

1207 FINAL RECORDS AND REPORTS (PROJECT CLOSE-OUT)

1207-1 Field Red-Line Drawings/Record Drawings

In order to provide an accurate permanent record of actual placement of features for maintenance and future development, the Resident Engineer (RE) should promptly record (manually or electronically) any physical modifications to the original design as construction progresses. It is recommended that the field office identify a single drawing set to be used for Red-Lines prior to the start of construction.

The Red-Line Drawings are utilized to create the Record Drawings. Prior to their preparation, the RE should coordinate method and format with the Record Drawings Designer. The ADOT Project Manager (PM) can furnish contact information for the Record Drawings Designer. The Statewide Project Management website provides [additional information on this process](#). Red-Lines should be drawn accurately and to scale, with all necessary explanatory and reference information noted. They shall include all changes from the As-Bid documents: all permit work; all extra work; all deleted work; supplemental agreements; addendums; field adjustments; RFIs; and discovered, relocated or abandoned utilities.

Underground communications systems, electrical, or utility information must be included by providing accurate locations on the Record Drawings. Special emphasis should be given to the location of any cables or equipment installed in a manner other than that specified by standard placement conventions. The Contractor should supply the Record Drawings survey information.

Within 45 days of the project's final acceptance (including Consultant, internal ADOT or Local Government administered projects), the RE shall assemble the final Red-Line Drawings and transmit them to the Record Drawings Designer. Prior to transmitting, the RE is to complete the Field Red-Lines Quantlist (available on the ADOT Quantlist Application). Additionally, project information needs to be completed on the Plans Face Sheet, which has been modified to provide fields for "Constructed by" – "Record Drawings by" – and "Record Drawings by". If the Plans Face Sheet does not contain those fields, the RE should request the Record Drawings Designer to provide a new Plans Face Sheet with those fields imprinted. The RE is required to fill out the "Constructed by" and "Red-Lines Completed by" portions. Note that the RE signs where the form calls for the "Construction Administrator".

When the RE transmits the completed Red-Line Drawings to the Record Drawings Designer the RE e-mails both the ADOT PM and [Field Reports Section](#) and advises them of the date. Field Reports will enter the date into the Field Office Automation System (FAST) to be reflected on the Contract Card. The Record Drawings Designer must complete the Record Drawings in a maximum of 60 days from the date the Field Red-Line Plans are received. The RE may also be requested by the ADOT PM to complete the [Record Drawing Preparation Estimate](#) form (See Exhibit 1207-1 *Record Drawings Preparation Estimate*). This form is used as a tool for the PM to verify reasonableness of the Record Drawings Designer's cost to prepare and submit Record Drawings.

Once the Designer has transferred all Red-Lines onto the final Record Drawings set, the Designer will return the set – both pdf and 11"x17" hard copies – to the RE (along with the RE's original Red-Line Drawings) for final review. It is the RE's responsibility to confirm that all modifications have been integrated into the Record Drawings. The RE must complete the review within five working days.

Upon acceptance by the RE, the RE will notify the ADOT PM, the Record Drawings Designer and the Statewide Project Management Transportation Engineering Specialist (SWPMTES) via e-mail that the Record Drawings are complete and approved. The RE will also instruct the Record Drawings Designer to send the approved Record Drawings to the SWPMTES. Prior to transmittal, the "Record Drawings Completed by" portion of the Plans Face Sheet will be filled in by the Record Drawings Designer to document the acceptance.

If the Record Drawings deliverables contain corrupt or unreadable file(s), the SWPMTES will request delivery of a

new file from the Record Drawings Designer and e-mail the PM and RE of the discrepancy. After the SWPMTES determines the Record Drawings are readable, the information will be loaded into the ADOT Information Data Warehouse (AIDW), which generates a notice to Field Reports (as well as to the RE and PM) for entry into the FAST system to record the completion date on the Contract Card.

