	0	1	Before demolition of any improvements	DR 470.4.7
NESHAP Notification(s)	2	0	1	Prior to submitting to the appropriate regulating agency	DR 470.4.7
Demolition Closeout Documents	3	0	1	Upon completion of abatement work	DR 470.4.7

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Table 470-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<del>Written Notification of Demolition Completion Notification</del>	5	1	1	48 hours after completion of the demolition	DR 470.4.7
*Levels of Review					
<ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1

2

**End of Section**

# SECTION C

## CONSTRUCTION REQUIREMENTS (CR)

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1 **CR 408 THIRD-PARTY AGREEMENTS**

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**End of Section**

**CR 410 LAND SURVEYING**

**410.1 GENERAL REQUIREMENTS**

Developer shall perform all land surveying Construction Work in compliance with the requirements of Section CR 410 of the TPs. Developer shall provide all surveying, construction staking, and layout required to complete the Work in accordance with the Contract Documents. Developer shall perform all land surveying Construction Work under the supervision of the Survey Manager.

**410.2 ADMINISTRATIVE REQUIREMENTS**

**410.2.1 Standards**

Developer shall perform all land surveying Construction Work in accordance with the standards, manuals, and guidelines listed in Table 410-1.

Table 410-1 Standards		
No.	Agency	Title
1	Arizona State Board of Technical Registration	Arizona Revised Statutes Title 33
2	Arizona State Board of Technical Registration	Arizona Boundary Survey Minimum Standards

**410.3 CONSTRUCTION REQUIREMENTS**

**410.3.1 Perpetuation of Survey Monuments**

Developer shall locate and maintain all existing survey monuments, including section line, right-of-way, and roadway monuments. Developer shall re-establish all disturbed monuments in accordance with Arizona State Board of Technical Registration *Arizona Revised Statutes Title 33* and the *Arizona Boundary Survey Minimum Standards*. Developer shall ensure that the referencing and re-setting of any impacted aliquot corners and major street monumentation is signed and stamped by the Survey Manager.

Developer shall set all ROW monuments in accordance with ADOT *Intermodal Transportation Division Engineering Technical Group Engineering Survey Section Manual of Field Surveys*.

**410.3.2 Construction Surveys**

Developer shall verify Schematic ROW boundaries and location as parcels become available for Developer’s use, prior to construction staking at such parcels. Developer shall perform all land surveying Construction Work necessary to facilitate all construction operations during the Term.

**410.3.3 Construction Survey Records, As-Built Surveys, and Reports**

Developer shall maintain accurate and complete documentation for all land surveying Construction Work. These records must include all calculations, mapping, staking notes, cut sheets, and field crew daily diaries. Developer shall perform as-built surveys for the Project in

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1 accordance with the ADOT *Construction Manual*. Developer shall compile and prepare a  
2 complete formal Construction Survey Report that includes the materials listed in the ADOT  
3 *Construction Manual* and the following:

- 4 A. All survey calculations related to control survey and design survey data;
- 5 B. Documentation of the information and rationale used to perform the land surveying  
6 Construction Work;
- 7 C. Field notes;
- 8 D. Cut sheets;
- 9 E. Data collection downloads;
- 10 F. Maps;
- 11 G. CAD files; and
- 12 H. As-Built~~built~~ survey.

13 Developer shall ensure that the Construction Survey Report is sealed by a land surveyor  
14 registered in the State of Arizona. ~~With~~At the same time as the Record Drawings Submittal,  
15 Developer shall submit the Construction Survey Report to ADOT.

**410.4 SUBMITTALS**

17 Table 410-2 reflects a nonexclusive list of Submittals identified in Section CR 410 of the TPs  
18 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
19 determine and submit all Submittals as required by the Contract Documents, Governmental  
20 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
21 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
22 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
23 formats described in Section GP 110.10.2.1.1 of the TPs.

Table 410-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Construction Survey Report	5	0	1	<del>With</del> <u>At the same time as</u> the Record Drawings Submittal	CR 410.3.3
*Levels of Review					
1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> )					
2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> )					
3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> )					
4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> )					
5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

24  
25 **End of Section**

1 **CR 416 GEOTECHNICAL**

2 **416.1 GENERAL REQUIREMENTS**

3 Developer shall perform all geotechnical Construction Work in compliance with the requirements  
4 of Section CR 416 of the TPs.

5 **416.2 ADMINISTRATIVE REQUIREMENTS**

6 **416.2.1 Standards**

7 Developer shall perform all geotechnical Construction Work in accordance with the standards,  
8 manuals, and guidelines listed in Table 416-1.

Table 416-1 Standards		
No.	Agency	Name
1	FHWA	Geotechnical Engineering Circular No. 10, Drilled Shafts: Construction Procedures and LRFD Design Methods, NHI Training Course No. 132014, Publication No. FHWA-NHI-10-016, 2010
2	FHWA	Geotechnical Engineering Circular No. 11, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, NHI Courses No. 132042 and 132043, Publication No. FHWA-NHI-10-025, Volumes I and II, 2009
3	FHWA	Geotechnical Engineering Circular No. 7, Soil Nail Walls, Report No. FHWA-IF-03-017, 2003

9 **416.3 CONSTRUCTION REQUIREMENTS**

10 **416.3.1 Drilled Shaft Foundations**

11 Developer shall construct drilled shaft foundations in accordance with the FHWA *Geotechnical*  
12 *Engineering Circular No. 10, Drilled Shafts: Construction Procedures and LRFD Design*  
13 *Methods.*

14 If drilled shaft foundations load testing is performed, ~~it must be~~ Developer shall perform such  
15 tests in accordance with the recommendations presented in FHWA *Geotechnical Engineering*  
16 *Circular No. 10, Drilled Shafts: Construction Procedures and LRFD Design Methods.* Developer  
17 shall perform ~~such the~~ load tests on a sacrificial, non-production drilled shaft(s) and shall design  
18 such load tests to measure the nominal axial resistance of the test drilled shaft and load transfer  
19 characteristics of the shaft/soil profile. Both conventional (top-down) and bi-directional  
20 Osterberg Cell (“O Cell”) drilled shaft load testing methods are permitted.

21 Developer shall prepare a Drilled Shaft Load Test Program that includes the following:

- 22 A. Design plans, specifications, and special provisions detailing the design and construction  
23 of the test drilled shaft(s), including test shaft materials, reinforcing cage, access tubes  
24 for integrity testing, estimated shaft capacities, test loads, loading/unloading increments  
25 and sequences, and instrumentation types and locations;
- 26 B. Details and capacities of the loading frame and reaction shafts, or Osterberg cell  
27 assemblies;
- 28 C. Test drilled shaft instrumentation plan, including details and calibration certificates of all  
29 test instrumentation proposed for monitoring of the test drilled shaft, such as sister bar

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1 strain gauges, linear vibrating wire displacement transducers, compression telltales,  
2 vibrating wire pressure transducers, pressure gauges, data acquisition system and all  
3 associated software, and survey points and methods, for monitoring the test drilled shaft;

4 D. Installation plan for the test drilled shaft and reaction shafts in accordance with the  
5 Drilled Shaft Installation Plan requirements in this Section CR 416.3.1;

6 ~~E. Procedures for construction quality control of the test drilled shaft, including mechanical~~  
7 ~~or sonic caliper, concrete sampling and strength testing, ultrasonic cross-hole logging,~~  
8 ~~geophysical logging (gamma logging), or other proposed techniques. Developer shall~~  
9 ~~test, at minimum, all shafts constructed using the wet method and 10 percent of the~~  
10 ~~shafts constructed using the dry method (2 tests minimum). If a defect is found in a dry~~  
11 ~~shaft tested, Developer shall test all dry shafts for the associated bridge;~~

12 F.E.          Drilled Shaft Load Test Report(s), which must include the following items:

- 13 1. Description of the test drilled shaft details, construction, instrumentation, and test  
14 procedures;
- 15 2. Tables presenting all monitoring and ~~instrumentation data~~ Instrumentation Data;
- 16 3. Plots of load versus displacement for each stage of the test;
- 17 4. Plots of load transfer along the length of the test drilled shaft determined from the  
18 strain gauge data for at least ten applied load increments;
- 19 5. Summaries of mobilized unit side resistance along the length of the drilled shaft, and  
20 mobilized tip resistance;
- 21 6. Plots of creep displacement for each loading direction and increment; and
- 22 7. Plot of equivalent top-down load versus displacement curve for the test drilled shaft,  
23 developed from the load test data.

24 No later than 20 Business Days prior to performing the load test(s), Developer shall submit the  
25 Drilled Shaft Load Test Program to ADOT for review and comment.

26 Subsequent to completion of the drilled shaft load test such that the test drilled shaft is no longer  
27 needed, Developer shall cut the test drilled shaft off at least 5 feet below final grade. Developer  
28 shall prepare a Drilled Shaft Load Test Report in accordance with the Drilled Shaft Load Test  
29 Program. Prior to construction of any production drilled shafts in the area(s) represented by the  
30 load test(s), Developer shall submit the Drilled Shaft Load Test Report to ADOT for review and  
31 comment.

32 Developer shall prepare a Drilled Shaft Installation Plan that includes the following information:

- 33 A. List of proposed equipment to be used including cranes, drills, augers, bailing buckets,  
34 final cleaning equipment, desanding equipment, slurry pumps, sampling equipment,  
35 tremies or concrete pumps, casing, etc.
- 36 B. Details of overall construction operation sequence and the sequence of shaft  
37 construction in bents or groups
- 38 C. Details of shaft excavation methods, including equipment and procedures for checking  
39 the dimensions and alignment of each shaft excavation.
- 40 D. When slurry is required, details of the method proposed to mix, circulate and desand  
41 slurry, and methods proposed.
- 42 E. Details of methods to clean the shaft excavation.
- 43 F. Details of reinforcement placement, including support and centralization methods, lifting  
44 equipment, and staging location for tied steel reinforcement cages prior to placement.



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- 1 G. Details of concrete placement, including concrete volumetric charts.
- 2 H. Details of casing dimensions, material, and splice details.
- 3 I. Details of concrete mix designs and mitigation of possible loss of slump during
- 4 placement.
- 5 J. List of work experience for previous similar projects.
- 6 K. Other information shown on the plans or requested by ADOT.
- 7 L. Emergency horizontal construction joint method if unforeseen stoppage of Work or
- 8 interruption in concrete delivery occurs.
- 9 M. Details of any special access or setup requirements needed to position the drill
- 10 equipment to advance drilled shaft excavations.

11 Not less than 20 Business Days prior to drilled shaft construction, Developer shall submit the  
12 Drilled Shaft Installation Plan to ADOT for review and comment.

13 Developer shall perform quality assurance testing and integrity testing of all constructed drilled  
14 shaft foundations in accordance with Section GP 110.07 of the TPs. Quality assurance testing  
15 and integrity testing must include ultrasonic crosshole testing in accordance with ASTM D6760  
16 and geophysical logging (gamma logging) in accordance with ASTM D6274.

17 Developer shall perform construction quality control of the test drilled shaft, including  
18 mechanical or sonic caliper, concrete sampling and strength testing, ultrasonic cross-hole  
19 logging, and geophysical logging (gamma logging). Developer shall test, at minimum, all shafts  
20 constructed using the wet method and 10 percent of the shafts constructed using the dry  
21 method (2 tests minimum). Developer shall test all drilled shafts regardless if they are  
22 constructed using the wet method or dry method, for all structures that do not have redundant  
23 shafts. If a defect is found in a dry shaft test, Developer shall test all dry shafts for the  
24 associated bridge. Developer shall perform drilled shaft testing no earlier than 48 hours after  
25 placement.

26 Developer shall prepare a Drilled Shaft Quality Assurance Report which presents the results of  
27 quality assurance and integrity testing of drilled shaft foundations. Not less than 10 Business  
28 Days prior to construction of any structure on the associated drilled shaft foundations,  
29 Developer shall submit the Drilled Shaft Quality Assurance Report to ADOT for review and  
30 comment.

### 31 **416.3.2 MSE Walls**

32 Developer shall construct MSE walls in accordance with the FHWA *Geotechnical Engineering*  
33 *Circular No. 11, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced*  
34 *Soil Slopes*.

35 Developer shall determine placement tolerances for MSE wall facing elements that must be  
36 included in Developer's special provisions for MSE walls.

### 37 **416.3.3 Soil Nail Walls**

38 Developer shall construct soil-nail retaining walls in accordance with the FHWA *Geotechnical*  
39 *Engineering Circular No. 7, Soil Nail Walls*.

40 Developer shall identify wall zones based on subsurface geotechnical conditions, with one value  
41 of design pull-out resistance assigned to each wall zone on the plans.

42 Developer shall perform a minimum of two verification load tests on sacrificial verification soil-  
43 nails for each wall zone before starting excavation for the wall zone. Developer's soil-nail load

1 testing equipment must be calibrated by a qualified testing laboratory which is independent of  
2 Developer's soil-nail installation Subcontractor(s).

3 Developer shall perform proof load tests on sacrificial proof test soil-nails. The number of  
4 sacrificial proof test soil-nails must be a minimum of 10 percent of the total number of production  
5 soil-nails. Developer shall include the locations of proposed proof test nails on the Plans.

6 Developer's special provisions for soil-nail walls must include acceptance criteria for verification  
7 and proof tests. The acceptance criteria must include criteria for (1) maximum allowable creep  
8 movement (creep rate and total creep movement), (2) total measured nail movement at the  
9 maximum test load relative to the theoretical elastic elongation of the test nail un-bonded length,  
10 and (3) pullout failure criteria. Developer shall reject tested nails which do not comply with the  
11 acceptance criteria.

12 **416.3.4 Blasting**

13 **416.3.4.1 General**

14 Developer's shall perform blasting operations, including the storage, handling, and use of  
15 explosives and blasting agents, in accordance with the applicable provisions of the ADOT  
16 *Standard Specifications for Road and Bridge Construction*, and all other pertinent Federal,  
17 State, and local regulations. Whenever explosives are used by Developer, they must be of such  
18 character and in such amount as is permitted by the State and local laws and ordinances and all  
19 respective agencies having jurisdiction over explosives, including the City of Phoenix Fire  
20 Department. Developer is responsible for the effects, including damages, of his blasting  
21 operations on adjacent public or private property, including objects, structures, and utilities.

22 Developer shall control ground vibrations and air-blast when blasting may affect objects,  
23 structures, or utilities that may be susceptible to damage from blasting, and shall use properly  
24 designed delay sequences and allowable charge weights per delay.

25 Developer shall prevent or remove deleterious drill hole traces, machine scars, and marks from  
26 machine scaling or other excavation equipment in the final roadway cut faces. Deleterious  
27 conditions is defined to include the following: (1) Individual drill holes whose remaining traces  
28 total more than 3 feet aggregate length; (2) any portion of any roadway cut bearing drill hole  
29 traces whose aggregate length totals more than 25 percent of the total length of controlled blast  
30 holes drilled to form that portion of the cut; (3) machine scars traceable for more than 12 feet  
31 which parallel the natural geologic structure, bedding, or principal fracture direction; (4) machine  
32 scars traceable for more than 6 feet which do not parallel the natural geologic structure, bedding  
33 or principal fracture direction; and (5) machine scars that are approximately parallel and  
34 repetitive (groups of two or more scars).

35 Developer shall scale all slopes for stability, regardless of excavation technique or slope finish  
36 required.

37 Developer shall minimize blast damage behind the trim line. Blast damage is defined to include  
38 the following: widening and loosening of the existing joints, bedding planes, or foliation of the  
39 rock mass to remain; displacement of blocks of intact rock to remain; and creation of new  
40 fractures on the slope to remain.

41 Developer shall prepare a Test Plot Slope Cut Plan that depicts the proposed location of the  
42 proposed cut slope location. No later than 15 Business Days prior to the first test blast,  
43 Developer shall submit the Test Plot Slope Cut Plan to ADOT for review and comment.  
44 Developer shall schedule a meeting with ADOT to review the Test Plot Slope Cut Plan to assure  
45 the finished cut slope is acceptable with ADOT.

1 **416.3.4.2 Protection of Utilities**

2 Developer shall comply with the requirements of the Utility Companies relative to protection of  
3 their individual Utilities from the effects of blasting operations. Developer shall also comply with  
4 the following requirements when blasting operations are within 1,000 feet of transmission line  
5 areas:

- 6 A. Electric detonators must not be used within 500 feet of any transmission line, unless the  
7 safety of their use is demonstrated and documented in the Blasting Plan, including  
8 measurements of stray and induced currents.
- 9 B. Developer shall provide written notification to Utility Companies a minimum of 10  
10 Business Days prior to blasting within 1,000 feet of any transmission line.
- 11 C. Once blasting operations have begun, Developer shall proceed as continuously as  
12 practicable with blasting operations in that area.
- 13 D. Developer shall prevent fly rock when any portion of any blast is within 300 feet of the  
14 outside phase of the closest transmission line. Fly rock prevention measures include  
15 covering the entire shot with mats or soil.

16 **416.3.4.3 Control of Vibrations and Air-blast**

17 Developer shall locate seismographs between the blast area and the closest susceptible object,  
18 structure, or utility. Developer shall use seismographs whenever the blast is located within 500  
19 feet of an existing building, box culvert, retaining wall, bridge structure, pipeline, utility pole, or  
20 transmission tower.

21 Developer shall protect all existing facilities from damage from blasting vibrations and air-blast.  
22 Developer shall deploy and monitor an air-blast monitoring system between the main blasting  
23 area and the location(s) subject to blast damage or annoyance.

24 **416.3.4.4 Blast Monitoring Plan**

25 Developer shall prepare a Blast Monitoring Plan that includes the following elements:

- 26 A. Types of instruments proposed for use, including seismographs and transducers for  
27 ground vibration, and sensors for air-blast;
  - 28 1. Seismographs must be capable of recording ground motion particle velocity for three  
29 mutually perpendicular components of vibration in the frequency range generally  
30 found with controlled blasting;
  - 31 2. Air-blast sensors must be specifically manufactured for the purpose of making  
32 blasting noise and sound pressure measurements;
- 33 B. Planned locations (distance and direction) of the monitoring instruments relative to blast  
34 locations;
- 35 C. Proposed methods of adjusting blast hole patterns, detonation systems, and/or  
36 stemming to prevent venting of blasts and to bring air-blast and noise levels produced by  
37 blasting operations within applicable limits;
- 38 D. Proposed method(s) of documenting occurrence of fly rock;
- 39 E. Qualifications and experience of the instrument operators; and
- 40 F. Proposed methods to protect the public during blasting operations, including notifying  
41 the public, locations and types of signage, fencing, and look-outs.

42 Not less than 15 Business Days prior to the first test blast, Developer shall submit a Blast  
43 Monitoring Plan to ADOT for approval ~~in ADOT's reasonable discretion.~~

1 **416.3.4.5 Blasting Information Report**

2 Developer shall prepare a Blasting Information Report that includes the following:

- 3 A. Names and experience of Blasting Supervisors and Blasters in Charge.
- 4 B. Methods for and locations of explosives storage, delivery, and handling; a scaled  
5 drawing of the location of any magazine to be located within 5 miles of the site; and  
6 name and contact information for contact person responsible for assuring the security of  
7 blasting materials and supplies stored for use on the Project.
- 8 C. Name, address, and telephone number of all explosives suppliers; and identification of  
9 all explosives delivery vehicles and operators.
- 10 D. Manufacturers' safety data sheets (and cut sheets) for all explosives, primers, and  
11 initiators to be employed.
- 12 E. Methods to be employed for traffic control and other public safety precautions in the use,  
13 storage, and transportation of explosives.
- 14 F. Materials, equipment, and excavation and/or blasting methods that Developer proposes  
15 to use to build stable finished rock cut slopes, to include general methods and approach  
16 to blasting which account for the full range of geologic settings and physical conditions  
17 present on the Site; and description of how the method and approach accounts for  
18 various cut geometries, rock types, access problems, categories of fracturing and  
19 faulting, and required face contours.
- 20 G. Equipment intended to be used in or in support of blasting operations.
- 21 H. Methods to prevent fly rock.
- 22 I. Methods for preventing rock material from escaping the construction limits, and  
23 contingency measures for unanticipated rock-fall.
- 24 J. Method of vibration control, vibration monitoring instrumentation, and the identity of the  
25 person or persons collecting and analyzing the data.
- 26 K. Proposed sequence of excavation of the various major elements of the Project.

27 Not less than 10 Business Days prior to commencing drilling and blasting operations, Developer  
28 shall submit a Blasting Information Report to ADOT for approval ~~in ADOT's reasonable~~  
29 ~~discretion.~~

30 **416.3.4.6 Test Blasting**

31 Developer shall perform a minimum of one test blast at each cut location where blasting is  
32 proposed, to demonstrate the adequacy of the proposed Blast Monitoring Plan and the  
33 effectiveness of the proposed fly rock control measures. Developer shall prepare a Test Blast  
34 Report for each test blast. ~~The report~~Each Test Blast Report must include the following:

- 35 A. Details of the test blast;
- 36 B. Locations and details of blast monitoring;
- 37 C. Fly rock control measures;
- 38 D. Results of ground vibration and air-blast monitoring;
- 39 E. Video of the test blast;
- 40 F. Documentation of fly rock, including particle sizes and travel distances; and
- 41 G. Developer's proposed fly rock control measures based on the test blast results.

42 Not less than 5 Business Days after completion of each test blast, Developer shall submit the  
43 Test Blast Report to ADOT for approval ~~in ADOT's reasonable discretion.~~

1 **416.3.4.7 Blasting Plan**

2 Developer shall prepare a Blasting Plan that includes the following:

- 3 A. Proposed excavation sequence for the cut.
- 4 B. Station limits of each proposed shot.
- 5 C. Elevations of the tops and bottoms of each lift.
- 6 D. For each shot, scale drawings showing plan and section views of all variations of the  
7 proposed drill pattern, including clearing limits, free face, burden, blast hole spacing, drill  
8 hole location, sub-drill depths, lift height, blast hole diameters, and blast hole angles.
- 9 E. For each shot, loading diagram showing powder factor, type and amount of explosives,  
10 primers, initiators, and locations and heights of stemming for all substantial variations  
11 within the pattern.
- 12 F. For each shot, the initiation method and sequence of blast holes, including delay times  
13 and delay system.
- 14 G. Fly rock control measures to be used on each shot.
- 15 H. Estimated quantities of volume of rock in-place and length of both production and  
16 controlled blast drill hole.
- 17 I. Location and attitude of significant fracturing, rock type changes, faulting, and special  
18 circumstances to be accounted for in the shot design.
- 19 J. Vibration criteria, predicted ground motions at sensors, and sensor locations.

20 Developer shall record each blast on videotape. At the end of each month, Developer shall  
21 make the unedited videotape recording available at all times to ADOT. Not less than 5 Business  
22 Days prior to commencing drilling and blasting operations, Developer shall submit a Blasting  
23 Plan to ADOT for approval ~~in ADOT's reasonable discretion.~~

24 Developer shall prepare a Blasting Report for all blasts that includes the following:

- 25 A. The start and finish of drilling and loading, along with a log of actual explosive loading  
26 and any changes in pattern.
- 27 B. A copy of the blasting shop drawing.
- 28 C. Approximate average drilling rate, soft seams or faults, and any occurrences of water,  
29 lost circulation, voids, stuck drill steel, or other complications to drilling.
- 30 D. Depth measurements of all production and control holes.
- 31 E. Name of blasting foreman and date and time of blast.
- 32 F. Vibration and air blast records (original printout).
- 33 G. Video of each blast

34 Within 5 Business Days after blasting, Developer shall submit Blasting Report(s) to ADOT for  
35 approval ~~in ADOT's reasonable discretion.~~

36 **416.3.5 Slope Stability & Protection**

37 Developer is responsible for slope stability throughout the Project, both within and adjacent to  
38 the Schematic ROW. If any slope instability develops during construction, Developer shall cease  
39 all Work in the immediate area within and around the unstable ground until the situation is fully  
40 assessed by Developer. Developer shall implement temporary slope stabilization measures to  
41 ensure the safety of the public and Developer's personnel prior to returning to Work in the area  
42 of unstable ground.



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1 All permanent slope stabilization measures must comply with the minimum global slope stability  
 2 safety factors in accordance with the *AASHTO LRFD Bridge Design Specifications, the FHWA*  
 3 *Soil Slope and Embankment Design and Construction - Reference Manual (FHWA-NHI-01-026,*  
 4 *2002)* and the *FHWA Rock Slopes - Reference Manual (FHWA-NHI-99-007, 1998)*.

5 **416.3.6 Instrumentation Report(s)**

6 Developer shall prepare an Instrumentation Report(s) containing the data and results of the  
 7 monitoring of instrumentation of all geotechnical Work which requires monitoring as described in  
 8 Section DR 416.3.3.2 of the TPs. The Instrumentation Report(s) must include the following:

- 9 A. The types, locations, and depths of installed instruments;
- 10 B. Description of the reading procedures and frequencies;
- 11 C. Updated summary plots of readings;
- 12 D. A brief commentary which identifies all significant changes in the measured parameters
- 13 since the previous Instrumentation Report;
- 14 E. Probable causes of these changes; and
- 15 F. Recommended mitigation action(s).

16 Developer’s data interpretation procedure must include evaluation of the data to determine  
 17 reading correctness and to detect changes requiring immediate action. Developer shall correlate  
 18 instrument readings with other factors (cause and effect relationships) and evaluate the  
 19 deviation of the readings from the predicted behavior. The Instrumentation Report must also  
 20 include a certification from the Geotechnical Manager confirming that the objectives of the  
 21 Instrumentation Plan have been achieved and construction of the subject Work may proceed. In  
 22 accordance with the requirements described in the Instrumentation Plan, Developer shall submit  
 23 Instrumentation Report(s) to ADOT for approval ~~in ADOT’s reasonable discretion.~~ However,  
 24 within 1 Business Day of each recording, Developer shall submit all Instrumentation Data for  
 25 each recording to ADOT.

26 **416.4 SUBMITTALS**

27 Table 416-2 reflects a nonexclusive list of Submittals identified in Section CR 416 of the TPs  
 28 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 29 determine and submit all Submittals as required by the Contract Documents, Governmental  
 30 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 31 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 32 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 33 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 416-2 Nonexclusive Submittals List					
Submittal	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Drilled Shaft Load Test Program	4	2	1	No later than 20 Business Days prior to performing the load test(s)	CR 416.3.1
Drilled Shaft Load Test Report	4	2	1	Prior to construction of any production drilled shafts in the area(s) represented by the load test(s)	CR 416.3.1



Table 416-2 Nonexclusive Submittals List					
Submittal	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Drilled Shaft Installation Plan	4	2	1	Not less than 20 Business Days prior to drilled shaft construction	CR 416.3.1
Drilled Shaft Quality Assurance Report	4	2	1	Not less than 10 Business Days prior to construction of any structure on the associated drilled shaft foundations	CR 416.3.1
Test Plot Slope Cut Plan	4	2	1	Not less than 15 Business Days prior to the first test blast	CR 416.3.4.1
Blast Monitoring Plan	3	2	1	Not less than 15 Business Days prior to the first test blast	CR 416.3.4.4
Blasting Information Report	3	2	1	Not less than 10 Business Days prior to commencing drilling and blasting operations	CR 416.3.4.5
Test Blast Report	3	2	1	Not less than 5 Business Days after completion of each test blast	CR 416.3.4.6
Blasting Plan	3	2	1	Not less than 5 Business Days prior to commencing drilling and blasting operations	CR 416.3.4.7
Blasting Report(s)	3	2	1	Not less than 5 Business Days after blasting	CR 416.3.4.7
<del>Unedited Blast Videotapes</del>	<del>5</del>	<del>0</del>	<del>4</del>	<del>At the end of each month</del>	<del>CR 416.3.4.7</del>
Instrumentation Report(s)	3	2	1	In accordance with the requirements in the Instrumentation Plan	CR 416.3.6
Instrumentation Data	5	2	1	Within 1 Business Day of each recording	CR 416.3.6
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the P3 Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

**End of Section**

1 **CR 417 EARTHWORK**

2 **417.1 GENERAL REQUIREMENTS**

3 Developer shall perform all earthwork operation Work in compliance with the requirements of  
4 Section CR 417 of the TPs.

5 **417.2 ADMINISTRATIVE REQUIREMENTS**

6 Developer shall perform earthwork operation Work in accordance with the standards, manuals,  
7 and guidelines listed in Table 417-1.

Table 417-1 Standards		
No.	Agency	Title
1	ADOT	Standard Specifications for Road and Bridge Construction
2	ADOT	Stored Specifications 203ERWK, 203PRWTR, and 203QCEW
Note: For ADOT Stored Specification 203ERWK, if borrow is called for in the Developer's Materials Design Report, Developer shall determine the formula value for Subsection 203-9.02		

8 **417.3 CONSTRUCTION REQUIREMENTS**

9 **417.3.1 Waste Material**

10 Developer acknowledges and agrees that all waste material is the property of Developer.  
11 Developer shall be responsible for disposal of waste material at suitable waste disposal  
12 locations. The final location of waste material must not be within ADOT ROW.

13 All material removed from the South Mountain must be processed, used, placed, or left within  
14 the vicinity of the South Mountain (51st Avenue to 17th Avenue). Developer shall not use such  
15 removed material in concrete or asphalt.

16 **417.3.2 Borrow**

17 Developer shall evaluate and determine that borrow source complies with the *ADOT Standard*  
18 *Specifications for Road and Bridge Construction*. Developer shall secure the borrow source,  
19 haul borrow material, and obtain all permits required by Governmental Entities.

20 **417.3.2.1 Environmental Analysis**

21 Developer shall prepare an Environmental Analysis under any of the following conditions:

22 A. If Developer elects to provide material from a Developer furnished source, which is  
23 defined as any source other than where ADOT has prospected, taken samples, tested,  
24 prepared an Environmental Analysis, and which may be available for Developer's use,  
25 including commercial operations.

