



Formatting Electronic Documents for Building Permit Submittal

Please use the following instructions to prepare your documents for submittal in the Development Services electronic plan review process.

For all application types and permit requests, provide **one set of plans** and **one set of each supporting documents**, if applicable, conforming to the instructions outlined in this guide.

- *Plans* include construction drawings, civil drawings, structural engineering, details, or other sheets typically formatted and included within a construction plan set.
- *Supporting documents* include, but are not limited to, structural calculations, reports, cut sheets, project narratives, or other associated information not considered plans.

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Submittal Requirement Quick Notes

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|--|-----------------------------------|
| ✓File names meet naming requirements. | ✓Paper size maximum is 36" x 48" |
| ✓All files shall be PDF only | ✓Resolution maximum is 200 DPI |
| ✓Each file is less than 195 MB in size | ✓Saved file is PDF 1.4 or greater |
| ✓Maximum 200 pages per file – depends on file size | ✓PDF is flattened/optimized |

File Name Requirements

Naming Plan Sets

1. File names should be short and descriptive.
NOTE: Building permit applications shall be submitted as a **complete package** with all disciplines combined into one pdf file.
 2. The **maximum length** for filenames is **60 characters**.
 3. **Do not include special characters or spaces** in the filename: **! * \ ; : @ & = + \$, / ? % # [] " < > |**.
 4. Recommended file name includes project address/name and type of plan/document.
Example: RES_lot100QCStationPool.pdf, COM_RedRobinTI.pdf
- * To avoid file size and page maximums for large commercial projects, upload the civil and landscape plans as a separate file. Example: COM_SafewayBldgPackage.pdf and C_SafewayCivilPackage.pdf



Queen Creek Preferred Electronic Document File Names

Discipline	Discipline Code	Separator	Example Filenames w/Discipline Code
BUILDING, FIRE, or SIGN PERMITS			
Commercial complete package	COM	_	COM_ProjectNamecompletepackage.pdf*
Residential complete package	RES	_	RES_ProjectNamecompletepackage.pdf
Permanent sign package	SIGN	_	SIGN_ProjectNamecompletepackage.pdf
Electrical	E	_	E_ProjectNameElectrical.pdf
Fire Protection	F	_	F_ProjectNameFireSprinklerLayout.pdf
Mechanical	M	_	M_ProjectNameMechanical.pdf
Plumbing	P	_	P_ProjectNamePlumbing.pdf

Naming Supplemental Documents or Reports

- Supplemental documents are any files that are not plan sets including: applications, project narratives, soils reports, water/wastewater reports, drainage reports, traffic impact analysis, other types of reports, calculations, images, product cut sheets, or other documents associated with your submittal.
- Supplemental documents shall be in PDF format as a separate file. **Do not** include supplemental documents combined into a PDF with plan sheets.
 - ** Pool plan submittals, solar and other small residential projects such as shade structures are submitted as 1 complete file with the site plan and calculations.**
- Recommended file name includes project address/name, and type of plan/document.
Example: HastingsFarmSoilReport.pdf, GatewayQuarterDrainageReport.pdf, BarneyFarmsProjectNarrative.pdf

Preparing Plans for Submittal

Creating PDF's

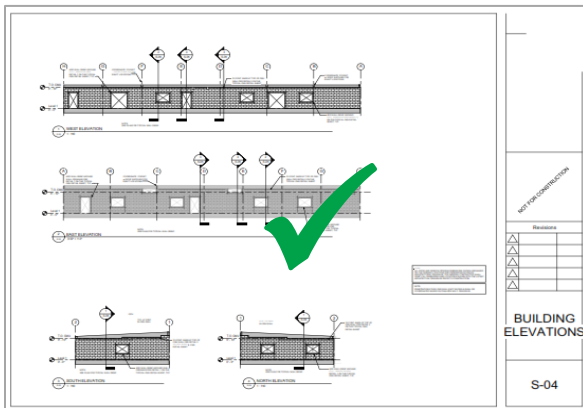
- Convert plans created in another format to **PDF 1.4** or greater.
- Save each 'Plan' (or 'Plan set') as a **flattened/optimized PDF**. Flatten the drawing layers in your CAD program prior to creating the PDF, or use the 'Save As/Flattened' and/or optimized PDF option available in your PDF tool. Plans that have 'layers' are not acceptable as they often introduce corrupted metadata.
- Saving PDF's with consistently formatted, sequential bookmarks is helpful and encouraged. When merging multiple PDF's, verify that bookmarks are consistent. Do not use nested bookmarks. Bookmarks should consist of the Sheet number and a short description (*example:* G1.0 General Notes.)
- We recommend grouping drawings and submitting plans in smaller, logical sets to facilitate the electronic plan review and reduce file size.
 - Each file size **cannot exceed 195 MB** or more than **200 pages**.
- Remove all comments and editable content from PDFs.
- Unlock or remove protections from the PDF file. Do not submit password protected or locked PDF documents. Plan reviews use copies of the original PDF files.



