

DAS Construction Services Design Document PDF Requirements

This How-To guide highlights specific DAS Construction Services PDF formatting requirements.

Drawing Requirements

Project Manual
Requirements

Other General DAS
Requirements

Complete DAS Construction Services design document PDF requirements are detailed in the Consultants Procedure Manual (CPM), which be downloaded from the [DAS CS Library](#) website.



DAS Construction Services PDF Drawing Requirements

Department Standard
Cover Sheet

Department Standard
Title Block

Title Block
“Drawing Prepared By”
Requirements

PDF Page Number
Requirements

Drawing Font
Requirements

Drawing Packaging
Requirements



DAS Construction Services Department Standard Cover Sheet

Per CPM Section 5.2 Drawing Information, specifically Section 5.2.1.5.1, the Department Coversheet shall be used for seals and approval signatures.

Templates are available from the [DAS CS Library](#) in PDF and DWG format. Click the links below to download.

- [PDF Coversheet Template](#)
- [DWG Coversheet Template](#)
- Fill-in all template information exactly as shown
- Ensure drawing numbers on the coversheet's index of drawings are coordinated exactly with those listed on each specific sheet.
 - For example, if a drawing is numbered "A1.01" on the sheet, it must not be listed as "A-1.01", "A 1.01", or "A101" on the index of drawings



DAS Construction Services Standard Title Block

Per CPM Section 5.2 Drawing Information, specifically Section 5.2.1.5.2, a standard Title Block shall be used for all typical drawings.

Templates are available from the [DAS CS Library](#) in PDF and DWG format. Click the links below to download.

- [PDF Title Block Template](#)
- [DWG Title Block Template](#)
- Fill-in all template information exactly as shown
 - Insert the DAS Project Number where required
- Click [here](#) for more information regarding the “Drawing Prepared By” field



DAS Construction Services

Title Block “Drawing Prepared By”

Per CPM Section 5.2 Drawing Information, specifically Section 5.2.2.8, refer to the following requirements when completing the “Drawing Prepared By” field within the standard Title Block.

- The firm name and address shall be of the single consultant or sub-consultant:
 - Who was responsible for preparation of that specific drawing and will subsequently stamp and seal the sheet
 - Only this one firm shall be listed
- There shall be no firm graphic logos (consultant or sub-consultant) inserted within the title block or on the drawings



DAS Construction Services

PDF Page Number Requirements

Per CPM Section 5.2.4 Consultant Drawings, Minimum PDF Requirements, specifically Section 5.2.4.2.1, drawing files shall have page numbers that match the sheet number.

- This means the drawing number listed on each drawing sheet shall be embedded within the PDF and recognized by PDF reading software.
- Click to see screen shot examples from [Adobe](#) or [Bluebeam](#) PDF reading software.
- Ensure drawing numbers on the coversheet's index of drawings are coordinated exactly with those listed on each specific sheet.
 - For example, if a drawing is numbered "A1.01" on the sheet, it must not be listed as "A-1.01", "A 1.01", or "A101" on the index of drawings