26 B. If Developer elects to use any site to set up a plant for the crushing or processing of  
27 base, surfacing, or concrete materials, not located on a site furnished by ADOT or the  
28 site of a commercial operation. Developer may request an exemption from the  
29 requirement to prepare an Environmental Analysis if all of the following conditions apply:

- 30 1. The site is exclusively used for the processing of materials;
- 31 2. The site will not be used for excavation of borrow material;

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- 1           3. The site was developed as a processing area on or before January 1, 1999;
- 2           4. The site is currently operating as a processing area; and
- 3           5. The plant is located within that portion of the site that was disturbed prior to January
- 4           1, 1999.
- 5           C. If Developer requests that ADOT approve access to controlled access highway at points
- 6           other than legally established access points.
- 7   Developer shall prepare an Environmental Analysis(es) that addresses all environmental
- 8   effects, including the following:
  - 9           A. The location of the proposed source and haul road, and the distance from the source to
  - 10           either an existing highway or an established alignment of a proposed Federal, State or
  - 11           County highway along with vicinity maps, sketches or aerial photographs.
  - 12           B. The ownership of the land.
  - 13           C. The identity and location of nearby lakes, streams, parks, wildlife refuges and other
  - 14           similar protected areas.
  - 15           D. The former use, if known, of the source, and haul road and their existing condition.
  - 16           E. The identification of present and planned future land use, zoning, etc., and an analysis of
  - 17           the compatibility of the removal of materials with such use.
  - 18           F. The anticipated volume of material to be removed; the width, length and depth of the
  - 19           excavation; as well as the length and width of the haul road, and other pertinent features
  - 20           and the final condition in which the excavated area and haul road will be left, such as
  - 21           sloped sides, topsoil replaced, the area seeded, etc.
  - 22           G. The archaeological survey of the proposed source prepared by a person who complies
  - 23           with the Secretary of the Interior's Professional Qualification Standards (48 FR 44716)
  - 24           and possesses a current permit for archaeological survey issued by the Arizona State
  - 25           Museum (ASM). Developer shall prepare the survey in a State Historic Preservation
  - 26           Office standardized format. The survey must identify all historic properties within the
  - 27           area of potential effect, as defined by the National Historic Preservation Act (36 CFR
  - 28           800.4). This includes the materials source, processing area, and the haul road.
  - 29           Additionally, the survey report must identify the effects of the proposed source on any
  - 30           historic properties within the area of potential effect, and recommend measures to avoid,
  - 31           minimize, or mitigate those effects.
  - 32           H. If the proposed source, or haul road utilizes prime and unique farm land or farm land of
  - 33           statewide importance, a description of such remaining land in the vicinity and an
  - 34           evaluation whether such use will precipitate a land use change.
  - 35           I. A description of the visual surroundings and the impact of the removal of materials on
  - 36           the visual setting.
  - 37           J. The effect on access, public facilities and adjacent properties, and mitigation of such
  - 38           effects.
  - 39           K. The relocation of businesses or residences.
  - 40           L. Procedures to minimize dust in pits and on haul roads and to mitigate the effects of such
  - 41           dust.
  - 42           M. A description of noise receptors and procedures to minimize impacts on these receptors.
  - 43           N. A description of the impact on the quality and quantity of water resulting from the
  - 44           materials operation. Developer shall address the potential to introduce pollutants or
  - 45           turbidity to live streams and/or nearby water bodies. Developer shall coordinate

measures to mitigate potential water quality impacts through the EPA, for sites located on tribal land, and the ADEQ, for sites located on non-tribal land.

- O. A description of the impact on endangered or threatened wildlife and plants and their habitat. Developer shall coordinate the analysis of potential impact to plants and wildlife through the Arizona Game and Fish Department and U.S. Fish and Wildlife Service. Developer shall coordinate compliance with the Arizona Native Plant Law through the Arizona Commission of Agriculture and Horticulture.
- P. A discussion of the effects of hauling activities upon local traffic and mitigating measures planned where problems are expected.
- Q. A description of the permits required, such as zoning, health, mining, land use, flood plains (see Section 404 of the Clean Water Act), etc.
- R. The effect of removing material and/or stockpiling material on stream flow conditions and the potential for adverse impacts on existing or proposed improvements within the flood plain which could result from these activities. Developer shall coordinate measures to mitigate potential water quality impacts through the EPA, for sites located on tribal land, and the ADEQ, for sites located on non-tribal land.

Guidance in preparing the environmental analysis is available on ADOT's Internet Website through the Environmental Planning Group, or by calling Environmental Planning Group at 602-712-7767.

Developer may incorporate an existing Environmental Analysis approved after January 1, 1999, provided that the analysis is updated to be in compliance with current regulations and with the Developer's planned activities.

Regulatory changes, specification changes, or other reasons may preclude the approval of a materials source. Developer acknowledges and agrees that ADOT may refuse to approve a material source even if ADOT has approved or approves the source for other projects.

The Environmental Analysis must include all areas of proposed excavation, crushing, processing, and haul roads. For the purposes of this Section CR 417.3.2.1, a haul road is defined as any road on material excavation, processing, or crushing sites, and any road between the respective site and a public highway that may be used by Developer.

Not less than 45 days prior to use of the borrow site, Developer shall submit the Environmental Analysis to ADOT for approval ~~in ADOT's reasonable discretion.~~ ADOT will review the Environmental Analysis and consult with the appropriate jurisdictions and/or Governmental Entities within 45 days after receipt of the Submittal, or subsequent resubmittal.

**417.3.3 Backfill**

Developer shall evaluate and secure material source and obtain all necessary haul permits required by Governmental Entities.

**417.4 SUBMITTALS**

Table 417-2 reflects a nonexclusive list of Submittals identified in Section CR 417 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.1.1 of the TPs:

Table 417-2 Nonexclusive Submittals List					
Submittal	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Environmental Analysis	3	2	1	Not less than 45 days prior to use of the borrow site	CR 417.3.2.1
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the P3 Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1  
2

**End of Section**



1 **CR 419 PAVEMENT**

2 **419.1 GENERAL REQUIREMENTS**

3 Developer shall perform all pavement Construction Work in compliance with the requirements of  
4 Section CR 419 of the TPs.

5 **419.2 ADMINISTRATIVE REQUIREMENTS**

6 *Intentionally left blank*

7 **419.3 CONSTRUCTION REQUIREMENTS**

8 **419.3.1 Pavement Subgrade Materials Requirements**

9 Developer shall ensure and verify that the materials encountered or imported comply with the  
10 effective modulus of subgrade reaction (rigid pavement), resilient modulus (flexible pavement),  
11 or other design subgrade support value as utilized by Developer for the structural section  
12 design.

13 **419.3.2 Asphaltic Concrete Pavement**

14 Developer shall evaluate the asphaltic concrete friction course (ACFC) or asphalt rubber-  
15 asphaltic concrete friction course (AR-ACFC) surface treatment for smoothness for each 0.1  
16 lane-mile increment in accordance with the provisions of *Arizona Test Method 829*. Developer  
17 shall not perform smoothness testing when the ambient air temperature is less than 40 °F, or  
18 during rain or other precipitation. Developer shall perform smoothness testing within 10  
19 Business Days of placement of the ACFC or AR-ACFC surface treatment. Developer shall  
20 perform smoothness testing on traffic lanes longer than 0.3 mile.

21 Developer shall repair full lane widths in any segment of asphaltic concrete pavement having an  
22 international roughness index (IRI) greater than 50 inches/mile.

23 Upon completion of any necessary corrective actions, Developer shall retest the 0.1 lane-mile  
24 increments containing repaired areas in accordance with the provisions of *Arizona Test*  
25 *Method 829*.

26 **419.3.3 Portland Cement Concrete Pavement**

27 Developer shall prepare a Paving Plan(s) for each segment of the Project. Each Paving Plan  
28 must include the following:

- 29 A. A detailed sequence and schedule of concrete placement operations, including the  
30 following:
- 31 1. Width of pavement to be placed,
  - 32 2. Proposed equipment,
  - 33 3. Production rates,
  - 34 4. Working hours,
  - 35 5. Concrete hauling,
  - 36 6. Placement methods, and
  - 37 7. Curing, sawing, and sealing methods.
- 38 B. A detailed staking plan for subgrade controls, including offset requirements.
- 39 C. Details of the layout of all longitudinal, transverse, weakened plane, and expansions  
40 joints, including joint sequence, dimensions, and locations of dowels and dowel baskets.

1 D. A Traffic Control Plan for pavement construction operations that includes provisions for  
2 the placement and maintenance of barriers required to protect the pavement from traffic  
3 for a minimum of 7 days after concrete placement.

4 Not less than 20 Business Days prior to paving, Developer shall submit each Paving Plan(s) to  
5 ADOT for review and comment.

6 If Developer constructs paving widths that are less than the full main roadway width, Developer  
7 shall locate longitudinal construction joints on the lane line or at the edge of the main roadway.  
8 Developer shall not locate longitudinal construction joints in the wheel-paths.

9 Developer shall evaluate Portland cement concrete pavement (PCCP) thickness in accordance  
10 with Section 401-4.04 of the ADOT *Standard Specifications for Road and Bridge Construction*  
11 and the Contract Documents. Developer shall ensure that the PCCP thickness and compressive  
12 strength complies with the material and construction requirements of Developer's pavement  
13 designs and the Contract Documents.

14 All PCCP joints shall be sealed and be compatible with an overlay.

15 Developer shall evaluate PCCP, whether it will be overlaid or not with ACFC or AR-ACFC, for  
16 smoothness in accordance with *Arizona Test Method 801* and Section 401-4.02 of the ADOT  
17 *Standard Specifications for Road and Bridge Construction* and the Contract Documents. The  
18 profile index of the PCCP must be a maximum of 9 inches/mile for every 0.1 lane mile section.

19 Developer shall test the PCCP surface with a 10-foot-long straightedge in accordance with  
20 Section 401-4.02 of the ADOT *Standard Specifications for Road and Bridge Construction* and  
21 the Contract Documents. The pavement surface must not vary in any direction by more than  
22 1/8 inch, except at longitudinal and transverse construction joints. The pavement surface must  
23 not vary by more than 1/4 inch across any longitudinal or transverse construction joint.  
24 Developer must grind high areas or bumps not meeting the required pavement tolerances.

25 Upon completion of any necessary corrective actions, Developer shall retest repaired PCCP  
26 areas to verify that corrections have produced the required improvements.

27 Developer shall longitudinally tine all PCCP roadway surfaces not overlaid with AR-ACFC in  
28 accordance with Section 401-3.04(F) of the ADOT *Standard Specifications for Road and Bridge*  
29 *Construction* and the Contract Documents.

#### 30 **419.3.4 Pavement Mix Design**

31 Developer shall prepare Pavement Mix Design(s) for the Project. Pavement Mix Design(s) are  
32 considered Shop Drawings and Working Drawings. Not less than 20 Business Days prior to  
33 paving, Developer shall submit Pavement Mix Design(s) to ADOT for review and comment.

#### 34 **419.4 SUBMITTALS**

35 Table 419-1 reflects a nonexclusive list of Submittals identified in Section CR 419 of the TPs  
36 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
37 determine and submit all Submittals as required by the Contract Documents, Governmental  
38 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
39 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
40 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
41 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 419-1 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Paving Plan(s)	4	2	1	Not less than 20 Business Days prior to paving	CR 419.3.3
Pavement Mix Design(s)	4	2	1	Not less than 20 Business Days prior to paving	CR 419.3.4
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1

2

**End of Section**

1 **CR 420 ENVIRONMENTAL**

2 **420.1 GENERAL REQUIREMENTS**

3 Developer shall perform all Construction Work in compliance with the requirements of Section  
4 CR 420 of the TPs.

5 **420.2 ADMINISTRATIVE REQUIREMENTS**

6 **420.2.1 Standards**

7 Developer shall perform all Construction Work in accordance with the standards, manuals, and  
8 guidelines listed in Table 420-1.

Table 420-1 Standards		
No.	Agency	Title
1	ADOT	South Mountain Freeway (Loop 202) Final Environmental Impact Statement and Section 4(f) Evaluation (FEIS)
2	ADOT	South Mountain Freeway (Loop 202) Record of Decision (ROD)
3	ADOT	Noise Abatement Policy dated July 13, 2011

9 **420.3 CONSTRUCTION REQUIREMENTS**

10 **420.3.1 Project Environmental Commitment Requirements**

11 Developer shall comply with environmental commitments and requirements included in the  
12 ROD. The table provided in TP Attachment 420-1 includes the Project-specific environmental  
13 commitments associated with the ROD. Environmental mitigation measures have been  
14 reviewed and approved by FHWA for the construction of the Project. These mitigation measures  
15 are not subject to change without prior written approval from FHWA. Developer shall be  
16 responsible for all environmental commitment requirements in TP Attachment 420-1, except  
17 those requirements that are specifically identified as an ADOT action.

18 If, at any time, Developer is not in compliance with any applicable Laws, including any  
19 Environmental Laws, and Governmental Approvals, ADOT may suspend the Work, in whole or  
20 in part, under Section 18.2.1 of the Agreement until such time as the Errors, deficiencies, or  
21 noncompliant situations have been corrected. Developer shall be responsible for any associated  
22 monetary fines or any environmental restoration activities required to resolve violations are the  
23 responsibility of Developer.

24 **420.3.2 Prevention of Landscape Defacement; Protection of Streams, Lakes and  
25 Reservoirs**

26 **420.3.2.1 General**

27 Developer shall give attention to the effect of Developer's operations upon the landscape, and  
28 shall maintain natural surroundings undamaged.

29 The General Aquifer Protection Permit 1.12 has been established by the Arizona Department of  
30 Environmental Quality (ADEQ) requiring control of wastewater to an impoundment from washing

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1 concrete from trucks, pumps, and ancillary equipment. Developer shall comply with the General  
2 Aquifer Protection Permit 1.12 (Arizona Administrative Code 18-9-B301.L).

3 Developer shall implement the requirements of the Arizona Pollutant Discharge Elimination  
4 System (AZPDES) for erosion and sediment control as specified in the "General Permit For  
5 Discharge From Construction Activities to the Waters Of The United States," issued by the  
6 ADEQ. That document is hereinafter referred to as the AZPDES *General Permit*.

7 The Project may discharge runoff into watercourses designated by ADEQ as "Impaired",  
8 "Outstanding Arizona Waters" or "Not-Attaining." As a consequence, Developer shall include, in  
9 Developer's finalized Storm Water Pollution Prevention Plan (SWPPP), sufficient erosion and  
10 sediment control Best Management Practices (BMPs) to assure that discharges do not cause or  
11 contribute to non-attainment of Surface Water Quality Standards. In addition, Developer shall  
12 provide a monitoring plan, as specified in Section CR 420.3.2.2.2 of the TPs.

13 Useful information related to stormwater controls and erosion and sediment control measures is  
14 presented in the *Fact Sheet For The Issuance Of An AZPDES Construction General Permit*,  
15 available from ADEQ, and the ADOT *Erosion and Pollution Control Manual*, available on  
16 ADOT's website at  
17 [http://www.azdot.gov/inside\\_azdot/OES/WaterQuality/Stormwater/Erosion\\_Pollution\\_Control\\_Manual.asp](http://www.azdot.gov/inside_azdot/OES/WaterQuality/Stormwater/Erosion_Pollution_Control_Manual.asp).  
18 Except as otherwise specified herein, Developer's monitoring plan shall comply with  
19 the ADOT *Storm Water Monitoring Guidance Manual for Construction Activities*, dated August  
20 23, 2006. That document is hereinafter referred to as the ADOT *Monitoring Guidance Manual*.

21 Developer shall ensure that the work includes providing, installing, maintaining, removing, and  
22 disposing of erosion and sediment control measures, such as gravel filter berms, dikes, catch  
23 basin inlet protection, end of pipe filtering devices, silt fences, dams, sediment basins, earth  
24 berms, netting, geotextile fabrics, slope drains, seeding, stream stabilization, and other erosion  
25 control devices or methods. Erosion control, as hereinafter referenced, must include control of  
26 erosion and the mitigation of any resulting sediment. Erosion control measures may be  
27 temporary or permanent. Developer shall prepare and process all documents required in the  
28 AZPDES *General Permit*.

29 Except with respect to the ~~NOI~~ Notice of Intent (NOI) Form, Developer shall provide all  
30 signatures required of [or from] Developer by the AZPDES *General Permit*, including those  
31 required for the ~~NOT~~ Notice of Termination (NOT), SWPPP, and Inspection reports, by [or from]  
32 a duly authorized representative of Developer, as defined in Part VIII.J.2 of said permit. A  
33 responsible corporate officer of the Developer, as defined in Part VIII.J.1 of the AZPDES  
34 *General Permit*, must sign the NOI.

35 Developer shall not start any clearing, grubbing, earthwork, or other work elements affected by  
36 the erosion control requirements in the SWPPP until the SWPPP is reviewed and approved by  
37 ADEQ, the NOI is completed and filed in accordance with Section CR 420.3.2.3 of the TPs, and  
38 the SWPPP is implemented.

### 39 **420.3.2.2 Stormwater Pollution Prevention Plan (~~SWPPP~~)**

#### 40 **420.3.2.2.1 General**

41 Developer shall include descriptions of the following in the ~~Plans~~ SWPPP: temporary and  
42 permanent erosion control measures; a project description; percent impervious area, including  
43 paved areas, rooftops, and other similar surfaces, for both pre-construction and post-  
44 construction conditions; inspection schedule; and site specific diagrams indicating proposed  
45 locations where erosion and sediment control devices or pollution control measures may be  
46 required during successive construction stages. The ~~Plans~~ SWPPP may also include an initial

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1 schedule detailing the proposed sequence of construction and related erosion control  
2 measures.

3 Developer shall review the preliminary information, including the erosion control features and  
4 phasing, evaluate all SWPPP requirements for adequacy in addressing pollution prevention  
5 during construction, and prepare a **Draftdraft** SWPPP, including monitoring plan, for review by  
6 ADOT.

7 Developer shall designate the Erosion Control Coordinator as an authorized representative of  
8 Developer in accordance with Part VIII.J.2 of the AZPDES *General Permit*.

9 Developer shall prepare a **Draftdraft** SWPPP that includes all information required in the  
10 AZPDES *General Permit*, including the following: a site map; identification of receiving waters  
11 and wetlands impacted by the project; a list of potential pollutant sources; inspection schedule;  
12 any onsite or off-site material storage sites; additional or modified stormwater, erosion, and  
13 sediment controls; procedures for maintaining temporary and permanent erosion control  
14 measures; a list of Developer's pollution prevention practices; and other permit requirements  
15 stipulated in the AZPDES program as well as other applicable state or local programs.

16 The **Draftdraft** SWPPP must also identify any potential for discharge into a municipal separate  
17 storm sewer system (MS4), including the name of the owner/operator of the system.

18 Unless otherwise approved by ADOT, Developer shall not expose a surface area of greater than  
19 750,000 square feet to erosion through clearing and grubbing, or excavation and filling  
20 operations within the Project ROW, until temporary or permanent erosion control devices for  
21 that portion of the Project have been installed by Developer and accepted by ADOT.

22 Developer shall indicate each 750,000 square-foot sub-area in the **Draftdraft** SWPPP, along  
23 with proposed erosion control measures for each sub-area. The **Draftdraft** SWPPP must also  
24 include the sequence of construction for each sub-area, and installation of the required  
25 temporary or permanent erosion control measures.

26 Developer shall give installation of permanent erosion control measures priority over reliance on  
27 temporary measures. Developer shall install permanent erosion control measures and drainage  
28 structures as soon as possible in the construction sequencing of the Project. However, except  
29 as specified in Part IV, Section B.2 of the AZPDES *General Permit* and approved by ADOT,  
30 Developer shall install erosion control measures no later than 14 days after construction activity  
31 has temporarily or permanently ceased for the affected sub-area. For areas within 50 feet of an  
32 impaired or unique water, as shown on the Plans, Developer shall install erosion control  
33 measures within 7 days after construction activity has temporarily or permanently ceased.

34 Temporary or permanent sedimentation basins may be required for reducing or eliminating  
35 sediment from stormwater runoff. When required, Developer shall complete such basins before  
36 any clearing and grubbing of the Site is initiated. Developer shall evaluate the need and  
37 attainability of installing sediment basins as described in the AZPDES permit and include the  
38 basins in the SWPPP as appropriate. The Plans may also include sediment basins as part of  
39 the preliminary information.

40 The **Draftdraft** SWPPP must also identify and address erosion control at on-site fueling  
41 operations, waste piles, material storage sites, and off-site dedicated asphalt and concrete  
42 plants, contractor-use areas, storage areas, and support activity locations which are used solely  
43 for the Project and are covered by the AZPDES *General Permit*. The **Draftdraft** SWPPP must  
44 also accommodate all requirements for Developer's pollution prevention practices specified in  
45 Section CR 420.3.2.4 of the TPs. In addition, the SWPPP must specifically identify the erosion



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1 control measures proposed by Developer during any vegetation removal and salvaging phases  
2 of the Project (such as during timber harvesting or native plant salvaging).

3 The ~~Draft~~draft SWPPP must specify the mechanism whereby Developer or ADOT may propose  
4 revisions to and incorporate such revisions into the SWPPP during the Term, including review  
5 and approval procedure. Changes to the monitoring plan, such as number or location of  
6 samples, or required testing, are considered revisions to the SWPPP.

7 Developer shall list the Subcontractors responsible for implementing all or portions of the  
8 SWPPP in the ~~Draft~~draft SWPPP, along with the measures for which such Subcontractors are  
9 responsible.

10 The Plans must include preliminary erosion control measures and additional information to be  
11 included in the SWPPP, as specified in Section CR 420.3.2.2 of the TPs. Prior to ground  
12 disturbance activities, issuance of ~~NTP~~NTP 2, and submittal of the Notice of Intent (NOI),  
13 Developer shall submit a ~~Draft~~draft SWPPP to ADOT for approval ~~in ADOT's reasonable~~  
14 ~~discretion.~~ When the ~~Draft~~draft SWPPP is approved by ADOT, ADOT and Developer shall sign  
15 the finalized SWPPP. After finalizing and signing the SWPPP, Developer shall submit a copy of  
16 the SWPPP to ADOT.

17 Developer shall implement the requirements of the SWPPP. Developer shall not start any  
18 clearing, grubbing, earthwork, or other work elements affected by the erosion control  
19 requirements in the SWPPP until the SWPPP has been approved, the NOI completed and filed  
20 in accordance with Section CR 420.3.2.3 of the TPs, and the SWPPP implemented.

21 Developer shall maintain all related erosion control elements in proper working order throughout  
22 the Term. Work under this section also includes inspections, record-keeping, and  
23 implementation of pollution prevention practices as described in Section CR 420.3.2.4 of the  
24 TPs.

25 Developer shall update the approved SWPPP whenever a change in design, construction  
26 method, operation, maintenance procedure, or other activity may cause a significant effect on  
27 the discharge of pollutants to surface waters, or when a change is proposed to the personnel  
28 responsible for implementing any portion of the SWPPP. Developer shall amend the SWPPP if  
29 inspections indicate that the SWPPP is ineffective in eliminating or significantly reducing  
30 pollutants in the discharges from the Site. Developer shall make all necessary modifications to  
31 the SWPPP within 7 days following the inspection that revealed the deficiency. After amending  
32 the SWPPP, Developer shall submit the ~~Amended~~amended SWPPP to ADOT for approval ~~in~~  
33 ~~ADOT's reasonable discretion.~~

34 Developer shall keep a copy of the approved SWPPP at the Site during the Construction Period.

35 ADEQ may notify Developer at any time that the SWPPP does not comply with the permit  
36 requirements. The notification may identify the provisions of the permit that are not being met  
37 and parts of the SWPPP that require modification. Within 15 Business Days of receipt of such  
38 notification from ADEQ, Developer shall make the required changes to the SWPPP and submit  
39 a written certification to ADEQ that the requested changes have been made.

40 Developer shall ensure that the Erosion Control Coordinator maintains the SWPPP along with  
41 completed inspection forms and other AZPDES records in a three ring binder. The Erosion  
42 Control Coordinator must maintain a current copy of the SWPPP, including all associated  
43 records and forms, at the Site during the Construction Period. The SWPPP must be available  
44 for inspection by ADEQ, FHWA, and other entities identified in the AZPDES *General Permit*,  
45 and for use by ADOT. Developer shall ensure that the Erosion Control Coordinator provides

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1 copies of any or all of such documents to ADOT upon request. When requested, Developer  
2 shall ensure that such copies are provided within 3 Business Days of the request.

3 Developer shall be responsible for all requirements under other environmental statutes or  
4 regulations by any condition of the AZPDES *General Permit* or the SWPPP.

### 5 **420.3.2.2.2 Monitoring Plan**

6 Developer shall prepare a construction monitoring plan to monitor discharges into the affected  
7 receiving water.

8 The monitoring plan must comply with the ADOT *Monitoring Guidance Manual*, and must  
9 include a description of the pollutant of concern, the activities or materials that may generate the  
10 pollutant, the location of such activities or materials, and methods to ensure that transport of the  
11 pollutant to the waterway is minimized. The monitoring plan must specify the location of  
12 monitoring points, as well as the methods, equipment, and reporting processes necessary to  
13 accurately measure water quality.

14 Except as specified herein, the monitoring plan and related work activities must comply with all  
15 applicable elements of the ADOT *Monitoring Guidance Manual*, including sample locations,  
16 monitoring schedule, documentation, and reporting requirements. ADEQ may require revisions  
17 to the monitoring plan during the review process. Developer shall make such revisions before  
18 beginning any Work involved in the SWPPP.

19 The minimum number and type of monitoring points must be as specified herein. Developer  
20 shall determine the appropriate locations based on the ADOT *Monitoring Guidance Manual*.

21 Developer shall contact ADOT for specific restrictions for the affected waterway. Information  
22 must include type of pollutant and receiving water, and allowable numeric concentration value  
23 (tmdl), if required. Developer shall include Project-specific requirements, such as number of  
24 monitoring points and type of monitoring, as provided by ADOT.

25 Developer shall ensure that the Erosion Control Coordinator, or other qualified personnel as  
26 approved by ADOT, performs sampling and any onsite testing called for in the ADOT *Monitoring*  
27 *Guidance Manual*.

28 Monitoring techniques for all locations must include visual monitoring, photo documentation, and  
29 analytical monitoring, including turbidity. When included in the special provisions, specific  
30 impairment monitoring and subsequent laboratory testing is also required. Developer shall  
31 complete a monitoring report after each inspection and shall include the report in the SWPPP.  
32 The monitoring plan must include a process to evaluate of the effectiveness of the erosion  
33 control measures at controlling runoff. Developer shall use the form provided in the ADOT  
34 *Monitoring Guidance Manual*.

35 Should laboratory testing of water be required, Developer shall select an appropriate laboratory  
36 that is licensed, accredited, and certified by the Arizona Department of Health Services.  
37 Developer shall prepare a Laboratory Testing Location Plan that includes the laboratory name,  
38 address, telephone number, contact name, contact title, licensure, accreditations, and  
39 certifications. At least 15 days before submittal of any samples for analysis, Developer shall  
40 submit Laboratory Testing Location Plan to ADOT for approval ~~in ADOT's reasonable discretion.~~

41 Developer shall ensure that the Erosion Control Coordinator is responsible for the preparation,  
42 accuracy, and completeness of all reports and readings required by the monitoring plan, and  
43 submits all submittals required in the ADOT *Monitoring Guidance Manual*, including the monthly  
44 discharge monitoring report to ADEQ.

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1 Developer shall initiate the monitoring plan concurrently with the start of ground disturbing  
2 activity or when any water, including storm water, is discharged from the Site, whichever occurs  
3 first, and shall ensure that such adherence to the plan continues throughout the Term.

### 4 **420.3.2.3 Notice of Intent ~~(NOI)~~ and SWPPP Submittal**

5 After the SWPPP has been approved by ADOT and prior to submission to ADEQ, Developer  
6 shall prepare and submit a notice of intent (NOI-Form) to ADOT for approval ~~in ADOT's~~  
7 ~~reasonable discretion~~. Developer shall ensure that a responsible corporate officer of Developer,  
8 as defined in Part VIII.J.1 of the AZPDES *General Permit*, signs and dates the certification  
9 statement included in the NOI and that the name and title of that officer is included in the  
10 certification. After the SWPPP, including monitoring plan, and the NOI ~~Form~~ has been approved  
11 by ADOT, Developer shall submit the SWPPP and NOI to ADEQ at the address shown below  
12 for review.

13 Arizona Department of Environmental Quality  
14 Surface Water Section/Permits Unit/Stormwater NOIs (5415A-1)  
15 1110 W. Washington Street  
16 Phoenix, Arizona 85007  
17 or fax to (602) 771-4528

18 Developer may also submit the NOI electronically, through ADEQ's Smart NOI website at **Error!**  
19 **Hyperlink reference not valid.** ~~https://az.gov/app/smartnoi~~. By submission of the NOI,  
20 Developer shall be deemed to certify that Developer and its Subcontractors have read and shall  
21 comply with all provisions of the AZPDES *General Permit*.

22 ADOT typically receives notification from ADEQ within 32 Business Days of submittal as to  
23 whether Work may proceed under the AZPDES *General Permit*, or whether the SWPPP needs  
24 revisions. ADOT expects to receive an authorization certificate issued by ADEQ if the NOI and  
25 SWPPP have been accepted. If notification is not received in this time-frame, Developer shall  
26 contact ADEQ and verify that the NOI and SWPPP have been received and accepted prior to  
27 commencement of Work. Developer shall include a copy of the authorization certificate with the  
28 NOI.

29 If ADEQ determine that revisions are needed, Developer shall make the necessary changes  
30 and, after acceptance by ADOT, resubmit the SWPPP to ADEQ for approval. Prior to approval,  
31 ADEQ may require that the SWPPP be modified to implement specific controls or design  
32 criteria, or may require changes to the monitoring plan. When re-submittal is required,  
33 Developer shall not begin SWPPP implementation until final approval is received from ADEQ.

34 Developer may anticipate needing a minimum of 7 weeks for the ADEQ review process, during  
35 which period Developer shall not start or otherwise perform any clearing, grubbing, earthwork,  
36 or other work elements affected by the erosion control requirements in the SWPPP.