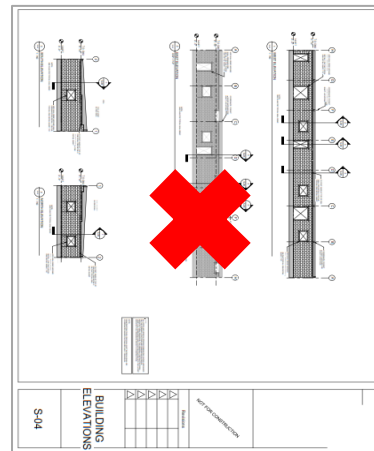
7. Paper plans scanned into PDF format are acceptable, but should be clearly legible and follow the same formatting rules for converted drawings.
8. Open each PDF using *Adobe Reader/Adobe Pro* and select 'File/Save As'. Adobe is the best tool for resolving corrupted or malformed files. Do not submit PDFs if Adobe reports errors, submitting corrupted files may result in returning the submittal for reformatting which will delay review.
 - a. Ensure the file name and file size meet recommendations noted above.
 - b. Ensure that *no layers, 'comments' or 'editable content' exists* in the file. Embedded hyperlinks and sequential bookmarks are acceptable. (See "FAQs & Tips" section for additional information.)

Plan/Drawing Formatting

1. Orientation: Landscape orientation is preferred for plans, **not** portrait or upside down to allow viewing without rotation. Failure to submit correctly oriented plans may result in returning the submittal for reformatting, which will delay review. To verify page orientation, view the document in print preview mode in your PDF application. Scroll through each page in the preview window to make sure the pages are properly oriented.



CORRECT



INCORRECT

2. Sheet Size: Format the plan so that each sheet is maximum dimension of 36" x48".
3. Plan Alignment: Create plan drawings in your CAD program so that drawing perimeters line up exactly when overlaid electronically. Revised or corrected plans must line up with the original submittal to facilitate comparing versions electronically during the plan review process.
4. Drawing Scale: Save plans to-scale to ensure proper measuring of lines and areas during the plan review process. Be sure to include a scale on each sheet; or, include measurements for each object.
5. Plot Color: Use a black and white style to draw/plot drawings. Grayscale, monochrome and colored pens are discouraged.



Submitting Revisions, Corrected or Updated Documents

1. Second or subsequent submittals of plans or plan sets should be organized and formatted consistent with your original submittal.
2. **Do not *reorder, extract* or *insert* pages in the middle of your corrected plan sets.** For example, if a 4–page set of structural plans was returned to you for corrections, resubmit a 4–page set of corrected structural plans in the same page order. ***Rearranging, extracting or inserting pages out of order will result in delays for completing your plan review.***
 - A. If submitting *new (additional)* plans, plan sets or supplemental documents:
 - I. Submit revised/corrected plans **in the EXACT same page order** as the previous submittal.
 - II. Place **new pages at the end of the corrected** plan set document.
 - III. **Do not** place new pages in the middle or beginning of the document. Do not reorder pages within the document.
 - B. Removing Pages: If pages need to be removed from the plan set, instead of excluding/deleting them, place a ‘slash’ across those pages in CAD, mark them as ‘Omit’ and include the date they were omitted. A Blank sheet may also be inserted in place of an omitted sheet. Be sure to notate on your comment response any omitted sheets.
 - C. Do not add your comment response letters to the plan files. Upload them as a separate pdf file.

FAQs & Tips

Electronic plan review software relies on correct **PDF/A–compliant** information embedded in every PDF document (the *metadata*). *For intellectual property and security reasons, plan review software does not change incoming files.* Below are some additional guidelines and tips for resolving potential issues before you submit your plans.

CAUTION: Failure to submit correctly formatted plans may result in returning the submittal for reformatting, which will delay review.