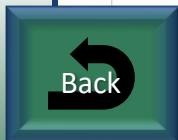
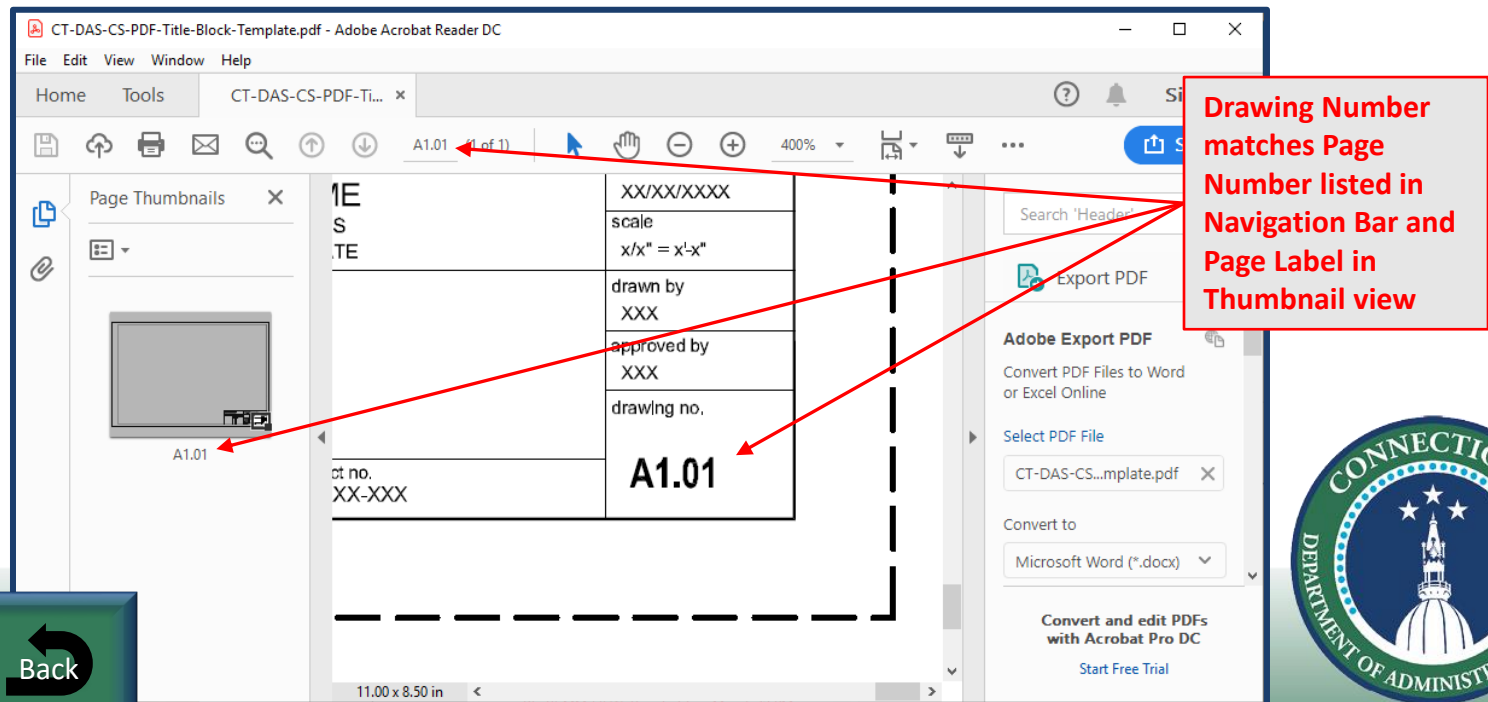


DAS Construction Services

PDF Page Number Requirements

Per CPM Section 5.2.4 Consultant Drawings, Minimum PDF Requirements, specifically Section 5.2.4.2.1, drawing files shall have page numbers that match the sheet number.

- This means the drawing number listed on each drawing sheet shall be embedded within the PDF and recognized by PDF reading software.
- Click to see screen shot examples from [Adobe](#) or [Bluebeam](#) PDF reading software.