37 Prior to any ground disturbing activities, Developer shall submit a copy of the NOI and  
38 Authorization Certificate to ADOT. At any time after authorization, ADEQ may determine that  
39 Developer's stormwater discharges may cause or contribute to non-attainment of any applicable  
40 water quality standards. If ADEQ makes that determination, ADOT expects Developer to receive  
41 written notice of the same from ADEQ. In such event, Developer shall develop a supplemental  
42 erosion control action plan describing SWPPP modifications to address the identified water  
43 quality concerns. If the written notice from ADEQ requires a response, failure to respond in a  
44 timely manner constitutes a permit violation. All responses must be in accordance with the  
45 AZPDES *General Permit*.

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1 If there is a potential to discharge into a MS4, Developer shall submit a copy of the authorization  
2 certificate to the owner/operator of the system. Also, if Developer is operating under an  
3 approved local sediment and erosion plan, grading plan, or stormwater management plan other  
4 than the Stormwater Management Plan, Developer shall submit a copy of the authorization  
5 certificate to the local authority upon its request.

6 Developer shall post its NOI and the information required in the AZPDES *General Permit* on the  
7 construction site bulletin board throughout the Construction Period. Developer shall also keep a  
8 copy of the AZPDES *General Permit* shall at the Site at all times.

### 9 **420.3.2.4 Pollution Prevention Practices and Requirements**

10 The SWPPP must specify Developer's pollution prevention practices and requirements,  
11 including vehicle wash down areas, onsite and offsite tracking control, protection of equipment  
12 storage and maintenance areas, methods to minimize generation of dust, and sweeping of  
13 highways and roadways related to hauling activities. Developer shall show each planned  
14 location of service and refueling areas on the SWPPP's site map. Changes to Developer's  
15 pollution prevention practices that are related to construction phasing must also be shown on  
16 the SWPPP.

17 Developer shall prevent pollution of streams, lakes, and reservoirs with fuels, oil, bitumen,  
18 calcium chloride, fresh Portland cement, fresh Portland cement concrete, raw sewage, muddy  
19 water, chemicals or other harmful materials. Developer shall not discharge any of these  
20 materials into any channels leading to streams, lakes, or reservoirs. The SWPPP must include  
21 the implementation of spill prevention and material management controls and practices to  
22 prevent the release of pollutants into stormwater. The SWPPP must also provide storage  
23 procedures for chemicals and construction materials, disposal procedures, cleanup procedures,  
24 Developer's plans for handling such pollutants, and other pollution prevention measures as  
25 required.

26 Developer shall locate machinery service and refueling areas away from streambeds or washes,  
27 and in a manner which prevents discharges into streams or washes.

28 Developer shall dispose of waste materials from blasting, including explosives containers, offsite  
29 in accordance with applicable federal regulations. Developer shall remove from the Site and  
30 dispose of waste materials, such as used cans, oils, machine and equipment parts, paint,  
31 hazardous materials, plastic and rubber parts, discarded metals, and building materials,  
32 according to applicable State and federal regulations.

33 Where Developer's Work encroaches on a running or intermittent stream, Developer shall  
34 construct and maintain barriers between the Work areas and the stream bed adequate to  
35 prevent the discharge of any contaminants. The SWPPP must identify the location of streams  
36 that may be affected and the specific types of barriers proposed for protecting these resources.

37 Unless otherwise approved in writing by ADOT, Developer shall not ford running streams with  
38 construction equipment.

39 Developer shall not construct temporary bridges, unless authorized by permitting through the  
40 applicable Governmental Entity with jurisdiction. Developer shall not operate equipment in  
41 running streams.

42 Developer shall clear streams, lakes, and reservoirs of all falsework, piling, debris, or other  
43 obstructions resulting from Developer's activities, inadvertently placed thereby or resulting from  
44 construction operations, within 24 hours from the time the obstruction was first observed.

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1 Developer shall include spill prevention, containment, and counter measures in the SWPPP if  
2 the volume of fuel in a single container exceeds 660 gallons, or if the total fuel storage volume  
3 at any one site exceeds 1,320 gallons.

4 In the event of a spill of a hazardous material, Developer shall modify the SWPPP as necessary  
5 within 14 days of the discharge. Developer shall modify the SWPPP to include a description of  
6 the release, the circumstances leading to the release, and the date of the release.

### 7 **420.3.2.5 Inspections**

#### 8 **420.3.2.5.1 General**

9 The Erosion Control Coordinator must inspect the Project with ADOT at least every 7 days, and  
10 also within 24 hours after any storm event of 0.50 inches or more. The inspections must include  
11 disturbed areas that have been temporarily stabilized, areas used for storage of materials,  
12 locations where vehicles enter or exit the Site, and all of the erosion and sediment controls  
13 included in the SWPPP. Developer shall monitor rainfall on the Site with a commercially  
14 manufactured rain gauge accurate to within 0.10 inches of rain. Developer shall prepare Rainfall  
15 Records that include daily rainfall data from the rain gauges. On a weekly basis, Developer shall  
16 submit Rainfall Records to ADOT.

17 For each inspection, the Erosion Control Coordinator must complete and sign a Compliance  
18 Evaluation Report as described in the permit. A sample Compliance Evaluation Report is  
19 included in the RIDs. Developer shall retain copies of the completed reports at the Site in the  
20 SWPPP file throughout the Construction Period. Following each inspection, Developer shall  
21 submit a copy of the Compliance Evaluation Report to ADOT.

22 All inspections must be made jointly with ADOT.

#### 23 **420.3.2.5.2 Adjustments**

24 When deficiencies are noted during scheduled inspections, Developer shall take immediate  
25 steps to make the required corrections as soon as practical. Developer shall correct  
26 deficiencies, ~~to the satisfaction of ADOT,~~ within 4 Business Days or by the next anticipated  
27 storm event, whichever is sooner. Developer shall correct deficiencies noted between  
28 designated inspections ~~within the time period directed by ADOT,~~ but not later than 4 Business  
29 Days after observation.

30 Developer shall correct direct inflows of sediment into a watercourse by the end of the same day  
31 or work shift in which the inflow was observed.

#### 32 **420.3.2.6 Non-Compliance**

33 ADOT may reject the Erosion Control Coordinator if the conditions of the AZPDES *General*  
34 *Permit* or the approved SWPPP are not being fulfilled. ADOT may reject the Erosion Control  
35 Coordinator for failure to complete any of the following:

36 A. Should ADOT determine that the SWPPP is not being properly implemented, ADOT may  
37 notify Developer in writing of such deficiencies. The Erosion Control Coordinator must  
38 fully implement the requirements of the approved SWPPP within 3 Business Days.

39 B. Should any corrective measures required in Section CR 420.3.2.5 of the TPs not be  
40 completed within the time periods specified therein, ADOT may notify Developer in  
41 writing. Developer shall complete all required corrective measures within 2 Business  
42 Days of such notification, except that Developer shall correct direct inflows of sediment  
43 into a watercourse within 24 hours.



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1 C. Should ADOT determine that routine maintenance of the Project's erosion control  
2 measures is not being adequately performed, ADOT may notify Developer in writing.  
3 Within 3 Business Days, the Erosion Control Coordinator must demonstrate to ADOT  
4 that such steps have been taken to correct the problem.

5 In the event of the Erosion Control Coordinator's failure to comply with any of the above  
6 requirements, ADOT may direct Developer to stop all affected Work and propose a new Erosion  
7 Control Coordinator as soon as possible. However, Developer must maintain all erosion and  
8 pollution control items specified in the SWPPP at all times. Developer shall not perform any  
9 additional Construction Work affected by the SWPPP until a new Erosion Control Coordinator  
10 has been approved by ADOT.

### 11 **420.3.2.7 Record of Major Construction and Erosion Control Measures**

12 In addition to ~~the~~completing and signing the original Compliance Evaluation Report, Developer  
13 shall record the dates, of the following activities, including the erosion control measures  
14 associated with these activities:

- 15 A. When major grading activities (including clearing and grubbing, excavation, and  
16 embankment construction) occur in a particular area or portion of the site.
- 17 B. When construction activities cease in an area, temporarily or permanently.
- 18 C. When an area is stabilized, temporarily or permanently.

19 Developer shall note such information within 2 Business Days of the occurrence of any of the  
20 listed activities, and shall include a copy of the report in the SWPPP. Within 3 days of  
21 completion or amendment to the Compliance Evaluation Report, Developer shall submit the  
22 ~~Amended~~amended Compliance Evaluation Report to ADOT.

### 23 **420.3.2.8 Notice of Termination ~~(NOT)~~**

24 Fifteen Business Days after final stabilization in accordance with ADEQ, Developer shall  
25 complete and mail a Notice of Termination (NOT) for the Project to the address shown below.

26 Arizona Department of Environmental Quality  
27 Surface Water Section/Stormwater & General Permits (5415A-1)  
28 1110 W. Washington Street  
29 Phoenix, Arizona 85007  
30 or fax to 602 771-4528

31 The NOT submitted by Developer must include a certification statement which is signed and  
32 dated by an authorized representative of Developer, as defined in Part VIII.J.2 of the AZPDES  
33 *General Permit*, and include the name and title of that authorized representative.

34 Alternatively, Developer may submit the NOT electronically, through ADEQ's Smart NOI website  
35 at ~~http://az.gov/webapp/noi/main.de-~~https://az.gov/app/smartnoi. Concurrent with the submittal  
36 of the NOT to ADEQ, Developer shall submit a copy of the NOT to ADOT.

37 When the approved SWPPP includes the use of Class II seeding as an erosion control  
38 measure, Developer shall maintain seeded areas for 45 calendar days, as specified in the  
39 special provisions, and approved by ADOT before Developer's NOT can be submitted. Seeding,  
40 when used in the SWPPP as an erosion control measure, is not considered as part of any  
41 Landscape Establishment Phase that may be included with the Project.

42 Developer shall prepare Water Quality Records that include the SWPPP (including inspection  
43 forms) and all data used to complete the NOI and NOT. At Substantial Completion, Developer



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1 shall submit the Water Quality Records to ADOT. Developer shall retain its own records for a  
2 period of at least 3 years from the filing of Developer's NOT.

### 3 **420.3.3 Developer's Responsibility for Work**

4 Developer shall implement the requirements of the AZPDES for erosion control due to storm  
5 water runoff during construction, as specified in Section CR 420.3.2 of the TPs.

6 Until Final Acceptance, Developer shall have the charge and care thereof and shall take every  
7 precaution against injury or damage to any part thereof by the action of the elements, or from  
8 any other cause, whether arising from the execution or from the nonexecution of the Work.  
9 Developer shall rebuild, repair, restore, and make good all injuries or damages to any portion of  
10 the Work occasioned by any of the above causes before final acceptance.

11 In case of suspension of Work from any cause, Developer shall be responsible for the Project  
12 and shall prevent, including taking all necessary precautions to prevent, damage to the Project  
13 and provide for normal drainage. Developer shall also erect any necessary temporary  
14 structures, signs, or other facilities. During such period of suspension of Work, Developer shall  
15 properly and continuously maintain in an acceptable growing condition all living material in  
16 newly established plantings, seedings and soddings, and shall protect new tree growth and  
17 other important vegetative growth against injury.

### 18 **420.3.4 Stormwater Management Plan**

19 Developer shall develop and maintain a Stormwater Management Plan that is in compliance  
20 with applicable Law and shall obtain all Governmental Approvals in connection therewith. The  
21 Stormwater Management Plan must include provisions for control of sedimentation and erosion,  
22 runoff, SWPPP, and water quality during the Construction Period and the Term. Specific  
23 guidelines for stormwater management can be found in the ADOT *Erosion and Pollution Control*  
24 *Manual*. ~~With~~At the same time as the first Initial Design Submittal, Developer shall submit a  
25 Stormwater Management Plan to ADOT for approval ~~in ADOT's reasonable discretion.~~

### 26 **420.3.5 Prevention of Air and Noise Pollution**

27 Developer shall control, reduce, remove, and prevent air pollution in all its forms, including air  
28 contaminants, in the performance of Developer's Work.

29 Developer shall comply with the applicable requirements of Arizona Revised Statutes Section  
30 49-401 et seq. (Air Quality) and with the Arizona Administrative Code, Title 18, Chapter 2 (Air  
31 Pollution Control).

32 Developer shall comply with all local sound control and noise level rules, regulations and  
33 ordinances which apply to the Work.

34 Developer shall ensure that each internal combustion engine used for any purpose on the Work  
35 or related to the Work is equipped with a muffler of a type recommended by the manufacturer.  
36 Developer shall not operate any internal combustion engine without its muffler being in good  
37 working condition.

38 Developer shall not burn trash, debris, plant material, wood, or any other waste materials.

### 39 **420.3.6 Source of Supply and Quality Requirements**

40 Unless otherwise specified in the Contract Documents, Developer shall be responsible for  
41 furnishing all water required for the Work. Water obtained from sources within the Salt River or  
42 Verde River watersheds and administered by Salt River Project (SRP), or obtained from Salt  
43 River Valley Water Users Association (SRVWUA) delivery canals within the Phoenix  
44 metropolitan areas, is subject to the following conditions:

- 1 A. For water obtained from rivers, streams, lakes, or other sources within the watershed,  
2 Developer shall obtain a Construction Water Exchange Permit. Water obtained from  
3 surface water sources or wells in close proximity to a river, stream, or lake located within  
4 the watershed may also require a Construction Water Exchange Permit and, for such  
5 water, Developer shall obtain any required permit.
- 6 B. For water obtained from SRVWUA canals, Developer shall contact SRP to determine the  
7 most appropriate delivery method and associated permits and costs, and shall obtain  
8 such permits and pay such costs. As an example, a Permit for Operation of Mobile Tank  
9 Trucks is required for water pumped into mobile water trucks.

10 Developer shall contact SRP at the address shown below to determine whether its anticipated  
11 water sources is subject to SRP regulations and, if necessary, the appropriate requirements,  
12 permits, and fees.

13 Salt River Project  
14 Water Contract Accounting & Data Services SSW302  
15 PO Box 52149  
16 Phoenix, Arizona 85072-2149  
17 (602) 236-2255  
18 (602) 236-3313  
19 Fax (602) 236-5082

20 Developer shall not obtain water from sources as specified herein until Developer has furnished  
21 ADOT with a completely executed copy of the appropriate permits.

22 **420.3.7 Archaeological Features**

23 The attention of Developer is directed to Title 41, Article 4, Archaeological Discoveries, Sections  
24 41-841, et seq., of the Arizona Revised Statutes, which make it a felony, punishable by a fine  
25 and imprisonment, to investigate, explore, or excavate on State land, in or on prehistoric ruins,  
26 ancient burial grounds, fossilized footprints, hieroglyphics, and all other archaeological features  
27 of Arizona without permits from the Arizona State Museum.

28 Section 6(a) of the Federal Archaeological Resources Protection Act of 1979 specifies that no  
29 person may excavate, remove, damage, or otherwise alter or deface any archaeological  
30 resource located on public (Federal) lands or Indian lands unless such activity is pursuant to a  
31 permit issued under Section 4 of the Act. Violations of this act are considered a felony and are  
32 punishable by fine and imprisonment.

33 While, prior to construction, ADOT will endeavor to identify all cultural resources in the  
34 Schematic ROW, previously unidentified archaeological materials could be found during the  
35 construction of the Project. When archaeological, historical or paleontological features are  
36 encountered or discovered during any activity related to the construction of the Project,  
37 Developer shall stop Work immediately at that location and shall secure the preservation of  
38 those features and notify ADOT.

39 ADOT will direct how to protect the features. Developer shall not resume Construction Work at  
40 that Project Segment until Developer is so directed by ADOT.

41 **420.3.8 Historic Preservation**

42 The attention of Developer is directed to Title 41, Chapter 4.2, Historic Preservation, Section 41-  
43 861 et seq., Arizona Revised Statutes, which makes it a felony to intentionally possess, sell or  
44 transfer any human remain, funerary object or other artifact.

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1 While, prior to construction, ADOT will endeavor to identify all items that require Historic  
 2 Preservation in the Schematic ROW, previously unidentified human remains, funerary objects,  
 3 or artifacts may be found during the construction of the Project. When human remains, funerary  
 4 objects or artifacts are encountered or discovered during any activity related to the construction  
 5 of the Project, Developer shall stop Work immediately at that location and shall secure the  
 6 preservation of those items and notify ADOT.

7 ADOT will direct how to protect the items. Developer shall not resume Construction Work at that  
 8 Project Segment until Developer is so directed by ADOT.

### 9 420.4 SUBMITTALS

10 Table 420-2 reflects a nonexclusive list of Submittals identified in Section CR 420 of the TPs  
 11 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 12 determine and submit all Submittals as required by the Contract Documents, Governmental  
 13 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 14 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 15 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 16 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 420-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Draft SWPPP	3	2	1	Prior to ground disturbance activities, issuance of <del>NTP</del> <u>NTP 2</u> , and submittal of the NOI	CR 420.3.2.2
SWPPP	5	2	1	After finalizing and signing the SWPPP	CR 420.3.2.2
Amended SWPPP	3	2	1	After amending the SWPPP	CR 420.3.2.2
Laboratory Testing Location <u>Plan</u>	3	2	1	At least 15 days before submittal of any samples for analysis	CR 420.3.2.2.2
NOI <del>Form</del>	3	2	1	After the SWPPP has been approved by ADOT and prior to submission to ADEQ	CR 420.3.2.3
NOI and Authorization Certificate	5	2	1	Prior to any ground disturbing activities	CR 420.3.2.3
Rainfall Records	5	2	1	On a weekly basis	CR 420.3.2.5.1
Compliance Evaluation Report	5	2	1	Following each inspection	CR 420.3.2.5.1
Amended Compliance Evaluation Report	5	2	1	Within 3 days of completion or amendment to the Compliance Evaluation Report	CR 420.3.2.7

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<b>Table 420-2 Nonexclusive Submittals List</b>					
<b>Submittals</b>	<b>Level of Review*</b>	<b>Number of Copies</b>		<b>Submittal Schedule</b>	<b>Section Reference</b>
		<b>Hardcopies</b>	<b>Electronic</b>		
Notice of Termination	3	2	1	Concurrent with the submittal of the NOT to ADEQ	CR 420.3.2.8
Water Quality Records	5	2	1	At Substantial Completion	CR 420.3.2.8
Stormwater Management Plan	3	2	1	<del>With</del> At the same time as the first Initial Design Submittal	CR 420.3.4
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1

2

**End of Section**

**CR 425 PUBLIC INFORMATION**

**425.1 GENERAL REQUIREMENTS**

Developer shall perform all public information Work in compliance with the requirements of Section CR 425 of the TPs. Section CR 425 of the TPs includes provisions for activities occurring in the design phase.

**425.2 PUBLIC INVOLVEMENT PROGRAM**

Developer acknowledges and agrees that the residential and business characteristics of the Project requires that Developer shall engage in a high degree of personal contact with property owners and residents, which personal contact Developer shall make possible by a “real time” public involvement program that must provide rapid responses to Public concerns. Developer also acknowledges and agrees that an exceptional awareness of the importance of the Project’s public involvement program and close coordination with ADOT is required of Developer to ensure that the communications effort in support of the public involvement program is considered to be effective as the Project advances.

Developer shall develop and implement a public involvement program for the Project that includes extensive community outreach to the general public, Project stakeholders (e.g., adjacent neighborhoods, schools, and business owners), and Governmental Entities. Developer shall design the public involvement program to:

- A. Allow for two-way flow of information and successful implementation of the Project
- B. Enable identification of community issues early in the Term, so that issues may be addressed and/or mitigated
- C. Reduce the probability of Project delays
- D. Work closely with Project stakeholders to keep them apprised of the Project Schedule and progress achieved to ensure that their issues and concerns are addressed by the appropriate staff
- E. Actively seek and respond to input from the public throughout the D&C Period
- F. Prevent unnecessary disruptions for motorists and neighboring properties
- G. Ensure access to and from residences, businesses, park-and-ride lots, and agricultural fields
- H. Ensure safe movement of construction equipment, personnel, and materials to and from work zones, in a manner least disruptive to others
- I. Minimize noise and dust pollution
- J. Avoid encroachment on private properties adjacent to the highway corridor
- K. Maximize effectiveness of traffic control schemes
- L. Coordinate with other projects that might occur within the area(s) adjacent to the Project concurrent with this Project

Developer shall provide task-specific Project information that must contribute to early identification of community relations and information issues that must be addressed by the public involvement program, under the direction of ADOT.

Developer may, at ADOT’s discretion, accompany ADOT and other designated ADOT representative(s) to preconstruction briefings to be held with primary stakeholders (e.g., neighborhood groups, business owners, property managers, government officials, media, etc.), as required following Contract execution. In conjunction with ADOT, Developer shall become

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- 1 familiar with Project customers and allow these customers to become familiar with Developer,
- 2 thus allowing each an opportunity to gain a greater mutual understanding of the challenges to
- 3 be faced by each other throughout the Term.
- 4 Allocation of public involvement program responsibilities between ADOT and Developer are
- 5 reflected in Table 425-1. All documents are to be made available to FHWA for information and
- 6 review as part of ADOT's partnership with FHWA.

<b>Table 425-1 Public Involvement Program Responsibility Matrix</b>		
<b>Activity</b>	<b>ADOT</b>	<b>Developer</b>
Community events	Review	Develop master list of potential events, coordinate and manage participation
Documentation, reporting, and tracking	Review, determine strategy for final resolution; review and approve Construction Operations Survey	Create Stakeholder Inquiry Form and Construction Operations Survey and associated processes for implementation
Emergency communication	Review and approve	Develop crisis communications plan as part of the PIP
GRIC Community	Lead and provide direction to Developer	Create Project flyers, brochures, notification material, PowerPoint presentations, maps, and other collateral as needed to implement the PIP
Hotline	Maintain phone account	Manage Setup, manage, monitor, log, respond, and document all calls
Media relations	Lead and provide direction to Developer	Establish media tour procedures; log and forward all media inquiries to ADOT; provide information, materials, and staff
Meetings	Determine level of Developer assistance and participation	Manage notification, conduct, and documentation of meetings
Notification	Review and approve	Manage notification process, including creating collateral material
Project collateral	Review and approve	Create Project fliers, brochures, notification material, PowerPoint presentations, maps, and other collateral as needed to implement the PIP consistent with the South Mountain Freeway Summary Report: Public Involvement for the Draft Environmental Impact Statement (DEIS) provided in the RIDs
Public interaction	Provide guiding protocols as appropriate	Develop and document processes for developing and maintaining stakeholder relationships and for responding to and resolving public inquiries, comments, or complaints
Public Involvement Plan (PIP)	Review and approve	Prepare, implement, and revise as needed
Speakers bureau	Review and approve	Develop list of speakers, coordinate logistics, and provide support/materials
Stakeholder database	Provide existing relevant database(s) and/or database template instructions	Develop and maintain, including regular updates



Table 425-1 Public Involvement Program Responsibility Matrix		
Activity	ADOT	Developer
Title VI	Review and approve	Develop activities/techniques as part of the PIP to meet needs of all populations, including Title VI populations
Website	Host the site; provide templates/specifications; manage all information updates	Create content, including text and graphics; and provide timely updates

1 **425.2.1 Staffing**

2 Developer shall provide a Public Relations Officer and additional public information staff as  
 3 required to work in conjunction with ADOT to implement the public involvement program.  
 4 Developer shall ensure that its staff provides day-to-day identification of community relations  
 5 and public information issues and needs, including response to customer inquiries, rapid  
 6 resolution of job-site customer-related conflicts, and handling of complaints from the public.  
 7 Developer shall coordinate appropriate responses to these issues and needs in concert with  
 8 ADOT.

9 Developer shall coordinate and notify property owners, businesses, schools, residents, and  
 10 Governmental Entities regarding disruptions attributable to the Work scheduled in their  
 11 respective areas.

12 **425.2.2 Public Involvement Plan**

13 **425.2.2.1 Goals and Objectives**

14 Developer shall create a Public Involvement Plan (PIP) that addresses the following goals and  
 15 objectives:

- 16 A. Develop public understanding of the Project.
- 17 B. Provide opportunities for early and continuing public participation in the decision-making  
 18 process, including during the design phase, as appropriate, and encourage participation.
- 19 C. Develop and maintain accountability, credibility, and accessibility of ADOT and  
 20 Developer.
- 21 D. Obtain input from a broad range of community representatives, such as business  
 22 owners, residents, and community organizations.
- 23 E. Provide support to ADOT in its efforts to inform the media and maximize potential for  
 24 informed media coverage.

25 **425.2.2.2 Guiding Principles**

26 Developer shall coordinate with ADOT in developing a PIP to implement the public involvement  
 27 program built on the following principles:

- 28 A. Public involvement activities must be directly linked to Project milestones, technical  
 29 activities, and, as appropriate, decision making.
- 30 B. Adequate opportunities for public involvement and time for public review and comment  
 31 must be made available.

- 1 C. Reasonable access to technical and policy information must be available to the public
- 2 throughout the design and construction of the Project.
- 3 D. Demonstration of explicit consideration and response to public input must be provided
- 4 whenever possible.
- 5 E. Solicitation and consideration of the needs of those traditionally underserved by existing
- 6 transportation systems must be obtained to ensure that their involvement in decision-
- 7 making prevents disproportionately high and adverse impacts on these stakeholders and
- 8 to ensure that they receive a proportionate share of benefits. Traditionally underserved
- 9 populations include low-income and minority households, ADA populations, Title VI
- 10 protected populations, and Native Americans.
- 11 F. Quarterly reviews of the effectiveness of the public involvement program must be
- 12 conducted to ensure that full and open access is being provided to all who are interested
- 13 or who could be interested in the Project.
- 14 G. Coordination with Governmental Entities and other stakeholders, such as business
- 15 owners, residents, and community organizations.
- 16 H. Provision of timely information to Government Entities and other stakeholders, including
- 17 those representing other local jurisdiction concerns.

18 | Prior to issuance of NTP2NTP 2, Developer shall submit the PIP for approval in ADOT's good  
19 faith discretion.

20 **425.2.2.3 Description of Activities**

21 The PIP must include full details and descriptions for accomplishing the goals, objectives, and  
22 activities described in Section CR 425 of the TPs, as follows:

- 23 A. Activities and processes for preparing and distributing public information, including:
  - 24 1. Notice of traffic, utility, or other disruption, including timing and method of such
  - 25 notification in accordance with the Contract Documents.
  - 26 2. General construction progress updates.
  - 27 3. Process for contributing information as needed to the Project website updates and
  - 28 the development of public information and marketing communications.
  - 29 4. Collateral materials (e.g., Project newsletter, fact sheet, and media briefing kit).
  - 30 5. Public and stakeholder meetings, including timing and method of meeting
  - 31 notification.
- 32 B. Schedule of activities (e.g., website updates, collateral production, public meetings,
- 33 summary reports, and public comment/contact and response logs).
- 34 C. Identification of and participation in community activities such as community and
- 35 neighborhood celebrations and fairs, business organization events, and homeowners'
- 36 association meetings.
- 37 D. Creation and management of a Project speakers bureau.
- 38 E. Project hotline management and maintenance.
- 39 F. Strategies and techniques for addressing the communication needs of all populations,
- 40 including Title VI populations, members of the disabled community, and culturally
- 41 diverse populations.
- 42 G. Media relations procedures.
- 43 H. Crisis communications plan.

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- 1 I. Process for developing and maintaining a stakeholder database, using ADOT's existing
- 2 Loop 202 South Mountain Freeway stakeholder database as a starting point.
- 3 J. Procedures for logging, responding to, and documenting stakeholder and public
- 4 comment, contact, and inquiry.

### 5 **425.2.3 Roles and Responsibilities**

#### 6 **425.2.3.1.1 Meetings**

7 Developer shall attend meetings as described in the PIP, including construction progress  
8 meetings as needed to inform the community of its progress and to entertain comments and  
9 address concerns from the community. These meetings must be attended by the Public  
10 Relations Officer and/or other Developer public involvement staff as deemed appropriate by  
11 ADOT.

12 Developer shall assist ADOT in planning, coordinating details of, and participating in Project  
13 public involvement kickoff meetings with ADOT and property owners and tenants in location(s)  
14 within 5 miles of the Project that are selected to maximize convenience for potential attendees.  
15 At those meetings, Developer shall address community concerns and provide information on its  
16 construction approach and emergency plan.

17 Developer, in coordination with ADOT, shall ensure that the subjects of community relations and  
18 community impact from construction operations are included on the agenda of each  
19 construction progress meeting.

20 Developer shall participate in any other Project-related meetings that may be called as needed  
21 at the direction of and in coordination with ADOT.

22 Developer shall provide ADOT access to all Project planning and scheduling meetings and any  
23 meetings associated with the development of traffic control planning by Developer.

#### 24 **425.2.3.1.2 Public Inquiries**

25 ADOT is primarily responsible for coordinating the resolution of complaints from the property  
26 owners and tenants. Developer shall process complaints and provide logs or other notification  
27 on a regular basis, as defined in the PIP.

28 | Developer shall setup and manage a new Project telephone hotline. Subject to ADOT review  
29 and approval, Developer shall assign appropriate staffing to answer hotline calls Monday  
30 through Friday during regular business hours, develop appropriate messages and response  
31 protocols for after-hours callers, and log, respond to, and document calls in accordance with the  
32 PIP.

#### 33 **425.2.3.1.3 Media Relations**

34 Developer shall not speak to the media about the Project without prior authorization from ADOT  
35 and shall direct all questions from the media to ADOT. ADOT is primarily responsible for  
36 interfacing with the media and the general public; however, Developer shall provide information,  
37 materials, ~~public release notification~~ Public Release Notification(s), and/or a designated  
38 representative to be available for media interviews as determined by ADOT. ~~Within~~ At least 5  
39 Business Days ~~of schedule~~ prior to a scheduled notification release, Developer shall submit  
40 Public Release Notifications to ADOT.

41 In the PIP, Developer shall establish procedures and processes to facilitate media tours of the  
42 Site. Developer shall ensure that media on the Site are accompanied by ADOT at all times.