The SWPMTES then sends the Record Drawings set to Engineering Records and e-mails the PM, RE and Record Drawings Designer, informing them of the delivery. A flowchart (See Exhibit 1207-2 *Red-Line Drawings/Record Drawings Flowchart*) illustrates an overview of the process.

Arizona Department of Transportation
Record Drawings Preparation Estimate

Project Number:
 Resident Engineer's name:

TRACS No.
 Date:

Enter your data in all yellow fields DO NOT CHANGE THESE FIELDS	Unit	Number of sets	Estimated minutes/sheet	Total estimated minutes	Total Estimated Hours
Number of sheets in plan set	sheets	1	1.00	0	0
Number of sheets with no revisions (no redlines) but include checking of seal and signature (1 min/sheet)	sheets	1	15.00	0	0
(*) Number of sheets with limited revisions (minor edit redline changes) (15 min/sheet)	sheets	1	40.00	0	0
(*) Number of sheets with extensive revisions (some drawings need to be either created or edited) (40 min/sheet)	sheets	1	1.00	0	0
Number of extra sheets to confirm that all pages are signed (1 min/sheet)	0 sheets	2	0.17	0	0
print half-size sets (1 check, 1 final) (10 sec/sheet)	0 sheets	2	2.00	0	0
scan and copy set for CD (2 min/sheet .pdf)	0 sheets				
Administration (contract estimate, QC etc)					
Total Project Hours =					0
Equivalent to (min/sheet) =					#DIV/0!

(*) Note: Some major changes may need more time to re-draw some details.
 If that is the situation in your project then add 5 to 10% total hours or
 consult with the As-Built Statewide Project Management Specialist