Submitting Construction Plans for a Building Permit:

- Building permit plan submittals shall be uploaded as a single file, with all disciplines combined into one single pdf file.
- All electronic submittals require the same document types (site plan, architectural, electrical, structural, etc.) as required for paper submittals. Refer to the [Application Checklists](#) for more information.
- For large projects, civil plans may be uploaded separately from the architectural package.
Example: *COM_newshoppingcenter.pdf* for architectural, structural, electrical, plumbing etc. and *C_newshoppingcentercivils.pdf* for the civil improvement plans.

Why is the file name so important?

Our plan review software uses the file name to electronically route the plans for review, and track the version of each document. If the file does not meet QC’s naming conventions, it cannot be routed and will delay the review process.



What does PDF optimization do?

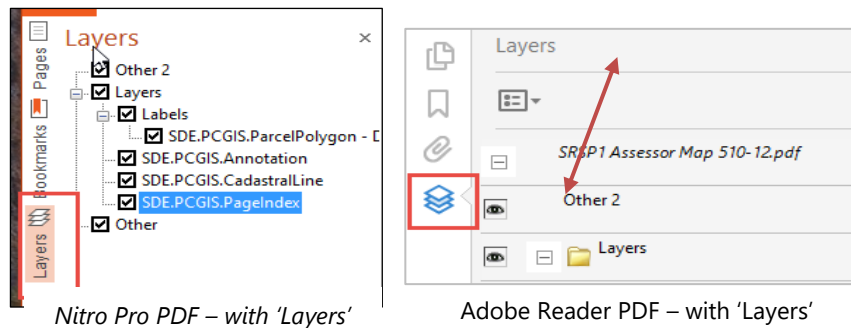
PDF optimization reduces file size by removing embedded fonts, compressing images, removing unused objects and improper metadata. Optimization is critical to reduce or eliminate PDF corruption.

Why do 'Layers' and 'Editable Content' need to be removed from the PDF?

Many tools on the market convert CAD drawings/plans to a PDF format. Unfortunately, some of these tools do not properly translate CAD layers or content. Additionally, conversion irregularities introduced by the CAD program or flatbed scanner may introduce errors into the PDF document. Do not submit files with *any editable content*. If an 'object' can be edited or deleted in the PDF, the document is not acceptable.

How can I tell if my PDF has 'Layers' or other 'Editable Content'?

Most PDF compliant software (like *Adobe Reader*, *Adobe Pro*, *Nitro Pro*, etc.) display a Layers icon when a document contains layers, (see below). The Layers icon is not displayed if layers are not used and recognized by the PDF tool.



Other 'Editable content' includes active form fields, stamps, comment or text boxes, signatures, or markups that can be deleted from the PDF by any user. Editable fields will have a blue background within the PDF. Open the Comment window in your PDF tool to see these types of objects. If any exist, please flatten the PDF or remove them. These include plans that use *AutoCAD SHX Text* objects – this font type has compatibility issues in many PDF viewers.

Why is page rotation so important?

PDF tools that allow users to rotate pages should properly record that 'rotation' within the PDF document. When the PDF software does not properly set this rotation, those pages may end up printing upside down or sideways when sent to a printer or displayed on screen. Rotating plan sheets slows the plan review process.

Why is page order important?

Resubmitting plans with the pages in the **original order** ensures that the Plan Reviewer's review comments and sketches are properly carried forward to the newer submittal or version by the electronic plan review software. The new version of the plans will overlay the previous version allowing the plan reviewer to quickly locate their comments and see the changes that have been made. This allows for more accurate and efficient document reviews and saves time.



AutoCAD 2016 Compatibility Note:

AutoCAD 2016 includes a feature that automatically and by default converts any existing SHX font text within a CAD file into 'editable content/comment objects' when saving to PDF format. The result is a 'comment' being created for every SHX text object found.

Solution:

To ensure that PDFs created with AutoCAD 2016 (or LT) do not contain these editable objects, please install Service Pack 1 patches for AutoCAD 2016 (or LT) and then proceed to modify the AutoCAD's default settings per the instructions provided in the link below:

<https://forums.autodesk.com/t5/autocad-2013-2014-2015-2016-2017/autocad-2016-shx-text-as-comment-in-exported-pdf/td-p/5555583>

Optionally, remove all SHX text from the CAD document and replace it with a True Type Font (TTF) text. After generating the PDF from CAD, open each document using Adobe and do a 'File/Save As'.

Visit www.queencreekaz.gov/developmentnexus to log in to your account and begin your application.