**425.2.3.1.4 Emergency Communication and Management**

Developer shall create a crisis communications plan that identifies an individual and an alternate who must be available and can be contacted 24/7/365 when an Emergency is identified by ADOT. At all times, Developer shall make Emergency and alternate telephone numbers available to the public. The crisis communications plan must include the following commitments:

- A. In the event of an Emergency, Developer shall follow the crisis communications plan prepared as part of the PIP and in accordance with procedures established by ADOT.
- B. In the event of an Emergency, the Developer’s designated contact person must contact the key individuals (as identified in the crisis communications plan approved by ADOT) within a half hour.
- C. Developer shall prepare a written report documenting the incident and submit it to person(s) identified in the crisis communications plan within 24 hours of the incident. The report shall document the time, location, participants, and cause of the incident, as well as the Developer’s action (or intended action) to resolve the incident.

**425.2.3.1.5 Notification**

Developer shall keep ADOT informed of Construction Work and traffic changes on a daily basis to assist the program for community awareness and to avoid major congestion or other site-specific conflicts. Developer shall:

- A. Provide a minimum 3 Business Day advance notice to ADOT of any change in construction activities or traffic changes.
- B. Provide information as requested for weekly construction status reports and traffic control reports in coordination with ADOT. Developer provided information must discuss the next 7 days of traffic control schemes, locations and types of construction, potential impacts on traffic, and the date and time for such impacts. Developer provided information must form the basis for weekly email and fax newsletters to be shared with the public.
- C. Provide day-to-day coordination and notification to affected property owners, businesses, and residents regarding disruptions attributable to the Work scheduled in their areas. Developer shall establish the timing of notifications in the PIP.
- D. Provide advance notice to the public using portable changeable message signs (PCMS) in the following situations with the indicated minimum duration of advance notice shown:
  - 1. Full street closure – Minimum of 7 days advance notice to the public.
  - 2. Peak hour reduction in through lanes on arterial and/or collector streets – Minimum of 7 days advance notice to the public.
  - 3. Left-turn prohibitions at signalized intersections of arterial and/or collector streets – Minimum of 3 days advance notice to the public.

Advance notice using PCMS may be required in other situations as determined solely by ADOT.

Developer shall place the PCMS at adjoining arterial and collector roadways. Developer shall remove the PCMS no less than 48 hours after the indicated traffic restrictions have commenced, unless otherwise determined by ADOT.

Use of static signs for advance notice may be feasible in limited situations. Use of static signs must be approved by ADOT in advance pursuant to the Traffic Control Plan (TCP).

- E. Provide information as required to ADOT; however, ADOT will respond to news media inquiries and will determine news media assignments.

1 **425.2.3.1.6 Reporting and Tracking**

2 Developer shall track all stakeholder-initiated communications, coordinate a response with  
3 ADOT, provide a record of response times to such communications, and conduct a review of  
4 actions taken in response, all as described in and consistent with the PIP. ADOT will conduct  
5 periodic surveys of customers to determine overall satisfaction ratings with the performance of  
6 the Work and the effectiveness of its public information and community relations endeavors.  
7 Developer shall use two tracking mechanisms, as follows:

8 A. Developer shall prepare and submit to ADOT for review and comment a “Stakeholder  
9 Inquiry Form” to record all community member-initiated inquiries. Developer shall record  
10 the nature of the inquiry and recommend a response. Within 5 Business Days of receipt  
11 of an inquiry from a community member, Developer shall submit Stakeholder Inquiry  
12 Forms to ADOT. At the end of each month, Developer shall provide a monthly report  
13 outlining the number and nature of community member-initiated inquiries and a summary  
14 of those inquiries.

15 B. Developer shall develop and submit a quarterly “Construction Operations Survey” to  
16 ADOT to be issued by Developer on behalf of ADOT to measure customer satisfaction  
17 with the Project regarding traffic control, dust control, noise control, access interference,  
18 encroachments onto private property, advance warnings of potential construction  
19 impacts on daily routines, and the reliability of information emanating from the Project.  
20 Developer shall disseminate surveys in areas affected by Construction Work, with the  
21 Project locations to be surveyed to be determined in concert with ADOT and based on  
22 magnitude of Work (i.e., where magnitude of Work has the greatest potential for adverse  
23 impacts to properties or the traveling public). Developer shall poll residents, schools,  
24 businesses and motorists affected by construction using a methodology agreed to by  
25 ADOT in the PIP.

26 **425.3 SUBMITTALS**

27 Table 425-2 reflects a nonexclusive list of Submittals identified in Section CR 425 of the TPs  
28 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
29 determine and submit all Submittals as required by the Contract Documents, Governmental  
30 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
31 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
32 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
33 formats described in Section GP 110.10.2.1.1 of the TPs:

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<b>Table 425-2 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Public Involvement Plan	2	2	1	Prior to issuance of <del>NTP</del> <u>NTP 2</u>	CR 425.2.2
Public Release Notification(s)	5	2	1	Within 5 Business Days of schedule notification release	CR 425.2.3.1.3
Stakeholder Inquiry Form	5	2	1	Within 5 Business Days of receipt of an inquiry from a community member	CR 425.2.3.1.6
Construction Operations Survey	5	2	1	<u>Quarterly</u>	CR 425.2.3.1.6
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

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**End of Section**



**CR 430 UTILITIES**

**430.1 GENERAL REQUIREMENTS**

Developer shall perform all Utility Construction Work in compliance with the requirements of Section CR 430 of the TPs.

**430.2 ADMINISTRATIVE REQUIREMENTS**

**430.2.1 Standards**

Developer shall perform all Utility Construction Work in accordance with the standards, manuals, and guidelines listed in Table 430-1.

Table 430-1 Standards		
No.	Agency	Name
1	ADOT	<del>Guide</del> <u>Guideline</u> for Accommodating Utilities on Highway <del>Right</del> <u>Rights</u> -of-Way
2	ADOT	Encroachment Permit ( <a href="http://azdot.gov/business/permits/encroachment-permits">http://azdot.gov/business/permits/encroachment-permits</a> )
3	Varies	Utility Company Standards

**430.2.2 Sewage Discharge Prevention Plan**

Developer shall prepare a Sewage Discharge Prevention Plan that describes the Construction Work that may impact active sanitary sewer lines and the methods Developer plan to prevent breakage and spills of such sanitary sewer lines. Construction Work that may impact an active sanitary sewer lines includes any of the following:

- A. Any Work that interrupts, diverts, relocate, plug, or abandon a sewer line or service connection, or brace, or tie into a sewer line or service connection.
- B. Any Work crossing beneath the pipe, at any angle, regardless of vertical separation.
- C. Any Work crossing over the pipe, at any angle, within 2 feet of the top of pipe.
- D. Work located parallel to the pipe within the following areas:
  - 1. For the area from the bottom of the pipe to 2 feet above the top of the pipe, any Work within 2 feet horizontally of the pipe wall.
  - 2. For the area below the bottom of the pipe, any Work located below an imaginary line beginning at the pipe springline and progressing downward at a slope of 1.5 feet vertically to 1.0 feet horizontally.

The Sewage Discharge Prevention Plan must include the following for each location where Construction Work activity involves an active sanitary sewer line:

- A. Description of the proposed Work in general, including the reasons for the work, scope, objectives, locations, dates, and estimated times the Work will be conducted. Include project Plan sheets detailing the proposed Work, and indicating the peak flow rates of active sewer lines, determined as specified.

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- 1 B. Determination for all existing sanitary sewer pipes whether the lines are active or  
2 abandoned and the peak flow rates of lines in service, as provided by the owner of the  
3 utility.
- 4 C. List the personnel (crew foreman, superintendent, and manager) that are proposed to  
5 perform the Work (include phone numbers).
- 6 D. Description of the Work in step-by-step detail for each location, including excavation  
7 plans and how both the new and existing structures and utilities will be identified and  
8 protected.
- 9 E. Detailed listing of any hardware, fittings, pipe plugs, flex couplings, tools, and materials  
10 needed to accomplish the Work, and note the status of these items (on-hand, to be  
11 fabricated, on order with expected delivery date, etc.). Include any manufacturer's  
12 specifications or recommendations, especially for any pipe plugs, sewer line fittings, and  
13 patching materials.
- 14 F. List all major equipment to be used to perform the Work. Include in this item any pumps  
15 that will be used to perform the Work and the rated capacity of the pumps at the  
16 anticipated suction head.
- 17 G. List all equipment to be used in the event of an unplanned release and specify how the  
18 equipment will be used. The locations of standby pumps shall be specified in this item.  
19 The plan shall indicate that all standby equipment to be used in the event of an  
20 unplanned discharge can be delivered to the site and put into service within two hours of  
21 identification of any unplanned flow.
- 22 H. List the safety equipment to be used, and describe any unique safety procedures. Cite  
23 the applicable OSHA standards covering the work.
- 24 I. Describe any contingency plans Developer will implement in the event of unplanned  
25 releases and/or damage to existing facilities. List all personnel and subcontractors that  
26 will be responsible for responding to unplanned releases or damaged lines. Provide  
27 qualifications for all such personnel and subcontractors, including education, formal  
28 training, and relevant experience.
- 29 J. Description of how the public will be protected during the Work, and include or cite any  
30 applicable traffic control plans.
- 31 K. Description how temporary plugs or flow control devices will be secured, monitored, and  
32 removed.

33 The Sewage Discharge Prevention Plan must include any diagrams or sketches for clarity. At  
34 least 15 Business Days prior to any Work involving an active sanitary sewer line, Developer  
35 shall submit the Sewage Discharge Prevention Plan to ADOT for review and comment.  
36 Developer shall submit the Sewage Discharge Prevention Plan to the associated Utility Owner  
37 concurrent with the Submittal to ADOT.

### 38 **430.3 CONSTRUCTION REQUIREMENTS**

#### 39 **430.3.1 Utility Adjustment Work by Developer**

40 Developer shall perform the Utility Adjustment Work in accordance with the requirements of the  
41 applicable Utility Company and the ADOT ~~Guide~~*Guideline* for Accommodating Utilities on  
42 Highway ~~Right~~*Rights*-of-Way. All materials for Utility Adjustment Work must comply with Buy  
43 America. Developer shall perform all Utility Adjustment Work and shall protect and work around  
44 existing Utilities so as to avoid damage to all Utilities. Until issuance of the Maintenance NTP,  
45 Developer shall be the Arizona 811 field locator and shall perform all requirements as

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1 prescribed in A.R.S. §§ 40-360.21 through 40-360.29 for all underground facilities that  
2 Developer installs for the Project.

3 Developer shall perform all adjustments to city- or county-owned water, sanitary sewer, and  
4 storm drain facilities, and shall obtain approval of the Adjustments from the appropriate  
5 Governmental Entities. Unless otherwise agreed to in writing between Developer and the Utility  
6 Company, all other Utilities in conflict with the Project must be constructed by the appropriate  
7 Utility Company.

8 Developer shall perform well relocation and abandonment Work in accordance with the  
9 requirements of the Arizona Department of Water Resources and Section 5.8 of the Agreement.

### 10 **430.3.1.1 Inspection**

11 Developer acknowledges and agrees that each Utility Company, through its representative, has  
12 the right to inspect the Construction Work performed on its Utilities by Developer to ensure the  
13 location, alignment, and grade are in accordance with the approved Utility plans and the Utility  
14 Company's requirements. Developer shall provide access to the Site to allow for the Utility  
15 Company's inspection. Developer shall leave the installation exposed for inspection by the  
16 Utility Company or expose the Utility or Utilities for inspection by the Utility Company if the  
17 installation is covered prior to the Utility Company's inspection and approval. Developer shall  
18 contact the respective Utility Company at least 5 Business Days in advance to request an  
19 inspection of installed facilities.

### 20 **430.3.1.2 Approval**

21 Developer shall obtain a written acceptance of the Utility Adjustment Work from the Utility  
22 Company directed to ADOT. If the Utility Owner is unwilling to provide a written acceptance,  
23 Developer shall prepare a Utility Work Acceptance Request that describes the Utility Adjustment  
24 Work and the request to the Utility Company to accept the Utility Adjustment Work. Developer  
25 shall submit a copy of the ~~Request for Written Acceptance of the~~ Utility Work Acceptance  
26 Request to ADOT as a notification that the Utility Work has been completed, but the Utility  
27 Company is unwilling to provide a written acceptance. Developer shall schedule a meeting with  
28 the Utility Company and ADOT to resolve the matter. Notwithstanding Developer's submittal of a  
29 Request for Written Utility Work Acceptance of the Utility Work Request, if the Utility Company is  
30 not satisfied with the Work, Developer shall remain responsible for the reconstruction portions or  
31 all of the Utility Work.

### 32 **430.3.1.3 Access Responsibilities during Construction**

33 Developer shall take all appropriate measures to make certain that all Utilities remain fully  
34 operational during all phases of Construction Work, including coordinating with Utility  
35 Companies to develop a plan so Utility Companies may access their facilities for maintenance  
36 and repair during Construction Period. Developer shall construct any replacement access roads  
37 prior to disruption of the existing access roads.

### 38 **430.3.1.4 Utility Record Drawings**

39 Developer shall prepare Utility Record Drawings for Utility Adjustments performed by Developer.  
40 Developer shall prepare Utility Record Drawings in the format required by each Utility Company.  
41 The Utility Record Drawings must show the location of, and label as such, all abandoned  
42 Utilities. The Utility Record Drawings must indicate the installation horizontal and vertical control  
43 of all facilities installed, with size and materials noted. Developer shall submit Utility Record  
44 Drawings to the associated Utility Company as required by the Utility Company. Developer shall  
45 request a letterLetter of acceptanceAcceptance of the Utility Adjustment Work from the Utility

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1 Company after submittal of the Utility Record Drawings to the Utility Company. Within 10  
2 Business Days of receipt, Developer shall submit the ~~Original~~original Letter of Acceptance of the  
3 Utility Adjustment Work from the Utility Owner to ADOT. Developer shall incorporate the Utility  
4 Record Drawings into the Project Record Drawings.

### 5 **430.3.2 Providing Magnetic Detection for Underground Facilities**

6 All new underground utility, drainage facilities, and ITS empty conduits, including service  
7 connections, placed within Project ROW must be magnetically detectable with standard locating  
8 instruments. Developer shall place continuous detectable tracer for all the underground facilities  
9 that lack a continuous and integral metal component capable of detection by standard locating  
10 instruments, in accordance with Section 104.15 of the ADOT *Standard Specifications for Road  
11 and Bridge Construction*.

12 ~~Developer shall submit Final test results to ADOT.~~

### 13 **430.3.3 Utility Adjustment Work by Utility Companies**

14 Developer shall coordinate with Utility Companies to develop a plan so Utility Companies may  
15 access the Site to perform Utility Adjustments. Developer shall inspect all Utility Work performed  
16 by the Utility Companies and/or their contractors and subcontractors within the Site to verify  
17 compliance with the Contract Documents. Developer shall inspect and approve the construction  
18 performed by each Utility Company to verify that the construction complies with the  
19 requirements of the Contract Documents and the approved plans and permits for such  
20 construction. Developer shall request and receive, or alternatively create, Utility Record  
21 Drawings that include horizontal and vertical control with size and materials noted for the Utility  
22 Adjustments performed by the Utility Companies. Developer shall provide a ~~Written~~written  
23 Developer ~~Construction Inspection Approval Letter~~construction inspection approval letter to the  
24 Utility Company after Utility Record Drawings have been received from the Utility Company.  
25 ~~Developer shall prepare a Utility Adjustment Package that includes Developer's construction~~  
26 ~~inspection approval and Utility Record Drawings.~~ Within 10 Business Days of receipt of the  
27 ~~Written~~written Developer ~~Construction Inspection Approval Letter~~construction inspection  
28 ~~approval letter~~ from the Utility Company, Developer shall submit a ~~copy of the Written Developer~~  
29 ~~Construction Inspection Approval Letter and the Utility Record Drawings~~Utility Adjustment  
30 Package to ADOT. Developer shall immediately notify ADOT in writing regarding any  
31 noncompliance.

### 32 **430.3.4 Utility Abandonment**

33 Developer shall perform abandonment of Utilities within the Project ROW in accordance with the  
34 ADOT ~~Guide~~Guideline for Accommodating Utilities on Highway ~~Right~~Rights-of-Way.

## 35 **430.4 SUBMITTALS**

36 Table 430-2 reflects a nonexclusive list of Submittals identified in Section CR 430 of the TPs  
37 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
38 determine and submit all Submittals as required by the Contract Documents, Governmental  
39 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
40 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
41 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
42 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 430-2 Nonexclusive Submittals List				
Submittals	Level of	Number of Copies	Submittal	Section

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	Review*	Hardcopies	Electronic	Schedule	Reference
<u>Sewage Discharge Prevention Plan</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>At least 15 Business Days prior to any Work involving an active sanitary sewer line</u>	<u>CR 430.2.2</u>
<u>Request for Written Utility Work Acceptance of the Utility Work Request</u>	5	1	1	If the Utility Owner is unwilling to provide a written approval	CR 430.3.1.2
<u>Original Letter of Acceptance</u>	5	1	1	Within 10 Business Days of receipt	CR 430.3.1.4
<u>Written Developer Construction Inspection Approval Letter and the Utility Record Drawings Utility Adjustment Package</u>	5	1	1	Within 10 Business Days of receipt	CR 430.3.3
<p>*Levels of Review</p> <ol style="list-style-type: none"> <li>1. Sole discretion or absolute discretion approval (<u>Section 3.1.3.1 of the Agreement</u>)</li> <li>2. Good faith discretion approval (<u>Section 3.1.3.2 of the Agreement</u>)</li> <li>3. Reasonableness approval (<u>Section 3.1.4.2 of the Agreement</u>)</li> <li>4. Review and comment (<u>Section 3.1.5 of the Agreement</u>)</li> <li>5. Submit/receive and file or comment/no hold point (<u>Section 3.1.6 of the Agreement</u>)</li> </ol>					

1  
2

**End of Section**

1 **CR 436 RAILROAD**

2 **436.1 GENERAL REQUIREMENTS**

3 Developer shall perform all Construction Work impacting the railroad in compliance with the  
4 requirements of Section CR 436 of the TPs.

5 **436.1.1 Existing Railroad Crossings**

6 The Project interfaces with the railroad corridor owned and operated by UPRR. There is an  
7 existing railroad at-grade crossing of the UPRR within the Project, which has a specific USDOT  
8 number as reflected in Table 436-1.

Table 436-1 Existing Railroad Crossing Locations		
Railroad Crossing Locations	USDOT Crossing No.	Railroad MP
59th Avenue	741811U	899.69

9 **436.2 ADMINISTRATIVE REQUIREMENTS**

10 **436.2.1 Standards**

11 Developer shall perform all construction Work impacting the railroad in accordance with the  
12 standards, manuals, and guidelines listed in Table 436-2.

Table 436-2 Standards		
No.	Agency	Name
1	BNSF/UPRR	Guidelines for Railroad Grade Separation Projects
2	AREMA	Manual for Railway Engineering

13 Developer shall perform the construction Work impacting the railroad in accordance with the 23  
14 CFR 646, UPRR Construction and Maintenance Agreements, and Arizona Corporation  
15 Commission (ACC) authorization.

16 **436.2.2 Railroad Scope**

17 Developer's construction and coordination related railroad Work includes at least the following  
18 activities:

- 19 A. Obtaining and complying with all applicable construction specifications and requirements  
20 for each Work location that is on or adjacent to UPRR right-of-way.
- 21 B. Complying with the requirements of the UPRR Construction and Maintenance  
22 Agreements.
- 23 C. Arranging for and obtaining all temporary rights-of-entry and access onto railroad  
24 property, and comply with all railroad requirements for access, entry, and safety training  
25 for all personnel involved.



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1 D. Identifying and coordinating with UPRR for railroad flagging operations, and pay for  
2 costs of flagging as set forth in Section 5.11 of the Agreement.

3 E. Complying with and performing roadway worker training courses for all personnel that  
4 may enter UPRR right-of-way.

5 F. Coordinating with UPRR during construction activities within UPRR right-of-way.

6 Developer shall ensure that all railroad track Work, all railroad signal Work, removal Work, and  
7 any Work on UPRR-owned facilities impacted by the Project are performed by UPRR.

### 8 **436.2.3 UPRR Requirements**

9 Developer shall obtain a UPRR temporary construction license to construct the improvements at  
10 each crossing location within UPRR right-of-way. Developer shall arrange for UPRR to provide  
11 flagging services necessary for the safety of UPRR's property and the operation of UPRR's  
12 trains during all Project-related activities which occur within UPRR right-of-way. Developer shall  
13 ensure that the initial UPRR contact is the Manager of Industrial and Public Projects. As part of  
14 obtaining the necessary rights of entry and licenses, Developer shall arrange for UPRR to  
15 provide a contract project coordinator to serve as the UPRR contact.

### 16 **436.2.4 UPRR Agreements**

17 Developer shall comply with the requirements of all executed UPRR Construction and  
18 Maintenance Agreements in connection with the performance of the Work on proposed railroad  
19 crossings. Standard language and requirements of a UPRR Construction and Maintenance  
20 Agreement is included in the example agreement included in the RIDs. Each final executed  
21 UPRR Construction and Maintenance Agreement language may differ, from the example  
22 provided in the RIDs. Developer's rights and responsibilities regarding UPRR Construction and  
23 Maintenance Agreements and ACC approval ~~is~~are included in Section 5.11.2 of the Agreement.

24 Prior to entering the UPRR right-of-way, Developer shall obtain railroad *Right-of-Entry*  
25 *Agreements* with UPRR and shall coordinate entry directly with UPRR. Additionally, Developer  
26 shall obtain any other permits and approvals necessary to perform Work in UPRR right-of-way.

## 27 **436.3 CONSTRUCTION REQUIREMENTS**

### 28 **436.3.1 Railroad Operations**

29 Developer shall coordinate and schedule with UPRR all activities that affect the railroad.  
30 Developer shall coordinate and schedule all Work within the UPRR right-of-way to occur within  
31 the time gaps between trains.

32 Prior to performing any Work within UPRR right-of-way, Developer shall execute Exhibit C and  
33 C-1 of the "Agreement between UPRR and the Contractor," which is attached to each executed  
34 UPRR Construction and Maintenance Agreements between ADOT and UPRR.

### 35 **436.3.2 Railroad Flagging**

36 Developer shall determine the number of flagging days required and submit a request to UPRR  
37 for any flagging Work. Developer shall be responsible for any schedule impacts and costs  
38 associated with flagging required for the Project, and such flagging Work must be performed by  
39 UPRR flaggers in accordance with the executed UPRR Construction and Maintenance  
40 Agreements.

41 Developer shall not commence the Work or permit the Work to be commenced until Developer  
42 receives, in writing, assurance from UPRR's designated representative that arrangements have

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1 been made for flagging service, as may be necessary, and receives permission from UPRR's  
2 designated representative to proceed with the Work.

3 **436.3.3 Operational Safety**

4 Developer shall prove successful completion of roadway worker training courses by all  
5 personnel entering UPRR right-of-way. Developer shall ensure that all personnel working within  
6 UPRR right-of-way comply with roadway worker training courses requirements and the railroad  
7 requirements regarding personal protective equipment (PPE) and Work within UPRR right-of-  
8 way.

9

10

**End of Section**

1 **CR 440 ROADWAY**

2 **440.1 GENERAL REQUIREMENTS**

3 Developer shall perform all roadway Construction Work in compliance with the requirements of  
4 Section CR 440 of the TPs.

5 **440.2 ADMINISTRATIVE REQUIREMENTS**

6 *Intentionally left blank*

7 **440.3 CONSTRUCTION REQUIREMENTS**

8 Prior to installation, Developer shall submit Barrier, End Treatment, and Crash Cushion  
9 Certifications to confirm that the proposed barriers, barrier end treatments, and crash cushions  
10 comply with the requirements of NCHRP Report 350, *Recommended Procedures for the Safety*  
11 *Performance Evaluation of Highway Features*, or AASHTO *Manual for Assessing Safety*  
12 *Hardware (MASH)* to ADOT for review and comment. Developer shall not install barriers, barrier  
13 end treatments, or crash cushions prior to ADOT approval of the certifications.

14 **440.4 SUBMITTALS**

15 Table 440-1 reflects a nonexclusive list of Submittals identified in Section CR 440 of the TPs  
16 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
17 determine and submit all Submittals as required by the Contract Documents, Governmental  
18 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
19 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
20 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
21 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 440-1 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Barrier, End Treatment, and Crash Cushion Certifications	4	2	1	Prior to installation	CR 440.3
*Levels of Review					
1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> )					
2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> )					
3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> )					
4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> )					
5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

22

23

**End of Section**

1 **CR 445 DRAINAGE**

2 **445.1 GENERAL REQUIREMENTS**

3 Developer shall perform all drainage Construction Work in compliance with the requirements of  
4 Section CR 430 of the TPs.

5 **445.1.1 Providing Magnetic Detection for Underground Facilities**

6 All new drainage facilities placed within Project ROW must be magnetically detectable and  
7 comply with the requirements specified in Section CR 430.3.2 of the TPs.

8

9

**End of Section**

**CR 450 AESTHETICS AND LANDSCAPING**

**450.1 GENERAL REQUIREMENTS**

Developer shall perform all aesthetics and landscaping Construction Work in compliance with the requirements of Section CR 450 of the TPs.

**450.2 ADMINISTRATIVE REQUIREMENTS**

**450.2.1 Standards**

Developer shall perform all aesthetics and landscaping Construction Work in accordance with the standards, manuals, and guidelines listed in Table 450-1.

Table 450-1 Standards		
No.	Agency	Title
1	Arizona Nursery Association	Container Grown Tree Guide
2	American Nursery and Landscape Association	Z60 American Standard for Nursery Stock

**450.2.2 Meetings**

**450.2.2.1 ~~Pre-construction~~Preconstruction Coordination Meeting**

Developer shall conduct an aesthetics and landscaping preconstruction coordination meeting prior to constructing any aesthetics and landscape elements for the Project. The aesthetics and landscaping construction coordination meeting must include all personnel involved in the design and construction of the aesthetics and landscaping for the Project.

~~**450.2.2.2 Weekly Task Force meetings**~~

~~**450.2.2.2 Technical Work Group Meeting**~~

~~Unless otherwise directed by ADOT, Developer shall hold weekly Aesthetics and Landscaping Task Force Meetings throughout the duration of the construction of~~conduct aesthetics and landscaping TWG meetings every other week during the aesthetics and landscaping ~~Construction Work for the any~~ Project, ~~unless otherwise directed by ADOT, segment.~~ The purpose of the ~~Aesthetics~~aesthetics and ~~Landscaping Task Force~~landscaping TWG meetings during construction is to review and refine Developer’s aesthetics and landscaping construction shop drawings and working drawings. ~~Developer may combine construction aesthetics and landscaping TWG meetings with design aesthetics and landscaping TWG meetings.~~

**450.3 CONSTRUCTION REQUIREMENTS**

**450.3.1 Aesthetics**

**450.3.1.1 Mockups**

Developer shall prepare full-size Mockups with cement finish and paint colors of each ~~character areas~~Aesthetic Area rusticated elements. These include:

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- 1 A. Bridge barrier wall rustication, including the Salt River Bridge. The Mockup size for the  
2 bridge barrier wall rustication must be a minimum of 10 feet long x 34 inches high.
- 3 B. Full size Mockups of the angled accent rustication for the sound wall of one ~~character~~  
4 ~~area~~Aesthetic Area. The minimum width shall be 20 feet, capturing the full angled  
5 accent rustication and the taper along the top of the wall, by the full height of the  
6 intended sound wall and accent. This Mockup will double as the Mockup for the typical  
7 sound wall and retaining wall.
- 8 C. Full size Mockups of the angled accent rustication of the other four ~~character~~-areas  
9 Aesthetic Areas.
- 10 D. Full size Mockups of a bridge pier for each ~~character area~~. ~~For character area 5, the~~  
11 ~~height of the bridge pier mockup shall be an average between the tallest pier and the~~  
12 ~~shortest pier~~Aesthetic Area.
- 13 E. Full size Mockups of each ~~character~~-areas Aesthetic Area corner rustication pattern at  
14 the wing walls.
- 15 F. Full size Mockups of slope paving for each ~~character area~~Aesthetic Area, where  
16 applicable. The minimum size shall be 20 feet wide by the height at the respective  
17 location.

18 At least 40 Business Days prior to construction of the associated Element, Developer shall  
19 submit Mockups to ADOT for review and comment. Mockups for each ~~character area~~Aesthetic  
20 Area shall be placed on site in the respective ~~character area~~Aesthetic Area in context with the  
21 environment of the intended rustication pattern.

### 22 450.3.1.2 Paint Draw Downs

23 Developer shall prepare Paint Draw Downs which includes samples of each color to be used. At  
24 a minimum there will be seven colors: the base color, the accent color for each ~~character~~  
25 ~~area~~Aesthetic Area, and the accent color for the Salt River Bridge. At least 40 Business Days  
26 prior to painting, Developer shall submit Paint Draw Downs to ADOT for review and comment.

### 27 450.3.1.3 Paint Quality

28 All paint used in the project area shall resist chipping, flaking, fading, staining, and chalking.

### 29 450.3.2 Landscaping

30 Developer shall comply with the requirements of the Arizona Native Plant Law and the Arizona  
31 Revised Statutes Section 3-901, et seq. Developer shall provide the Arizona Department of  
32 Agriculture at least 10 Business Days notice prior to any clearing operations. Native plants as  
33 defined by the Statutes shall not be transported from the land or offered for sale without the  
34 written permission of the Commission.

35 Notice shall be sent to:

36 Assistant Director  
37 Division of Compliance  
38 Arizona Department of Agriculture  
39 State Office Building, Room 414  
40 1688 West Adams Street  
41 Phoenix, Arizona 85007

42 Developer shall not dispose debris from construction operation that creates a blemish on the  
43 landscape. Developer shall obtain the appropriate permits in accordance with applicable state



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and federal regulations to stockpile material in running or intermittent streams, or other waters of the U.S.

Developer shall install plants in such a manner as to provide optimum growth and health of the plants.

All nursery stock plant material must comply with the applicable requirements and standards of the Arizona Nursery Association *Container Grown Tree Guide* and the American Nursery and Landscape Association *Z60 American Standard for Nursery Stock*.

Developer shall be aware there often shortages of plant materials in the Phoenix area. Contract growing is one allowable option for ensuring the plants needed for the project will be available at the time of construction.