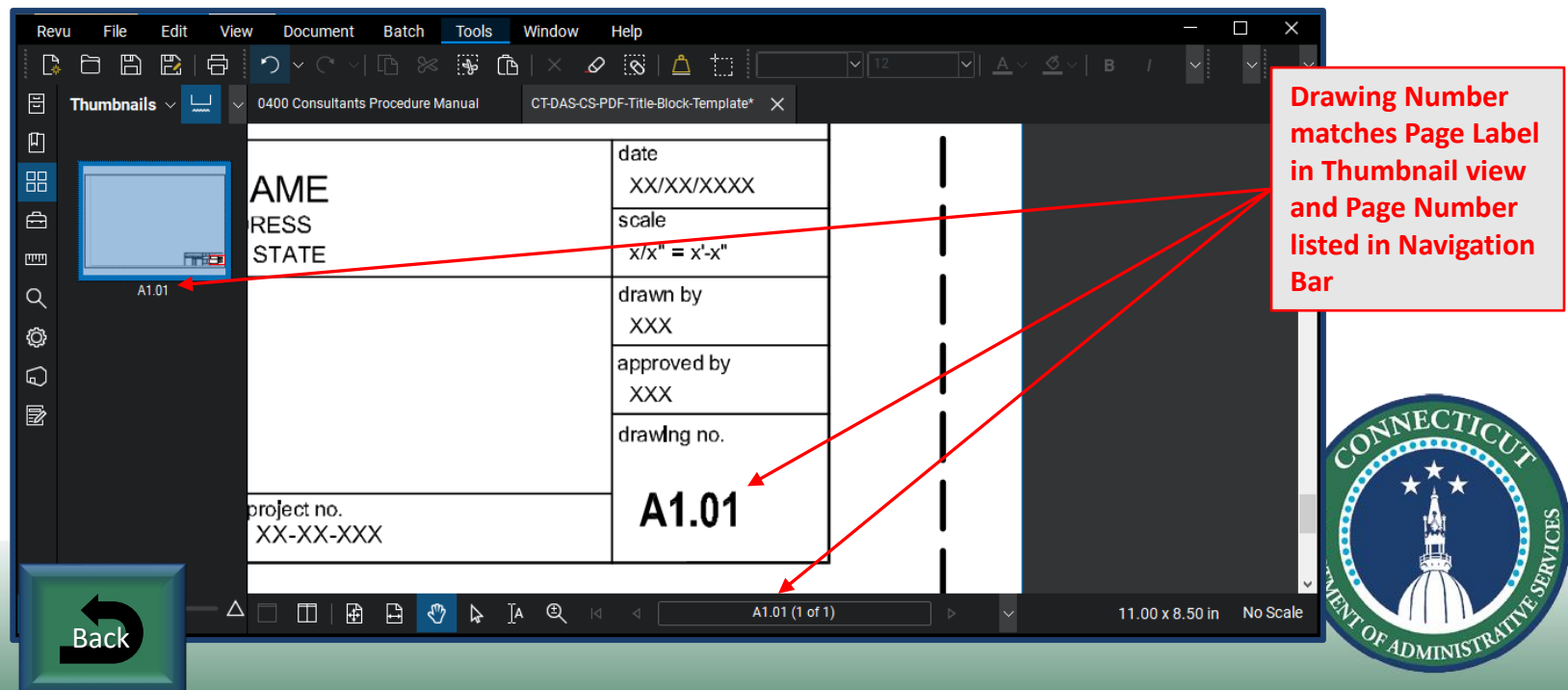


DAS Construction Services

PDF Page Number Requirements

Per CPM Section 5.2.4 Consultant Drawings, Minimum PDF Requirements, specifically Section 5.2.4.2.1, drawing files shall have page numbers that match the sheet number.

- This means the drawing number listed on each drawing sheet shall be embedded within the PDF and recognized by PDF reading software.
- Click to see screen shot examples from [Adobe](#) or [Bluebeam](#) PDF reading software.



DAS Construction Services

PDF Drawing Font Requirements

Per CPM Section 5.2.4 Consultant Drawings, Minimum PDF Requirements, specifically Section 5.2.4.2, all text shall be:

- **TrueType or OpenType font**

- Verify that the Text Settings in the CAD/BIM software used to produce drawings are using TrueType fonts
 - [How do I know if I am using TrueType fonts?](#)
 - Unacceptable formats include
 - Vector based text
 - SHX fonts (AutoCAD)
 - RSC fonts (Microstation)
 - Optical Character Recognition (OCR) shall be used as a last resort

- **Searchable and selectable by typical PDF reading software**

- All notes, callouts, labels, etc. including Coversheet and Title Block text, etc. shall be embedded as searchable font
 - [How do I know if drawing text is properly embedded?](#)

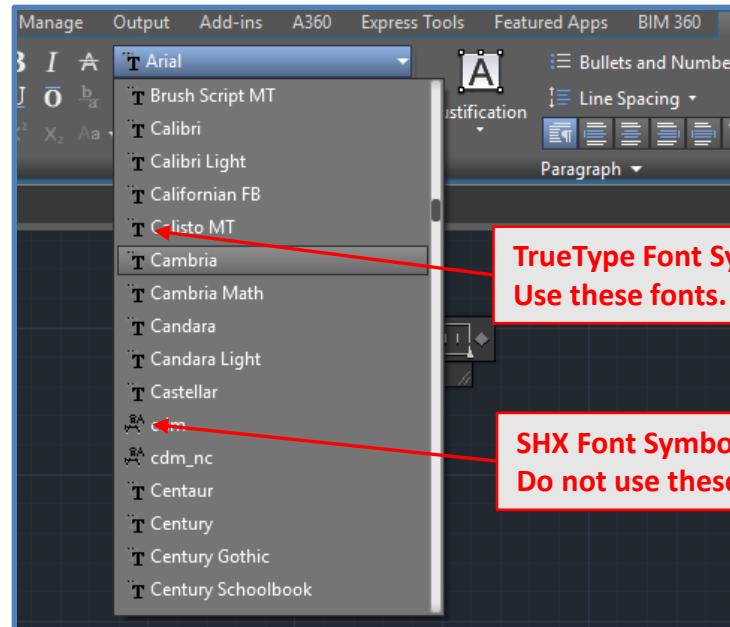


Use of TrueType Fonts

Q: How do I know if I am using TrueType fonts?

A: Click [here](#) to see a short list of examples of TrueType fonts. Note that many more do exist.

- For AutoCAD users, TrueType fonts display a TrueType icon in front of their names as shown:



TrueType Font Symbol.
Use these fonts.

SHX Font Symbol.
Do not use these fonts.

- For Adobe's technical definition, refer to the link to their [Font FAQ](#).