Exhibit 1207-1 Record Drawings Preparation Estimate

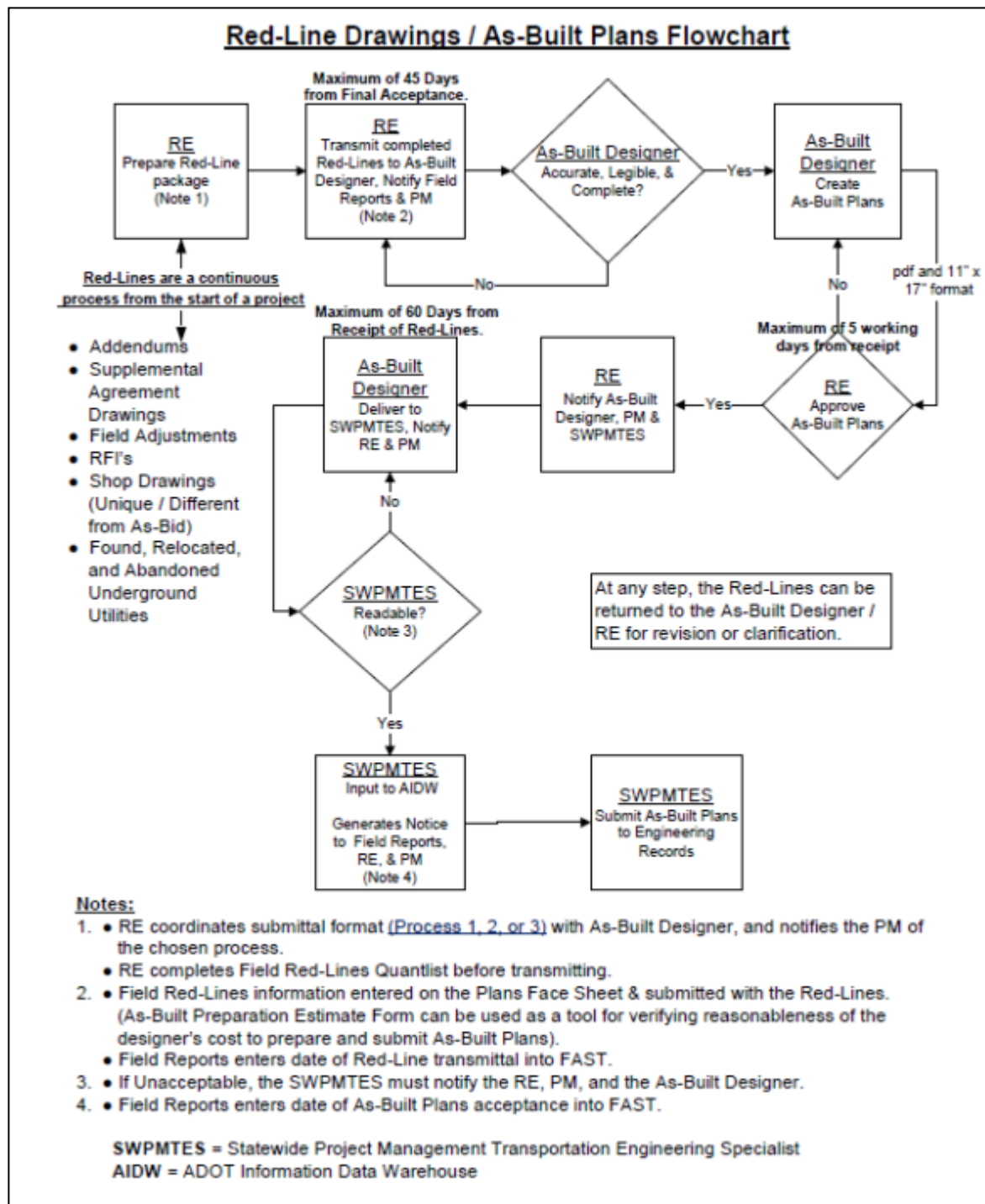


Exhibit 1207-2 Red-Line Drawings/Record Drawings Flowchart

1207-2 Materials Sample Checklist

After receiving the advertisement for a project from Contracts and Specifications, the Value and Quality Assurance Section develops a Materials Sample Checklist (Exhibit 1207-3 a,b,c,d) specifying the required number of samples for each type of project material which requires sampling and testing. The specified number of samples and tests are a minimum and are based on the plan quantities. The checklist derives the required number of samples from the "Materials Quality Assurance Program" Sampling Guide Schedule.

The project's Lab Coordinator is responsible to assure that all materials used on the project that require sampling and testing are listed on the Materials Sample Checklist. Additionally, it is the responsibility of the Lab Coordinator to assure that the appropriate number of samples and tests are obtained throughout the project, based on varying quantities for each type of project material. Upon completion of the project, the Lab Coordinator finalizes the Materials Sample Checklist and submits it to the Resident Engineer for review and signature. The Resident Engineer submits the original signed checklist to the Regional Materials Engineer for review and to provide a statement regarding any exceptions for the project.

The Regional Materials Engineer then attaches a signed materials certification letter stating the adequacy of the Independent Assurance and Correlation Sampling and Testing Programs for the project. All original documents then go to the District Engineer, who signs the materials certification letter and forwards all original documents to the Construction and Materials Group. After reviewing the materials sample checklist and all related documents, the Assistant State Construction and Materials Engineer submits the final certification of materials to the FHWA. It is recommended that the Resident Engineer keep a copy of the materials sample checklist in the project files.

For further information refer to [ADOT Materials Testing Manual, Series 900, Materials Quality Assurance Program](#). Then select the "QA Program" next to the "Materials Quality Assurance Program".



Intermodal Transportation

MEMORANDUM

TO: QUINN CASTRO
Construction Supervisor
Phoenix Construction Office (E700)

FROM: REHNUMA RAHMAN
Quality Assurance Engineer
Materials Group (068-R)

CC: MURARI PRADHAN
Regional Materials Engineer
Phoenix Regional Lab (E952)

DATE: September 26, 2014

RE: PROJECT NO. HSIP-APJ-0(204)T SH49601C
CITY OF APACHE JUNCTION
(SR 88, Idaho Road, Old West Highway)

Materials Group has prepared the following checklist of the materials to be used in constructing this project which require testing for approval. The number of recommended samples for acceptance (ACCP), independent assurance (IAS), and correlation (CORR) testing are derived from the "Materials Quality Assurance Program" (Series 900 of the Materials Testing Manual) which includes the Sampling Guide Schedule (Appendix C). The recommendations are estimates for the plan quantity and may change due to actual material production rates. Documentation must be provided in the Materials Exception Report if the required testing detailed in the Sampling Guide Schedule is not performed. All materials used on the project which require testing should be listed. Materials used which were not originally listed should be added.

