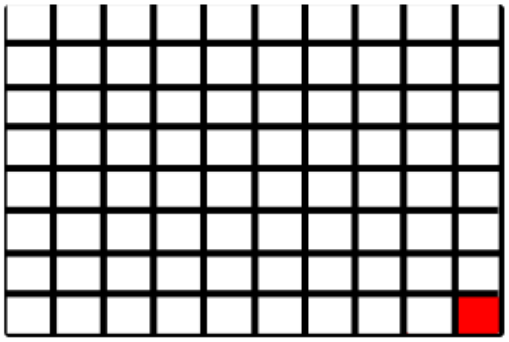
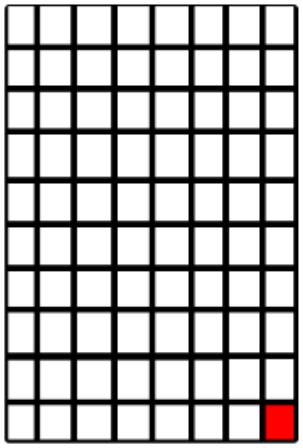
How EPR Identifies Sheet Numbers

During the document render process, optical character recognition (OCR) runs to try to identify sheet numbers automatically. While OCR technology has limits, three main factors affect whether EPR can identify a sheet number properly:

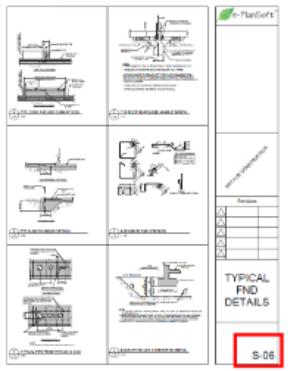
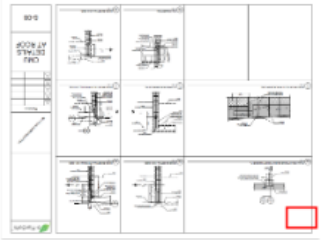
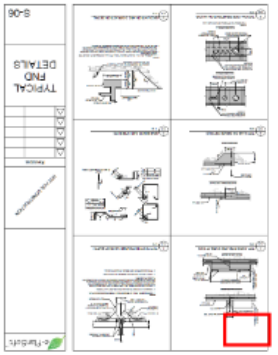
1. Location and Page Rotation
2. Font Style
3. Sheet Number Pattern

Location and Page Rotation

To reduce the potential for errors, EPR focuses on the lower right corner of the incoming page to try to identify the sheet number (as highlighted in red below):

LANDSCAPE	OR	PORTRAIT
		

Applicants should submit pages with the correct rotation, since incorrect rotation will prevent EPR from reading sheet numbers successfully:

CORRECT ROTATION		VS	INCORRECT ROTATION		
					
SHEET NUMBER: S-01	SHEET NUMBER: S-06		SHEET NUMBER: ?	SHEET NUMBER: ?	SHEET NUMBER: ?

If EPR is unable to identify a sheet number, or if EPR misidentifies a sheet number during the automated process, users will need to manually add or edit the sheet number.

Font Style Guidelines

Certain fonts are more likely to result in successful sheet number identification than others. To provide the best chance for success:

FONTS SHOULD:

- Be large and easy-to-read
- Use standard **True Type** fonts (such as Arial, Calibri, Courier, Helvetica, etc.) with continuous, filled-in characters
- Provide adequate white space between each character
- Be from a high quality image if scanned (at least 150 DPI or higher, without significant compression artifacts)
- Ensure the Z coordinate value of the text is zero

FONTS SHOULD AVOID:

- Overly small text sizes
- Non-True Type fonts
- Fanciful formats that appear as italics, unfilled outlines, or with overlapping text, such as fonts that look like handwriting
- Compressed or stacked text (sheet numbers should not have anything written next to them or wrap onto a second line of text)
- Formats where '1' and 'L' and 'I' appear exactly the same
- Low quality image scans
- Modifying the original font through style option changes

Sheet number identification works best when sheet numbers are drawn using *serif fonts*. For example, fonts where the characters below are clearly identifiable:

The number '1' and
a lowercase 'l' and
a capital letter 'I'