Partial List of TrueType Fonts

Examples of TrueType Fonts

- Arial
- Arial Black
- Arial Narrow
- Book Antiqua
- Century Gothic
- Century Schoolbook
- Comic Sans MS
- Courier New
- Franklin Gothic Book
- Futura Heavy BT
- Futura Light BT
- Furuta Medium BT
- Gill Sans MT
- Impact
- Letter Gothic MT
- Lucida Console
- Lucida Sans Regular
- Lydian BT
- Monotype Corsiva
- News Gothic MT
- Onyx
- Perpetua
- Playbill
- Rockwell
- Swiss 721 Black Bt
- Tahoma
- Tahoma Bold
- Technical
- Times New Roman
- Trebuchet MS
- Tw Cen MT
- Verdana

Note that this is a very limited list shown for example purposes.
More comprehensive lists are available on the internet.



Verifying Searchable/Selectable Text

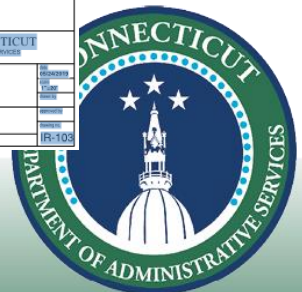
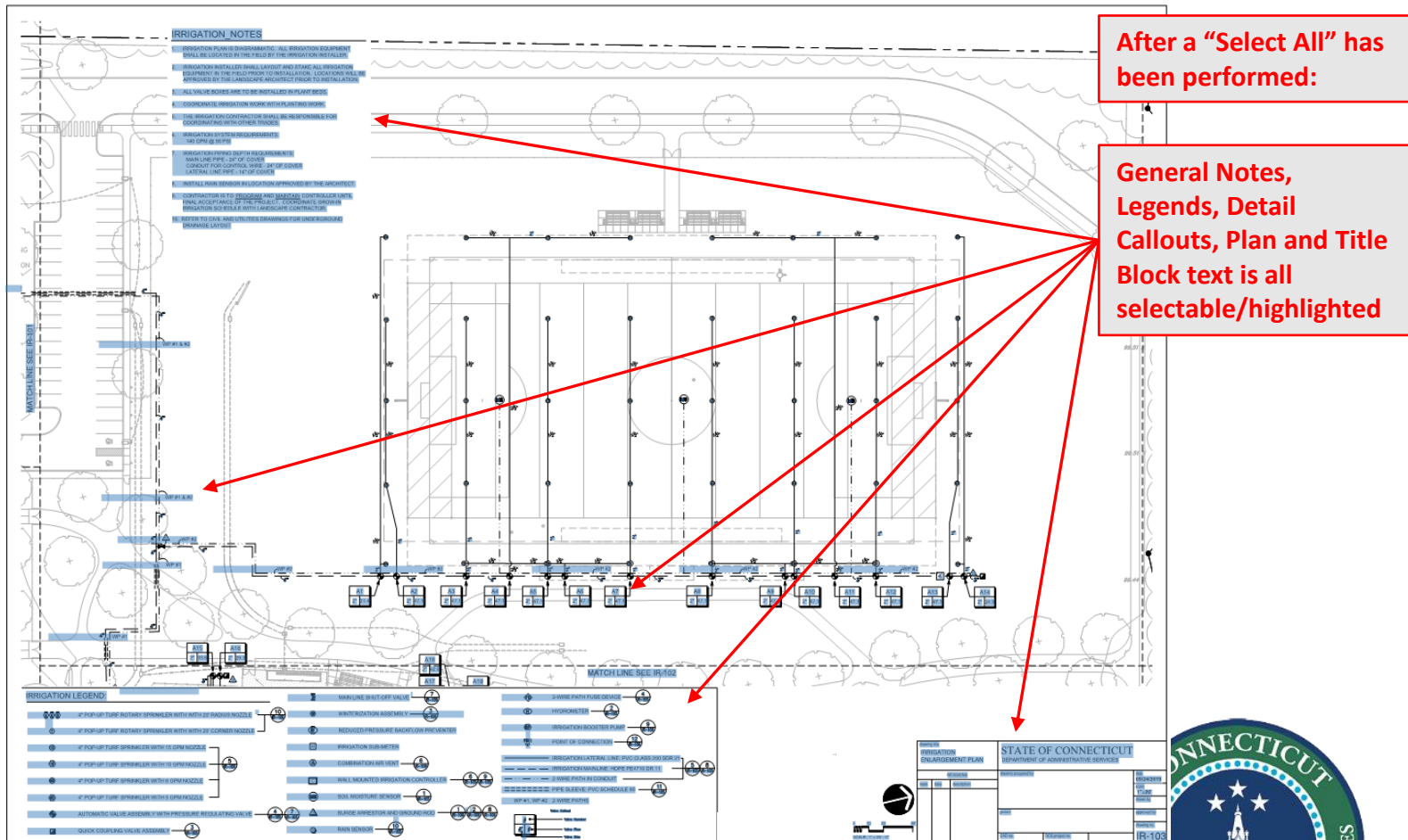
Q: How do I know if drawing text is properly embedded?

