

Plotning og MicroStation V8i

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bentleyuser.dk årsmøde 09.11.2009



Nyheder



- **Georeferenced PDF**
- **Property Publishing.**
- **Dynamic Plot Support.**
- **Forbedret InterPlot Organizer.**



Georeferenced PDF



Koordinatprojektioner er indbygget i kernen af følgende produkter:

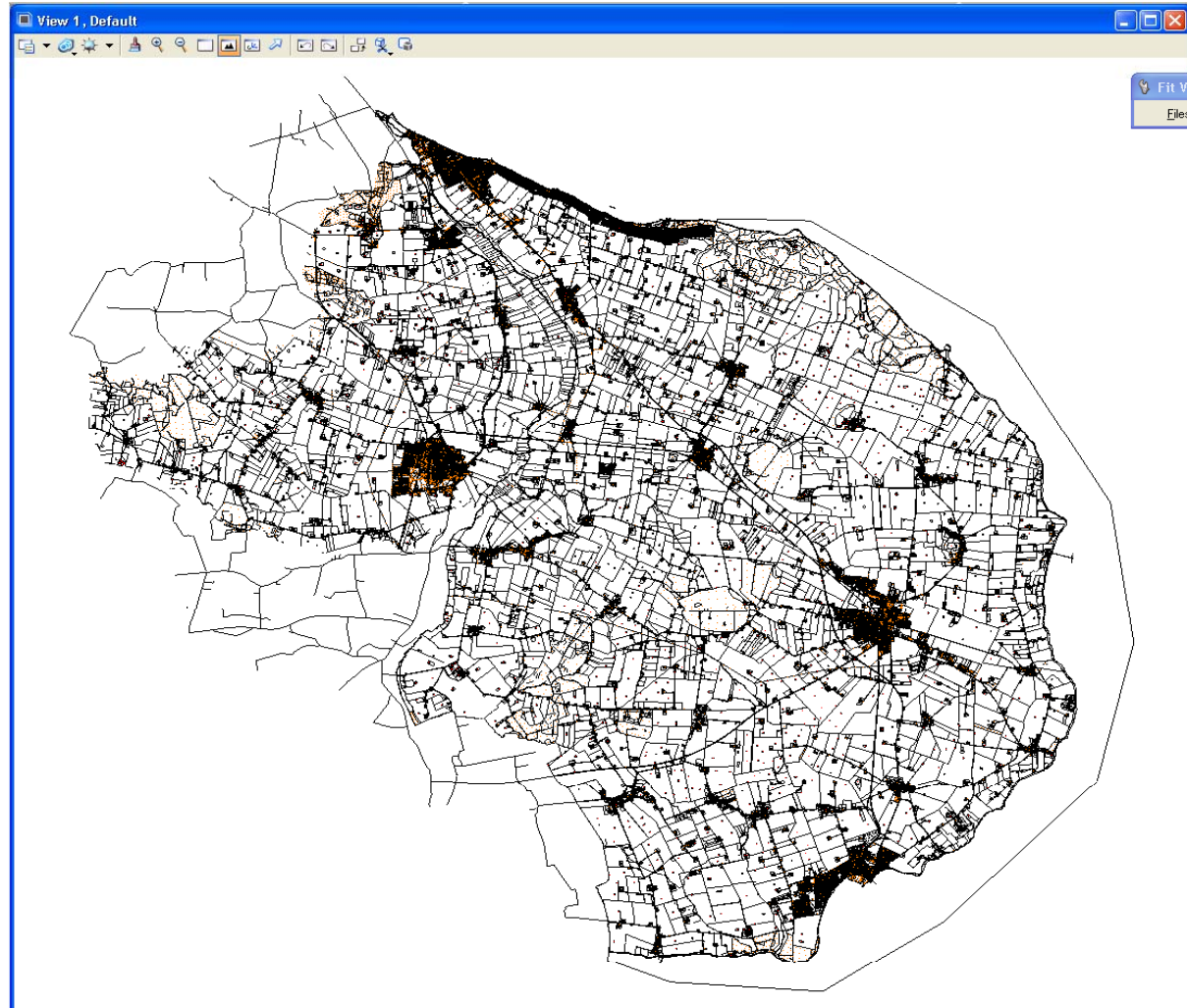
- **MicroStation V8i.**
- **Bentley View V8i.**
- **ProjectWise Navigator V8i.**
- **ProjectWise i-model Composer.**

ProjectWise InterPlot 08.11.07.89 og MicroStation Print kan forstå disse projektioner og overføre dem til PDF filer.

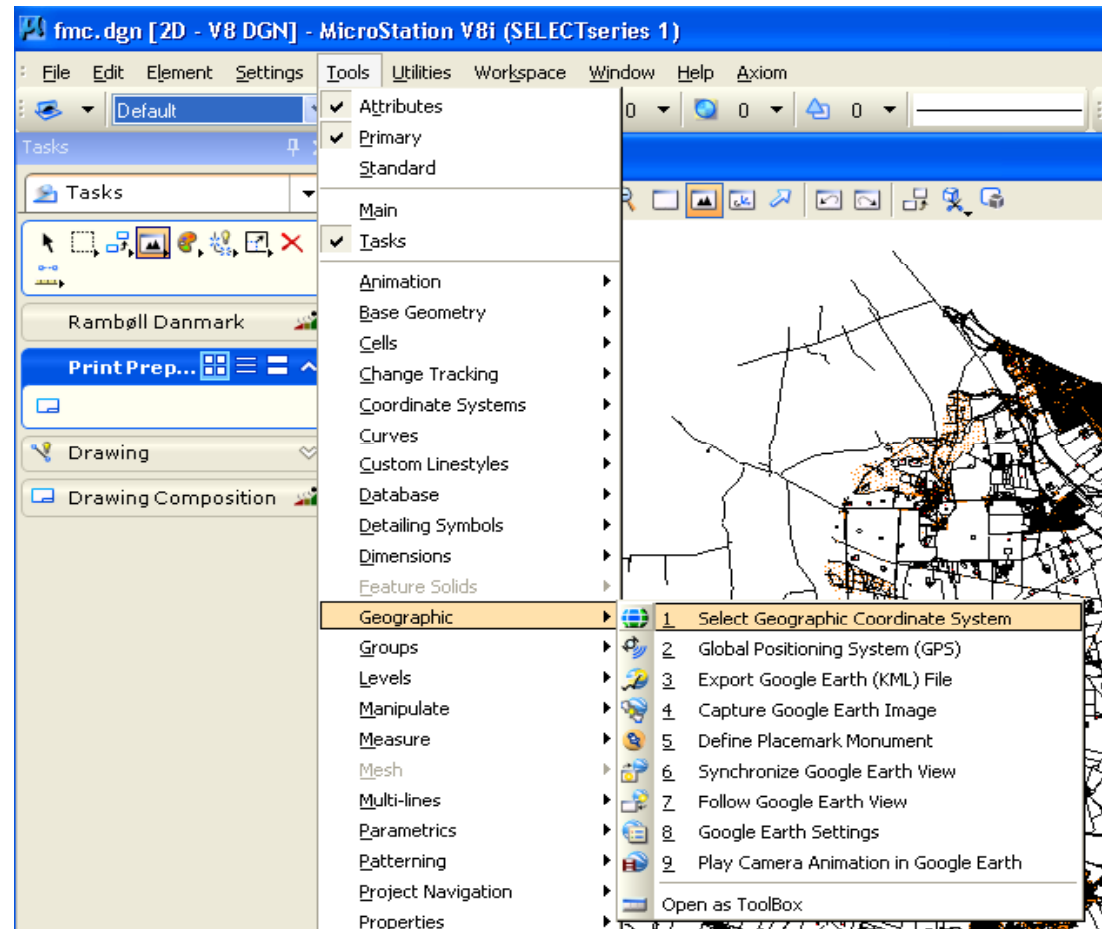
DWG filer indeholder ikke projektioner.

Lad os se på et eksempel.

Georeferenced PDF



Georeferenced PDF



Tjek om der er tilknyttet et koordinatsystem.

Georeferenced PDF



Geographic Coordinate System

Current Geographic Coordinate System

Name: Universal Transverse Mercator
Description:
Source: Dialog settings

Geographic Coordinate System Properties

Coordinate System

Name	
Description	
Projection	Universal Transverse Mercator
Source	Dialog settings
Units	Meter
UTM Zone	32
Hemisphere	Northern
Minimum Longitude	00°00'00.0000"E
Maximum Longitude	00°00'00.0000"E
Minimum Latitude	00°00'00.0000"N
Maximum Latitude	00°00'00.0000"N

Datum

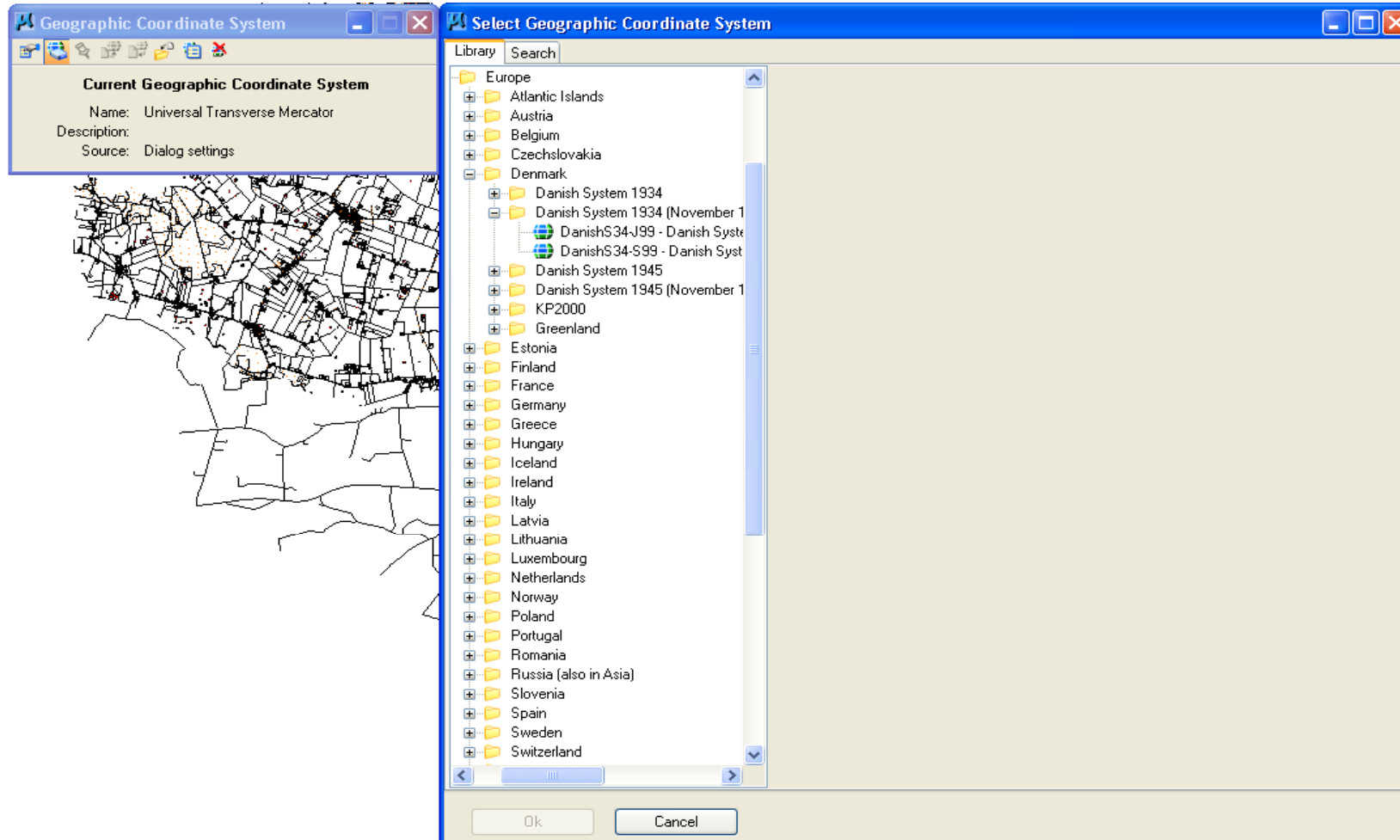
Name	WGS84
Description	World Geodetic System of 1984
Source	US Defense Mapping Agency, TR-835