Acceptance samples taken by the project are to be recorded under the ACCP SAMPLES TAKEN BY PROJECT column, regardless of where the tests are performed. The number of samples tested shall be recorded in the appropriate column. Acceptance testing performed by the project is to be recorded under the ACCP SAMPLES TESTED BY PROJECT column, acceptance testing performed by the Regional Lab is to be recorded under the REGIONAL ACCP column, and acceptance testing performed by the Central Lab is to be recorded under the CENTRAL ACCP column. Independent assurance sample splits used for acceptance testing are to be recorded under the ACCP column for the lab performing the acceptance testing. Correlation testing performed by the Regional Lab is to be recorded in the REGIONAL CORR column. Independent assurance sample testing is to be recorded under the column for the lab performing the testing, i.e., REGIONAL IAS or CENTRAL IAS columns.

Upon completion of the project, the Materials Sample Checklist shall be signed and submitted to the Regional Materials Engineer for review and signature. A copy of the completed and signed Certificate Log(s) shall be attached to the Materials Sample Checklist. These documents shall be forwarded to the District Engineer for review and approval. The District Engineer will then forward the Sample Checklist, Certificate Log, Exception Report (if needed) and Certification Letter to the Quality Assurance Engineer, Materials Group.

Glass Beads, Concrete Curing Compound, Geosynthetics, and Paint should be pre-approved by Central Lab prior to use. If not pre-approved by Central Lab, obtain samples for testing by the Central Lab as detailed in the applicable Policy and Procedures Directive (PPD). Water utilized for concrete batching does not require sampling if obtained from a potable source. See Section 900 appendix C – Sampling Guide Schedule of the Materials Testing Manual if there are questions on sampling.

ARIZONA DEPARTMENT OF TRANSPORTATION
206 S. 17th Ave. | Phoenix, AZ 85007 | azdot.gov

Exhibit 1207-3a Materials Sample Checklist

ARIZONA DEPARTMENT OF TRANSPORTATION MATERIALS SAMPLE CHECKLIST		PROJECT NUMBER: HSIP-APJ-0(204)T SH49601C												
ITEM NUMBER	MATERIAL	PLAN QUANTITY	ACTUAL QUANTITY IF VARIES FROM PLAN QUANTITY	NUMBER OF SAMPLES RECOMMENDED				PROJECT		NUMBER OF SAMPLES TESTED				
				A C C P	I A S	C O R R	C O R R	ACC P RO J E C T S A M P L E S T A K E N B Y P R O J E C T	ACC P RO J E C T S A M P L E S T E S T E D B Y P R O J E C T	A C C P RO J E C T S A M P L E S T A K E N B Y P R O J E C T	R E G I O N A L	C E N T R A L		
605	Reinforcing Steel													
	ACCEPTANCE SOIL SAMPLES													
203	Structural Backfill**													
203	Subgrade Materials**													
303	AB-02**													
501	Backfill Material**													
501	Bedding Material**													
804	Topsoil**													
** (1 I.A. every 40 acceptance sample)														
	PROCTORS													
203	Embankment Material													
203	Structural Backfill													
303	AB-02													
501	Backfill Material													
501	Bedding Material													
	DENSITY TOTALS:													
203	Embankment Material													
203	Structural Backfill Material													
203	Subgrade Material													
303	AB-02 Material													
501	Backfill Material													
501	Bedding Material													

* Small quantity, no samples required.

Exhibit 1207-3b Materials Sample Checklist

Exhibit 1207-3c Materials Sample Checklist

[illegible]

Exhibit 1207-3d Materials Sample Checklist