A: With the drawings opened in PDF reading software, all text on all sheets will be selectable and all characters will highlight when selected.

- In Adobe:
 - Right-click the document, and choose **Select Tool** from the pop-up menu.
 - Then, Press CTRL+A or choose **Select All** from the Edit menu.
- In Bluebeam:
 - Press CTRL+SHIFT+A, or alternatively
 - Right-click the document, and choose **Select All Text** from the pop-up menu
- If all characters highlight (likely in “blue”) then the drawings have been created properly with searchable and selectable TrueType or OpenType font
- Click for screen shot examples of [properly](#) and [improperly](#) prepared drawings

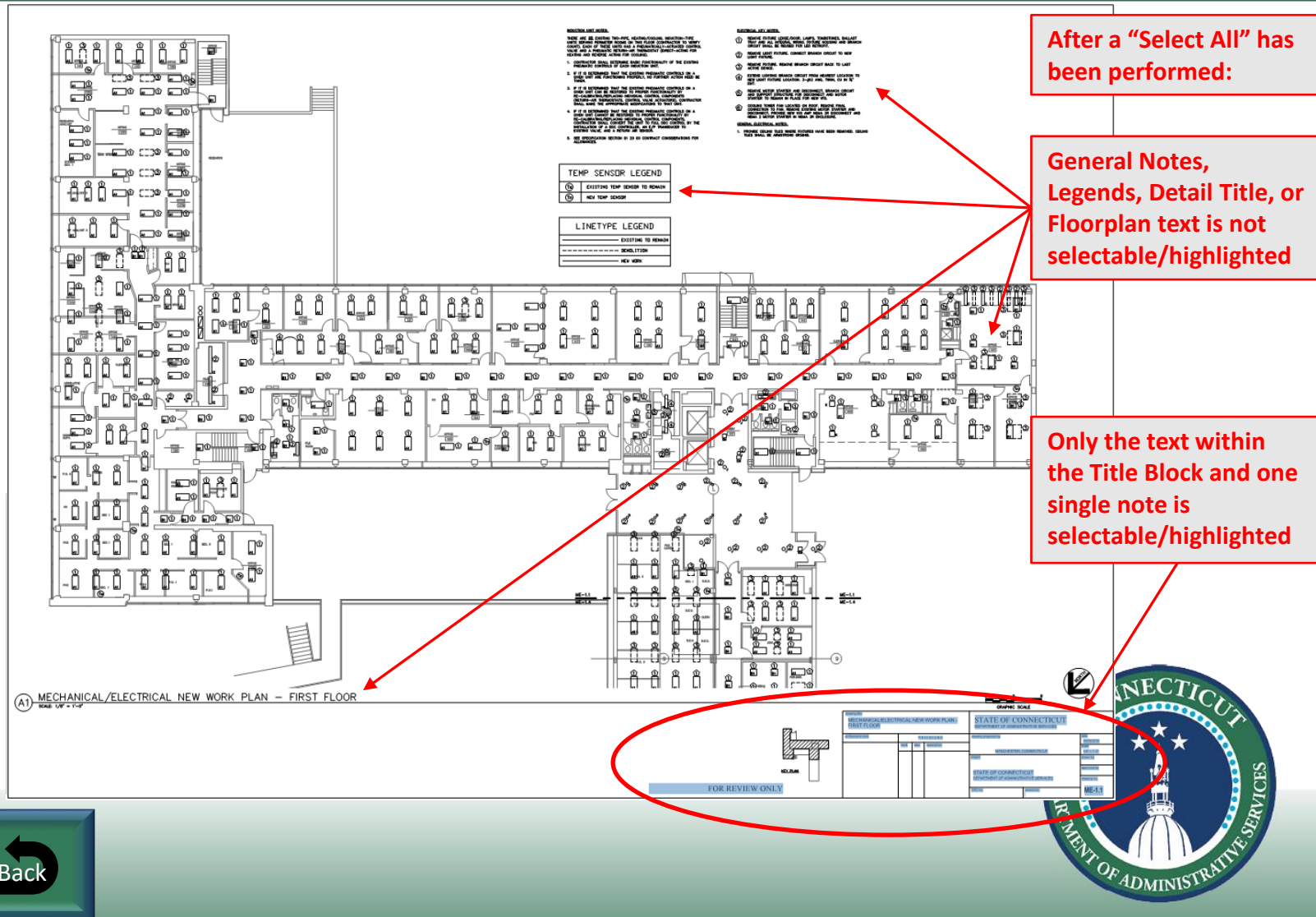


Proper Text Embedding Example



Incomplete Text Embedding Example

Click [here](#) for limited informational suggestions for proper PDF exporting in AutoCAD.