Ellipsoid

Name	WGS84
Description	World Geodetic System of 1984
Equatorial Radius	6378137
Polar Radius	6356752.3142
Eccentricity	0.081819190928906743
Source	US Defense Mapping Agency, TR-835

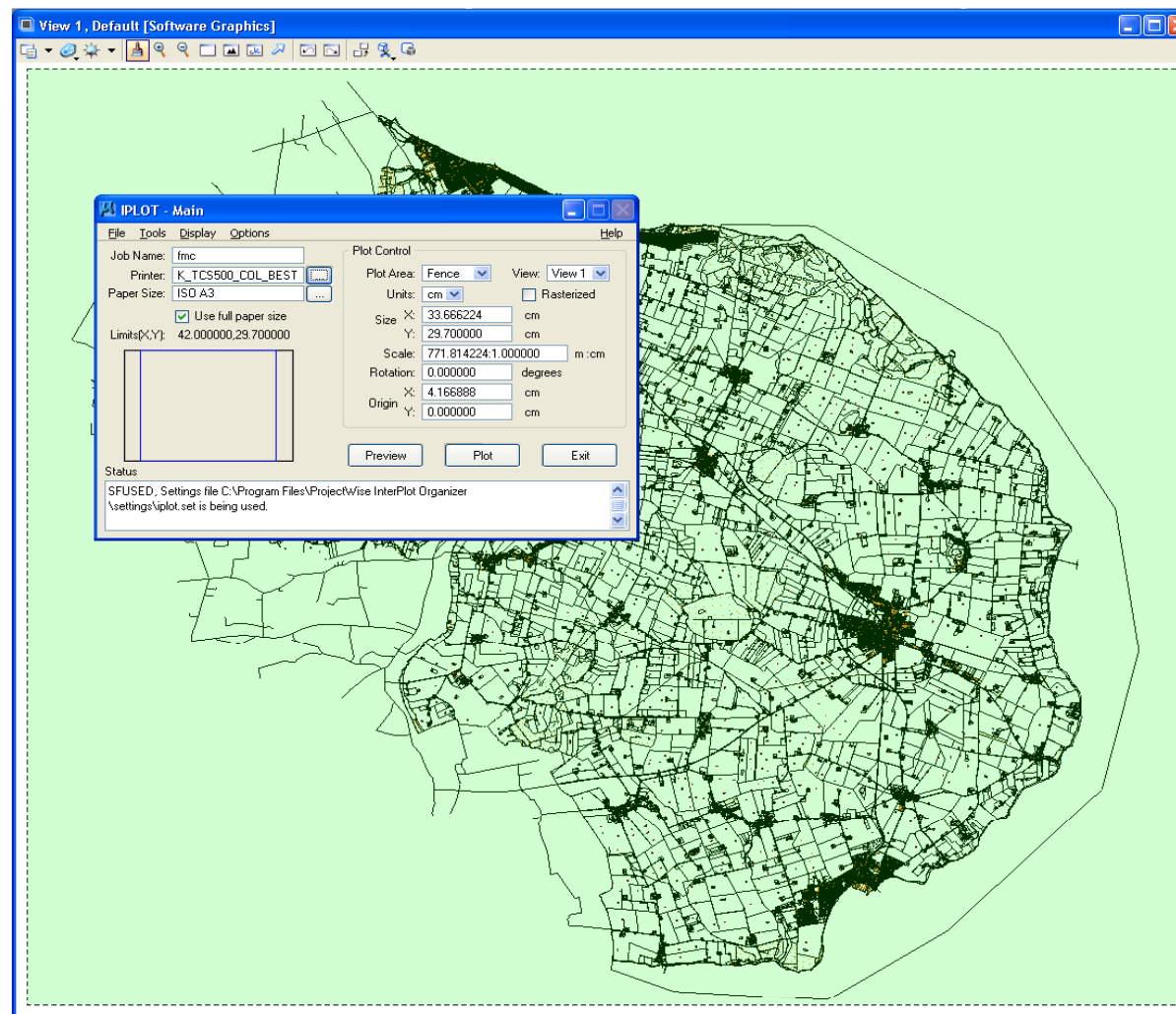
Ok

Georeferenced PDF

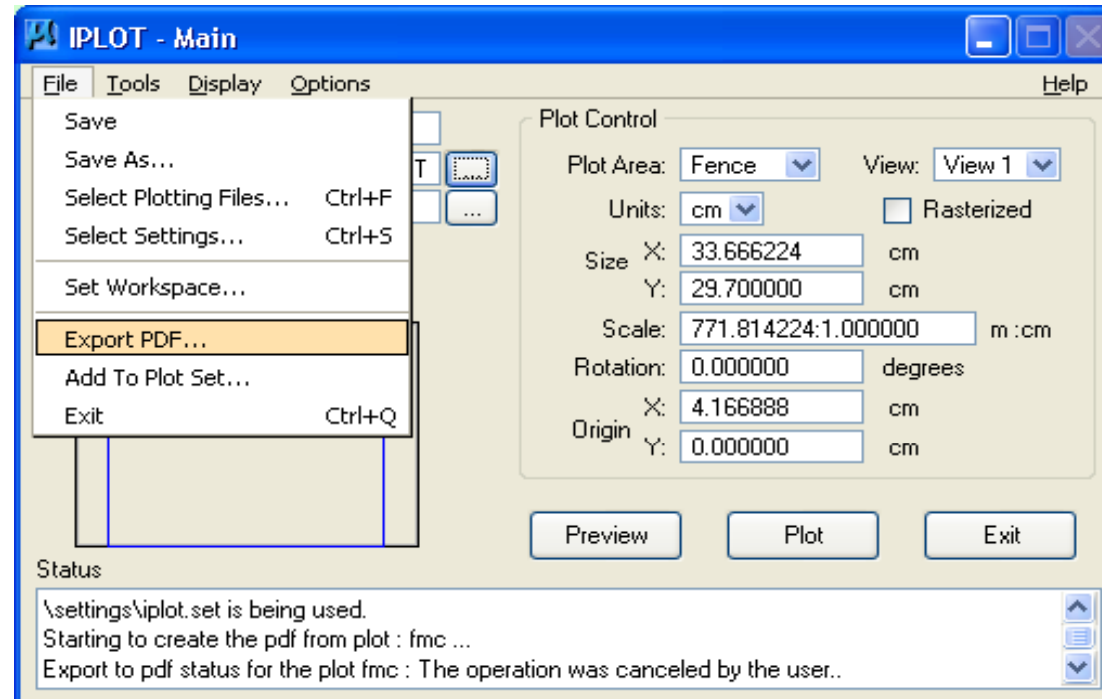


Er der ikke tilknyttet et koordinatsystem, skal der tilknyttes et koordinatsystem.

Georeferenced PDF



Brug IPLOT til at printe til PDF.



Georeferenced PDF



Export PDF [?] [X]

Plot range

All plots Selected plots

Creation options

Create one PDF file containing all plots
 Create a separate PDF file for each plot

PDF options

PDF Format Configuration...

Invoke PDF viewer when done

Create PDF Cancel

PDF Format Configuration [?] [X]