**450.3.2.1 Seeding**

Developer shall install seed such that the growth coverage success rate is 80 percent. Success is measured by a growth coverage area with bare spots no larger than 8 square inches and with barren areas not exceeding 20 percent of the total seeded area. Plants in the growth coverage areas must be healthy ~~and must contain a sufficient number of the plants within the seed mix.~~

**450.3.2.2 Irrigation**

Developer shall install a fully functional automatic drip irrigation system to all plant material within Character Areas 1, 3, 4, and 5. Developer shall irrigate Character Area 2 through a temporary system. Plant material within the City of Phoenix ROW must be on a separate drip irrigation system.

Developer shall install irrigation system(s) in accordance with all applicable national, state, and local plumbing and health and safety codes.

Developer shall establish all plants for 12 months after installation and then maintain appropriate irrigation levels to all plant materials to promote sustained growth and health of all plants while not exceeding the maximum allowable available water use requirements on an annual basis.

**450.3.2.3 Ground Treatment**

Developer shall install granite mulch and decomposed granite so that the installed material resists erosion (rilling of the slope) ~~based on a 50-year, 30-minute rainfall, equivalent to a precipitation intensity of approximately 0.0052 foot/minute.~~

Developer shall prepare Color Samples of each ground treatment material proposed and in each color and supplier proposed. The sample must be spread to 10-foot x 10-foot area to a minimum depth of 2 inches to represents how the desert pavement will look. Materials include, but are not limited to, granite mulch, decomposed granite, and rock mulch. At least 40 Business Days prior to the scheduled construction of the associated Element. Developer shall submit Color Samples to ADOT for review and comment.

The approved suppliers of granite mulch and decomposed granite are included in Table 450-2.

<b>Color</b>	<b>Granite Name</b>	<b>Supplier</b>
Coral	Yavapai Coral	Pioneer Landscape Materials

Table 450-2 Granite Mulch and Decomposed Granite		
Color	Granite Name	Supplier
	Pink Coral	Red Mountain Mining
	Palomino Coral	Kalamazoo Materials
	Grande Rose	Pioneer Landscape Materials
Brown	Express Brown	Granite Express
	Mountain Vista Brown	Kilauea Crushers
	Apache Brown	Kalamazoo Materials
	Table Mesa Brown	Pioneer Landscape Materials
Gold	Express Gold	Granite Express
	Madison Gold	Madison Granite
	Palomino Gold	Kilauea Crusher

1 **450.3.2.4 Landform Graphic Layout**

2 The Landform Graphic Artist must layout the landform graphic and submit a written notification  
 3 to ADOT for approval. Construction of the final landform graphic shall not begin until final  
 4 approval is given for the layout by ADOT.

5 Adjustments may require multiple enlargements, reductions, shaping, and positioning to achieve  
 6 the satisfactory visual results to fit the site conditions and provide maximum visual appeal from  
 7 the roadway, ramps, and bridge perspectives.

8 The graphic configurations shall be laid out with flexible material and spray painted florescent  
 9 along the centerlines of the graphics, for approval. Paint shall not conflict with Blue Stake  
 10 standard colors.

11 Rebar with safety caps and line string shall be installed with PVC pipe to provide reference  
 12 points and centerlines for subsequent paver and/or metal edging installation.

13 Spray point shall be used to mark graphic beginning and ending points and other lines.

14 Traffic control shall be coordinated with the Engineer and landscape contractor.

15 The approved artist shall be responsible for, and shall review, the landscape contractor's  
 16 layouts and installation of metal edging, pavers, placement of granite mulch and river rock  
 17 materials for conformance to graphic layout and colors specified on landscape design plans.

18 **450.3.3 Landscape Establishment for Non-Maintained Elements**

19 For landscape in the Non-Maintained Elements- area, Developer shall maintain and establish  
 20 the landscape elements for the landscape establishment period specified in Section 6.12.3 of  
 21 the Agreement. The landscaping establishment work shall consist of the care of all salvaged  
 22 and installed plant materials as part of the project in accordance with accepted horticultural

1 practices; supplying and applying all irrigation water; repairing, adjusting or replacing bracing;  
2 repairing public or weather damage to all landscape areas; furnishing and applying sprays, dust  
3 and/or cages to combat vandalism, disease, insects and other pests; noxious weed control,  
4 pruning; and the reconfiguring, maintaining, and operating the temporary drip irrigation system  
5 as specified by the Developer.

6 The landscape establishment activities shall include providing sufficient water to keep the  
7 installed plants in a healthy condition and the reconfiguration, modification maintenance, repair,  
8 replacement and operation of the temporary water distribution system by the Developer to meet  
9 the landscape establishment needs of the Project. The Developer shall be responsible to keep a  
10 log of all landscape establishment activities. The log shall contain a record of the time and date  
11 of field inspections, watering time durations and dates, fertilizer applications, repairs,  
12 replantings, and other operations conducted by Developer. Developer shall provide for approval  
13 the format for recording these activities prior to undertaking the work. Developer has the option  
14 of maintaining the nursery(ies) past the salvage and replanting operations completed as part of  
15 the D&C Period for use during the landscape establishment project. The continuation of  
16 maintaining these nursery(ies) as part of the landscape establishment project is at the discretion  
17 of Developer, as approved by ADOT, and all cost associated with this effort is considered  
18 incidental to the work included in landscape establishment.

19 The tree ties and stakes shall be removed at the end of the landscaping establishment period or  
20 as directed by ADOT. All trees shall stand erect on their own without stakes when brought to  
21 this site. If the tree cannot stand on its own when nursery stakes are removed, the tree shall be  
22 removed and replaced.

23 **450.3.3.1 Plant Protection**

24 All landscape plants shall be provided protection which shall include, but not be limited to,  
25 eradication or control of insects, mites, fungi, and non-fungus diseases. The application of  
26 appropriate insecticide, miticide and fungicide may only be used with the prior approval of  
27 ADOT. No insecticides, fungicides and miticides employed during the term of the contract shall  
28 cause the extermination of any landscape plant material, or cause damage to the growth  
29 characteristics such that plants will not be able to recover in a normal manner.

30 No chemical shall stain or cause damage to any portion of the site or improvements including  
31 landscape plant materials. If staining or damage occurs, repairs or replacements shall be made  
32 at Developer's expense to the satisfaction of ADOT. Application of chemicals shall be in such a  
33 manner so as to not cause injury to the personal health of anyone working on the project,  
34 observing, or passing by. Care shall be taken such that no puddles or pools of water which may  
35 contain toxic amounts of chemicals shall remain after completion of operations. Chemicals shall  
36 not be allowed to fall on or migrate to areas other than the work site. All laws and local codes  
37 shall be followed regarding application methods and personnel.

38 Subcontracting of the landscaping establishment work shall not be permitted except for weed  
39 eradication with herbicides, because of the special licensing required as covered under  
40 Subsection 807-3.02 of the ADOT *Standard Specifications for Road and Bridge Construction*.

41 **450.3.3.2 Establishment Irrigation**

42 During each watering cycle during the landscape establishment period, Developer shall supply  
43 water to a minimum depth of 12 inches to all Saguaros and trees (regardless of species).  
44 Developer shall provide adequate water to each installed plant to maintain optimum health  
45 through the completion of its applicable plant establishment period.

1 **450.3.3.3 Establishment Inspections**

2 ADOT will perform visual inspections in the presence of Developer once every 30 days during  
3 the landscaping establishment period, unless ADOT and Developer agree to other  
4 arrangements in writing. Developer shall modify the maintenance practices and water delivery to  
5 the plants to maintain optimum growing conditions as directed by ADOT. Saguaro  
6 measurements identified in Section 806 of the ADOT *Standard Specifications for Road and*  
7 *Bridge Construction* will be conducted every 4 months, as applicable.

8 During the landscape establishment period Developer shall provide the necessary care to keep  
9 all plant material equal in health and vigor under the use of standard horticultural practice to  
10 combat detriments known as; rodents, mammals, pest, disease, bacteria, mites, fungi, nutrient  
11 deficiency, harmful exposure to sunlight, and drought conditions. In addition to inspecting  
12 salvage plant material for damage to its appearance in health and/or vigor resulting from any of  
13 the previously mentioned detriments, ADOT will also inspect the salvage plant material and new  
14 plant material for symptoms that indicate poor health. Poor health symptoms will include items  
15 such as; wrinkled, loose or damaged cambium layers; evidence of transplant 'shock', i.e. leaf  
16 drop and discolored foliage; no observable improvement to the condition of the salvage or new  
17 plant material after it has received adequate irrigation or rain; change in color not consistent with  
18 color changes to identical species existing in the given area; and failure to leaf out when  
19 identical specie of the existing area are consistently found in leaf. The previously mentioned  
20 criteria shall be used by ADOT to determine if both the salvage and new plant material is in  
21 close conformity in health and/or vigor and acceptable for payment or determined unacceptable  
22 for no payment by the ADOT. Developer is required to replace the unacceptable or dead stock  
23 plant materials with the same species, size, appearance and quality as originally planted, as  
24 determined by ADOT. No further payment will be made to Developer for maintenance of any  
25 plant materials determined as unacceptable by ADOT. Local stock shall be the priority for  
26 replacement plants and the use of any collected/open stock requires advance approval.

27 Transporting of any plant materials for the landscape establishment activities shall be in  
28 compliance with all State and local requirements. Developer shall be responsible to obtain all  
29 necessary permits and tags for transporting plant materials on public roadways; no separate  
30 payment will be made to Developer for the permits. Permits and tags shall be made available to  
31 ADOT upon request. Developer shall maintain all non-planted areas within the freeway right-of-  
32 way and project limits, including the freeway median, drainage basins, cross-street medians,  
33 shoulder areas, and all other areas as depicted on the project plans.

34 **450.3.3.4 Planted Stock and Seeding Establishment**

35 The tree ties and stakes shall be removed at the end of the landscaping establishment period or  
36 as directed by ADOT. All trees shall stand erect on their own without stakes when brought to  
37 this site. If the tree cannot stand on its own when nursery stakes are removed, the tree shall be  
38 removed and replaced.

39 Developer shall apply approved pre-emergent herbicide according to manufacturer  
40 recommendations on all unpaved or landscaped areas of the right-of-way including the freeway  
41 median, maintenance pathways, areas of decomposed granite, granite mulch, rock mulch, and  
42 ADOT AB as depicted on the project plans, and as directed by ADOT.

43 The application shall first be completed midway through the landscape establishment period  
44 and the second application shall be completed 30 days prior to completion of the landscape  
45 establishment period. Watering shall be completed in accordance with the manufacturer's  
46 recommendations, as included and as related to each application.

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1 The pre-emergent herbicide shall be applied in accordance with the recommendations of the  
2 preemergent herbicide manufacturer, as approved by ADOT. The control of weeds shall be  
3 accomplished by the use of herbicides or manual removal. Manual removal of weeds shall be  
4 required in the seeded areas, and in the decomposed granite and granite mulch areas after  
5 herbicides have taken effect.

6 Developer shall maintain the existing seeded areas on the project, including any erosion repair,  
7 reseeding and/or restoration, as directed by ADOT.

8 ~~The work associated with this seeding restoration will be considered included in the price of~~  
9 ~~Landscape Establishment item.~~

### 10 **450.3.3.5 Plant Replacement**

11 During the second half of the landscaping establishment period, Developer shall provide, where  
12 required, plant replacements based on the original size. The plant material replacement shall be  
13 considered as included in the D&C work.

14 All dead or unhealthy plant stock shall be removed and replaced as directed, ~~at no additional~~  
15 ~~cost to ADOT~~, within 21 days from the date of the inspection and Developer shall notify ADOT in  
16 writing when the replacement work has been completed.

### 17 **450.3.3.6 Plant Survivability**

18 The new plants in the Non-Maintained Elements owned by ADOT must have a survivability rate  
19 of 100% at the end of the plant establishment period. Plants that are salvaged and replanted  
20 must have a survivability rate of 80% at the end of the plant establishment period.

## 21 **450.4 SUBMITTALS**

22 Table 450-3 reflects a nonexclusive list of Submittals identified in Section CR 450 of the TPs  
23 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
24 determine and submit all Submittals as required by the Contract Documents, Governmental  
25 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
26 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
27 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
28 formats described in Section GP 110.10.2.1.1 of the TPs:

Table 450-3 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Mockups	4	26	0	At least 40 Business Days prior to construction of the associated Element	CR 450.3.1.1
Paint Draw Downs	4	7	0	At least 40 Business Days prior to painting	CR 450.3.1.2
Color Samples	4	7	0	At least 40 Business Days prior to construction of the associated Element	CR 450.3.2.3
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

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**End of Section**



1 **CR 455 STRUCTURES**

2 **455.1 GENERAL REQUIREMENTS**

3 Developer shall perform all structures Construction Work in compliance with the requirements of  
4 Section CR 455 of the TPs.

5 **455.2 ADMINISTRATIVE REQUIREMENTS**

6 **455.2.1 Standards**

7 Developer shall perform the structures Construction Work in accordance with the standards,  
8 manuals, and guidelines listed in Table 455-1.

Table 455-1 Standards		
No.	Agency	Title
1	AASHTO	Guide Specifications for Bridge Temporary Works
2	AASHTO	Construction Handbook for Bridge Temporary Works
3	ADOT	Bridge Load Rating Guidelines

9 **455.3 CONSTRUCTION REQUIREMENTS**

10 **455.3.1 Bridge Material Properties**

11 Normal weight non-prestressed concrete must have the minimum strengths,  $f'c$ , at 28 days, as  
12 shown in Table 455-2.

Table 455-2 Minimum Concrete Strength	
Components	$f'c$ (ksi)
Decks (except barriers)	4.5
Bridge concrete barriers	4.0
Substructures (abutments, piers, foundation, and drilled shafts)	3.5
All other class 'S' concrete	3.0

13 **455.3.2 Structure Shop Drawings and Working Drawings**

14 Shop Drawings and Working drawingsDrawings, which include drawings for falsework, shoring,  
15 soldier piles, cofferdams, temporary bridges, and other major temporary support structures,  
16 must be prepared by and bear the seal and signature of a Professional Engineer.

17 Developer shall prepare MSE Wall ~~and Falsework Shop Drawings and Working Drawings~~  
18 ~~for that include~~ the Project design and construction requirements of the MSE wall. MSE Wall ~~and~~  
19 ~~Falsework Shop Drawings and Working~~ Drawings are considered Shop Drawings and Working

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1 Drawings. Not less than 10 Business Days prior to implementation, Developer shall submit MSE  
2 Wall ~~and Falsework Shop Drawings and Working~~ Drawings to ADOT.

3 The following ~~working drawings~~ Shop Drawings and Working Drawings, if applicable, must  
4 become part of the Record Drawings structure drawings:

- 5 A. Post-tensioning details;
- 6 B. Expansion joint details;
- 7 C. Proprietary bearing details;
- 8 D. Proprietary retaining wall details;
- 9 E. Proprietary sound barrier wall details;
- 10 F. Precast and stay-in-place deck panels;
- 11 G. Precast girder; and
- 12 H. Other ~~working drawings~~ Shop Drawing and Working Drawings for atypical structures as  
13 specified in the special provisions.

### 14 455.3.3 Falsework and Forms

15 ~~Design~~ Developer shall design and ~~construction of~~ construct falsework and forms ~~must be~~ in  
16 accordance with the following:

- 17 A. AASHTO *Guide Specifications for Bridge Temporary Works*
- 18 B. AASHTO *Construction Handbook for Bridge Temporary Works*
- 19 C. AASHTO *LRFD Bridge Construction Specifications*

20 Developer shall prepare Falsework Drawings that includes the design and construction  
21 requirements of the falsework and forms. Falsework Drawings are considered Shop Drawings  
22 and Working Drawings. Not less than 10 Business Days prior to implementation, Developer  
23 shall submit Falsework Drawings to ADOT.

### 24 455.3.4 Steel Fabrication

25 Lap splices or mechanical connectors must be used for all reinforcing steel splices and  
26 connections. Developer shall not allow or permit welding of reinforcing steel.

### 27 455.3.5 Concrete

28 Developer shall ensure that concrete pours are not conducted over live traffic.

29 Developer shall saw longitudinal grooves on bridge decks that are not overlaid with AR-ACFC in  
30 accordance with Section 402-5 of the ADOT Standard Specifications for Road and Bridge  
31 Construction.

### 32 455.3.6 Load Rating Report

33 Developer shall prepare an As-Built Load Rating Report(s) based on ~~As-Built~~ as-built condition in  
34 accordance with the AASHTO *Manual for Bridge Evaluation* and shall include both inventory  
35 and operating ratings of the “as-built” structures ~~to ADOT. With~~ At the same time as the Record  
36 Drawing Submittal, Developer shall submit the As-Built Load Rating Report(s) to ADOT for  
37 review and comment.

## 38 455.4 SUBMITTALS

39 Table 455-3 reflects a nonexclusive list of Submittals identified in Section CR 455 of the TPs  
40 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
41 determine and submit all Submittals as required by the Contract Documents, Governmental

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- 1 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all
- 2 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise
- 3 specified in the Contract Documents, Developer shall submit the following to ADOT in the
- 4 | formats described in Section GP 110.10.2.1.1 of the TPs:

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<b>Table 455-3 Nonexclusive Submittals List</b>					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<u>MSE Wall Drawings</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>Not less than 10 Business Days prior to implementation</u>	<u>CR 455.3.2</u>
<del>MSE Wall and Falsework Shop and Working Drawings</del>	5	2	1	Not less than 10 Business Days prior to implementation	CR 455.3.2
As-Built Load Rating Report(s)	4	2	1	<del>With</del> <u>At the same time as</u> the Record Drawing Submittal	CR 455.3.6
*Levels of Review 1. Sole discretion or absolute discretion approval (Section 3.1.3.1 of the Contract) 2. Good faith discretion approval (Section 3.1.3.2 of the Contract) 3. Reasonableness approval (Section 3.1.4.2 of the Contract) 4. Review and comment (Section 3.1.5 of the Contract) 5. Submit/receive and file or comment/no hold point (Section 3.1.6 of the Contract)					

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**End of Section**

1 **CR 457 BRIDGE HYDRAULICS**

2 *Intentionally left blank*

3

4

**End of Section**

1 **CR 460 TRAFFIC**

2 **460.1 GENERAL REQUIREMENTS**

3 Developer shall perform all traffic Construction Work in compliance with the requirements of  
4 Section CR 460 of the TPs.

5 **460.2 ADMINISTRATIVE REQUIREMENTS**

6 **460.2.1 Standards**

7 Developer shall perform all traffic Construction Work in accordance with the relevant  
8 requirements of the standards, manuals, and guidelines listed in Table 460-1.

Table 460-1 Standards		
No.	Agency	Title
1	FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
2	ADOT	Arizona Supplement to the MUTCD
3	ADOT	Manual of Approved Signs

9 **460.3 CONSTRUCTION REQUIREMENTS**

10 **460.3.1 Pavement Marking**

11 Temporary pavement marking must comply with the FHWA *Manual on Uniform Traffic Control*  
12 *Devices (MUTCD)* and the ADOT *Arizona Supplement to the MUTCD*. ~~Developer shall not place~~  
13 ~~temporary or interim pavement markings on the final pavement surface course.~~ Pavement  
14 markings must not be placed on the final pavement surface course unless it is the final  
15 pavement marking at its final location. Temporary pavement markings, if used, must not leave  
16 ghost markings on the final pavement surface.

17 **460.3.2 Signs**

18 Prior to removing existing sign structures, Developer shall remove all sign lighting fixtures,  
19 exposed conduit, and wiring to the nearest pull box serving the structure.

20 Developer shall coordinate with Grand Canyon State Logo Signs, a program of ADOT, for the  
21 engineering of integration and locations of specific service logo signs at each interchange in the  
22 ROW and exit ramps. Grand Canyon State Logo Signs is responsible for contracting the  
23 fabrication and installation of the specific service logo signs.

24 **460.3.3 Traffic Signal Systems**

25 Developer shall design and implement any temporary traffic signal timing or any phasing  
26 required for traffic management during construction. Fifteen Business Days prior to  
27 implementing the proposed timing or phasing changes, Developer shall prepare and submit  
28 ~~Written Request for a written~~ Traffic Signal ~~Modifications~~ Modification Request for any proposed  
29 timing or phasing changes, including temporary signal head placement, to ADOT for review and  
30 comment. For traffic signal modifications at intersections controlled by the City of Phoenix, 15  
31 Business Days prior to implementing the proposed timing or phasing changes, Developer shall



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1 | also submit the ~~Written Request for~~ Traffic Signal ~~Modifications~~Modification Request to the City  
2 | for review and comment.

3 | Ten Business Days prior to implementing temporary phasing changes, Developer shall prepare  
4 | and submit a ~~Written Request for~~written Temporary Phasing Controller Programing Request to  
5 | ADOT for ~~approval in ADOT's reasonable discretion~~. ADOT will program the controller, no  
6 | greater than 7 Business Days after receipt of the written request, after which Developer may  
7 | implement the temporary phasing.

8 | Developer shall deliver permanent traffic signal cabinets to ADOT Traffic Operations, 2104 S.  
9 | 22nd Avenue, Phoenix, AZ 85009, for assembling and testing by ADOT within 30 Business  
10 | Days prior to scheduled traffic signal turn-on date. Upon successful testing, Developer will pick  
11 | up the cabinet for installation.

### 12 | **460.3.4 Lighting**

13 | Developer shall maintain existing lighting levels during construction where existing lighting  
14 | exists. All luminaires must be individually fused. Developer shall place the in-line fuse of high  
15 | mast light fixtures that are mounted on lowering devices in the fixture housing. Developer shall  
16 | place the in-line fuses of all other fixtures in the nearest pull box.

17 | ~~In~~Developer shall record Global Positioning System (GPS) positions for each pull box in  
18 | accordance with the ADOT Standard Specifications for Road and Bridge Construction and the  
19 | ADOT Stored Specifications. Developer shall ~~record Global Positioning System (prepare a Pull~~  
20 | ~~Box Location Report that includes the GPS)~~ positions for ~~each~~pull box and boxes. Developer  
21 | shall submit the Pull Box ~~GPS Locations~~Location Report to ADOT for review and comment.

22 | Developer shall attach an ADOT-provided maintenance unit device decal 42 inches above the  
23 | base plate at 45 degrees in the direction of oncoming traffic on each electrical cabinet and  
24 | lighting pole. Developer shall prepare and submit a ~~Written Request for~~written Maintenance Unit  
25 | Device ~~Decals~~Decal Request to ADOT. ADOT will make unit device decals available for pickup  
26 | at ADOT Traffic Operations, 2104 S. 22nd Avenue, Phoenix, AZ 85009, within 30 days of  
27 | receipt of the ~~Written Request for~~ Maintenance Unit Device ~~Decals~~Decal Request. Developer  
28 | shall install all maintenance unit device decals on all equipment prior to opening to traffic.

29 | Developer shall attach a permanent metal tag to the pole above the hand hole stating the  
30 | manufacture's name, pole type per the plans, ADOT pole drawing number (if applicable), shaft  
31 | length, and gage number. Pictures of sample metal tags are included in the RIDs.

32 | Developer shall provide, erect, and maintain all necessary barricades, suitable and sufficient  
33 | lights, danger signals, signs and other traffic control devices and shall take all necessary  
34 | precautions for the protection of the work and safety of the public. Highways closed to traffic  
35 | must be protected by effective barricades, and obstructions must be illuminated during hours of  
36 | darkness. Suitable warning lights shall be provided to control and direct traffic properly.

37 | Developer shall erect warning signs in advance of any place on the Project where operations  
38 | may interfere with the use of the road by traffic, and at all intermediate points where the Work  
39 | crosses or coincides with an existing road.

40 | All signs, barricades, lights, temporary signals, and other protective devices must conform to the  
41 | requirements of the Manual of Uniform Traffic Control Devices (MUTCD) and associated  
42 | Arizona Department of Transportation Supplement (ADOT Supplement).

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**1 460.4 SUBMITTALS**

2 Table 460-2 reflects a nonexclusive list of Submittals identified in Section CR 460 of the TPs  
 3 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
 4 determine and submit all Submittals as required by the Contract Documents, Governmental  
 5 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
 6 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
 7 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
 8 formats described in Section GP 110.10.2.1 of the TPs:

<b>Table 460-2 Nonexclusive Submittals List</b>					
<b>Submittals</b>	<b>Level of Review*</b>	<b>Number of Copies</b>		<b>Submittal Schedule</b>	<b>Section Reference</b>
		<b>Hardcopies</b>	<b>Electronic</b>		
<del>Written Request for</del> Traffic Signal <del>Modifications</del> <u>Modification Request</u>	4	3	1	15 Business Days prior to implementing the proposed timing or phasing changes	CR 460.3.3
<del>Written Request for</del> Temporary Phasing Controller Programing <u>Request</u>	3	3	1	10 Business Days prior to implementing temporary phasing	CR 460.3.3
Pull Box <del>GPS</del> <del>Locations</del> <u>Location Report</u>	4	3	1	In accordance with the ADOT <i>Standard Specifications for Road and Bridge Construction</i> and the ADOT <i>Stored Specifications</i>	CR 460.3.4
<del>Written Request for</del> Maintenance Unit Device <del>Decals</del> <u>Decal Request</u>	5	1	1	As determined by Developer	CR 460.3.4
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

9

10

**End of Section**

1 **CR 462 MAINTENANCE OF TRAFFIC**

2 **462.1 GENERAL REQUIREMENTS**

3 Developer shall perform all maintenance of traffic Construction Work in compliance with the  
4 requirements of Section CR 462 of the TPs.

5 **462.2 ADMINISTRATIVE REQUIREMENTS**

6 **462.2.1 Standards**

7 Developer shall perform all maintenance of traffic Construction Work in accordance with the  
8 standards, manuals, and guidelines listed in Table 462-1.

Table 462-1 Standards		
No.	Agency	Name
1	FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
2	ADOT	Arizona Supplement to the MUTCD

9 **462.3 CONSTRUCTION REQUIREMENTS**

10 **462.3.1 General**

11 Developer shall manage traffic in accordance with the procedures and guidelines specified in  
12 the FHWA *MUTCD*, the ADOT *Arizona Supplement to the MUTCD*, and the Developer's Traffic  
13 Control Plans.

14 Developer shall not close lanes on the mainline, ramps, adjacent freeways, or local roadways,  
15 prior to approval of the TMP by ADOT.

16 **462.3.2 Traffic Control Devices**

17 All traffic control devices must comply with the requirements of the NCHRP Report 350,  
18 *Recommended Procedures for the Safety Performance Evaluation of Highway Features* or  
19 *AASHTO Manual for Assessing Safety Hardware (MASH)*, in accordance with Federal  
20 Guidelines, Part VI of the *MUTCD* and the ADOT *Arizona Supplement to the MUTCD*.

21 Developer shall inspect and maintain all traffic control devices a minimum of two times a day.

22 All orange signs must use fluorescent orange sheeting.

23 **462.3.2.1 Signs**

24 Developer shall provide advance signing notifying all users of the proposed closure a minimum  
25 of 5 Business Days prior to the proposed closure. The advance signing must include the closure  
26 dates and duration. Developer shall provide advance notification through PCMS for all closures  
27 and for each direction of traffic that is affected. Advance signing notification must be provided as  
28 noted in Table 462-2.

Table 462-2 Advance Signing Notification	
Event	Advance Notification
Major weekend restrictions	5 Business Days
Construction phase changes	5 Business Days
Lane restrictions or closures of ramps and crossroads	5 Business Days
Lane restrictions with detour implications or if traffic delays are expected	5 Business Days

1 The text for all temporary guide signs must be at least 10-inches in height.

2 Developer shall cover all signs that are in conflict with the Work during construction. Developer  
 3 shall ensure that any modifications to the existing signing system during construction include: an  
 4 exit sign at the exit gore and a minimum of one advance notice exit sign. If such sign are  
 5 temporary signs, the temporary signs must remain in place until the permanent signs are  
 6 installed.

7 **462.3.2.2 Temporary Guardrail, Barrier, Attenuators, and Glare Screen**

8 Developer shall use temporary guardrail or barrier and attenuators to protect the travelling  
 9 public from, at a minimum, the following:

- 10 A. Fixed objects within the clear zone;
- 11 B. Drop-offs greater than 2 inches that are not in accordance with the traffic control  
 12 treatment of longitudinal joint and edge drop-off guidelines;
- 13 C. Slopes steeper than 4:1 (H:V);
- 14 D. Separate opposing travel lanes; and
- 15 E. Separate work zones.

16 Developer shall install glare screens when barriers separate opposing lanes of traffic and are  
 17 less than 42 inches in height.

18 **462.3.3 Staging Areas**

19 Developer shall secure all proposed staging areas, including obtaining and performing all  
 20 applicable environmental and ROW Work in accordance with the Contract Documents.

21 **462.3.4 Arizona Department of Public Safety**

22 Developer may request DPS officers to be on-site for freeway Lane Closures. Developer shall  
 23 submit a request for DPS services directly with DPS. Developer shall be responsible for  
 24 providing for public safety notwithstanding the presence of DPS at the Site.

25

26 **End of Section**

1 **CR 466 INTELLIGENT TRANSPORTATION SYSTEM**

2 **466.1 GENERAL REQUIREMENTS**

3 Developer shall perform all intelligent transportation system (ITS) Construction Work in  
4 compliance with the requirements of Section CR 466 of the TPs.

5 **466.2 ADMINISTRATIVE REQUIREMENTS**

6 **466.2.1 Standards**

7 Developer shall construct the ITS in accordance with the standards, manuals, and guidelines  
8 listed in Table 466-1.

Table 466-1 Standards		
No.	Agency	Name
1	ADOT	ITS Standard Drawings

9 **466.2.2 ITS Preactivity Meetings**

10 Developer shall conduct ITS preactivity meetings in accordance with Section 738.7 of the ADOT  
11 *Draft Intelligent Transportation Systems Specifications for South Mountain Freeway* included in  
12 the RIDs.

13 **466.3 CONSTRUCTION REQUIREMENTS**

14 **466.3.1 General**

15 *Intentionally left blank*

16 Developer shall maintain or exceed the level of ITS functionality during construction to provide  
17 freeway management, incident detection, and traveler information to the public. The maximum  
18 disruption of service for all ITS elements must be no longer than 24 continuous hours. The  
19 maximum disruption of service for an individual ITS element must be no longer than 72  
20 continuous hours.