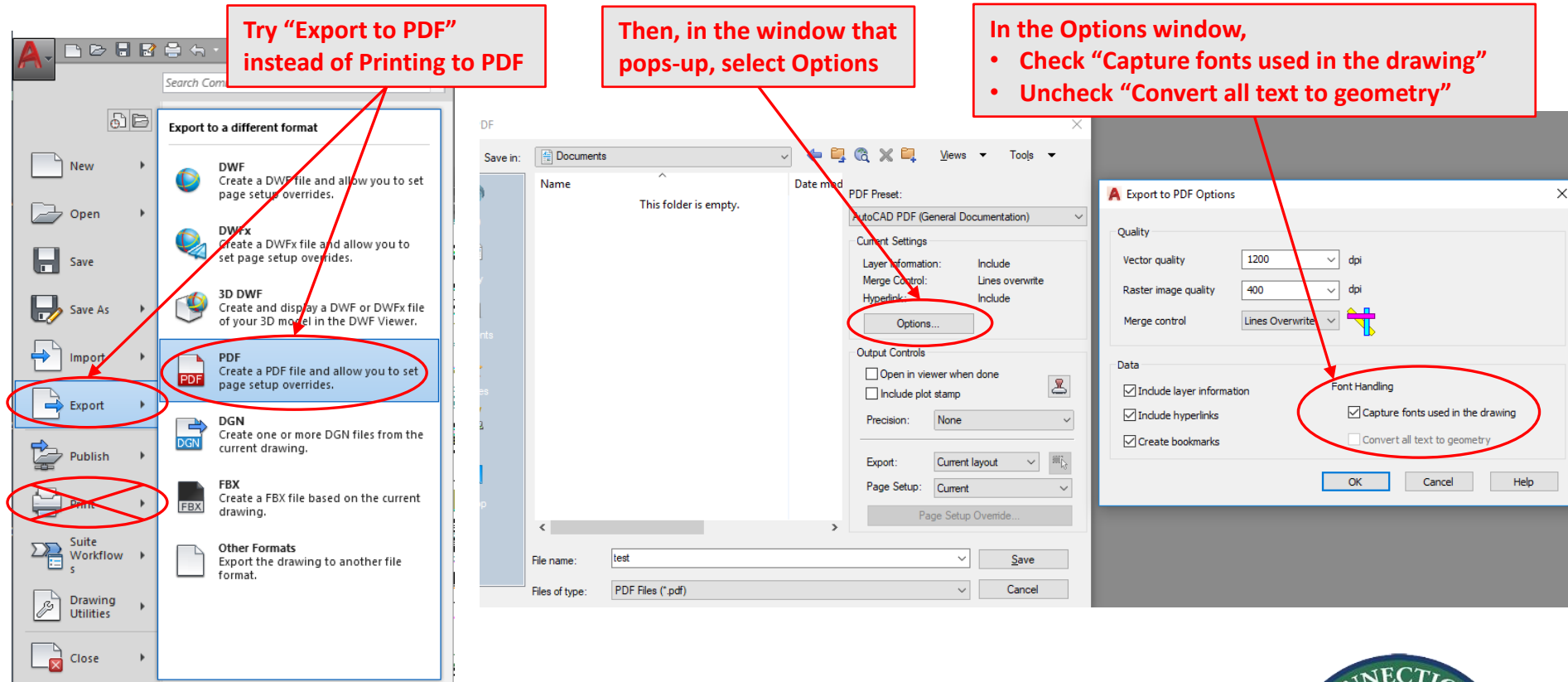


AutoCAD PDF Export Suggestions

Try "Export to PDF"
instead of Printing to PDF

Then, in the window that
pops-up, select Options

In the Options window,
• Check "Capture fonts used in the drawing"
• Uncheck "Convert all text to geometry"



DAS Construction Services Drawings Packaging Requirements

Per CPM Section 5.2.4.2, drawings submitted for review shall be assembled into a **single PDF**. Do not separate into multiple volumes. Respectively, only one index of drawings shall be included, containing a list of all sheets within the drawing package.

- Navigation of the drawing sheets during a digital review is generally enhanced when working with a single file as opposed to multiple volumes.