Format Properties | Document Security

Resolution: 600 dpi Rotation: 270

Version Compatibility: Acrobat 6.0 and later

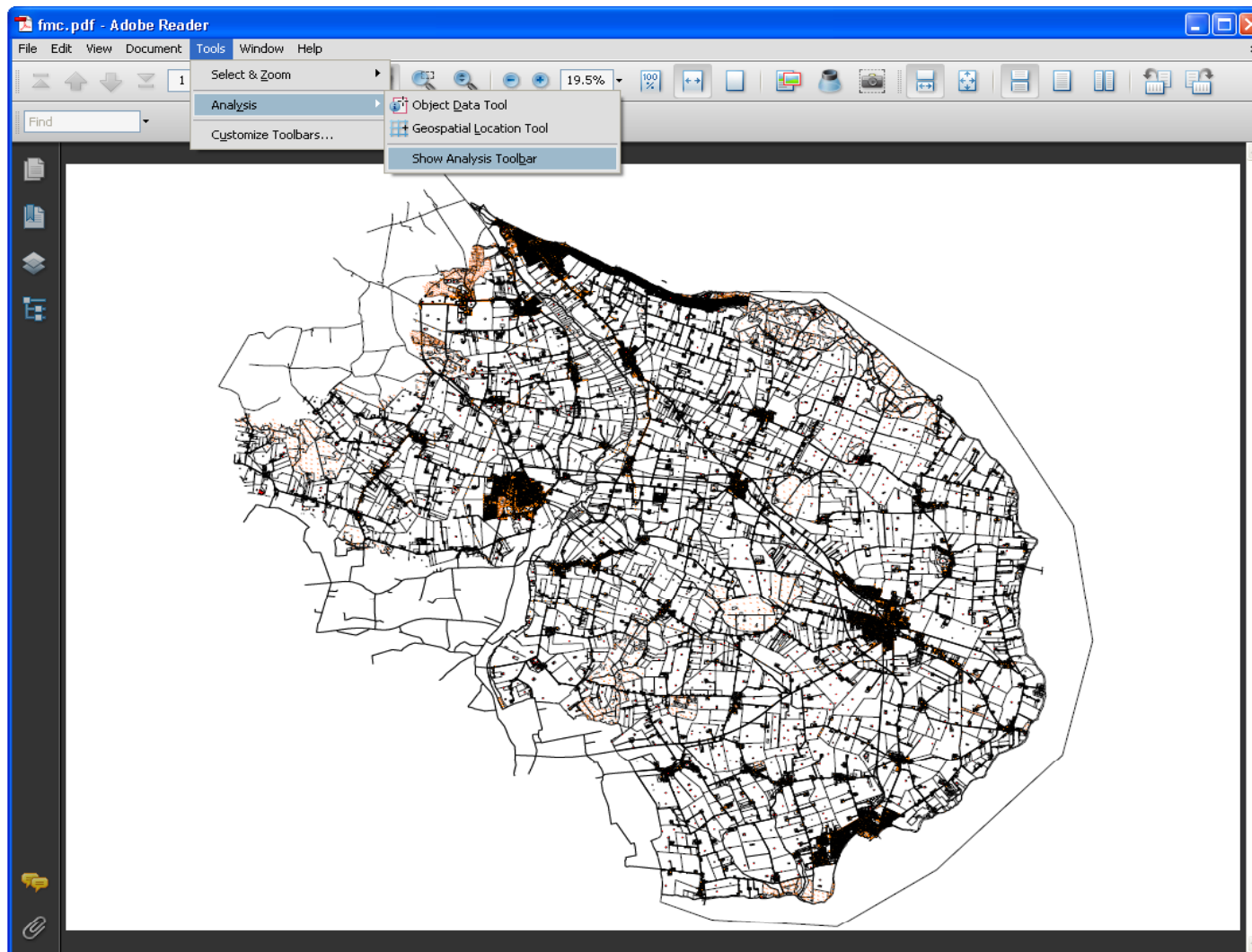
Include URLs/Engineering Links
 Searchable Text
Unicode Font for Searchable Text: Arial

Levels/Files (Optional Content)
Print as Created

RGB JPEG Compression
 Disable Saved Views/References Bookmark

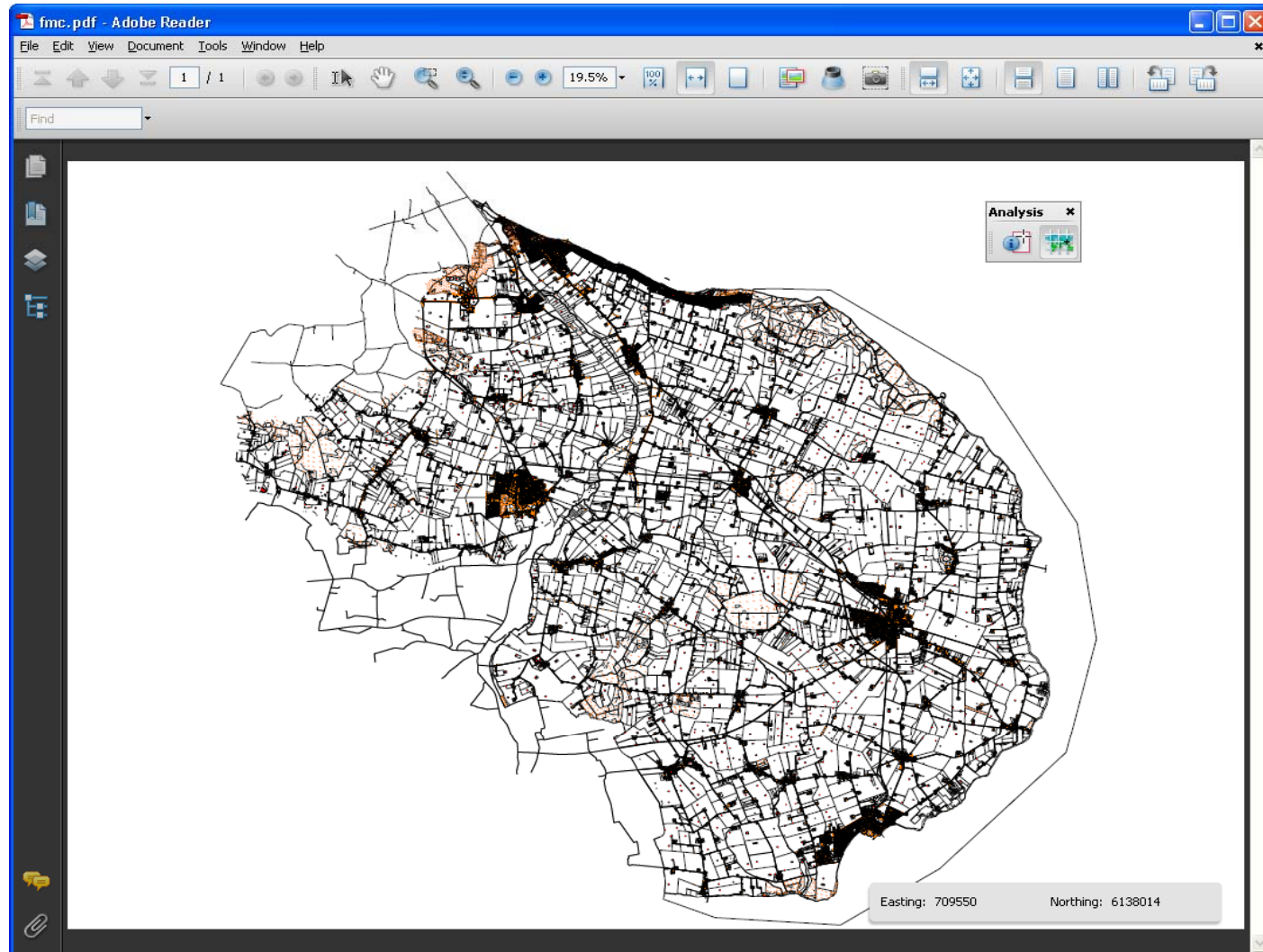
OK Cancel

Georeferenced PDF

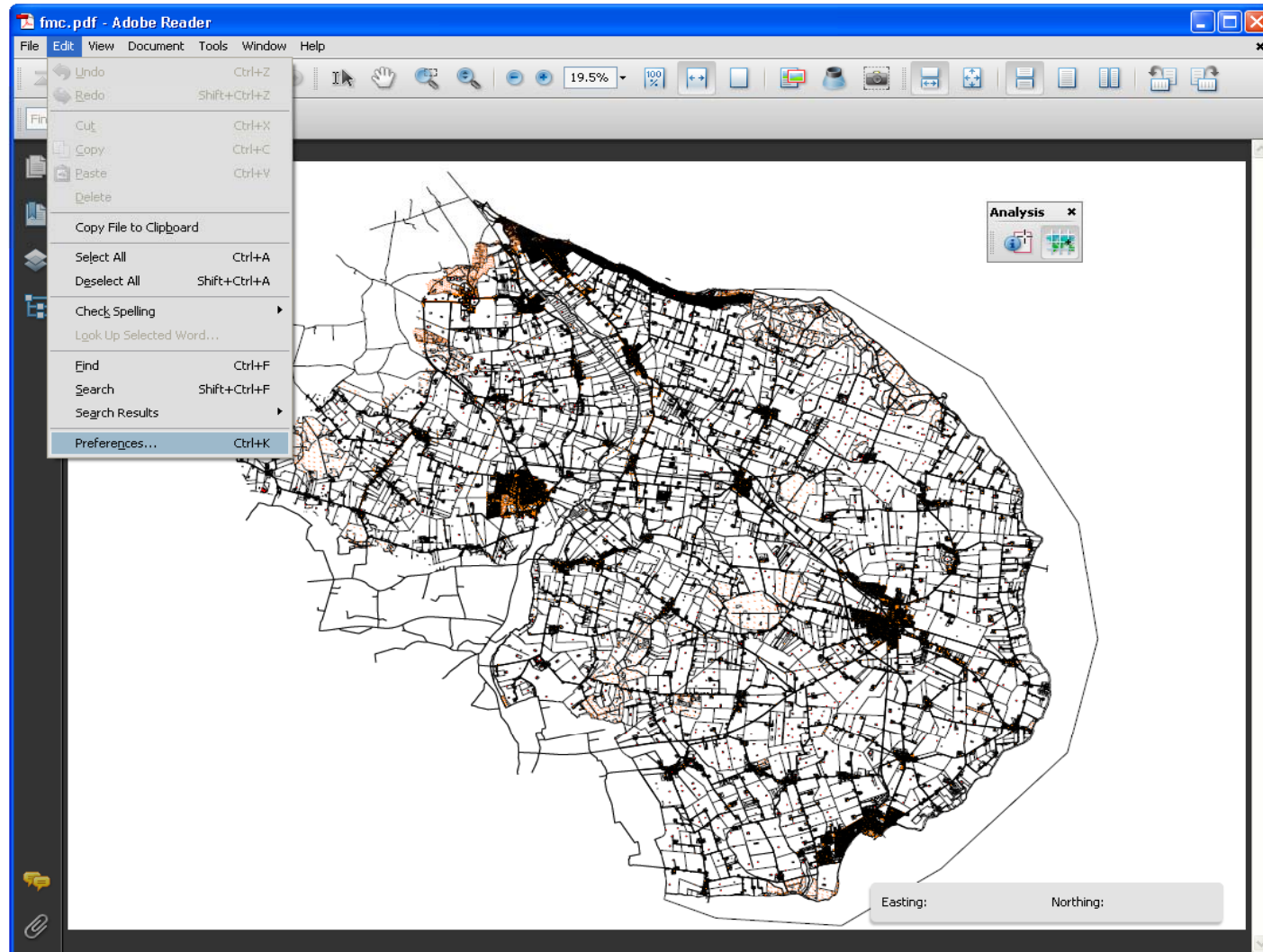


Brug Adobe Reader funktionen "Geospatial Location Tool" til at vise koordinater.

