

## Common Red-Line and As-Built Questions and Answers

The following questions and answers are intended to supplement the “Red-Line and As-Built Procedure and Guidelines” and “Construction Bulletin 09-04”. They should serve as a guide for Resident Engineers and designers during construction and in the preparation of the Red-Lines and As-Builts.

The “Red-Line and As-Built Procedure and Guidelines” can be found at this link:

<http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>

“Construction Bulletin 09-04” can be found at this link:

[http://www.azdot.gov/Highways/ConstGrp/Value\\_Quality/PDF/CB-09-04.pdf](http://www.azdot.gov/Highways/ConstGrp/Value_Quality/PDF/CB-09-04.pdf)

### 1.Question:

I am the RE for 2 projects that are adjacent to each other. There is a different consultant designer for each project. Both projects are being constructed by the same contractor. Project A has details of a barrier that I can also use in Project B to maintain continuity. Can I use the detail from Project A in project B? If so, what is the proper way to show it?

### Answer:

There are a couple of options:

1. Ask consultant B to analyze the detail presented in project A and provide properly sealed and signed details for project B.
2. Use your engineering judgment and seal and sign a copy of the details shown in project A. By doing so you, the RE, will become responsible for the validity of the analysis and design of the provided detail for project B. Keep in mind that the conditions may be different from one site to the other and were only analyzed for project A.

### 2.Question:

The contractor suggests a change that could save some money. They have access to eight - 30'-0 railing pieces for a total of 240'-0 ft. The length shown in the plans is 250'-0 ft. Can I Red-Line this 10'-0 difference change in the plans?

### Answer:

You should consult with the designer or request help from the technical group. The designer should determine if the change is acceptable or if it would affect the overall safety of the project, he/she may be using the minimum length required per AASHTO guidelines to identify the 250'-0. By reducing the length, the design could become unsafe and subject to problems.

### 3.Question:

I inherited an older project and have the Red-Line set ready, should I send it to the consultant/designer?

### Answer:

According to the procedure, the RE **must coordinate** with the ADOT PM before sending the Red-Line set to the designer. The PM and the RE should verify if funds are available to cover the expenses that will be incurred and whether the contract for the consultant is still open. On an older project, most likely the contract has been closed and the consultant is no longer under contract to perform any tasks.

**4.Question:**

I just completed a Local Government project for the City of OZ. Their city engineer designed this project but is not interested in the Red-Lines or As-Builts. What should I do?

**Answer:**

The As-Built requirement language has been added to the Joint Project Agreement (JPA) or Inter Governmental Agreement's (IGA) for all Local Government and Transportation Enhancement projects. If the JPA or IGA for your project was issued without that language, or if your project was constructed prior to the current Red-Line and As-Built Procedure, then Process One should be used to create the As-Builts for ADOT's records. If the project is an ARRA project (refer to project number), then the Contract Manager should be contacted to send the project to the Management Consultant (MC) for the preparation of the As-Builts.

**5.Question:**

I am a new RE and I am not quite sure what information I should be looking for when reviewing the As-Built plans.

**Answer:**

Usually, you should verify that these 7 items have been completed by the As-Built designer:

1. The As-Built date (MM/DD/YY) is on every page in the top right corner under the As-Built box.
2. Every page is numbered in the bottom right corner counting the face sheet as page 1 (include all pages - even standards and crossed out revised sheets in the count). This page count should be used as "number of pages" in the As-Built Preparation Estimate if requested by the PM.
3. Every page is sealed and signed (seal, signature, date and expiration date).
4. All changes (Red-Lines) are clouded (see example link in Question 18).
5. All pages, including addendums and revised sheets, are included in the set.
6. All lines of the information stamp on the cover sheet are complete.
7. Make sure the pages in the As-Built set correspond to your project only (there have been instances where another project's pages were accidentally included).

**6.Question:**

I am the RE of a project that crosses the Central Arizona Water Conservation District (CAWCD) Right of Way boundaries and there are specifications in the agreement that relate to the As-Builts. How should I handle these specifications?

**Answer:**

When a project crosses CAWCD Right of Way (CAWCD RW), the Contract Special Provisions should be followed for partial and complete compliance. Current CAWCD specifications require the Red-Lines to be prepared utilizing 3 different colors; it is also required that the contractor deliver a CVS file of their survey shots taken within CAWCD RW shortly after finishing work in their RW for partial compliance. A copy of those pages (pertaining to the portion crossing CAWCD RW) should be retained to be included in the Red-Line set.

At the end of the project, the modifications, notes etc. using the specifications (three colors, etc.) should be treated as Red-Lines by the designer. A copy of the prepared As-Built plans (prepared following ADOT's procedure) as well as a CD/DVD containing the prepared As-Built plans in PDF format will be sent to CAWCD for full compliance of the agreement.

### 7.Question

There are several subcontractors working on the area; whose name should I record in the front sheet?

**Answer:**

Only the name of the prime contractor should be recorded in the front sheet.

### 8.Question:

I am one of several consultant designers on a project; whose name goes on the cover sheet information stamp?

**Answer:**

The name of the prime consultant PE (As-Built designer that reviews the prepared As-Built) should go on the cover sheet information. Any sub-consultant or ADOT designer should review their portion of the project prior to submitting that portion of the As-Built plans to the prime consultant in charge of the project. After incorporating all the prepared plans into one file the prime consultant As-Built designer should review all the plans received.