**Note that DAS Procurement requirements for Contract Document packaging at bid solicitation may differ.*

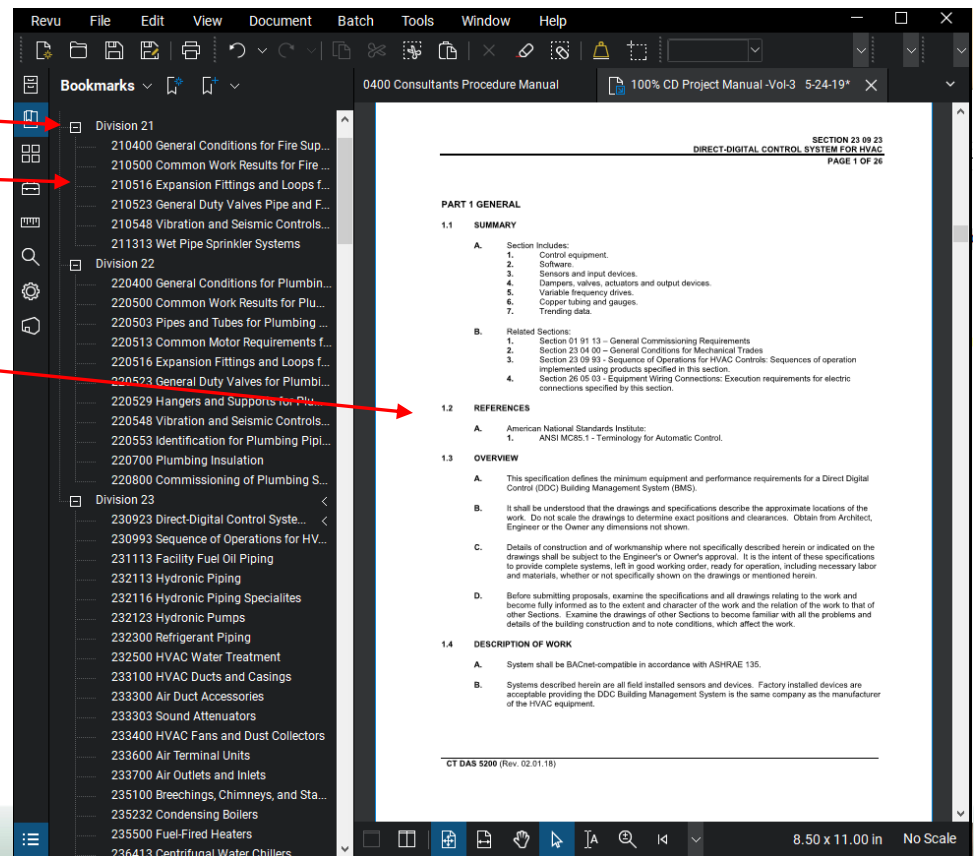


DAS Construction Services Project Manual PDF Requirements

Per CPM Section 5.1 Project Manual Information, specifically Section 5.1.1.9.2.5, Bookmarks are required to be placed on the assembled PDF Project Manual.

- **Bookmarks shall have a hierarchal arrangement by Division, then by Section.**
 - Bookmarks below the section level are not permitted.
- **Bookmarks shall be saved as full page, zoom-fitted view.**
 - Clicking a bookmark should not display a zoomed-in portion of destination page.

The Project Manual shall be assembled into a **single PDF** per CPM Section 5.1.1.9.2.4.
Do not separate into multiple volumes.



**Note that DAS Procurement requirements for Contract Document packaging at bid solicitation may differ.*



DAS Construction Services General Contract Document Requirements

DAS CS Contract Drawings and Project Manuals shall include or adhere to the below information and requirements. These topics represent some of the more common sources of error.

The information provided is intended to serve as additional assistance, not as a comprehensive set of DAS requirements.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Basis-of-Design Products

Refer to Consultant's Procedure Manual (CPM) Section 5.4.1 regarding the listing of at least three equal products from separate manufacturers when specifying a basis-of-design (BOD).

Per Section 5.4.3.3, the use of “or approved equal” terminology is not permitted within the Contract Documents. Substitution procedures for products other than those listed are defined in DAS Division 01 Specification 01 25 00.

The use of a performance specification that does not identify any specific manufacturer is an acceptable alternative to listing a BOD.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Prohibited Use of “New” & “Proposed”

Per CPM Section 3.5.0.6, do not use the terms “new” or “proposed” to describe Contract work.

All work depicted in the contract documents is assumed new and included unless clearly identified as “existing” or “not in contract (NIC)”. Thus, it is imperative to clearly note or otherwise identify all items that are existing.

The term “proposed” suggests that an item is merely for consideration or discussion and therefore unclear whether it is intended to be included in the Contract work.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Clarification of the term “By Others”

Per CPM Section 3.5.0.6, note the specific responsible party when work is to be performed “by others”. This term can introduce confusion if the intent is not well established. Further define and clarify whether the work or item is included within the Contract and therefore the ultimate responsibility of the General Contractor, or concurrent with, but not part of the contract work, etc. Provide additional specific information as needed regarding any required coordination.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: References to Other Disciplines

Per CPM Section 3.5.0.6, avoid terms which refer exclusively to another discipline for that scope of work. The construction Contract is between the owner and the General Contractor (GC). Therefore, the Contract Documents are the owner's instruction to the GC, who is ultimately responsible for all work and the means and methods used to accomplish the construction. Assigning work execution responsibility to a subcontractor could circumvent the GC's means and methods responsibility.