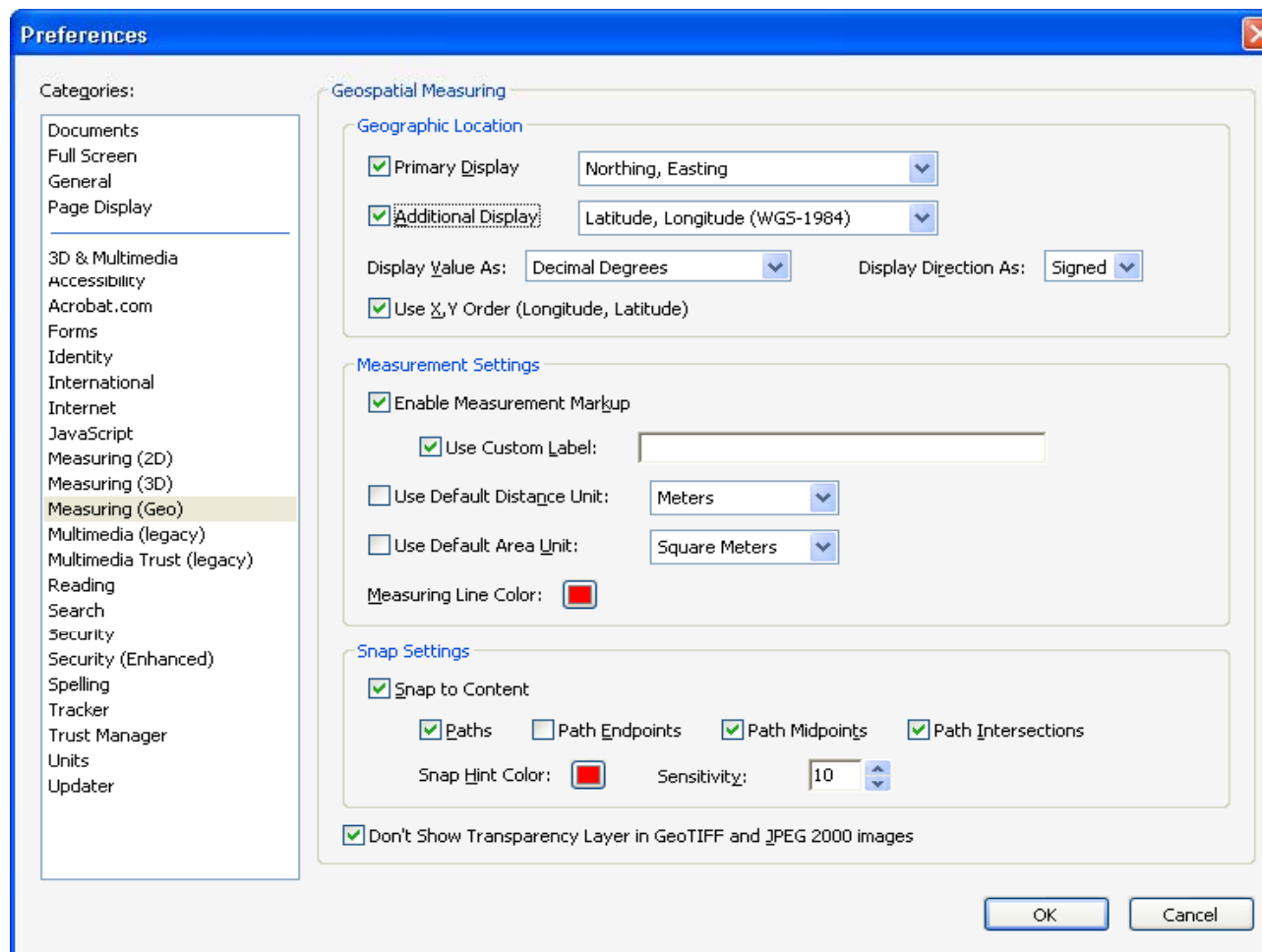
Georeferenced PDF



Georeferenced PDF

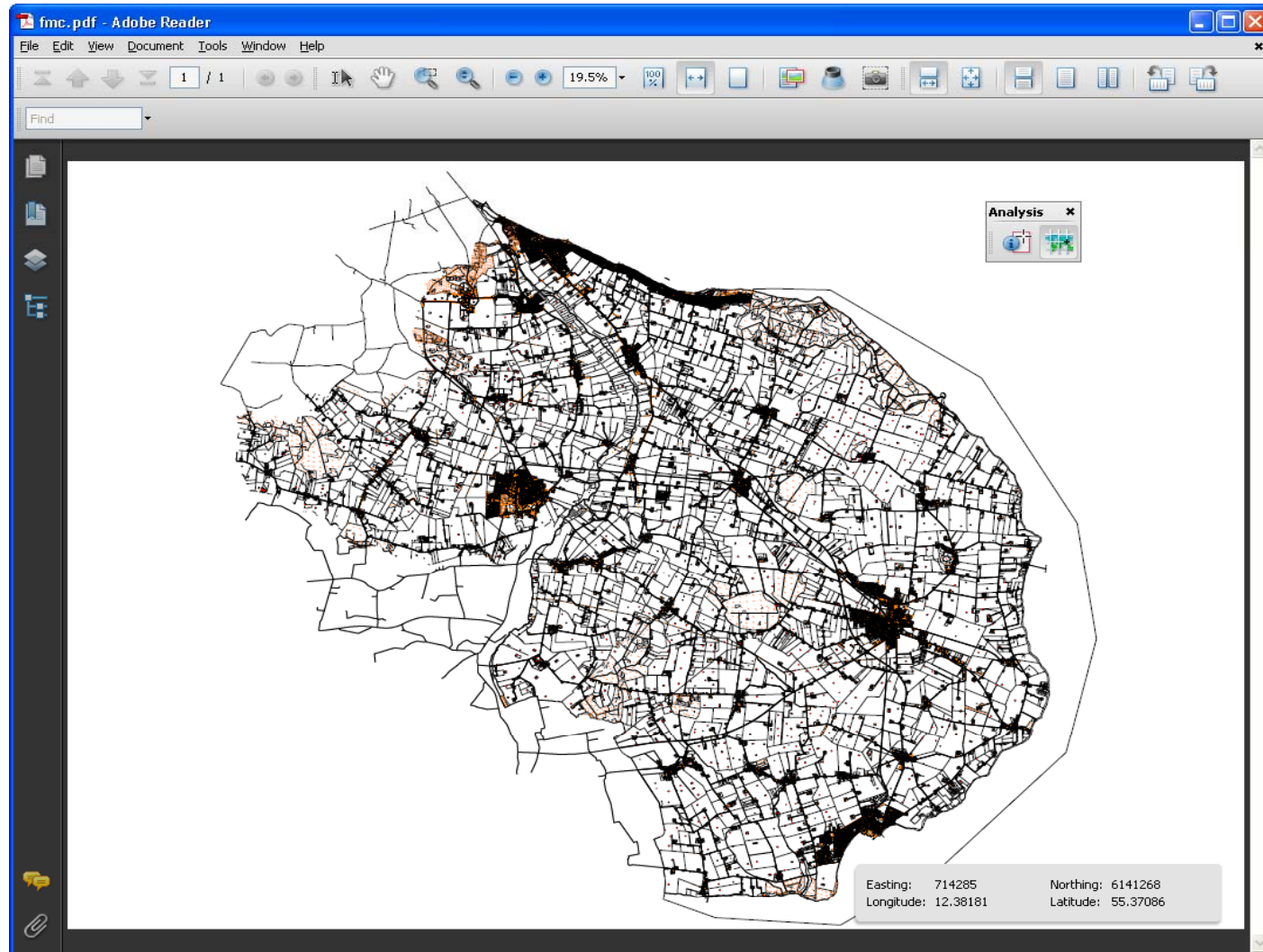


Georeferenced PDF

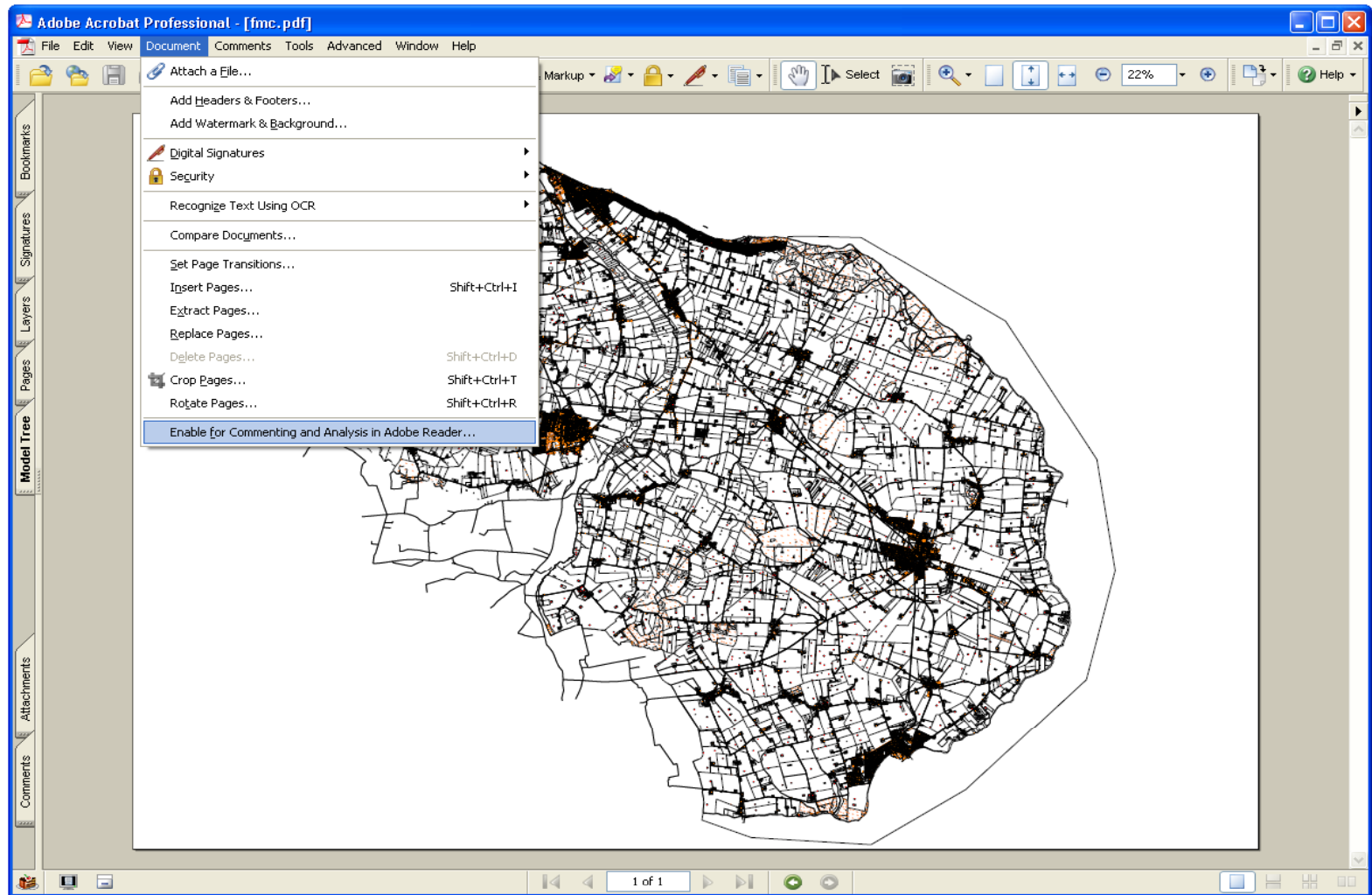


Koordinatformatet defineres i Measuring (Geo) under Preferences.
Adobe Reader skal være den seneste version.