### 9.Question

I am the ADOT RE but was not involved in the creating the Red-Line set. The consultant RE is the person in charge of the project. Whose name should go on the cover sheet as the Red-Line preparer?

**Answer:**

The consultant RE must be consulted during the preparation of the Red-Line set to answer questions arising from the notes. The ADOT RE should also have been involved in the preparation of the Red-Lines. If this is the case, both RE names (ADOT and consultant) should be recorded in the cover sheet information. If not, the consultant RE should take responsibility of the Red-Line content.

### 10. Question

The procedure calls for the ADOT PM and RE to make a decision on the method to use to create the As-Built; the PM and I are not familiar with CADD and can not make a decision. How can we determine which method to use?

**Answer:**

If your budget is small and/or the project is small or has minimal changes, it is recommended to use Process One (manual method). Otherwise, the other methods outlined in the procedure are fine.

Let's assume that budget is not the issue; then as a rule of thumb the following is recommended:

- If the Red-Lines have no changes then Process One (manual method) should be used.
- For projects with minor legible Red-Lines, you can choose Process One (manual method) or Process Two (use of Adobe Professional).
- For projects that have "editing" Red-Lines (changing X for Y, etc. and have no added drawing details) then Process Two (Adobe Professional) is recommended.
- For projects that need drafting of details or complex shapes (odd shapes, hatched areas, etc.), it is recommended to use Process Three (use Micro-Station).

You could use a combination of methods where most of the pages could be handled by Process One or Two and a few sheets by Process Three. This works well if you are concerned about the available budget.

### 11. Question

Where can I get the As-Built plans for a project constructed in 1984?

**Answer:**

ADOT employees will be able to find most As-Built plans in the AIDW. If you are not an ADOT employee, you will need to contact Risk Management or Engineering Records whom have the authority to release any As-Built documents. Information is available at this link:

[http://www.azdot.gov/Inside\\_ADOT/Misc/Engineering\\_Records.asp](http://www.azdot.gov/Inside_ADOT/Misc/Engineering_Records.asp)

### 12. Question

I am a new consultant designer. Where can I find information about the ADOT As-Built process?

**Answer:**

The process can be found at the following link:

<http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>

As technology changes the processes may be updated. It is recommended to check the websites listed for the latest information.

### 13. Question

I just finished preparing the Red-Line set, what is the next step?

**Answer:**

Please refer to the **RED-LINE and AS-BUILT PROCEDURE AND GUIDELINES** at this link:

<http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>.

The RE should coordinate with the ADOT PM regarding the budget and method to use and who the set should be sent to.

### 14. Question

I am a consultant/designer and have just prepared the As-Built plans; what is the next step?

**Answer:**

Please refer to Page 2, Item #5 of the **RED-LINE and AS-BUILT PROCEDURE AND GUIDELINES** at this link: <http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>

The consultant/designer should coordinate with the RE for his/her review.

### 15. Question

After the RE has reviewed and approved the prepared As-Built plans, what is the next step?

**Answer:**

Please refer to Item #6 at the top of Page 3, of the **RED-LINE and AS-BUILT PROCEDURE AND GUIDELINES** at this link: <http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>

The RE should inform (via email) the As-Built designer and the ADOT PM and copy the Statewide TES that they have approved the As-Built plans and that the deliverables can be sent to the Statewide TES. Once he/she receives the notice, he/she will keep you informed of the deliverables and final acceptance.

**16. Question:**

What are the As-Built deliverables?

**Answer:**

Please refer to Item #6 at the top of Page 3, of the RED-LINE and AS-BUILT PROCEDURE AND GUIDELINES at this link: <http://www.azdot.gov/Highways/SWProjMgmt/PDF/RedlinesAsbuilt.pdf>

Per policy, the deliverables to ADOT are:

- 1 - Half size (11" X 17") print set of the approved As-Built plans (Unbound).
- 1 - CD/DVD containing the prepared As-Built plans in PDF format.

The only exception is when dealing with CAWCD RW, then 2 sets would be required (prints and CD/DVD). Also, you should coordinate with the ADOT PM when dealing with Local Government and Transportation Enhancement projects as you may need to send 2 or more copies.

**17. Question**

I am the designer preparing the As-Builts and noticed that my project does not have the new "stamp"; where can I access the stamp?

**Answer:**

There are two ways to obtain the stamp:

1. The cover sheet with the new stamp in DGN format ( facesheet.ref ) can be found in the [Roadway Engineering Updates (Major)] on the Roadway Group's website at: [http://www.azdot.gov/highways/Roadway\\_Engineering/Roadway\\_Design/CADD/Resources/Index.asp](http://www.azdot.gov/highways/Roadway_Engineering/Roadway_Design/CADD/Resources/Index.asp)

If you have difficulty accessing the file please contact the Roadway Design Section.

2. The stamp is also available in PDF format in the Statewide Project Management Group's website at: [http://www.azdot.gov/Highways/SWProjMgmt/PDF/Half\\_Full\\_size\\_stamp.pdf](http://www.azdot.gov/Highways/SWProjMgmt/PDF/Half_Full_size_stamp.pdf)

The file contains the stamp for half and full size sheets. If you are using Adobe Professional you can copy and paste the correct stamp onto the face sheet, and add text or edit the information.

**18. Question:**

I am a new designer preparing the As-Builts; is there an example that I can follow?

**Answer:**

Examples of prepared As-Built plans can be found under the Statewide Group's website at: <http://www.azdot.gov/Highways/SWProjMgmt/PDF/As-BuiltExamples.pdf>