21 **466.3.2 ITS Elements**

22 **466.3.2.1 ITS Backbone Communication Network**

23 *Intentionally left blank*

24 **466.3.2.2 Dynamic Message Signs**

25 DMS must be Skyline VMSLED-W-3-18F-27x125-I.

26 **466.3.2.3 Closed Circuit Television Cameras**

27 CCTV cameras must be one of the following models:

- 28 A. Cohu 3960 HD 720-30x HD35-7000,
- 29 B. WTI Sidewinder SW720-H.264-HD30,
- 30 C. Bosch MIC-7130-PW4, or
- 31 D. Approved equal.

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### 1 466.3.2.4 Count Stations

2 *Intentionally left blank*

### 3 466.3.2.5 Ramp Meters

4 *Intentionally left blank*

### 5 466.3.2.6 Node Buildings

6 If Developer plans to enter a node building, Developer shall prepare a Node Building Access  
7 Request that includes the date and time Developer needs access to the node building, node  
8 building number, purpose of the requested access, and a description of the Work to be  
9 performed in the node building. A minimum of 5 Business Days prior to any planned Work within  
10 an existing node building, Developer shall submit a ~~Written~~ written Node Building Access  
11 Request to ~~Access Existing ADOT Node Buildings to~~ ADOT for approval ~~in ADOT's reasonable~~  
12 discretion.

### 13 466.3.2.7 Weigh-In-Motion Systems

14 Developer shall construct weigh-in-motion system in accordance with ADOT *Standard Drawings*  
15 T.S. 6-3, T.S. 6-4, and T.S. 6-7.

### 16 466.3.3 Temporary ITS Devices

17 Developer may use solar powered ITS devices for temporary service until permanent power is  
18 installed. Power supply for temporary ITS devices must be uninterrupted. Developer shall  
19 remove temporary ITS devices prior to Final Acceptance.

### 20 466.3.4 Testing

21 Developer shall test the ITS, including the existing ITS elements, for the fully operational ITS for  
22 the Project. Developer shall perform the tests in accordance with manufacturer's requirements  
23 and the testing requirements identified in the ADOT *Draft Intelligent Transportation Systems*  
24 *Specifications for South Mountain Freeway* included in the RIDs. ADOT will conduct subsystem  
25 tests in accordance with the ADOT *Draft Intelligent Transportation Systems Specifications for*  
26 *South Mountain Freeway*. Developer shall prepare ITS Testing Documentation that includes all  
27 test results as identified in this Section CR 466.3.4. Prior to issuance of Final Acceptance,  
28 Developer shall submit all ITS Testing Documentation to ADOT for approval ~~in ADOT's~~  
29 reasonable discretion.

### 30 466.3.5 Certificates

31 Developer shall prepare and obtain ITS Certifications as required by the ADOT *Draft Intelligent*  
32 *Transportation Systems Specifications for South Mountain Freeway* included in the RIDs. Prior  
33 to Final Acceptance, Developer shall submit all ITS Certifications to ADOT.

### 34 466.3.6 Record Drawings

35 Developer shall prepare Record Drawings for the ITS in accordance with the Section 747 of the  
36 ADOT *Draft Intelligent Transportation Systems Specifications for South Mountain Freeway*  
37 included in the RIDs and Section GP 110.10.2.3.4 of the TPs.

### 38 466.3.7 Training

39 Developer shall arrange for and provide a training course for the equipment components for  
40 equipment that is not currently in use by ADOT. The course must be of adequate duration to  
41 cover the subject matter and must have an instructor competent in the technical aspects of the



**ADDENDUM #12**

1 equipment installed in the nodes. The training course must provide training to up to 12 ADOT  
2 personnel.

3 Developer shall prepare ITS Training Material that includes a syllabus, training materials, and a  
4 schedule for the ITS equipment training course. Reference materials must include the course  
5 outline, material describing the course, and operations and maintenance manuals with any  
6 additional information needed to adequately describe the subject being taught. Training  
7 materials must not be copyrighted. Prior to the proposed start of ITS equipment training,  
8 Developer shall submit the ITS Training Material to ADOT for review and comment. Developer  
9 shall schedule the training no sooner than 10 Business Days from addressing ADOT comments  
10 on the ITS Training Material.

11 **466.4 SUBMITTALS**

12 Table 466-2 reflects a nonexclusive list of Submittals identified in Section CR 466 of the TPs  
13 and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall  
14 determine and submit all Submittals as required by the Contract Documents, Governmental  
15 Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all  
16 Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise  
17 specified in the Contract Documents, Developer shall submit the following to ADOT in the  
18 formats described in Section GP 110.10.2.1.1 of the TPs.

Table 466-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
<del>Written Request to Node Building Access Existing ADOT Node Buildings Request</del>	3	2	1	A minimum of 5 Business Days prior to any planned Work within an existing node building	CR 466.3.2.6
ITS Testing Documentation	3	2	1	Prior to Final Acceptance	CR 466.3.4
ITS Certifications	5	1	1	Prior to Final Acceptance	CR 466.3.5
ITS Training Material	4	12	1	Prior to the proposed start of ITS equipment training	CR 466.3.7
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

19

20

**End of Section**

1 **CR 470 RIGHT-OF-WAY**

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3

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**End of Section**

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## ADDENDUM #12

### MR 200 REFERENCES

#### 200.1 GENERAL REQUIREMENTS

All design and construction ~~requirements~~ for Maintenance ~~Service~~ Services during the Maintenance Period must comply with the requirements and specifications for design and construction set forth in the Technical Provisions:

- A. Section A - General ~~Requirements~~ Provisions of the TPs
- B. Section B - Design Requirements of the TPs
- C. Section C - Construction Requirements of the TPs

#### 200.2 APPLICABLE STANDARDS

Refer to Sections GP 110.01.2.1 and MR 200.2.1 of the TPs.

##### 200.2.1 Modification to Standards for Certain Maintenance ~~Work~~ Services

A. For Routine Maintenance Services, Developer shall replace materials, equipment, and facilities to the original design using standards required at time of original construction of the Project in accordance with the General Provisions (GPs), Design Requirements (DRs), and Construction Requirements (CRs) of the TPs, as the same may be changed by ADOT pursuant to Section 8.1.2 of the Agreement. When equipment, materials or parts required by those provisions are commercially unavailable, Developer shall propose that Routine Maintenance Services be performed to a new standard acceptable to ADOT. Developer shall follow the requirements set forth in Section GP 110.01.1.1 of the TPs to obtain ADOT acceptance of the new standards.

~~B. For Capital Asset Replacement Work, Developer shall control and specify the work based on the Basis of Design Report, as may be amended, and in accordance with the then-current ADOT standard specifications, standard drawings, and ADOT engineering directives cited in the Technical Provisions, including all currently approved statewide and regional modifications. Alternatively, Developer may propose a new standard for ADOT acceptance. Developer shall follow the requirements set forth in Section GP 110.01.1.1 of the TPs to obtain ADOT acceptance of new standards.~~

~~C. B.~~ Devices and systems used to control traffic for temporary traffic control must be in accordance with then-current ADOT standard specifications, standard drawings, and ADOT engineering directives, including all then-currently approved statewide and regional modifications.

### MR 201 COOPERATION WITH ADOT

Developer shall reasonably accommodate ADOT activities in the Maintenance Services Limits and in the Project area, including:

- A. ADOT operations activities, such as traffic signals, ITS, Incident and Emergency management, vehicle recovery, patrols, and other operations;
- B. Traffic control and MOT activities related to ADOT operations;
- C. Related Transportation Facilities and ~~adjacent areas~~ Adjacent Work; and
- D. Third party infrastructure improvements and maintenance, including encroachment permits and ~~Utility Adjustment Work~~ adjustment of utilities.

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1 Developer shall review plans and/or construction documents that may affect the Project,  
2 prepared by ADOT or third parties, for improvements in the Project area to be constructed by  
3 others. Work by third parties ~~will~~must be coordinated through ADOT.

4 ADOT may conduct ~~inspections~~inspections or Surveillance of the Project, in addition to specific  
5 instances enumerated in this Section D. Developer shall accommodate any such requests,  
6 including requests to uncover Work, in accordance with terms of the Agreement.

### 7 **MR 202 MAINTENANCE DURING ~~DESIGN AND~~ CONSTRUCTION**

8 Developer ~~is responsible for the complete maintenance~~shall perform Maintenance During  
9 Construction of all existing facilities throughout the Project ROW as listed below:

10 Prior to ~~Construction~~commencing construction, Developer shall satisfy itself of the  
11 preconstruction condition of the lighting system, landscape and irrigation systems, ITS, and  
12 drainage system. Developer shall not start construction unless ~~satisfy~~Developer satisfies itself of  
13 the preconstruction condition as described above. Developer shall schedule field meetings with  
14 ADOT to review and document the preconstruction condition of the lighting system, landscape  
15 and irrigation systems, ITS, and drainage system in a manner acceptable to ADOT.

16 Maintenance ~~Work during the D&C Period~~During Construction must include:

- 17 A. "PM-10" sweeping twice weekly;
- 18 B. litter and trash pickup and removal once weekly;
- 19 C. repairs to and cleaning of maintain drainage features such as pipes, headwalls, catch  
20 basins, drain inlets and pump station sumps;
- 21 ~~D.~~ graffiti removal, including removal of graffiti from all barriers, abutments, walls;
- 22 ~~E.~~ dust control;
- 23 ~~F.~~ pothole and pavement repairs;
- 24 ~~G.~~ D. repainting of temporary pavement striping; surfaces within the ROW;
- 25 ~~H.~~ E. guardrail, concrete barrier, glare screen, and crash attenuator repair or  
26 replacement;
- 27 ~~I.~~ F. fencing; and
- 28 ~~J.~~ sign and sign structure repair or replacement;
- 29 ~~K.~~ lighting system repair or replacement;
- 30 ~~L.~~ ITS system maintenance;
- 31 ~~M.~~ G. landscape and irrigation systems maintenance; and
- 32 ~~N.~~ incident management.

33 ~~ADOT may determine that Work is required to insure the safety of the traveling public through~~  
34 ~~the Project ROW. If ADOT orders maintenance for the benefit of the traveling public, the~~  
35 ~~Developer will be paid for such maintenance by change order. Work considered under this~~  
36 ~~includes, but is not limited to, additional PM-10 sweeping, roadway and subgrade repair, safety~~  
37 ~~feature repair, debris removal, repair of pedestrian features and other Work necessary to~~  
38 ~~provide a smooth and safe traveled way. This Work will be only that accomplished on portions~~  
39 ~~of the roadway being used by the traveling public prior to construction improvements or after~~  
40 ~~acceptance of a completed portion of the Work. However, the Developer shall repair any~~  
41 ~~damage caused by its operations at no additional cost to the Department. Payment for~~  
42 ~~maintenance directed by ADOT will be covered by change order.~~

| **ADDENDUM #~~1~~2**

1 | ADOT may direct Developer to perform additional Maintenance During Construction Work and  
2 | in such event, will provide compensation in accordance with Section 6.11.2 of the Agreement.  
3 |  
4 |

**End of Section**

**ADDENDUM #12**

**MR 400 MAINTENANCE SERVICES**

**400.1 GENERAL REQUIREMENTS**

Throughout the Maintenance Period, Developer shall be responsible for and shall carry out Maintenance Services for the Elements identified in TP Attachment 500-1-Maintenance Table within the Maintenance Service Limits.

For Elements in the Developer's design not addressed in TP Attachment 500-1, Developer shall propose additions to the Asset Condition Score Table for ADOT's approval. The proposed additions to the Asset Condition Score Table must set forth the proposed Inspection intervals, condition requirements, temporary and permanent cure times, and condition target for the subject Elements.

The Schematic Design identifies the Maintenance Service Limits assuming no changes or additions to the Project ROW from that shown for the Schematic ROW. ~~The~~ However, the Maintenance Service Limits ~~shall~~ must be adjusted to encompass changes or additions to the Project ROW from that shown for the Schematic ROW. The Maintenance Service Limits do not include areas that the City of Phoenix agrees to maintain ~~as stated~~ in the ~~third-party agreements~~ Third-Party Agreements. The Maintenance Service Limits for the Maintenance Period must be as shown on the Final Design Documents as described in Section GP 110.10 of the TPs; and as updated ~~during the Maintenance Period~~ prior to Final Acceptance.

Developer shall establish and maintain an organization that effectively manages all Maintenance Services in a manner set forth in the approved Maintenance Management Plan (MMP) and the requirements of the TPs. Developer shall:

- A. Establish a maintenance organization, including management, coordination, reporting, Inspection, Surveillance, design, construction, documentation, quality, traffic management, maintenance, and ~~repairs~~ repair functions.
- B. Prepare and update the MMP, including supplementary plans as required in Section MR 400.2.1 of the TPs as elements of the Project Management Plan as set forth in Section GP 110.04 of the TPs.
- C. Provide an annual report on all Maintenance Services that is compatible with ADOT maintenance management systems.
- D. Participate in annual review of Maintenance Services jointly with ADOT.
- E. As part of the Handback Requirements, Developer shall submit a Handback condition report and Handback ~~transition plan~~ Transition Plan to ADOT for approval in ADOT's good faith discretion.
- F. Deliver the Project at the end of the Maintenance Period in the condition required by the Contract Documents.
- G. Provide evidence of insurance coverage and bonds for Maintenance Services in accordance with the Agreement.
- H. Provide and maintain a secure web-accessible database of Elements, Maintenance Services, asset condition, and other pertinent information.
- I. Conduct periodic Inspections and Surveillance of the Project and Elements within the Project as set forth in Section MR 400.3 of the TPs and in TP Attachment 500-1.
- J. Respond to Notifications from ADOT and other entities regarding Project deficiencies.
- K. Make Emergency repairs, temporary repairs, and permanent repairs to the Project in accordance with the Contract Documents.

## ADDENDUM #12

- 1 L. Perform Capital Asset Replacement Work.
- 2 M. Minimize the risk of damage, disturbance, or destruction of third-party property during  
3 the performance of Maintenance Services.
- 4 N. Coordinate with ADOT and others with statutory duties or functions in relation to the  
5 Project, and permit ADOT and such other parties to perform such duties and  
6 functions.
- 7 O. Perform routine and preventative maintenance, systematic Inspections, and Surveillance  
8 of the Project.
- 9 P. Perform Maintenance Services in accordance with the provisions of MMP and the  
10 Contract Documents.
- 11 Q. Perform periodic sweeping and litter removal.
- 12 R. Provide location information to others in the Project regarding subsurface Elements  
13 through the "Arizona 811" utility locates program.
- 14 S. Maintain a current record drawing set accurately describing the Project in accordance  
15 with Section GP 110 of the TPs.
- 16 T. Participate in joint Inspections/Surveillance with ADOT or other jurisdictions' personnel  
17 as reasonably required by ADOT.
- 18 U. Provide qualified field and supervisory personnel to perform the Inspections, specialty  
19 Inspections, Routine Maintenance Services, Capital Asset Replacement Work, and all  
20 required related activities.
- 21 V. Promptly investigate reports or complaints regarding Project maintenance received from  
22 all sources.

23 In carrying out the Maintenance Services, where there is a requirement for design, Developer  
24 shall ensure that the Project is restored either to the original design used for the construction of  
25 the Project, or to a different design that must be in accordance with the Contract Documents.

### 400.2 ADMINISTRATIVE REQUIREMENTS

#### 400.2.1 Maintenance Management Plan

28 The MMP comprises an update to the PMP referenced in Section GP 110.04 of the TPs that  
29 addresses the Maintenance Services activities during the Maintenance Period.

#### 400.2.1.1 Maintenance Management Plan Content

31 The MMP must address the following:

- 32 A. Organization of maintenance establishment;
- 33 B. Coordination responsibilities and lines of communications;
- 34 C. Coordination with others and response to Notifications;
- 35 D. Establishment of Maintenance Information System (MIS);
- 36 E. Required certifications, training, and expertise for different classifications of Work;
- 37 F. Qualifications and availability of personnel;
- 38 G. Staffing plan;
- 39 H. Dedicated Maintenance Services staff, qualifications, requirements, hiring, personnel  
40 policies, adjustments to staff, and adequacy in meeting requirements of Maintenance  
41 Services, including response times and nature of the Maintenance Services;



## ADDENDUM #12

- I. Dedicated Maintenance Services equipment fleet, adjustments to fleet mix, and adequacy in meeting requirements of Maintenance Services, including response times and nature of the Maintenance Services;
- J. Safety during maintenance activities; address safety of workers and the public in a Maintenance Safety Management Plan (MSMP);
- K. Asset Condition Score reporting;
- L. Maintenance Quality Management Plan (MQMP);
- M. Transportation Management Plan (TMP), and process for preparing and submitting associated Traffic Control Plans (TCPs) in accordance with Section 8.4 of the Agreement;
- N. Environmental Management Plan (EMP);
- O. Stormwater management (may be within the EMP);
- P. Remediation of Nonconforming Work (may be within the MQMP);
- Q. Inspections and Surveillance;
- R. Design and construction standards for Maintenance Services;
- S. Routine, preventative, temporary, and permanent Maintenance Services;
- T. Capital Asset Replacement Work, except for Capital Asset Replacement Work in connection with Handback; and
- U. Maintenance Services during and in response to Incidents and Emergencies as set forth in Section MR 400.4 of the TPs.

The MMP must include supplementary plans as follows:

- A. Maintenance Safety Management Plan (MSMP) as referenced in Section MR 400.2.7 of the TPs
- B. Maintenance Quality Management Plan (MQMP) as referenced in Section MR 400.2.8 of the TPs
- C. Transportation Management Plan (TMP) as referenced in Section MR 400.2.9 of the TPs
- D. Environmental Management Plan (EMP) as referenced in Section MR 400.2.10 of the TPs
- E. Capital Asset Replacement Work Plan as referenced in Section 8.3.2 of the Agreement.

### 400.2.1.2 MMP Acceptance and Reviews

~~No later than 90 days prior to Substantial Completion, Developer shall submit a draft The MMP, complete with all required supplementary plans, attachments, and appendices to ADOT for approval in ADOT's good faith discretion.~~

~~ADOT will revisions thereto shall be subject to the submission, review and provide comments to the draft MMP within 30 days after receipt. Within 10 days after Developer receives ADOT's comments, Developer and ADOT will convene a review meeting to resolve ADOT's comments.~~

~~No later than 30 days after the comment resolution meeting, Developer shall resolve all comments to satisfaction of ADOT and submit the final MMP to ADOT for approval in ADOT's good faith discretion.~~

~~Prior to the annual maintenance meeting, as described approval process set forth in Section MR 400.3.4 of the TPs, Developer shall submit revisions to the MMP, as required and at least annually, to ADOT for approval in ADOT's good faith discretion. 8.9 of the Agreement.~~

## ADDENDUM #12

### 1 400.2.2 Maintenance Establishment

2 Developer shall provide maintenance organization facilities, staff and equipment to manage and  
3 provide the Maintenance Services.

#### 4 400.2.2.1 Maintenance Organization

5 Organization of the maintenance establishment must address at least the following:

- 6 A. Management
- 7 B. Administration
- 8 C. Document control
- 9 D. Reporting
- 10 E. Safety
- 11 F. Quality
- 12 G. Environmental compliance
- 13 H. Maintenance of ~~Traffic~~traffic (MOT)
- 14 I. Inspections and Surveillance
- 15 J. Routine and preventative maintenance practices
- 16 K. Communications
- 17 L. Incident response
- 18 ~~L-M.~~ Emergency response
- 19 ~~M-N.~~ Staffing / personnel
- 20 ~~N-O.~~ Equipment
- 21 ~~O-P.~~ Maintenance Services disciplines
  - 22 1. Roadway
  - 23 2. Drainage
  - 24 3. Landscaping
  - 25 4. Structures
  - 26 5. Lighting and ~~Traffic~~traffic
  - 27 6. Pavements

#### 28 400.2.2.2 Maintenance Facilities

29 Developer shall provide support facilities in proximity to the Project. See Section MR 400.2.6 of  
30 the TPs for information concerning use of ROW/ADOT property for these facilities.

##### 31 400.2.2.2.1 Maintenance Office

32 Developer shall provide office space within a 10-mile distance of the Project to house  
33 Developer's management and data storage functions. Developer shall provide secure, (off-site)  
34 back-up for the MIS. Developer shall provide staff performing management, coordination,  
35 communications, information management systems, and document control duties. Front-office  
36 function; i.e. public accommodation at the office is not required.

##### 37 400.2.2.2.2 Maintenance Yard

38 Developer shall provide a maintenance yard(s) within a 10-mile distance of the Project for  
39 equipment, supplies, ~~and~~ materials, staff parking, and other staff facilities ~~within a 10-mile~~  
40 ~~distance of the Project.~~

## ADDENDUM #12

### 400.2.3 Coordination Responsibilities

Developer shall timely receive and process communications and Notifications from ADOT and third parties reasonably requested by ADOT concerning Defects or other deficiencies. Developer shall timely respond to these communications with:

- A. Acknowledgement of receipt of communications
- B. Planned response
- C. Report of progress of response
- D. Final quality documentation of any Maintenance Services
- E. Final disposition and closeout of Emergencies and Incidents to extent that Developer's forces were involved in resolving or rectifying conditions on the Project.

Developer shall provide 24-hour Emergency contact information for responsible in-charge party and alternate(s).

Developer shall coordinate with ADOT and others to develop a reporting system that properly prioritizes and delivers Notifications. Developer shall provide documented "work-flow" protocols for all communications, including routing, timelines, responsibilities, and final disposition of Incident.

### 400.2.4 Maintenance Information System

Developer shall develop a secure, searchable web accessible electronic database, referred to as the Maintenance Information System (MIS), addressing the Maintenance Services documentation and reporting requirements. Developer shall coordinate the MIS with the maintenance requirements in TP Attachment 500-1. The MIS must include the Auditable Sections, inventory Elements, required and achieved response times, Noncompliance Points reporting requirements, and other pertinent characteristics.

The MIS is supplementary to and must be compatible with the Electronic Document Management System (EDMS) described in Section GP 110.04.2 of the TPs. Developer shall coordinate with ADOT on information technology requirements in developing the MIS Architecture, including ADOT's maintenance management and inventory systems. Currently available reference information on ADOT's ADOT's maintenance management structure, designated the "feature inventory system," is provided for information in the RIDs. Developer is cautioned that the architecture, reporting categories, and technical systems requirements of ADOT's ADOT's maintenance management system may change from time to time. Developer shall ~~be required to~~ accommodate any such ~~reasonable~~ changes. The MIS must be compatible with the ADOT maintenance management system at the database level by periodic batch or data transfer.

Developer shall log all incidents, that Developer is notified of, and Maintenance Services in the MIS.

Developer shall maintain a user log of the MIS. Developer shall manage access to the MIS database to allow ADOT personnel, and other third parties that ADOT may reasonably request, to access the database in real-time on a read-only basis.

Developer shall provide a link and web interface through ADOT's website for public input to address Project conditions; and Developer shall also publically post Project status information.

Developer shall submit documentation of the MIS Architecture in a work breakdown system (WBS), along with flow charts of the work-flows for the Notifications, work orders, and other required processes, to ADOT for approval ~~in ADOT's reasonable discretion~~.

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1 Developer shall regularly update the MIS documentation as required to maintain current  
2 documentation of and information in the MIS. It is the intent that the MIS Architecture remains  
3 relatively stable through the term. However, from time to time if warranted for clarity in reporting  
4 or management, Developer may propose changes to MIS Architecture for approval ~~in ADOT's~~  
5 ~~reasonable discretion by ADOT.~~ Changes to MIS Architecture must also change the MMP  
6 (which is a controlled document) and, therefore, must be approved by ADOT.

### 400.2.4.1 Timeliness for MIS reporting

8 Developer shall place MIS source documents in the MIS within 5 days of ~~origin~~origination and  
9 ~~shall complete QC of such~~ documents ~~must be finally QC'd~~ within 10 days of ~~origin~~origination of  
10 data. Developer shall adhere to the reporting timelines for other documents in the MIS, in  
11 accordance with the approved MMP, and, as to Noncompliance Events, in accordance with  
12 Section 17.2.1.1 of the Agreement.

### 400.2.5 Qualifications and Availability of Personnel

- 14 A. The Maintenance Manager is ~~one of the~~ designated Key Personnel. Developer shall  
15 set forth in the MMP Developer's management approach, Maintenance Manager's time  
16 on-site and the method of communication with ADOT, with the deputy maintenance  
17 manager(s), and with the rest of the maintenance organization.
- 18 B. The Deputy Maintenance Manager must report directly to the Maintenance Manager and  
19 must be ~~assigned~~available full time to the Project. This person must not have any other  
20 responsibilities on the Project. The Deputy Maintenance Manager or designee must be  
21 available on call within 1 hour of Emergency Notifications.
- 22 C. Bridge Inspectors must meet the qualifications stated in *29 CFR Part 650.309 National*  
23 *Bridge Inspection Standards* for types of bridges and Inspections that they perform.
- 24 D. Maintenance workers working on traffic, lighting, and other electrical systems must have  
25 the relevant International Municipal Signal Association and/or American Traffic Safety  
26 Services Association certifications.
- 27 E. ~~Specialty Inspectors~~—Elements may require Specialty Inspectors. Developer shall  
28 follow current FHWA and ADOT guidance, and Good Industry Practice in furnishing  
29 Specialty Inspectors for such Elements.
- 30 F. The above list of qualifications is not exhaustive. All workers must be properly qualified  
31 for the duties they are performing and must be adequately supervised. The MMP must  
32 set forth the required certifications and training for the various classifications of work as  
33 required for the Maintenance Period.

### 400.2.6 Use of ~~ROW~~Project ROW and Other ADOT Property

35 Developer may occupy Project ROW ~~in the Project area owned by ADOT and,~~ provided  
36 Developer first ~~applied~~applies for and obtains a duly authorized TCP and/or ROW permit as  
37 reasonably needed, ~~other Property in the Project area owned by ADOT~~ to perform Maintenance  
38 Services.

39 Use of Project ROW during Emergencies will be as authorized by ADOT personnel.

40 Portions of ~~ROW~~ADOT property in the Project area may be made available to Developer to  
41 establish an equipment storage yard, laydown area, maintenance shop, and/or office facilities.  
42 Any such use ~~will be~~is governed by Section GP 110.05.5 of the TPs.

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**400.2.7 Safety Management**

Developer shall conduct all Maintenance Services in a safe manner. Developer shall assign a maintenance safety officer to the Project for the Maintenance Period. The ~~Maintenance Safety Officer~~maintenance safety officer must develop and administer the Maintenance Safety Management Plan (MSMP-).

Developer shall prepare a MSMP that specifically addresses safety for Maintenance Services. The MSMP must be a supplement to the Safety Management Plan described in Section GP 110.09 of the TPs; and must adopt all of the requirements of the Safety Management Plan. ~~In addition, the MSMP~~ must address at least the following topics as they relate to the Maintenance Services:

- A. Safety of the travelling public; vehicular, bicycle, and pedestrian;
- B. Railroad safety;
- C. Safety during Inspections and Surveillance;
- D. Safety during routine and preventative Maintenance Services;
- E. Safety of Maintenance Services performed during Emergencies; and
- F. Safety during Capital Asset Replacement Work.

As part of the MMP, Developer shall submit the MSMP to ADOT for approval in ADOT's good faith discretion.

- ~~A. Safety of the travelling public; vehicular, bicycle, and pedestrian~~
- ~~B. Railroad safety~~
- ~~C. Safety during Inspections and Surveillance~~
- ~~D. Safety during routine and preventative Maintenance Services~~
- ~~E. Safety of Maintenance Services performed during Emergencies~~
- ~~F. Safety during Capital Asset Replacement Work~~

**400.2.8 Quality Management**

Developer shall perform Maintenance Services under the authority of a Maintenance Quality Management Plan (MQMP). The MQMP must be a supplement to the Quality Management Plan (QMP) described in Section GP 110.07 of the TPs; and must adopt all of the requirements of the QMP. ~~It must address at least the following topics as they relate to the Maintenance Services:~~ As part of the MMP, Developer shall submit the MQMP to ADOT for approval in ADOT's good faith discretion.

The MQMP must address at least the following topics as they relate to the Maintenance Services:

- A. Administration and document control
- B. Inspections and Surveillance
- C. Routine and preventative Maintenance Services
- D. Maintenance Services performed during Emergencies
- E. Capital Asset Replacement Work

**400.2.9 Transportation Management**

Developer shall perform Maintenance Services that affects the travelling public under the authority of the Transportation Management Plan (TMP-). The TMP must be as described in Section DR 462.2.3 of the TPs. ~~It must address at least the following topics as they relate to the~~

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~~Maintenance Services~~: As part of the MMP, Developer shall submit the TMP to ADOT for approval in ADOT's good faith discretion.

The TMP must address at least the following topics as they relate to the Maintenance Services:

- A. Inspections and Surveillance
- B. Routine and preventative Maintenance Services
- C. Maintenance Services performed during Emergencies
- D. Capital Asset Replacement Work

Developer shall follow the requirements of Section DR 462 of the TPs, and the then-current ADOT standard specifications, standard drawings, and ADOT engineering directives, including all then-currently approved statewide and regional modifications to standards. Developer shall provide separate current TCPs for each activity that requires temporary traffic control. Developer shall use the then-current ADOT practice in filing TCPs and notifying the Highway Condition ~~and~~ Reporting System.

### 400.2.10 Environmental Management

Developer shall summarize remaining environmental commitments delegated to Developer that require continued action by Developer in an Environmental Management Plan (EMP) update for the Maintenance Period. The EMP must set forth the responsibilities and activities that remain Developer's responsibility during the Maintenance Period. As part of the MMP, Developer shall submit the EMP to ADOT for approval in ADOT's good faith discretion.

The EMP must address environmental management and compliance related to the following:

- A. Routine preventative and emergency Maintenance Services;
- B. Capital Asset Replacement Work;
- C. Stormwater compliance efforts as they relate to Maintenance Services, further detailed in Section MR 400.2.10.1 of the TPs below;
- D. Protection of cultural resources in the Project area as they relate to Maintenance Services; and
- E. Emissions or other limitations placed on equipment used for Maintenance Services such as limitations on emissions for mechanical sweeper trucks.