Georeferenced PDF

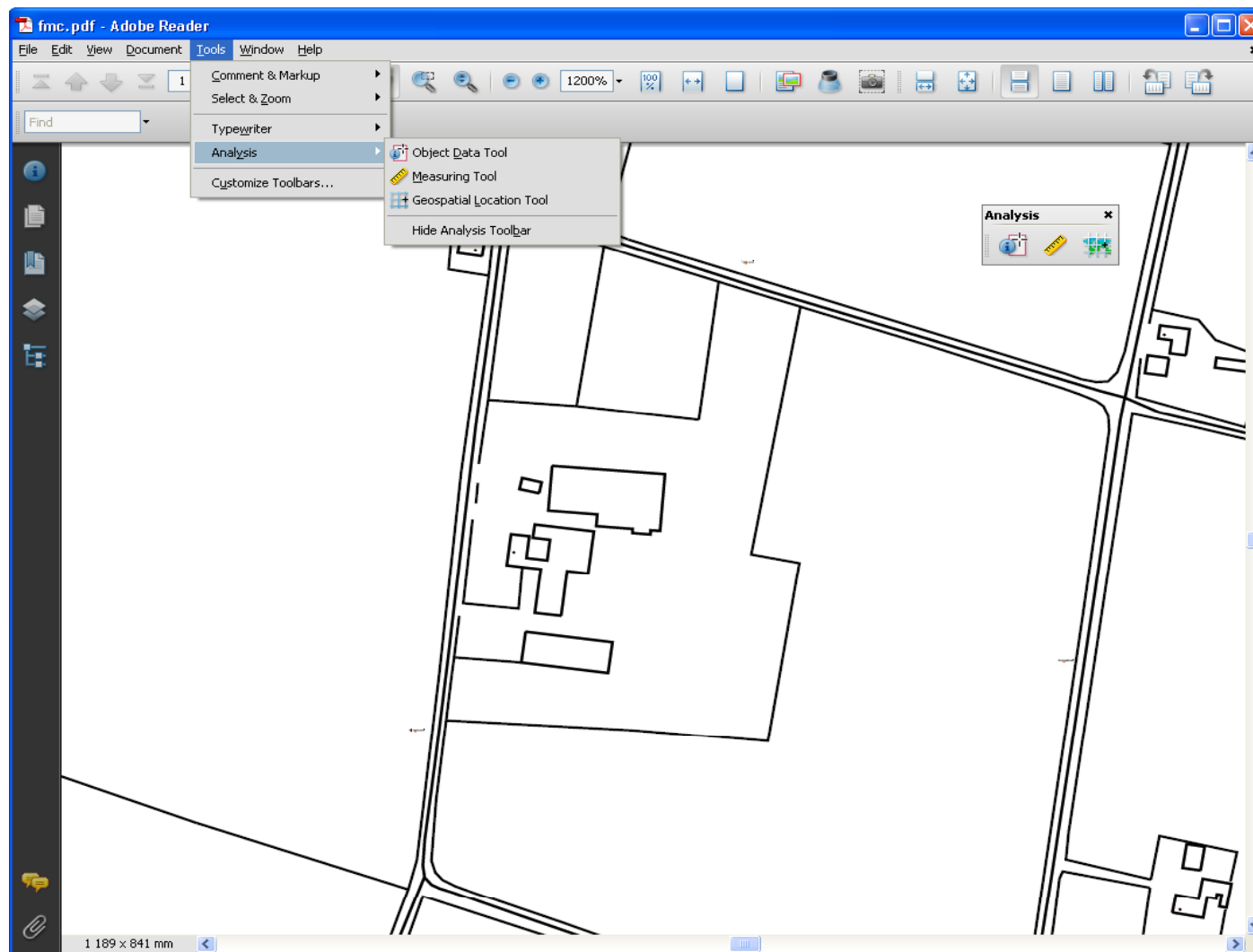


Georeferenced PDF



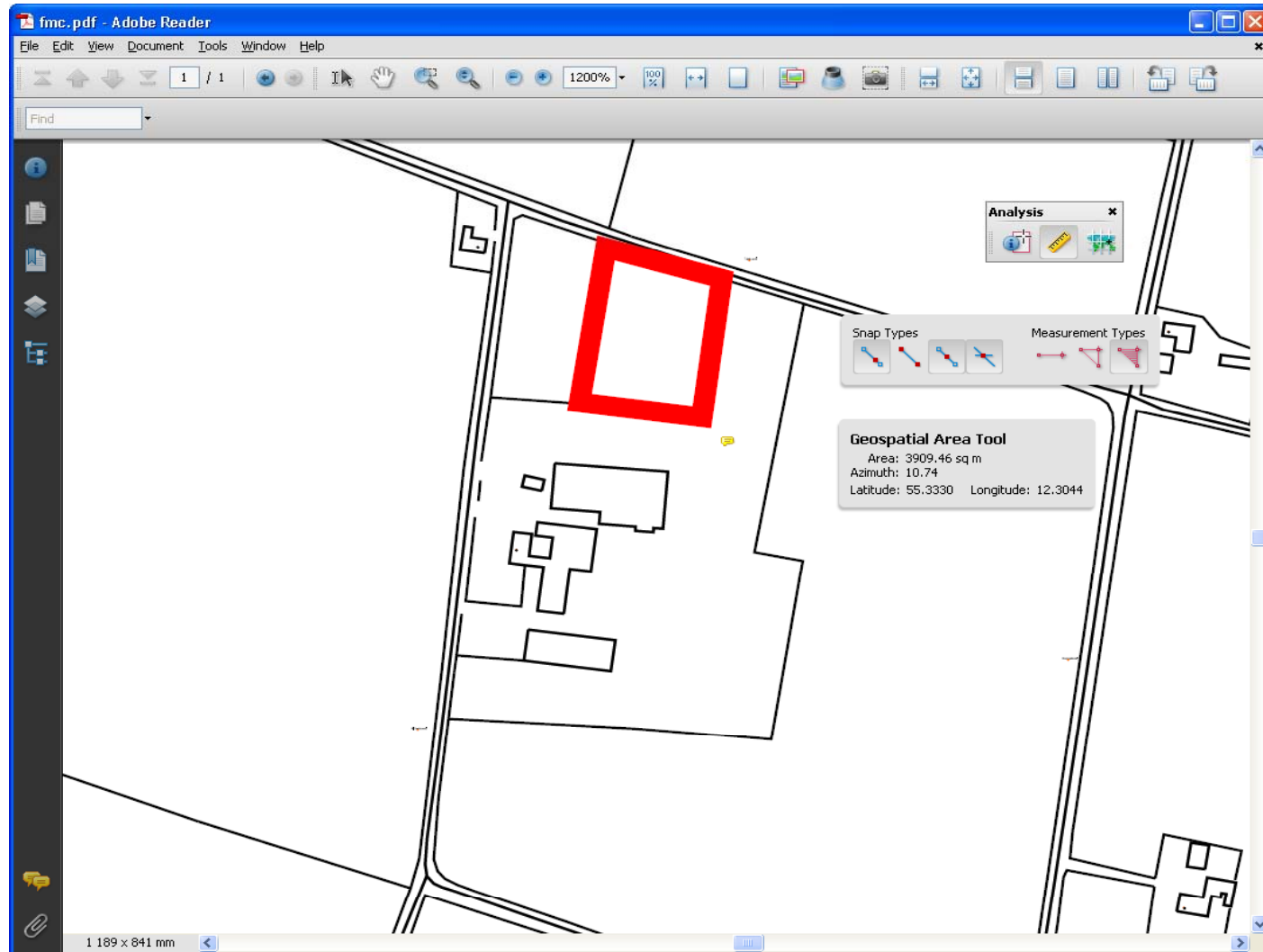
I Adobe Professional, eller standard udgaven, kan man give tilladelse til, at der måles arealer i Adobe Reader.

Georeferenced PDF

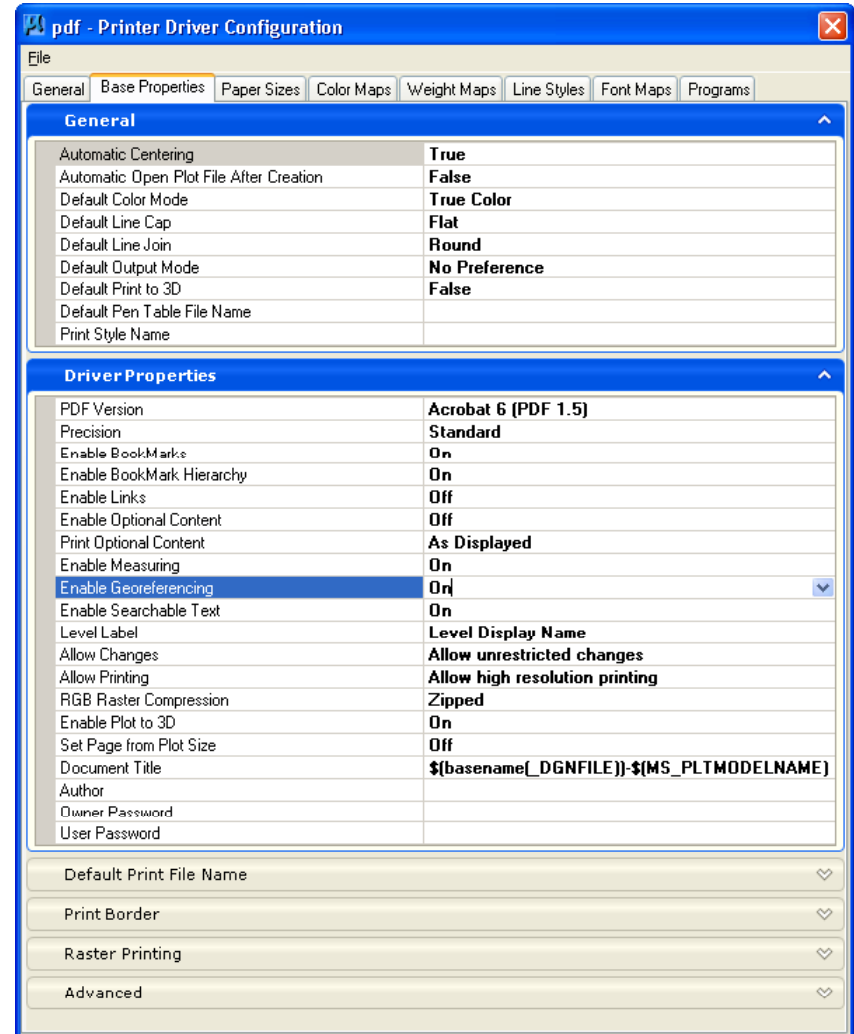
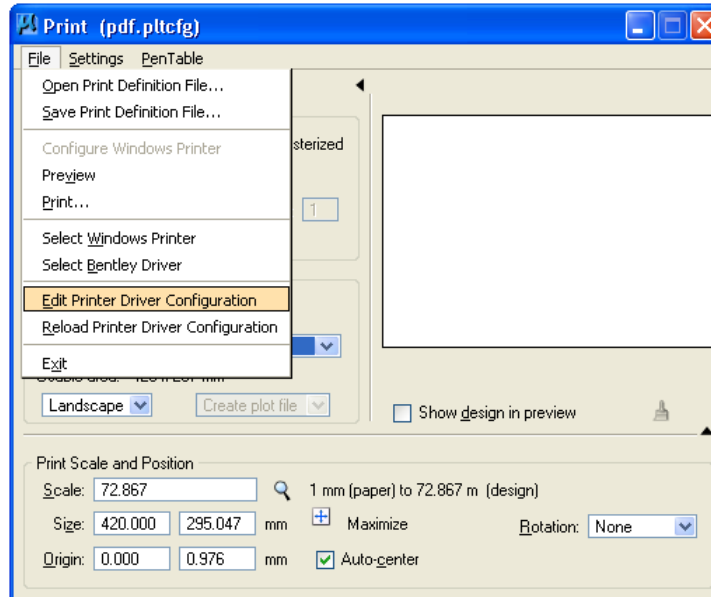