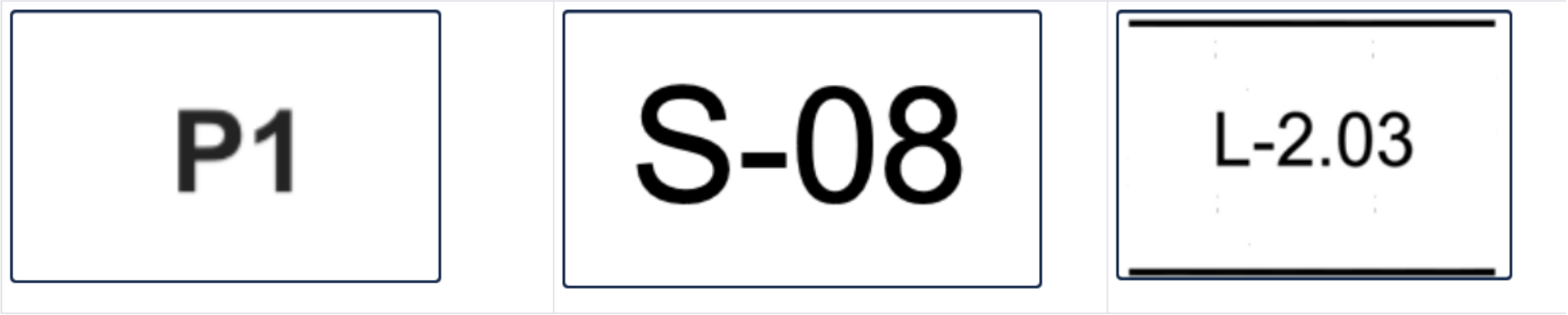
Default Sheet Number Pattern

Out of the box, EPR uses a **default sheet number pattern** (based on best practice sheet numbering formats) to check incoming pages for potential matches. If a value matching the pattern is identified in the correct location, EPR will set that value as the page Sheet Number. To reduce the potential for mismatches, the default sheet number pattern follows these rules:

- Can only contain letters, numbers, dashes (-), underscores (_) and/or periods (.)
- Total length must be between 2 and 12 characters (including symbols)
- Cannot include three or more letters in a row (for example: AA-01 is okay, but *AAD-01 will be ignored*)
- Cannot include four or more numbers in a row (for example: A-002 is okay, but *A-0002 will be ignored*)
- Must start with one of the following discipline letters: A,B,C,D,E,F,G,H,I,L,M,N,O,P,Q,R,S,T,X,Z,V,W
- Cannot include "of" as part of the pattern (for example: *1 of 8 will be ignored*)

GOOD EXAMPLES

The sheet number is written in a large, clear, True-Type font with adequate space around each character and follows the pattern rules:



BAD EXAMPLES

Sheet number has bad font style or breaks pattern guidelines:

3+ Letters in a Row	4+ Numbers in a Row	Inadequate Space Around	Compressed/Stacked Fonts	Uses "Of" Format
AAD-01	S-1234	DRAWN BY PROJECT NO. 2010-0339 CHECKED BY M. ENGLE ©DATE 11/22/2011 DRAWING NO. L-2.03	JOB NO. 10618 DATE AUGUST 2018 DSGN/DRFT RAS / TLL REVIEW EWE SHEET SP-4.00 SITE PLAN	1 of 8

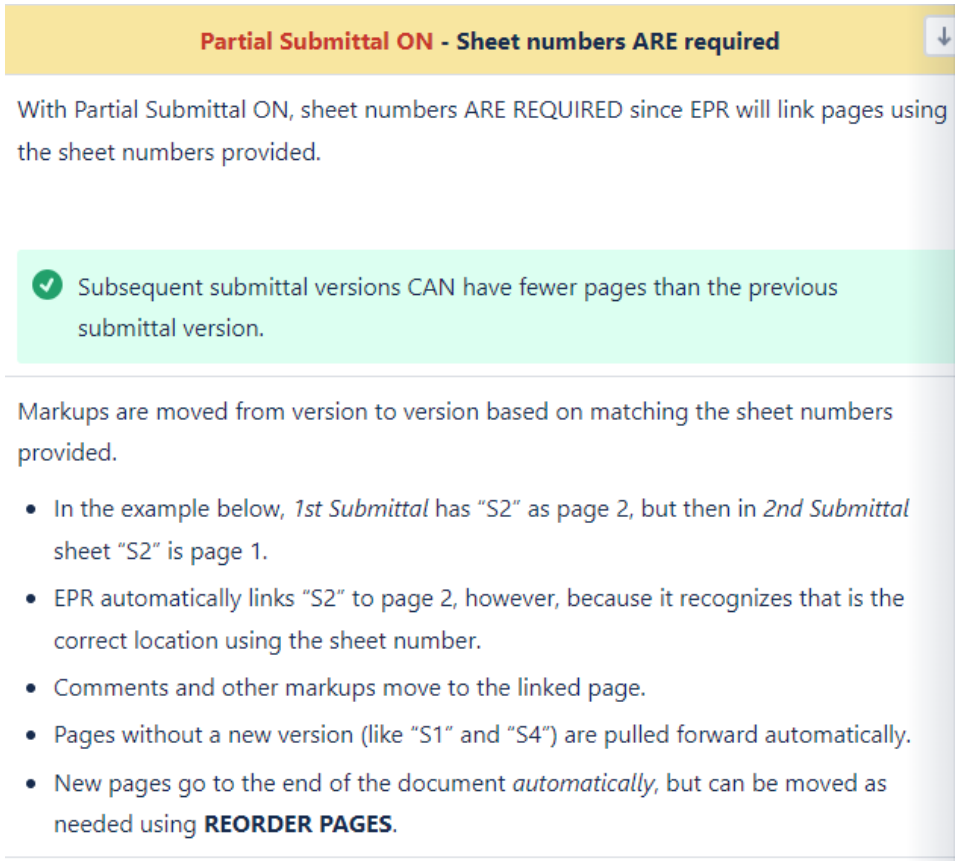
Hollow or Outline Fonts	Non-standard and Not Continuous (Broken) Fonts	Overlapping or Handwriting Fonts
OUTLINED FONTS. SP-4.00	BROKEN FONTS. SP-4.00	HANDWRITING FONTS. SP-4.00