### 400.2.10.1 Stormwater Reporting

Developer shall create a separate section within the MIS for stormwater Elements and report annually to ADOT. The calendar year for stormwater reporting must be the 12 calendar months starting July 1. The annual report is due to ADOT by August 31 each year. The following Elements and activities must be addressed:

- A. ~~how~~How many miles of ditch and canals are cleaned;
- B. ~~how~~How much sediment removed;
- C. ~~how~~How much trash collected;
- D. ~~how~~How many outfalls are Inspected;
- E. ~~how~~How any illicit discharges are detected, classified, eliminated; and
- F. ~~how~~How many post-construction best management practices (BMP) Elements are Inspected.

A list of BMPs for reporting follows:

- A. Inspect outfalls for dry weather discharges;



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- 1 B. Investigate illicit discharges;
- 2 C. Number of storm drain cross connections investigated;
- 3 D. Number of illicit discharges investigated;
- 4 E. Respond to complaints;
- 5 F. Number of complaints received;
- 6 G. Number of complaints responded to;
- 7 H. Average response time (in days);
- 8 I. Take action to eliminate existing dry weather flows;
- 9 J. Number of existing dry weather discharges eliminated;
- 10 K. Take action to eliminate sources of illicit discharges;
- 11 L. Number of storm drain cross connection eliminated;
- 12 M. Number of illicit discharges eliminated;
- 13 N. Number of dry weather discharges eliminated;
- 14 O. Coordinate with local ~~Government~~Governmental Entities for complaint response and
- 15 investigation;
- 16 P. Number of illicit discharges reported to other jurisdictions for follow-up;
- 17 Q. Number of highway accident spills responded to;
- 18 R. Number of highway accident spills prioritized (potential for discharge);
- 19 S. Install post-construction stormwater control BMPs;
- 20 T. Number of new post-construction stormwater control BMPs installed;
- 21 U. Inspect storm sewer system;
- 22 V. Number of Inspections performed;
- 23 W. Develop maintenance schedules and priorities;
- 24 X. Perform repair, maintenance, and cleaning;
- 25 Y. Number of miles of roadways repaired/maintained;
- 26 Z. Number of inlets cleaned;
- 27 AA. Number of drain inlets containing significant materials;
- 28 BB. Require certification/license;
- 29 CC. Number of licensed pesticide applicators;
- 30 DD. Stabilize roadway slopes; and
- 31 EE. Acres of roadway slopes stabilized.

**400.2.11 Underground Facilities**

33 Developer shall timely provide information to ADOT and third parties on horizontal and vertical  
34 location of subsurface Elements as requested. Developer shall become member of the locates  
35 organization administered by the Arizona Corporations Commission designated the "Arizona  
36 811" program and shall respond to call-outs for information through this system during the  
37 Maintenance Period.

**400.2.12 Intelligent Transportation Systems**

38 Developer's Maintenance Services do not include the obligation to maintain or repair the ITS,  
39 except that Developer shall be responsible to repair or replace damage from an Incident or  
40 other event to conduit (but not fiber) located in or on any structure within the Maintenance  
41

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Service Limits. ~~Developer shall have no obligation to pay for electric utility consumption by the ITS.~~

### 400.3 INSPECTIONS, SURVEILLANCE, ROUTINE PREVENTATIVE MAINTENANCE AND CAPITAL ASSET REPLACEMENT WORK

#### 400.3.1 Auditable Sections

For purpose of conducting preventative maintenance, Inspections and reporting, Developer shall divide the Project into Auditable Sections. The Auditable Sections must comprise discrete measurable separate Project segments such as:

- A. A mainline roadway segment no longer than 1 mile long; e.g., Mainline Westbound MP 2.0 – 3.0
- B. A bridge or major structure
- C. An exit or entrance ramp to mainline
- D. A minor linear Element that is not mainline or ramp such as fence, conduit or conductor system, or sound wall between interchanges (can be more than 1 mile)
- E. An intersection

Developer shall prepare a map or exhibit of the proposed Auditable Sections with a corresponding WBS and a table indicating the inventory of Elements within each Auditable Section. As a part of the MMP, Developer shall submit the Auditable Sections exhibit and WBS to ADOT for approval ~~in ADOT's reasonable discretion.~~

Together the Auditable Sections must comprise the entirety of the Project with no overlap of inventory between Auditable Sections. It is the intent that the Auditable Sections remain relatively stable through the Maintenance Period. However, Developer may propose changes from time to time if warranted for clarity in reporting or management. Changes to Auditable Sections must also change the MMP (which is a controlled document) and, therefore is subject to approval by ADOT.

#### 400.3.2 Inspections and Surveillance

##### 400.3.2.1 Surveillance

Developer shall ~~ensure that perform~~ Surveillance of the entire Project ~~occurs monthly and is carried out with weekly, using~~ adequate personnel to note deficiencies that are visually apparent. Developer shall develop a checklist for this surveillance activity and include it in the MMP. If a Defect or other deficiency is found through Surveillance, then Developer shall enter the information into the MIS and shall schedule an Inspection of the applicable Element.

Elements ~~and other matters~~ subject to ~~surveillance~~ Surveillance include:

- A. Pavement breaches/gaps/potholes
- B. Pavement cracks
- C. Pavement markings
- D. Expansion joints
- E. Deck joints
- F. Ponding/flooding
- G. Erosion/slope stability
- H. Fence condition
- I. Sound wall and retaining wall condition

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- 1 J. Lighting
- 2 K. Sign condition
- 3 L. Landscaping
- 4 M. Debris
- 5 N. Litter
- 6 O. Graffiti
- 7 P. Traffic signal function
- 8 Q. Barrier condition, including end treatments
- 9 R. Attenuator condition

### 10 400.3.2.2 Inspections

11 Developer shall carry out Inspections as indicated in Section MR 400.3.2 of the TPs and as set  
12 forth in TP Attachment 500-1. For each Inspection Developer shall make an entry into the MIS  
13 concerning the Inspection and the results and actions resulting from that Inspection.

- 14 A. Defects and other deficiencies noted from Surveillance must be the subject of an  
15 Inspection.
- 16 B. For Elements that require an annual Inspection, Developer shall develop a protocol that  
17 randomly selects 10 percent of the Auditable Sections each month and shall inspect all  
18 of the Elements within those Auditable Sections for that month.
- 19 C. For Elements that require Inspection every other year, Developer shall develop a  
20 protocol that randomly selects 5 percent of the Auditable Sections each month and shall  
21 inspect the Elements within those Auditable Sections for that month.
- 22 D. Developer shall inspect the pavement Element for the entire mainline lanes, ramps,  
23 frontage roads, and intersections every other year for ride quality and pavement  
24 condition. In addition, Developer shall conduct Inspections and perform repairs of the  
25 pavement Element when the Capital Asset Replacement Work is being performed.
- 26 E. Developer shall conduct overhead sign Inspections such that 20 percent of overhead  
27 signs are inspected annually. This must include visual inspection for structural integrity,  
28 lighting (if present) and legibility, and measured reflectivity readings.
- 29 F. ~~Six months prior to the 10 year and 20 year interim asset condition scoring and~~  
30 ~~Handback condition scoring as set forth in Sections MR 400.6.3 and MR 400.6.4 of the~~  
31 ~~TPs~~. Developer shall provide Specialty Inspection of the following Elements at year 10,  
32 year 20, and at Handback:
  - 33 1. Bridge expansion joints
  - 34 2. Steel structure coating systems

35 Developer shall carry out the Specialty Inspections in a manner and at a level of detail  
36 such that the ~~remaining useful life~~ Remaining Useful Life of each of these Elements is  
37 determined. Included in the planned annual activities section of the Annual Maintenance  
38 Services Report in accordance with Section MR 400.3.4 of the TPs, Developer shall  
39 submit a Specialty Inspection Plan for the required Elements, including qualifications of  
40 Specialty Inspectors, proposed testing and diagnostics protocols, and proposed  
41 reporting, to ADOT for approval ~~in ADOT's reasonable discretion.~~

- 42 G. In addition to the above Inspection frequency requirements, when notified of a Defect or  
43 other deficiency by ADOT or by a third party, or if a Defect or other deficiency is  
44 discovered in the course or as a result of Surveillance ~~activity~~ or otherwise, Developer  
45 shall inspect the Element in question, and shall report to ADOT the results of the

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1 Inspection. If the nature of the Defect or other deficiency is routine, Developer may  
2 report via the normally scheduled Inspection and reporting. If the nature of the Defect or  
3 other deficiency is non-routine, Developer shall report in accordance with the provisions  
4 of Section MR 400.3.5 of the TPs.

### 400.3.3 Inspections by ADOT

6 ADOT and third parties may make ~~Inspections~~inspections of the Project or Elements. ADOT will  
7 make reasonable efforts to communicate and coordinate with Developer concerning ADOT and  
8 third party ~~Inspections~~inspections.

9 ADOT will perform the FHWA required bridge ~~Inspections~~inspections and will share the bridge  
10 ~~Inspection~~inspection reports with Developer. ADOT inspections of bridges will discharge the  
11 regulatory requirements for bridge inspections; however, Developer shall still be responsible for  
12 undertaking ~~bridge~~ Surveillance and ~~periodic visual~~ Inspections of bridges.

### 400.3.4 Reporting

- 14 A. Monthly Maintenance Services Report – On or before the 15th of each month during the  
15 Maintenance Period, Developer shall submit to ADOT a monthly report of previous  
16 month's Maintenance Services ~~to ADOT.~~ In the MMP, Developer shall address ~~in the~~  
17 ~~MMP~~ the format and outline for this report and method of making this report available.  
18 The preferred form of transmission of this report is through the MIS.
- 19 B. Annual Maintenance Services Report – On or before the last ~~business day in~~Business  
20 Day of January each year during the Maintenance Period, Developer shall submit an  
21 annual report of the previous year's Maintenance Services to ADOT ~~for approval in~~  
22 ~~ADOT's reasonable discretion.~~ The Developer shall address the format and outline for  
23 this report, and method of making this report available, ~~must be addressed~~ in the MMP.  
24 The annual report must include an electronic tabular summary of all Maintenance  
25 Services carried out in the previous year that is formatted to conform to requirements of  
26 ADOT's then-current maintenance management system. The report must address  
27 planned activities for the forthcoming year. A section of the annual report must address  
28 stormwater reporting in accordance with Section MR 400.2.10.1 of the TPs.
- 29 C. Annual Maintenance Services meeting – Developer shall participate in an annual  
30 Maintenance Services meeting with ADOT to be mutually scheduled in the 1st quarter of  
31 every year during the Maintenance Period. Developer shall provide an agenda for this  
32 meeting. The meeting must address at least the following: results, safety, MOT/TCP  
33 issues, management, ~~Emergency~~Incidents and Emergencies for which Maintenance  
34 Services was required, process improvement, Capital Asset Replacement Work as  
35 required by Section 8.3.2 of the Agreement, changes to the MMP, including updates  
36 every 2 years to the Capital Asset Replacement Work Plan, and planned activities for  
37 the forthcoming year. Developer shall revise the planned activities as agreed in the  
38 annual meeting if necessary, and within 15 days of the annual meeting, Developer shall  
39 present revised annual planned activities to ADOT for approval ~~in ADOT's reasonable~~  
40 ~~discretion.~~
- 41 D. Updates to MMP and supplementary plans ~~updates~~ – Developer shall update the MMP,  
42 MSMP, MIS, MQMP, TMP, and EMP at least annually and as may be more frequently  
43 required during the Maintenance Period. These documents are all controlled documents  
44 that require ADOT approval for changes. At least 30 days prior to the annual  
45 maintenance meeting, Developer shall submit proposed changes to ADOT for approval  
46 in ADOT's good faith discretion. Within 15 days after the annual meeting, Developer  
47 shall submit final revised documents as necessary to resolve ADOT's

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~~comment~~comments, including comments at the annual meeting, to ADOT for approval in ADOT's good faith discretion.

### 400.3.5 Routine Preventative Maintenance

Routine preventative maintenance, which is part of Routine Maintenance, consists of periodic system checks, minor refurbishments, cleaning, and repairs that prevents unexpected downtime and improves reliability of Elements. Developer shall prepare checklists for appropriate Elements and undertake routine preventative maintenance in accordance with the schedule set forth in the MMP.

Developer shall perform routine preventative maintenance on all Elements that benefit from routine preventative maintenance. The routine preventative maintenance must address at least the Elements shown in TP Attachment 500-1.

### 400.3.6 Capital Asset Replacement Work

This Section MR 400.3.6 addresses Capital Asset Replacement Work other than in connection with satisfying the Handback Requirements. For Capital Asset Replacement Work in connection with satisfying the Handback Requirements, refer to Section ~~MR 501~~MR 501 of the TPs.

Developer shall plan and execute ~~needed~~ Capital Asset Replacement Work in accordance with this Section MR ~~400.3.6~~400.3.6 and Section 8.3 of the Agreement. The following Elements are subject to Capital Asset Replacement Work requirements:

- A. Roadway ~~Pavement~~pavement
- B. Signage

Developer shall provide ADOT all documentation and perform analysis, as required, to ensure all necessary clearances, including environmental, right-of-way, utilities, and materials, are obtained between 6 months and 30 days prior to commencing Capital Asset Replacement Work.

#### 400.3.6.1 Capital Asset Replacement Work Trigger

##### 400.3.6.1.1 Roadway Pavement

When either of the following occurs with respect to roadway pavement, Developer shall initiate and complete Capital Asset Replacement Work.

- A. Pavement Ride: Auditable Sections representing 35 percent or more of area of roadway of the Project, exhibit an pavement ride condition score of D or worse in accordance with TP Attachment 500-1 reference line 2.1 and Table 400-2 of Section MR 400.6.6.1 of the TPs.
- B. Other Pavement Distress Factors: Auditable Sections representing 35 percent or more of area of roadway of the Project, exhibit ~~ana~~ pavement distress condition score of D or worse in accordance with TP Attachment 500-1 reference line 3.1 and Table 400-1 of Section MR 400.6.1 of the TPs.

##### 400.3.6.1.2 Signage

When the following occurs with respect to signage, Developer shall initiate and complete Capital Asset Replacement Work.

Auditable Sections representing 35 percent or more of the Project signage, exhibit a signage condition score of D or worse in accordance with TP Attachment 500-1 reference line 4.53 and Table 400-1 of Section MR 400.6.6 of the TPs.

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### 400.3.6.2 Capital Asset Replacement Work Reporting

As part of the annual report required in Section MR 400.3.4400.3.4 of the TPs, and in addition to the information to be reported under Section 8.11.3 of the Agreement, Developer shall present a summary of the:

- A. Roadway – pavement ride
- B. Roadway – other pavement distress factors
- C. Signage condition

~~Aggregate Developer shall express aggregate~~ condition ~~shall be expressed~~ as a percentage of the Project totals for each of these Elements.

### 400.4 INCIDENTS AND EMERGENCIES

When Developer receives Notification or otherwise becomes aware of an Incident or Emergency, Developer shall mobilize an Inspection team within 1 hour to provide a preliminary Inspection of the Element in question or affected Project area. Developer shall mobilize needed resources to begin effecting ~~Emergency repairs~~ repairs of damage to the Project caused by the Incident or Emergency or third party response thereto within 2 hours of Notification. As soon as practicable, but in no case later than 24 hours after inception of the Incident or Emergency, Developer shall provide to ADOT a preliminary action plan that includes the temporary repairs necessary to rectify the situation to protect the life safety of the travelling public. Within 30 days after the temporary or permanent repairs have been completed, Developer shall submit an Incident or Emergency Incident Report that describes the particulars of the Emergency, nature of the repairs, need for follow up permanent repairs, and lessons learned from the Incident or Emergency to ADOT.

### 400.5 CONTROL OF WORK

Developer shall adhere to the following:

- A. Conduct Maintenance Services in compliance with General Provisions, Construction ~~Provisions~~ Requirements, and as applicable with Design ~~Provisions~~ Requirements of the TPs; all in accordance with the Inspection frequencies required in TP Attachment 500-1.
- B. If Maintenance Services ~~is~~ are proposed that ~~requires~~ require a modification to standards, conform to the requirements of Section GP-200.1MR 200.2 of the TPs.
- C. Report status of Maintenance Services in the MIS.
- D. Provide Notification of routine or preventative Maintenance Services through the MIS system and in accordance with other ADOT practices.
- E. For Maintenance Services during or as a result of Incidents or Emergencies, follow the communication protocols set forth in Section MR 400.3.5 of the TPs and in the MMP.
- F. Nonconforming Work requires noncompliance reporting, corrective action, and remedial work protocol as set forth in the MQMP.
- G. Final disposition of Maintenance Services will require a suitable record entry in the MIS that the work has been successfully completed (including closure of any related Nonconforming Work process).
- H. Record changes to Project on a set of record drawings accurately describing the Project in accordance with Section GP 110 of the TPs at least annually.



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### 400.6 ASSET CONDITION BASELINE AND ASSET CONDITION SCORING

#### 400.6.1 Asset Condition Baseline

~~Following the Maintenance Table,~~ Developer shall prepare ~~a~~ comprehensive Asset Condition Score Table based on TP Attachment 500-1. The Asset Condition Score Table must comprise all Elements for all Auditable ~~sections~~Sections, thus creating an inventory of the entire Project. ADOT will review and approve of the Asset Condition Score Table as part of the MMP reviews. Developer or ADOT may suggest changes to the Asset Condition Score Table from time to time. Such Developer shall document such changes ~~must be documented~~ as modifications to the MMP, and ~~thus therefore the changes~~ are subject to ADOT approval. For clarity, an example of the Asset Condition Score Table, partially filled out, is shown in TP Attachment 500-2.

ADOT may propose changes in the Asset Condition Score Table as follows:

- A. Changes related to changes in inventory for Auditable Sections
- B. Changes in measurement method, or test method
- C. Changes in ~~maintenance services~~Maintenance Services practices

Developer shall propose changes in the Asset Condition Score Table if the following occurs:

- A. Changes related to changes in inventory for Auditable Sections
- B. Changes in measurement method, or test method
- C. Changes in ~~maintenance services~~Maintenance Services practices

ADOT and Developer may also mutually agree to other changes in the Asset Condition Score Table that aid effectiveness in discharge of Maintenance Services, or that aid in reporting or documentation.

Within 30 days after Final Acceptance, ADOT will use the accepted Asset Condition Score Table and will conduct an ~~inspection~~inspection and Surveillance of the Project and create a Baseline Asset Condition Score. Developer shall make the Maintenance Manager and appropriate support staff available to accompany ADOT in the asset condition scoring. Developer shall use the Baseline Asset Condition Score as a baseline for Developer's ongoing ~~asset condition scoring~~Asset Condition Scoring.

#### 400.6.2 Annual Asset Condition Scoring

Developer shall score the asset (that is, Developer shall perform ~~asset condition scoring~~Asset Condition Scoring based upon Inspections and Surveillance ~~of the Project~~) annually prior to the annual maintenance services meeting.

#### 400.6.3 Asset Condition Scoring for Interim Asset Recovery

In addition to complying with the annual asset condition scoring requirements, at year 10 and year 20 of the Maintenance Period, Developer shall perform ~~interim asset condition~~Interim Asset Condition scoring of all Auditable Sections for purposes of establishing an Interim Asset Recovery Plan. Developer shall derive the Asset Condition Score for each Auditable Section from current Inspections or Inspections undertaken within the immediately preceding 24 months in accordance with the following: ~~The Asset Condition Score of an Auditable Section that was the subject of a Performance~~ Inspection within 24 months of the Maintenance Period year 10 and year 20 asset condition scoring is acceptable and such Auditable Section does not need to be the subject of an additional Performance Inspection and re-scored if Surveillance indicates that the condition of the Auditable Section has not significantly changed. Requirements for

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1 Inspections and Asset Condition Scoring at years 10 and 20 are more particularly set forth  
2 Section MR 400.6.3 and Section MR 400.6.4 of the TPs.

### 3 **400.6.4 Interim Asset Condition Recovery**

4 Within 60 days after Interim Asset Condition scoring has been completed. Developer shall  
5 prepare and submit to ADOT an Interim Asset Condition Recovery Plan, acceptable to ADOT,  
6 and shall fully implement all improvements required by the accepted plan within 2 years of the  
7 ~~interim asset condition~~ Interim Asset Condition scoring. Within 60 days after ~~interim asset~~ Interim  
8 Asset scoring has been completed, Developer shall submit the Interim Asset Condition  
9 Recovery Plan to ADOT for approval ~~in ADOT's reasonable discretion.~~

10 Developer shall fully perform all Maintenance Services ~~and Capital Asset Replacement Work~~  
11 ~~necessary to bring in accordance with~~ the ~~asset up to the adjusted baseline condition, as~~  
12 ~~indicated in the accepted~~ approved Interim Asset Condition Recovery Plan within 24 months of  
13 the ~~interim asset condition~~ Interim Asset Condition scoring.

14 ~~Developer shall implement Capital Asset Replacement Work to conform to the~~  
15 ~~recommendations of the accepted interim asset recovery plan.~~

### 16 **400.6.5 Exceptions to Interim Asset Condition Recovery**

17 Developer shall not be required to perform Maintenance Services with respect to the following:

- 18 A. Minor age-related non-structural weathering of concrete structures consisting of minor  
19 scaling and/or non-structural hairline cracks classified as shrinkage, mass concrete or  
20 temperature related, (as referenced in FHWA publication NHI 03-001).
- 21 B. Bridge expansion joints, provided that they are determined to have 20 years of  
22 ~~remaining useful life~~ Remaining Useful Life by Inspection carried out in accordance with  
23 Section MR 400.3.2.2 of the TPs.
- 24 C. Steel structures coating systems, provided that steel structures coating systems are  
25 determined to have 20 years of ~~remaining life~~ Remaining Useful Life by Inspection  
26 carried out in accordance with Section MR 400.3.2.2 of the TPs. However, Developer  
27 shall include touch-ups and local repairs of steel coating in the Interim Asset Recovery  
28 Plan and perform these Maintenance Services.
- 29 D. Retroreflectivity and legibility of overhead signs, provided that they are within 75 percent  
30 of specified requirements for new materials.
- 31 E. Retroreflectivity and legibility of other signs, provided that they are within 75 percent of  
32 specified requirements for new materials.

33 ~~F. Landscape plantings provided that 85 percent plant establishment is achieved.~~

34 ~~Developer is cautioned that an Element that may be excluded from interim asset scoring~~  
35 ~~recovery because of its remaining useful life or its condition at the time of the interim asset~~  
36 ~~condition scoring may be required to be renewed during the course of the Maintenance Period~~  
37 ~~or at Handback because of its remaining useful life or its condition at that time.~~

### 38 **400.6.6 Development of Asset Condition Score and Adjectival Rating System**

39 For purposes of arriving at an Asset Condition Score each Element of each Auditable Section  
40 scored must be rated with an adjectival score. The rating must reflect how the measurement  
41 record listed in TP Attachment 500-1 for each Element compares to the target condition listed in  
42 TP Attachment 500-1. The adjectival rating system is as shown in Table 400-1.

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1 of Section MR 400.6.6 of the TPs.

Table 400-1 Adjectival Rating System			
Rating	Numeric score	Condition	Description
A	5	Excellent	<del>The target for the Performance Requirement is fully achieved.</del> Element is fully functional <u>and/or fully maintained</u> , in new or near new condition and appearance, in correct location, <del>and fully achieves target value.</del>
B	4	Good	<del>The target for the Performance Requirement is substantially achieved.</del> Element is fully functional, in good condition and appearance. Element may be slightly displaced or weathered, <del>but substantially achieves full capacity or condition target.</del>
C	3	Average	<del>The target for the Performance Requirement is marginally achieved.</del> Element is fully functional, may have some appearance problems. Element may be slightly displaced or not achieve full capacity, but is <del>significantly</del> <u>comfortably</u> above replacement <del>range values</del> , displacement <u>tolerances</u> or capacity <del>target needs</del> .
D	2	Poor	<del>The target for the Performance requirement is not achieved.</del> Element is functional, <u>but</u> has significant appearance or displacement problems. Element is at or only slightly above replacement values <del>or</del> displacement tolerances, <del>and does not meet target condition or capacity needs.</del>
F	0	Unacceptable	<del>Lacking</del> <del>The target for the Performance Requirement is not achieved.</del> <del>The Element is lacking</del> in functionality, capacity, or condition. <del>Does not meet target values for condition.</del> <del>Is</del> Element is below <del>target values for</del> replacement <u>values displacement tolerances, or capacity needs.</u>

2 **400.6.6.1 Pavement Ride Scoring**

3 Developer shall use Table 400-2 in Section MR 400.6.6.1 of the TPs for rating pavement ride  
 4 (Element 2.1 in TP Attachment 500-1). Developer shall use the adjectival rating Table 400-1 ~~for~~  
 5 ~~all other entries. Nothing in these specifications prohibits Developer and ADOT from mutually~~  
 6 ~~establishing a rating system for Element or Elements based on a specific inspection metric to~~  
 7 ~~aid in adjectival scoring; such as assigning numeric values for certain conditions~~ of Section MR  
 8 400.6.6 of the TPs for all other entries. The numbers in Table 400-2 of Section MR 400.6.6.1 of  
 9 the TPs are explained in Table 400-3 of Section MR 400.6.6.1 of the TPs.

Table 400-2 Pavement Ride Condition Scoring					
Location	Rating				
	A=5	B=4	C=3	D=2	F=0

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<b>Table 400-2 Pavement Ride Condition Scoring</b>					
<b>Location</b>	<b>Rating</b>				
	<b>A=5</b>	<b>B=4</b>	<b>C=3</b>	<b>D=2</b>	<b>F=0</b>
Mainline lanes	60 or lower	61 - 94	95 - 119	120 - 150	>150
Ramps	60 or lower	61 - 94	95 - 119	120 – 150	>150
Frontage Roads	70 or lower	71 - 104	105 - 144	145 – 170	>170

1 | A description of the IRI scale for pavement smoothness is as follows:

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Table 400-3 IRI Scale for Pavement Smoothness	
IRI Scale (inches/mile)	Description
< 60	Very Smooth
61 – 120	Smooth
121 – 170	Fair
171 – 220	Rough
> 220	Very Rough

1 **400.6.7 Calculation of Asset Condition Score**

2 Annually, Developer shall calculate an Asset Condition Score using the most recent values for  
3 the condition of each Element in each Auditable Section ~~for the Project. At years 10, 20, 25, and~~  
4 ~~29 of the Maintenance Period, the score from each Auditable Section must be derived from~~  
5 ~~inspections undertaken within the immediately preceding 24 months, as provided in Sections~~  
6 ~~MR 400.6.2 of the TPs. For Elements where no inspections have been completed, Developer~~  
7 ~~shall use the Baseline Audit Condition, unless a recent Surveillance indicates need for an~~  
8 ~~inspection. In which case Developer shall carry out the required inspection and the more recent~~  
9 ~~results used. The score of each Element in each Auditable Section is determined by multiplying~~  
10 ~~the rating by the weighting factor presented in Table 400-4 in this Section MR 400.6.7.~~

11 ~~Every inspection of every Element must result in an adjectival rating for that Element. The~~  
12 ~~adjectival rating must be displayed in the associated inspection report, and must be duly~~  
13 ~~reported in the monthly maintenance report described in Section MR 400.3.4 of the TPs. ADOT~~  
14 ~~will have the right to dispute an adjectival rating within 30 days from submittal of the monthly~~  
15 ~~report. If ADOT does dispute an adjectival rating of an Element that disputed Element will be~~  
16 ~~jointly inspected by ADOT and Developer.~~

17 ~~If ADOT and Developer subsequently agree on an adjectival score in the follow-up joint~~  
18 ~~inspection, that score must be used for that Element. The monthly report will then be corrected~~  
19 ~~to reflect the agreed adjectival score. A record of corrections will be kept and duly reported~~  
20 ~~month by month.~~

21 If ADOT and Developer cannot agree on the condition to be assigned to an Element within 60  
22 days from original reporting of the disputed condition, then dispute resolution procedures in  
23 accordance with Section 22.2 of the Agreement must be followed. For purposes of the annual  
24 Asset Condition Score, Elements for which the condition is in dispute will be excluded from the  
25 Asset Condition Score calculation by reducing total available points for calculation.

26 The rating of each element in each Auditable Section must be weighted by multiplying the rating  
27 by the weighting factor presented in Table 400-4.

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in this Section MR 400.6.7.

Table 400-4 Asset Condition Score Weighting Table			
Item	Description	Asset Condition Score TP Attachment 500-1 reference line	Weight
1	Public appearance factors ( <del>Debris, Curb</del> debris, curb and sidewalk condition, sweeping, litter, graffiti, sound-walls, signals, landscaping)	1.1-1.8	20%
2	Pavement <del>Ride</del> condition	2.1	35%
3	<del>Other</del> Roadway pavement distress factors	3.1-3.2	10%
4	Safety and security ( <del>Attenuators</del> attenuators, barrier, fences, sign, lighting pavement markings) Structures	4.1 – 4.5	15%
5	Structures	5.1-5.3	10%
6	Ponding, flooding, drainage, slopes	6.1-6.4	10%

The Asset Condition Score is the sum of each Element in each Auditable Section multiplied by the ~~Adjectival~~adjectival rating numeric score multiplied by the appropriate weighting factor in the Asset Condition Score Weighting Table 400-4-~~of this Section MR 400.6.7.~~

The total available points for Baseline Asset Condition Score is the sum of each Element in each Auditable Section multiplied by five (which is the highest ~~Adjectival~~adjectival rating numeric score) multiplied by the appropriate weighting factor in the Asset Condition Score Weighting Table 400-4-~~4 in this Section MR 400.6.7.~~

Developer shall present the overall condition of the asset (Asset Condition) as a percentage of the adjusted Baseline Asset Condition Score.

In years 10-30 of the Maintenance Period, Developer shall adjust the ~~baseline asset condition score~~Baseline Asset Condition Score downwards in accordance with the Baseline Asset Condition Score Adjustment Table 400-5 ~~in this Section MR 400.6.7~~ to account for weathering and normal aging of the asset.