Bemærk, at funktionen "Measuring Tool" nu kan benyttes i Adobe Reader.

Georeferenced PDF



Georeferenced PDF



For MicroStation Print skal "Enable Georeferencing" være sat til ON, i "Printer Driver Configuration", for at koordinater overføres til PDF filer.



Property Publishing



Property Publishing er publicering af beskrivende data. Data skal publiceres til i-models inde fra applicationen.

Følgende applikationer understøtter pt. Property Publishing.

- **Bentley Architecture.**
- **Bentley Structural.**
- **Bentley Map.**
-

Lad os se på et eksempel.

Property Publishing



The screenshot displays the Bentley Architecture V8i software interface. The main window is titled "Architecture.dgn [3D - V8 DGN] - Bentley Architecture V8i (SELECTseries 1)". The menu bar includes File, Edit, Element, Settings, Tools, Utilities, Workspace, Project Management, Architecture, Window, Help, and Axiom. The toolbar shows various icons for file operations and viewing. The left sidebar contains a "Floors" panel with a tree view of architectural elements: Walls, Wall Clean Up, Doors, Windows, Create Space, Compound Cell Manager, Handrails, Curtain Walls, Place Schematic Casework, Shelving, Plumbing, Toilet Accessories, Place Stair, Roof Builder, and Place Floor Form. Below this are other panels for Structures, Ceiling Plans, Sites, Generic Forms, Schedules & Reports, and Sheets & Drawings. The "Place Wall" dialog box is open, showing a "Catalog Selection" of "Default Exterior Wall" and a "Match" button. A 3D preview shows a wall segment with a red arrow indicating placement. The "Placement" tab is active, showing "Placement Options" (Linear, By Center, Tolerance: 0.0200, Close, Auto Connect) and "Top Options" (Fixed Height, Delete Construction). Dimensions are set to Height: 4.2672, Width: 0.3048, and BaseOffset: 0.0000. Phasing and Rating fields are also present. To the right of the dialog is a 3D wireframe model of a wall structure, and below it is a small icon of a hand holding a pencil.

To vægge med beskrivende data indsættes i Bentley Architecture.

Property Publishing



Architecture.dgn [3D - V8 DGN] - Bentley Architecture V8i (SELECTseries 1)

File Edit Element Settings Tools Utilities Workspace Project Management Architecture Window Help Axiom

Architecture

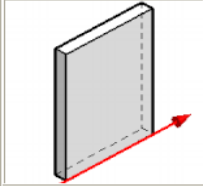
View 1 - Isometric, Default

Place Wall

Catalog Selection:

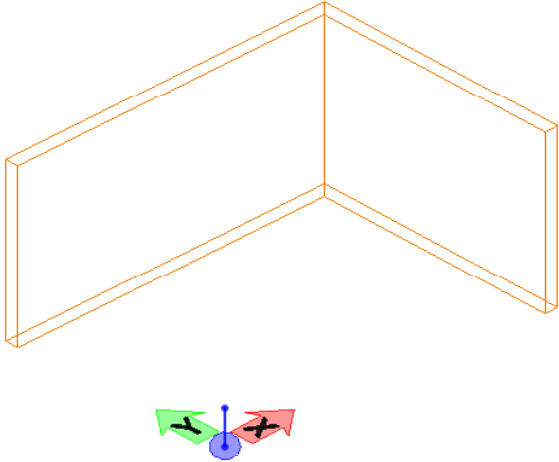
"Default Exterior Wall"

Match

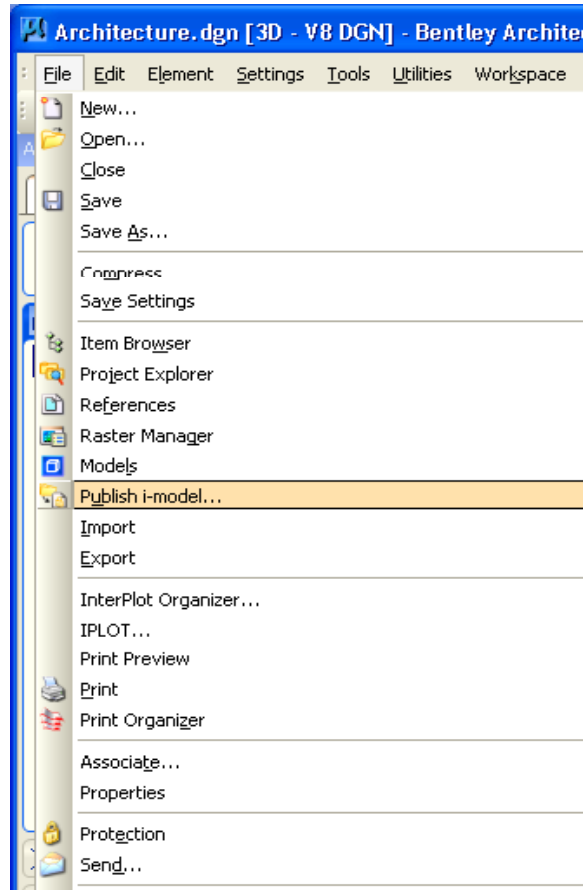


Placement Properties

Property	Value
Materials	
Part Defini...	..."Default Exterior ..."
Phasing	
Phasing	
Structu...	
Structural...	
Structural...	
Thermal...	
IsExternal	true
IsBelowG...	false
Dimens...	
Width	0.3048
Height	4.2672
Wall Pr...	
Type	Wall
Compoun...	false
Partition...	
Cavity	



Property Publishing



Fra Bentley Architecture publiceres modellen som en i-model.

Property Publishing



Publish i-model

Force republishing of all files
 Create a package

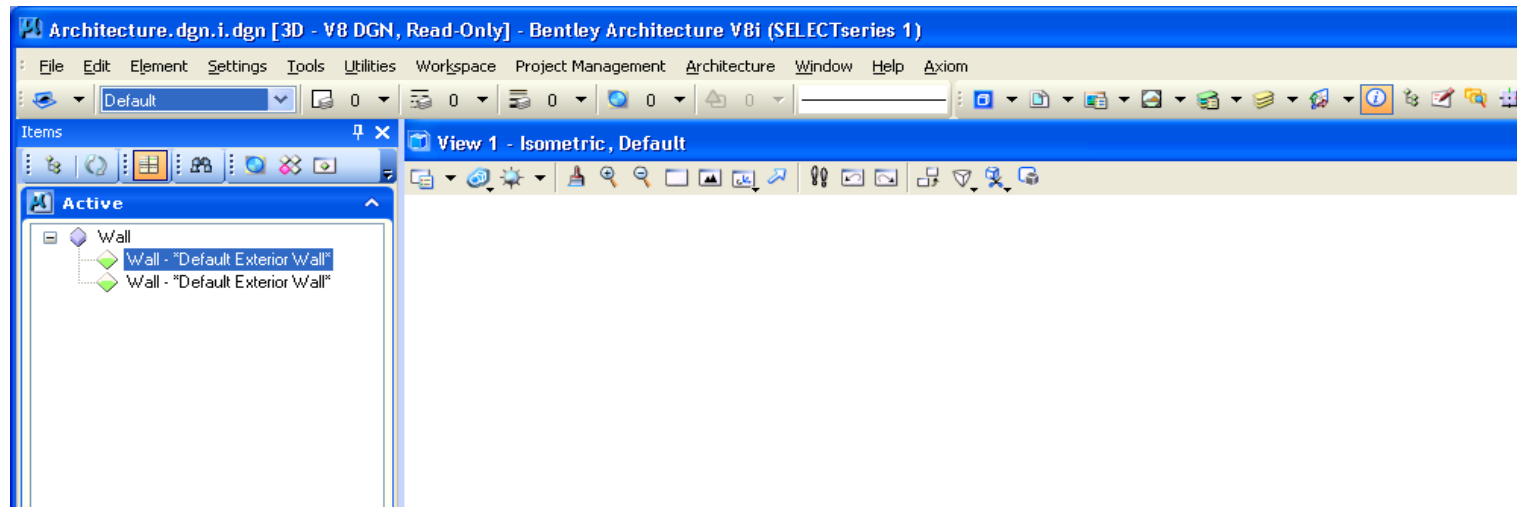
Package: .i.dgn

Protection: ▼

Rights: View Export
 Edit Print

Expires: ▼ YYYY/MM/DD

Property Publishing



Dernæst åbnes den publicerede i-model i MicroStation eller Bentley Architecture.