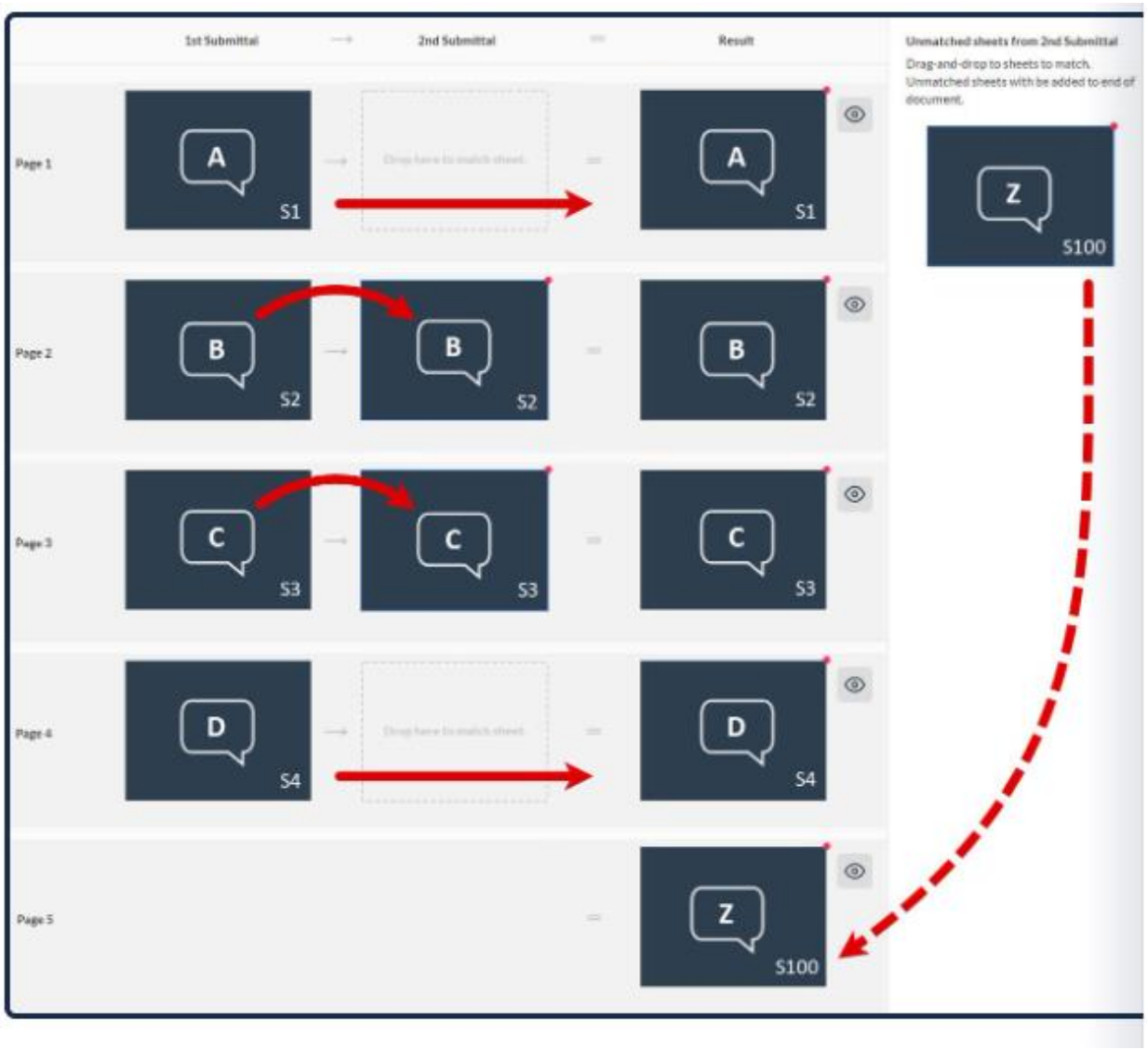
How Sheet Numbers Are Used

EPR checks a specific zone within incoming document pages to try to identify a sheet number that matches a predefined pattern. If it finds one, it will use the information one of two ways:

- When Partial Submittal is ON, sheet numbers are REQUIRED since they are used to link pages from the newest submittal version to the previous one. If a sheet number does not match an existing page, it is treated as new and added at the end of the document. (This order can be changed later.)

Proper linking of page versions using Sheet Numbers allows EPR to automatically migrate markups (both comments, sketches, etc.) to the latest version of a document page, even when resubmitted plans consists of only new and changed pages instead of the full set.




1st Submittal
2nd Submittal
Result
Unmatched sheets from 2nd Submittal
Drag-and-drop to sheets to match. Unmatched sheets with be added to end of document.
Page 1
A
S1
A
S1
Z
S100
Page 2
B
S2
B
S2
B
S2
Page 3
C
S3
C
S3
C
S3
Page 4
D
S4
D
S4
Page 5
Z
S100