In addition, scope may be inadvertently left out of the final bid, and/or out of construction as other related disciplines may not be aware of the work or item(s).

[Listing of three \(3\) manufacturers, basis-of-design products, and the term "or-equal"](#)

[Prohibited use of the terms "new" and "proposed"](#)

[Clarification of the term "by others"](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of "similar" or "sim" details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Use of Similar Details

Per CPM Section 3.5.0.6, when referencing details and noting “similar” or “sim” construction, clearly identify the differences to the detail such that the designer’s intent is accurately conveyed to the constructor with minimal risk of varying interpretation.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Project-Specific Specifications

Per CPM Section 3.5.0.6 and 3.5.3.1, final specifications shall be individually tailored to the project scope, fully developed, and complete. Include all needed information yet limited to that which is project specific.

Edit all specification language from master guides and writing software to be concise, avoiding ambiguity from unnecessary information and requirements. Canned manufacture's language and specifications are not acceptable.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term "or-equal"](#)

[Prohibited use of the terms "new" and "proposed"](#)

[Clarification of the term "by others"](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of "similar" or "sim" details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services: Utility Incentive Program Participation

CPM Section 3.4.4 describes energy conscious design standards and requirements. DAS actively participates in the numerous utility programs available that provide financial incentives for energy efficient equipment and systems incorporated into construction and renovation projects.

Consultants shall participate in all programs applicable to the specific project. This requires early Consultant coordination with the utilities, attendance at all related meetings, and providing all data and analysis requested by the utilities to ensure the maximum incentive for the State is realized.

[Listing of three \(3\) manufacturers, basis-of-design products, and the term “or-equal”](#)

[Prohibited use of the terms “new” and “proposed”](#)

[Clarification of the term “by others”](#)

[Avoiding terms which refer exclusively to another discipline for specific work/items](#)

[Use of “similar” or “sim” details](#)

[Project-specific specifications at Contract Document Phase](#)

[Utility incentive program participation](#)

[Code and Statutory Requirements](#)

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Construction Services Code and Statutory Requirements

DAS CS Contract Drawings shall include or adhere to the below
Code and Statutory information and requirements.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Codes and Statutes: Delegated Designs

CPM Section 5.5 defines Delegated Design, Design-assist, and Deferred Submittals. The use of a delegated design results in deferred submittals. The Building Official can not review or approve deferred submittals under the original permit as they are not yet available during the permit application.

The Consultant shall submit Department Form 3050 “Delegated Design Approval” as a deliverable at the conclusion of the DD Phase. The purpose of this document is to identify to the Building Official those items of the Contract which will require post-permit review, as well as allow for DAS review of the proposed list of items.

The Code Sheet within the Contract Documents shall include the final approved list of deferred submittals.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Codes and Statutes: Building Information Form

The Building Information for Code Analyses Form 3011 shall be completed at the SD phase, and its information (not the Form itself) shall be included on the Code Sheet within the Drawings.

Refer to CPM Sections 3.4.1.2 and 3.5.1.11 for more information.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Codes and Statutes: Energy Code Information Requirements

The Drawings shall include a statement describing the compliance path(s) used to meet applicable energy and sustainable construction code requirements. In addition, include a summary of the methods used and results of applicable code required heating and cooling calculations and associated equipment sizing that clearly demonstrates such compliance.

Refer to CPM Sections 3.4.1.7, 3.5.1.11 and the adopted model energy and sustainability codes for more information.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Codes and Statutes: Fire-Flow Test Data

For applicable projects defined in CPM Section 4.1.2, obtain the latest available water flow test information from the local water authority for use in the design of fire protection systems during, or before, the end of schematic design.

Include flow test data on the Fire Protection Drawings' note sheet per CPM Sections 3.5.3.8.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance



DAS Codes and Statutes: Digital Seals and Signatures

Refer to, and ensure compliance with, State Statute Sec. 20-289-7a Seals regarding architectural seals and permitted digital versions defined in part (d).

Note that all design firms shall comply; each providing digital certification, with the Architect of Record providing final signature.

Delegated Designs

Building Information for Code Analysis

Energy Code Information Requirements

Fire-Flow Test Data

Digital Seals and Signatures

Click on any
requirement
listed to see
more
information.



Contact DAS Technical
Services for Assistance