Property Publishing



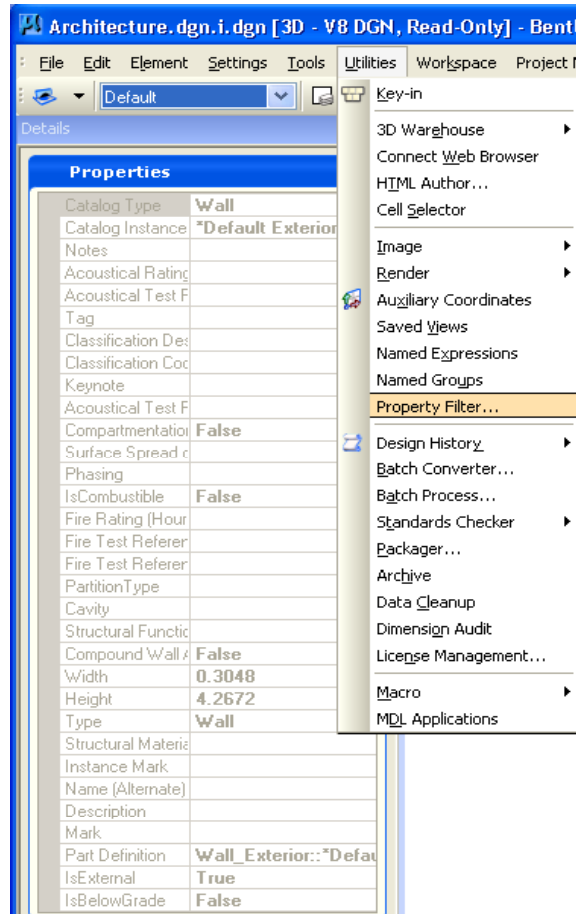
The screenshot displays the Bentley Architecture V8i (SELECTseries 1) interface. The title bar reads "Architecture.dgn.i.dgn [3D - V8 DGN, Read-Only] - Bentley Architecture V8i (SELECTseries 1)". The menu bar includes File, Edit, Element, Settings, Tools, Utilities, Workspace, Project Management, Architecture, Window, Help, and Axiom. The toolbar shows various icons for file operations and viewing. The "Details" panel is open, showing "View 1 - Isometric, Default". The "Properties" table is visible, listing various attributes for a wall object.

Properties	
Catalog Type	Wall
Catalog Instance	*Default Exterior Wal
Notes	
Acoustical Rating	
Acoustical Test F	
Tag	
Classification Des	
Classification Cod	
Keynote	
Acoustical Test F	
Compartmentation	False
Surface Spread c	
Phasing	
IsCombustible	False
Fire Rating (Hour	
Fire Test Referer	
Fire Test Referer	
PartitionType	
Cavity	
Structural Functi	
Compound Wall	False
Width	0.3048
Height	4.2672
Type	Wall
Structural Materie	
Instance Mark	
Name (Alternate)	
Description	
Mark	
Part Definition	Wall_Exterior::*Defau
IsExternal	True
IsBelowGrade	False

To the right of the properties table is a 3D wireframe model of a wall corner, showing the wall's thickness and height in an isometric view.

Bemærk, at beskrivende data er overført til den publicerede i-model.

Property Publishing



Er IPLLOT installeret, findes funktionen "Property Filter" under Utilities. Den findes ikke i MicroStation Print.

Property Publishing



The screenshot displays the Bentley Architecture V8i software interface. The main window is titled "Architecture.dgn.i.dgn [3D - V8 DGN, Read-Only] - Bentley Architecture V8i (SELECTseries 1)". The Properties window on the left shows the following data:

Property Name	Value
Catalog Type	Wall
Catalog Instance	*Default Exterior Wal
Notes	
Acoustical Rating	
Acoustical Test F	
Tag	
Classification Des	
Classification Coc	
Keynote	
Acoustical Test F	
Compartmentation	False
Surface Spread c	
Phasing	
IsCombustible	False
Fire Rating (Hour	
Fire Test Referer	
Fire Test Referer	
PartitionType	
Cavity	
Structural Functi	
Compound Wall	False
Width	0.3048
Height	4.2672
Type	Wall
Structural Materie	
Instance Mark	
Name (Alternate)	
Description	
Mark	
Part Definition	Wall_Exterior:*Defau
IsExternal	True
IsBelowGrade	False

The Property Filter window on the right is titled "Untitled.propfilter.xml - Property Filter". It shows a list of Item Types with checkboxes:

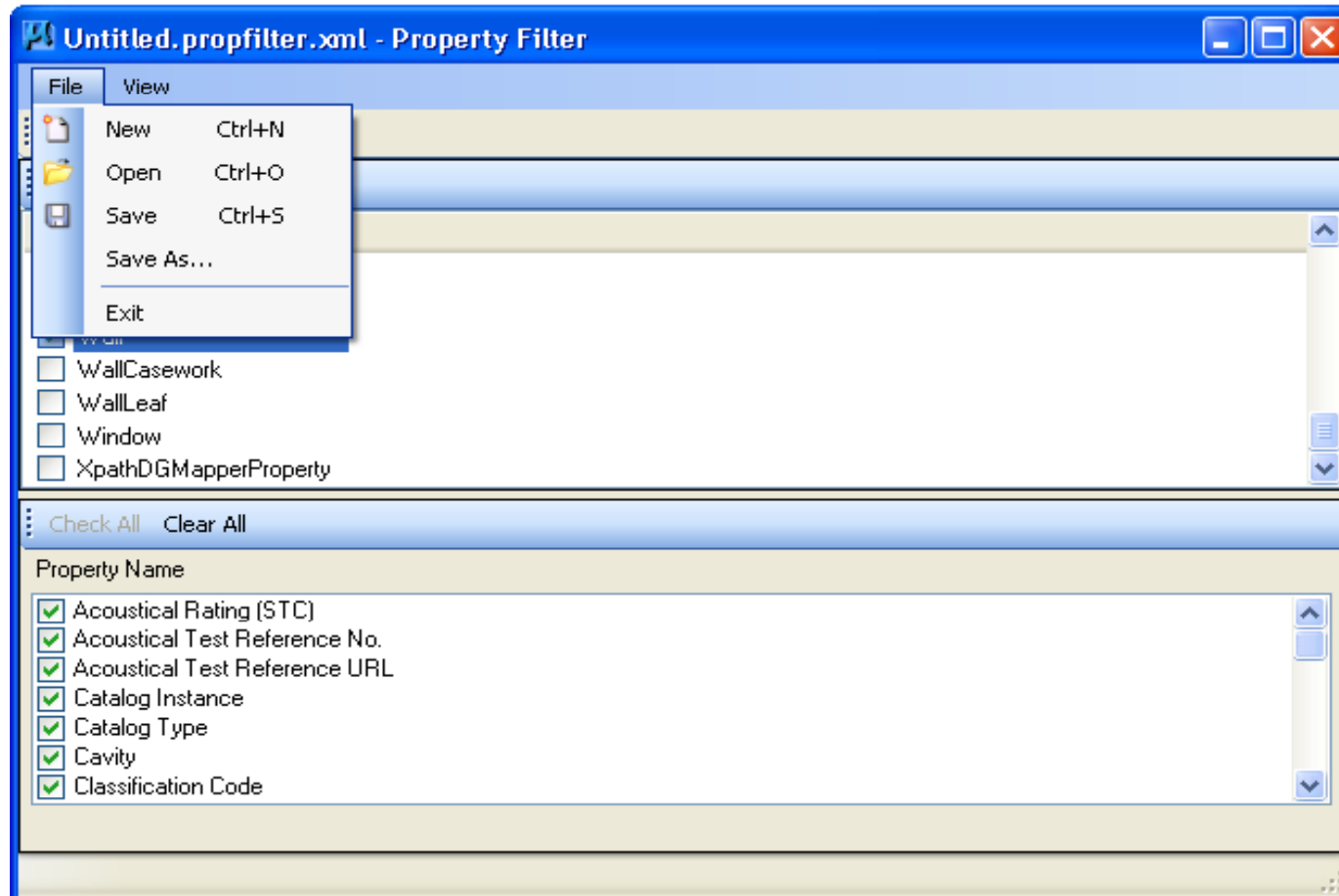
- Toilet Accessories
- ToiletPartitionDoors
- Wall
- WallCasework
- WallLeaf
- Window
- XpathDGMMapperProperty

Below this list, there is a section for Property Name with the following checked items:

- Acoustical Rating (STC)
- Acoustical Test Reference No.
- Acoustical Test Reference URL
- Catalog Instance
- Catalog Type
- Cavity
- Classification Code

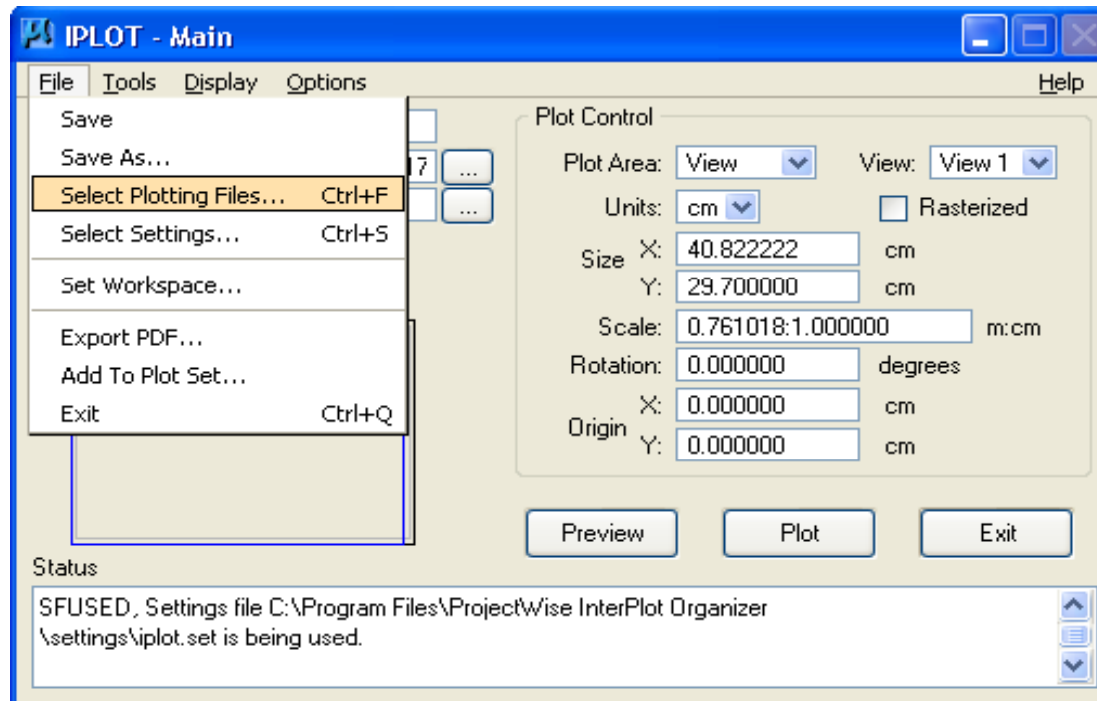
Funktionen benyttes til at definere et filter for beskrivende data.