Table 400-5 Baseline Asset Condition Score Adjustment	
Maintenance Period Year	Baseline Asset <del>condition score</del> Condition Score adjustment factor
0-9	100%
10-19	96.0%
20-24	92.0%



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Table 400-5 Baseline Asset Condition Score Adjustment	
Maintenance Period Year	Baseline Asset <del>condition score</del> Condition Score adjustment factor
25-29	88.0%
30	85.0%

1 At years 10, 20, 25, and 29 of the Maintenance Period, the score from each Auditable Section  
 2 must be derived from Inspections undertaken within the immediately preceding 24 months, as  
 3 provided in Section MR 400.6.2 of the TPs.

4 Every Inspection of every Element must result in an adjectival rating for that Element. For  
 5 clarity, an example of the Asset Condition Scoring Table, partially filled out is shown in TP  
 6 Attachment 500-2.

7 Developer shall display the adjectival rating in the associated Inspection report, and shall duly  
 8 report it in the monthly maintenance report described in Section MR 400.3.4 of the TPs. ADOT  
 9 will have the right to dispute an adjectival rating within 30 days after ADOT receives the monthly  
 10 report. If ADOT does dispute an adjectival rating of an Element, the Parties will jointly inspect  
 11 that disputed Element.

12 If ADOT and Developer subsequently timely agree on an adjectival score in or as a result of the  
 13 follow-up joint Inspection, that score must be used for that Element. Developer shall then correct  
 14 the monthly report to reflect the agreed adjectival score. Developer shall keep and report a  
 15 record of corrections.

16 If ADOT and Developer cannot agree on the condition to be assigned to an Element within 60  
 17 days from original reporting of the disputed condition, then, the Dispute shall be resolved in  
 18 accordance with the Dispute Resolution Procedures. For purposes of the annual Asset  
 19 Condition Score, Elements for which the condition is in Dispute must be included in the Asset  
 20 Condition Score calculation using ADOT's determination, subject to adjustment up, and as  
 21 necessary to reflect the final resolution of the Dispute.

22 Nothing in these specifications prohibits Developer and ADOT from mutually establishing a  
 23 rating system for an Element or Elements based on a specific Inspection metric to aid in  
 24 adjectival scoring, such as assigning numeric values for certain conditions.

25 **400.6.7.1 Actions ~~resulting~~Resulting from Asset Condition Score**

- 26 A. If the Asset Condition Score is between 100 percent and 85 percent of the Adjusted  
 27 Baseline Asset Condition Score, then no Noncompliance Points will be assessed for  
 28 asset condition as provided at line 5 of Exhibit 18-2 to the Agreement.
- 29 B. If the Asset Condition Score is below 85 percent but not below 60 percent of the  
 30 Adjusted Baseline Asset Condition Score, then Noncompliance Points will be assessed  
 31 in accordance with as provided at line 5 of Exhibit 18-2 to the Agreement
- 32 C. If the Asset Condition Score is below 60 percent of the Adjusted Baseline Asset  
 33 Condition Score, then Developer shall, within 90 days, accelerate the Maintenance  
 34 Services to bring the Asset Condition Score to at least 85 percent of the Adjusted  
 35 Baseline Asset Condition Score, as demonstrated by a new ~~asset condition scoring~~Asset  
 36 Condition Scoring exercise.

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1 If Developer fails to bring the Asset Condition Score up to at least 85 percent of the Adjusted  
2 Baseline Asset Condition Score within 90 Days, ADOT may begin maintenance activities using  
3 ~~their~~ own forces or pursue other remedies under the terms of the Agreement.

### 400.6.8 Summary of Asset Condition Scoring during the Maintenance Period

5 A summary of Asset Condition Scoring requirements is set forth below to summarize the timing  
6 number, basis, and purposes for required Asset Condition Scoring activities during the  
7 Maintenance Period. Asset Condition Scoring will be carried out using the then-current  
8 approved Asset Condition Score Table in accordance with Section MR 400.6.1 of the TPs; and  
9 will be scored in accordance with Section MR 400.6.1 through MR 400.6.7 of the TPs. In  
10 addition to the summary presented here, other ~~asset condition scores~~ Asset Condition Scores  
11 may be required of Developer in accordance with Section MR 400.6.7.1 of the TPs; or may be  
12 generated by ADOT as part of their oversight activities discussed in Section MR-204B of the  
13 TPs.

#### 400.6.8.1 Baseline Asset Condition ~~Baseline~~ Score

15 ADOT with cooperation and participation by Developer will, within 30 days after Final  
16 Acceptance, perform a comprehensive Inspection and Surveillance of all Elements for the  
17 purpose of establishing a Baseline Asset Condition Score. This is further discussed in Section  
18 MR 400.6.1 of the TPs.

#### 400.6.8.2 Annual Asset Condition Scores for Years 1-~~9~~25 of the Maintenance PeriodTerm

21 Developer shall, within 30 days prior to the annual maintenance meeting for each of years 1-~~9~~25  
22 of the Maintenance Period, develop an Asset Condition Score for the Project. Developer shall  
23 use the previous year's random Inspections and Surveillance as representative of the condition  
24 of the Project to develop the Asset Condition Score. Developer shall use the ~~Baseline~~-Asset  
25 Condition Score for purposes of assessing Noncompliance Points, establishing the proposed  
26 maintenance activities for the upcoming year-, and updating the Capital Asset Replacement  
27 Work Plan every 2 years. At years 10 and 20, specialty inspections are required for bridge  
28 expansion joints and for steel coatings to establish Remaining Useful Life for these elements.

#### ~~400.6.8.3 Interim Asset Condition Score for Year 10 of the Maintenance Period~~

~~Developer shall, within 30 days prior to annual maintenance meeting for year 10 of the  
Maintenance Period, develop an Asset Condition Score for the Project. Developer shall use the  
previous year's Inspections and Surveillance, supplemented by additional Inspections and  
Surveillance to ensure that all Elements have received an inspection within the last 24 months  
and that those inspections are representative of current conditions as established by a  
Surveillance activity. Developer shall apply the results of inspections to develop the Asset  
Condition Score. Specialty Inspections are required for bridge Expansion Joints and for steel  
coatings to establish remaining useful life for these Elements. Developer shall use the Asset  
Condition Score so derived for purposes of establishing needed Capital Asset Replacement  
Work to bring the asset up to required Baseline Conditions and remaining useful life and  
establishing proposed maintenance activities for the upcoming year.~~

#### ~~400.6.8.4 Annual Asset Condition Scores for Years 11-19 of the Maintenance Period~~

~~Developer shall, within 30 days prior to the annual maintenance meeting for each of years 11-19  
of the Maintenance Period, develop an Asset Condition Score for the Project. Developer shall  
use the previous year's random Inspections and Surveillance as representative of the condition  
of the Project to develop the asset condition score. Developer shall use the Asset Condition~~

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~~Score so derived for purposes of establishing the proposed maintenance activities for the upcoming year, including Capital Asset Replacement Work (if any).~~

### **400.6.8.5 — Interim Asset Condition Score for Year 20 of the Maintenance Period**

~~Developer shall, within 30 days prior to the annual maintenance meeting for year 20 of the Maintenance Period, develop an Asset Condition Score for the Project. Developer shall use the previous year's Inspections and Surveillance, supplemented by additional Inspections and Surveillance to ensure that all Elements have received an Inspection within the last 24 months and that these Inspections are representative of current conditions as established by a Surveillance activity. Results of Inspections must be used to develop the Asset Condition Score. Specialty Inspections are required for bridge Expansion Joints and for steel coatings to establish remaining useful life for these Elements. Developer shall use the Asset Condition Score so derived for purposes of establishing needed Capital Asset Replacement Work to bring the asset up to required Baseline Conditions and remaining useful life, and establishing proposed maintenance activities for the upcoming year.~~

### **400.6.8.6 — Annual Asset Condition Scores for Years 21-24 of the Maintenance Period**

~~Developer shall, within 30 days prior to the annual maintenance meeting for each of years 21-24 of the Maintenance Period, develop an Asset Condition Score for the Project. Developer shall use the previous year's random Inspections and Surveillance as representative of the condition of the Project to develop the asset condition score. Developer shall use the Asset Condition Score so derived for purposes of establishing the proposed maintenance activities for the upcoming year, including Capital Asset Replacement Work (if any).~~

### **400.6.8.7 — Asset Condition Score for Handback Recovery**

~~ADOT, with cooperation and participation by Developer will, within 30 days prior to the annual maintenance meeting for year 25 of the Maintenance Period, perform a comprehensive Inspection and Surveillance of the Project including all Elements for purpose of establishing an Asset Condition Score for Handback recovery. Specialty Inspections are required for bridge expansion joints and for steel coatings to establish the remaining useful life for these Elements. Developer shall use the Asset Condition Score so derived for purposes of establishing needed Capital Asset Replacement Work to bring the Elements up to the Handback requirements set forth in Section MR 501.4.1 of the TPs and establishing the proposed maintenance activities, including Capital Asset Replacement Work (if any) for the upcoming year.~~

### **400.6.8.8400.6.8.3 Annual Asset Condition Scores for Years 26-29 of the Maintenance Period**

Developer shall, within 30 days prior to the annual maintenance meeting for each of years 26-29 of the Maintenance Period, develop an Asset Condition Score for the Project. Developer shall use the previous year's random Inspections and Surveillance as representative of the condition of the Project to develop the Asset Condition Score. Developer shall use the Asset Condition Score so derived for purposes of assessing Noncompliance Points, updating the Handback Plan, updating the needed Capital Asset Replacement Work to satisfy the Handback Requirements set forth in Section MR 501.1 of the TPs, and establishing the proposed maintenance activities, including Capital Asset Replacement Work, for the upcoming year.

### **400.6.8.9400.6.8.4 Asset Condition Score for Final Punchlist**

ADOT (with the cooperation of and participation by Developer) will, approximately 6 months prior to the end of the Maintenance Period, perform a comprehensive Inspection and Surveillance of the Project, including all Elements for purpose of establishing an Asset Condition

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Score for Final Punchlist. Developer shall provide an engineering report that documents ~~remaining useful life~~ Remaining Useful Life in accordance with Section MR 501.1 of the TPs. Developer shall use the Asset Condition Score so derived for purposes of assessing Noncompliance Points, ensuring that asset condition at the end of the Maintenance Period satisfies all the Handback requirements set forth in Section MR 501.4100.1.1 of the TPs, and in order to establish a punchlist of deficiencies that must be rectified before the end of the Maintenance Period.

**400.7 SUBMITTALS**

Table 400-6 reflects a nonexclusive list of Submittals identified in Section MR 400 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.10.2.1.1 of the TPs:

Table 400-6 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Draft MMP	2	2	1	<u>No later than</u> 90 days prior to Substantial Completion	MR 400.2.1
Final <del>Approved</del> -MMP	2	2	1	Before Substantial Completion	MR 400.2.1
MSMP	2	2	1	With MMP Submittals	MR 400.2.7
MQMP	2	2	1	With MMP Submittals	MR 400.2.8
TMP	2	0	Thru MIS	With MMP Submittals and for each incidence where temporary traffic control measures are required.	MR 400.2.9
EMP	2	2	1	With MMP Submittals	MR 400.2.10
Auditable Sections Table	3	2	1	With MMP Submittals	MR 400.3.1
MIS Architecture	3	2	1	With MMP Submittals	MR 400.2.4
Proposed <del>Updates</del> <u>updates</u> to MMP	2	2	1	Annually by annual maintenance meeting	MR 400.3.4
Final <del>Approved</del> <u>Update</u> <del>approved</del> <u>update</u> to MMP	2	2	1	Within 15 days after annual maintenance meeting	MR 400.3.4

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Table 400-6 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Monthly Maintenance Services <del>Report</del> report of previous month's maintenance activities	5	0	Thru MIS	By 15th of each month	MR 400.2
Annual Maintenance Services <del>Report</del> report of previous <del>years</del> year's maintenance activities	3	2	1	Annually 30 days prior to annual maintenance meeting	MR 400.2
Planned Maintenance <del>Activities</del> Services activities	3	2	1	Annually 30 days prior to annual maintenance meeting	MR 400.2
Emergency <del>and</del> Incident <del>Reports</del> reports	5	0	Thru MIS	Within 30 days of <del>incident</del> Incident or Emergency	MR 400.4
Inspection plan and results of <del>remaining useful life</del> Remaining Useful Life for bridge expansion joints and steel coatings for <del>interim-asset condition score</del> Interim Asset Condition Score for year 10	3	2	Thru MIS	6 months prior to year 10 Interim Asset Condition <del>Scoring</del> scoring	<del>MR 400.3.2.2-MR 400.3.2.2.</del>
Interim Asset Condition Score for Year 10	3	0	Thru MIS	Year 10 of the Maintenance Period	MR 400.6.3
Year 10 <del>Capital</del> Interim Asset Replacement Work <del>Submittal</del> Condition Recovery Plan	3	2	1	Within 60 days of 10 year <del>interim</del> Interim Asset -Condition <del>Scoring</del> scoring	MR 400.6.4
Inspection plan and results of remaining useful life for <del>Bridge</del> bridge expansion Joints and steel coatings for <del>interim-asset condition score</del> Interim Asset Condition Score for year 20	3	2	Thru MIS	6 months prior to year 20 Interim Asset Condition <del>Scoring</del> scoring	<del>MR 400.3.2.2-MR 400.3.2.2</del>
Interim Asset Condition Score for Year 20	3	0	Thru MIS	Year 20 of the Maintenance Period	MR 400.6.3

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Table 400-6 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Year 20 <del>Capital</del> Interim Asset <del>Replacement Work</del> <del>Submittal</del> Condition <del>Recovery Plan</del>	3	2	1	Within 60 days of 20 year <del>interim</del> Interim Asset Condition <del>Scoring</del> scoring	MR 400.6.4
*Levels of Review 1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> ) 2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> ) 3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> ) 4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> ) 5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1  
2

**End of Section**

| ADDENDUM #~~1~~2

1 **MR 500 NONCOMPLIANCE EVENT REPORTING**

2 **500.1 GENERAL REQUIREMENTS**

3 | Developer shall perform all Noncompliance ~~event~~Event reporting in compliance with  
4 | ArticleSection 17.2.1 of the Agreement.

5

6

**End of Section**



## ADDENDUM #12

### MR 501 HANDBACK

#### 501.1 GENERAL REQUIREMENTS

Developer shall implement the accepted Handback Plan and perform all Capital Asset Replacement Work and other Maintenance Services necessary to deliver the Project to ADOT at the end of the Maintenance Period in a condition that complies with the requirements of Handback Requirements as set forth in this Section MR 501 of the TPs. The Handback Requirements include a minimum Asset Condition Score as required by this Section MR 501 of the TPs and the applicable Remaining Useful Lives as set forth in Table 501-1 in Section MR 501.3 of the TPs.

#### 501.2 ADMINISTRATIVE REQUIREMENTS

##### 501.2.1 Asset Condition Score for Handback Recovery

At year 25 of the Maintenance Period, ADOT will use the then-current accepted Asset Condition Score Table and will conduct Inspection perform Inspections and Surveillance ~~of the Project~~ and create an Asset Condition Score for determining Capital Asset Replacement Work and other Maintenance Services required for Handback. Specifics on Asset Conditions Scoring are in Section MR 400.6 of the TPs. Developer shall make adjustments to the Asset Condition Score Table in accordance with Section 400.6.1 of the TPs. Developer shall make the Maintenance Manager and appropriate support staff available to accompany ADOT in the Asset Condition Scoring. Developer shall apply ADOT's Asset Condition Score ~~to~~ establish Developer's Capital Asset Replacement Work and other actions ~~that~~ will be necessary for satisfying the Handback Requirements.

##### 501.2.2 Handback ~~Recovery~~ Plan

Developer shall prepare a Handback Plan, acceptable to ADOT, and in its good faith discretion, that contains the methodologies and activities to be undertaken or employed to meet the Handback Requirements at the end of the Term. Developer shall fully implement all improvements required by the accepted Handback Plan by the end of the Maintenance Period.

In preparing the Handback ~~recovery plan~~ Plan, Developer shall compare the Asset Condition Score developed under Section MR 501.2.1 of the TPs to the Adjusted Baseline Asset Condition Score, and shall describe the steps necessary to bring the Project from the then-current condition to the adjusted baseline asset condition Adjusted Baseline Asset Condition, and shall compare the Remaining Useful Life of each Element to the required Remaining Useful Life at Handback required by Section MR 501.3 of the TPs.

The Handback ~~recovery plan shall~~ Plan must include (a) a detailed description, by Element, of all planned Capital Asset Replacement Work and Routine Maintenance necessary to bring the Project from the then-current condition to the Adjusted Baseline Asset Condition Score, (b) a detailed description, by Element, of all planned Capital Asset Replacement Work and Routine Maintenance to restore each Element to its required Remaining Useful Life at Handback, (c) a resource and cost-loaded schedule for carrying out such Capital Asset Replacement Work and ~~(e)d) an updated Capital Asset Replacement Work Schedule for carrying out such Capital Asset Replacement Work, as more particularly provided in Section 8.3.2 of the Agreement, and~~ a schedule for carrying out such Routine Maintenance, with substantial completion targeted to be no later than 6 months before the end of the Maintenance Period and completion of punch list items by the end of the Maintenance Period.

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### 501.2.3 Handback Plan Reviews

No later than 60 days after ADOT ~~presents~~ delivers to Developer the Asset Condition Score for Handback described in Section MR 501.2.1 of the TPs, Developer shall submit a draft Handback Plan to ADOT for approval in ADOT's good faith discretion.

ADOT will review and provide comments to the draft Handback Plan within 30 days after receipt. Within 10 days after Developer receives ADOT's comments, Developer and ADOT will convene a review meeting to resolve ADOT's comments.

No ~~less~~ later than 30 days after the comment resolution meeting Developer shall resolve all comments to the satisfaction of ADOT and shall submit the final Handback Plan to ADOT for approval in ADOT's good faith discretion.

### 501.2.4 Handback Transition Plan

Developer shall prepare and implement a Handback ~~transition plan~~ Transition Plan. As provided in Section 24.13 of the Agreement, Developer shall submit a Handback ~~transition plan~~ Transition Plan to ADOT for approval in ADOT's good faith discretion. In addition to the matters described in Section 24.13 of the Agreement, the Handback ~~transition plan~~ Transition Plan must include:

- A. Current status of Handback recovery Work, and expected status at end of Maintenance Period of Handback recovery Work;
- B. Remaining Useful Lives;
- C. Current MIS Architecture documentation;
- D. MIS training protocols for ADOT personnel;
- E. Inventory, location, and condition of any spares and materials on hand, and method of Handback of these items to ADOT maintenance yard;
- F. Relinquishing any portions of the ROW used by Developer during the Maintenance Period in accordance with land use agreement(s);
- G. Punch list protocol to begin Handback acceptance procedures with ADOT;
- H. Transition protocols for stormwater management and for "Arizona 811" locates responsibilities;
- I. Document turnover for maintenance records; and
- J. Final walk-through and acceptance.

### 501.2.5 Asset Condition Score for Final Punchlist

~~Within~~ No later than 6 months ~~of prior to~~ the end of the Maintenance Period, ~~or such earlier time as mutually agreed,~~ ADOT will use the then-current accepted Asset Condition Score Table and will conduct ~~Inspections and Surveillance~~ and inspection of the Project and create an Asset Condition Score for final punchlist. Developer shall make the Maintenance Manager and appropriate support staff available to accompany ADOT in the Asset Condition Scoring. Developer shall apply ADOT's Asset Condition Score to establish Developer's Capital Asset Replacement Work and other actions for completing the final punchlist and satisfying the Handback Requirements.

## 501.3 REMAINING USEFUL LIFE AT HANDBACK

### 501.3.1 Remaining Useful Life Requirements

Each Element of the Project must have a Remaining Useful Life at Handback as required in these provisions. Table 501-1 of this Section sets forth the required Remaining Useful Life at Handback for each Element. ~~Remaining useful life must be determined by a licensed engineer.~~

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The remaining useful life must be documented in an engineering report duly stamped and sealed by a professional engineer licensed in the state of Arizona. The report must address:

- A. ~~Scope~~
- B. ~~Methods of measurements tests and inspections~~
- C. ~~Remaining Useful Life requirements~~
- D. ~~Results of measurements, tests and inspections~~
- E. ~~Calculations of Remaining Useful Life for Elements within each reporting category~~
- F. ~~Results showing the Remaining Useful Life for each Element~~
- G. ~~Noted deficiencies and areas where future inspections or investigations may be warranted.~~

This report must demonstrate that the Handback requirements are met.

With the Handback transition plan, Developer shall submit a Remaining Useful Life Report to ADOT for approval in ADOT's good faith discretion. The report is subject to the same review requirements of the Handback transition plan set forth in Section MR 501.2.4 of the TPs.

**Table 501-1  
Remaining Useful Life at Handback**

Ref.	Category/Element	Remaining Useful Life / Other Performance Requirement	Elements/Components/Additional Terms
1.5	Traffic signals	10 <del>year</del> years	All components except UPS batteries
<del>1.6</del>	<del>Landscaped areas (Character Areas 1,3,4,5)</del>	<del>80% plant establishment</del>	<del>All landscaped areas are maintained</del>
<del>4.6</del>	<del>Landscaped areas (Character Areas 1,3,4,5)</del>	<del>85% plant establishment</del> 5 years	<del>All landscaped areas are maintained</del> Irrigation systems emitters, pressure regulators, and control valves. Latest version of irrigation controller software to be installed.
1.7	Landscaped areas (Character Area 2)	50% plant establishment	All landscaped areas are maintained
<del>3</del> 2.1	Pavement and structural section	10 years	All mainline lanes, frontage roads, and ramps
4.1	Safety barriers	20 years	All components except sand barrel arrays, which are 10 years.
4.2	Fence/ <del>Gates</del> gates	10 years	
4.3	Signage, delineators, and posts	10 years	<del>Retro-reflectivity and legibility of overhead signs must be within 75% of specified new requirements</del>
<del>4.4</del> 5	Lighting	10 years	Luminaires
<del>4.5</del> 6	Pavement marking	3 years	

**ADDENDUM #12**

Table 501-1 Remaining Useful Life at Handback			
Ref.	Category/Element	Remaining Useful Life / Other Performance Requirement	Elements/Components/Additional Terms
5.1	Bridges	45 years	All components except expansion joints and structural steel coatings
5.1	Bridge expansion joints	20 years	
5.1	Structural steel coatings	20 years	
5.2	Retaining walls	45 years	
5.3	Structures for sign supports	20 years	
5.3	Structures for lighting supports	10 years	
6.2	Detention and retention basins	50 years	
6.3	Piped and open channel drainage systems	10 years 20 years	Exposed Buried

Deleted Cells  
Deleted Cells  
Deleted Cells

1 Pavement must exhibit a Remaining Useful Life of 10 years with a ride quality of "good" in  
2 accordance with Table 400-3 in Section MR 400.6.6.1 of the TPs using traffic forecasts  
3 approved by ADOT for the 10 years subsequent to the Maintenance Period.

4 **501.4 HANDBACK REQUIREMENTS**

5 **501.4.1 Handback Asset Condition Recovery**

6 ~~Developer shall implement the accepted Handback recovery plan and shall bring the Project to~~  
7 ~~adjusted baseline Asset Condition Score by the end of the Maintenance Period. The only~~  
8 ~~exceptions allowed are those stated in Section MR 501.3 of the TPs, and certain categories~~  
9 ~~enumerated herein below for which Developer may propose fee in lieu for improvements as~~  
10 ~~described in the Agreement. Fee in Lieu and exceptions must be addressed in the Handback~~  
11 ~~Plan.~~

12 **501.3.2 Exceptions**

13 Developer may elect to deliver one or more of the following Elements without meeting the  
14 respective required Remaining Useful Lives, provided that Developer elects to use an exception  
15 by paying an in-lieu fee as set forth in Section 8.11.4 of the Agreement:

- 16 A. Pavement and structural section condition – reference line 3.1 of Table 501-1 in Section  
17 MR 501.3.1 of the TPs
- 18 B. Signage – reference line 5.3 of Table 501-1 in Section MR 501.3.1 of the TPs
- 19 C. Pavement markings – reference line 5.6 of Table 501-1 in Section MR 501.3.1 of the  
20 TPs

## ADDENDUM #12

1 ~~Developer shall~~ ADOT will determine the Remaining Useful Life for each excepted ~~remaining~~  
2 ~~useful life~~Element as part of the Asset Condition ~~Score at Handback~~Scoring described in  
3 Section MR ~~501.2.4~~501.2.1 of the TPs, and shall reassess the ~~remaining useful life~~Remaining  
4 Useful Life for these ~~categories~~Elements annually for the remaining Maintenance Period. ~~The~~  
5 ~~remaining useful life~~ADOT will use the Remaining Useful Life determination for these ~~categories~~  
6 ~~will be used by ADOT~~Elements to determine the ~~fee-in-lieu payment procedures~~fee in  
7 accordance with Section 8.11.4 of the Agreement.

### 8 501.3.3 Remaining Useful Life Determination and Report

9 Developer shall use a professional engineer licensed in the State to determine Remaining  
10 Useful Life. Developer shall document the Remaining Useful Life in an engineering report duly  
11 stamped and sealed by such professional (that is, a Remaining Useful Life Report). The report  
12 must address:

13 H.A. Scope

14 I.B. Methods of measurements tests and Inspections

15 C. The Remaining Useful Life requirements in Table 501-1 in Section MR 501.3.1 of the  
16 TPs

17 J.D. Results of measurements, tests and Inspections

18 K.E. Calculations of Remaining Useful Life for Elements within each reporting  
19 category

20 L.F. Results showing the Remaining Useful Life for each Element

21 M.G. Noted deficiencies and areas where future Inspections or investigations may be  
22 warranted

23 ~~This is then be used to determine the in lieu payment procedures on the three items which will~~  
24 ~~be outlined in the Agreement.~~

### 25 501.4.2 Final Punchlist

26 ~~Remaining~~The report must demonstrate that the Handback recoveryrequirements are met.

27 The Remaining Useful Life Report must accompany the Handback Transition Plan. Therefore,  
28 Developer shall submit the Remaining Useful Life Report together with the Handback Transition  
29 Plan to ADOT for approval in ADOT's good faith discretion. The Remaining Useful Life Report is  
30 subject to the review requirements of the Handback Transition Plan as set forth in Section MR  
31 501.2.4 of the TPs.

32 ADOT, as its option, may retain its own licensed engineer to independently verify Remaining  
33 Useful Life. Any Dispute regarding Remaining Useful Life, or the Work necessary to deliver the  
34 Elements at the end of the term with the required Remaining Useful Life, is to be resolved  
35 according to the Dispute Resolution Procedures. Pending such resolution, ADOT will have the  
36 right to issue Directive Letters regarding such Work.

### 37 501.4 FINAL PUNCHLIST

38 By the end of the Maintenance Period, Developer shall complete to the satisfaction of ADOT  
39 remaining Capital Asset Replacement Work and other Maintenance Services identified in the  
40 Asset Condition Score for final punchlist described in Section MR 501.2.5 of the TPs ~~must be~~  
41 ~~completed by Developer to the satisfaction of ADOT.~~

42 ~~Developer's resolution of the punchlist items is a condition of final acceptance and the Final~~  
43 ~~Payment.~~

**ADDENDUM #12**

ADOT may, but is not obligated to, allow minor call outs or final resolution of ongoing minor issues to continue up to 90 days after the end of the ~~Maintenance Period~~Term.

~~If any items of punchlist Work remain incomplete at the end of the Maintenance Period or any such continuation as ADOT may allow, then ADOT has the right to complete it at Developer's expense and adjust Final Payment accordingly.~~

**501.4.3 Transition**

~~Within 90 days after end of Maintenance Period or as otherwise agreed, Developer shall submit all Maintenance Services documentation to ADOT for approval in ADOT's reasonable discretion or for comment as needed.~~

~~Vacate all ROW used by Developer within 90 days after end of Maintenance Period or as otherwise agreed.~~

**501.5 SUBMITTALS**

Table 501-2 reflects a nonexclusive list of Submittals identified in Section MR 501 of the TPs and is not intended to be an all-inclusive or exhaustive listing of Submittals. Developer shall determine and submit all Submittals as required by the Contract Documents, Governmental Approvals, and Governmental Entities. Unless otherwise indicated, Developer shall submit all Submittals in both electronic format and hardcopy format. At a minimum and unless otherwise specified in the Contract Documents, Developer shall submit the following to ADOT in the formats described in Section GP 110.09.2.1.1 of the TPs:

Table 501-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
Draft Handback Plan	2	2	1	Within 60 days of Asset Condition Scoring for Handback by ADOT	MR 501.2.3
Final Handback Plan	2	2	1	Within 30 days of review comments adjudication	MR 501.2.3
Draft Handback Transition Plan	2	1	1	As mutually agreed, 6-18 months prior to end of Maintenance Period	MR 501.2.4
Final Handback Transition Plan	2	1	1	Within 30 days of review comments adjudication	MR 501.2.4
Remaining Useful Life Report	2	1	1	With Handback Transition Plan	<del>MR 501.3</del> MR 501.3
All Maintenance Services Documentation not previously submitted	3/5	0/1 as needed	1	Not later than 90 days of end of Maintenance Period	MR <del>501.4.3</del> 100.1.1 and Section 24.13 of the Agreement

**ADDENDUM #12**

Table 501-2 Nonexclusive Submittals List					
Submittals	Level of Review*	Number of Copies		Submittal Schedule	Section Reference
		Hardcopies	Electronic		
*Levels of Review					
1. Sole discretion or absolute discretion approval ( <u>Section 3.1.3.1 of the Agreement</u> )					
2. Good faith discretion approval ( <u>Section 3.1.3.2 of the Agreement</u> )					
3. Reasonableness approval ( <u>Section 3.1.4.2 of the Agreement</u> )					
4. Review and comment ( <u>Section 3.1.5 of the Agreement</u> )					
5. Submit/receive and file or comment/no hold point ( <u>Section 3.1.6 of the Agreement</u> )					

1  
2

**End of Section**