Property Publishing

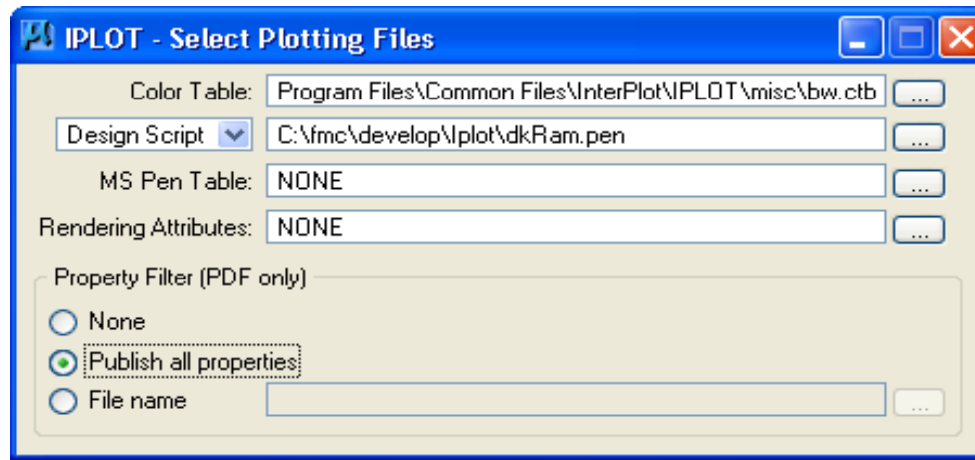


Gemmes filteret kan det benyttes i IPLIT dialogboksen.

Property Publishing

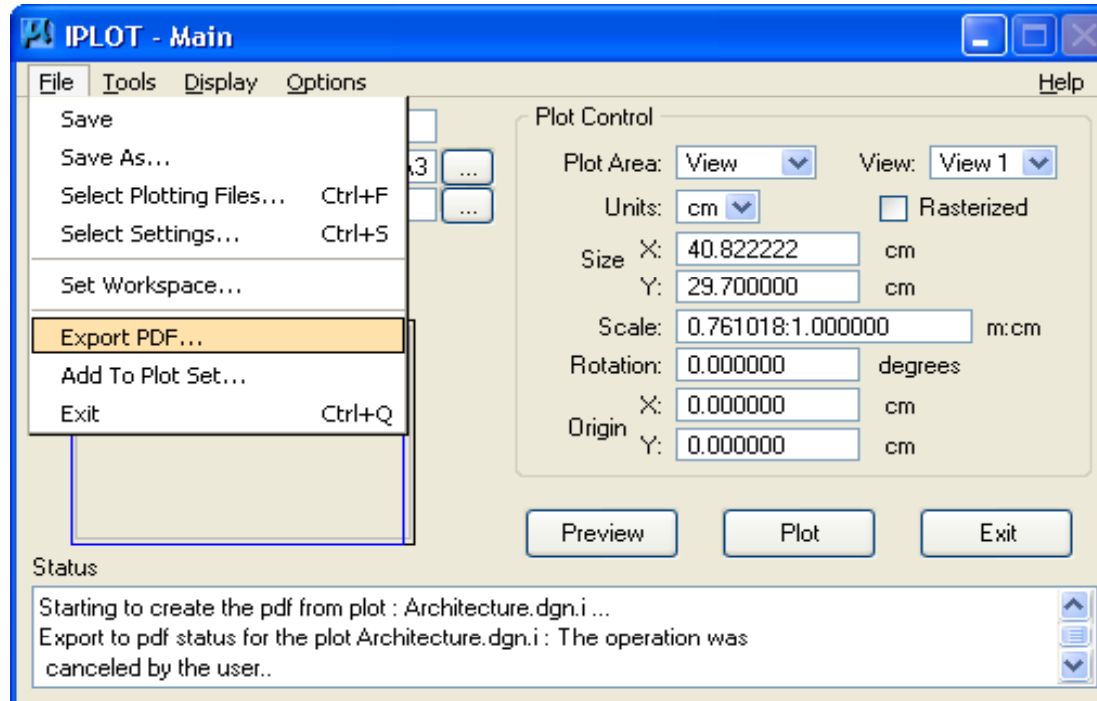


Property Publishing



Man kan vælge at overføre ingen data, alle data eller filtrere sine data til PDF filen.

Property Publishing



Property Publishing



Export PDF [?] [X]

Plot range

All plots Selected plots

Creation options

Create one PDF file containing all plots
 Create a separate PDF file for each plot

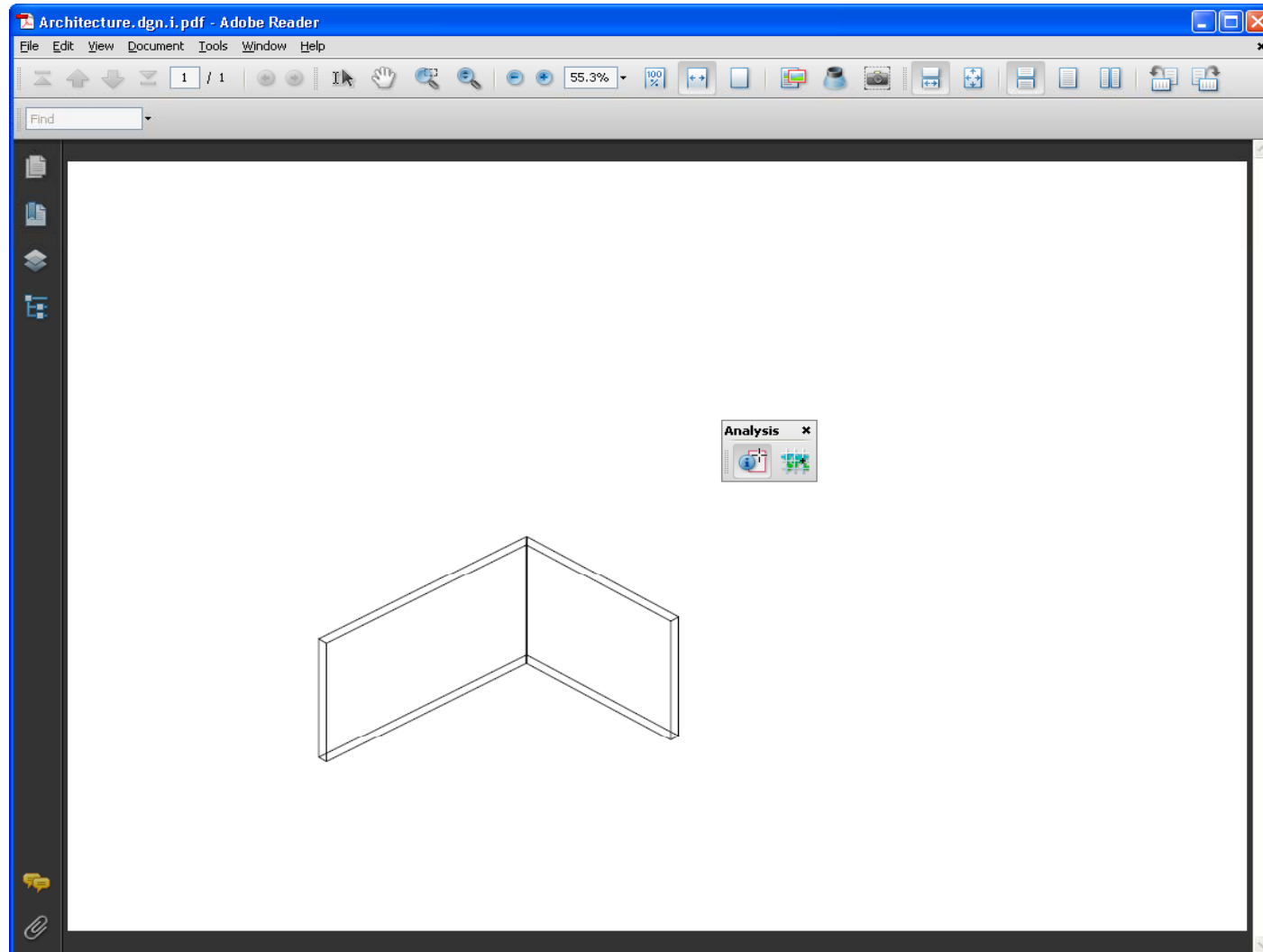
PDF options

PDF Format Configuration...

Invoke PDF viewer when done

Create PDF Cancel

Property Publishing



I Adobe Reader skal funktionen "Object Data Tool" benyttes.

Property Publishing



The screenshot shows the Adobe Reader interface for a PDF file named 'Architecture.dgn.i.pdf'. The main content area displays a 3D wireframe model of a wall structure. A small 'Analysis' dialog box is open over the model. The left sidebar contains the 'Model Tree' and 'Property' panels.

Model Tree:

- Architecture.dgn.i
 - Wall
 - Wall - *Default Exterior Wall*
 - Wall - *Default Exterior Wall*

Property Panel:

Property	Value
Acoustical Rating (STC)	
Acoustical Test Reference No.	
Acoustical Test Reference URL	
Catalog Instance	*Default Exterior Wall*
Catalog Type	Wall
Cavity	
Classification Code	
Classification Description	
Compartmentation	False
Compound Wall Assembly	False
Description	
Fire Rating (Hours)	
Fire Test Reference No.	
Fire Test Reference URL	
Height	4.2672
Instance Mark	
IsBelowGrade	False
IsCombustible	False
IsExternal	True
Keywords	

Bemærk, at de to vægge og deres beskrivende data er overført til PDF filen.



MicroStation V8i og dens applikationer har følgende begrænsninger m.h.t. Property Publishing.

- De skal komme fra applikationen.**
- De skabes og overføres til i-models.**
- i-models er read-only filer.**



ProjectWise InterPlot har følgende begrænsninger m.h.t. Property Publishing.

- Kun 2D PDF filer. Ikke 3D PDF filer (endnu).
- Må ikke indeholde dynamisk snit.
- Må ikke indeholde renderet views.

Property Publishing



A-1 First Floor.package.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 1 26.9%

Find

Analysis

First Floor Plan
Scale: 1/8" = 1'-0"

BENTLEY

The intent of the BIMSampleUS Project is to provide a sample integrated multi-discipline project based on Building Information Modeling (BIM) principles. This project was produced exclusively with the BIM applications provided by Bentley Systems, Inc. and represents only one possible way to organize a project. It is not necessarily an example of best practice in the use of Bentley Systems, Inc. software as these should be determined on a project basis. The material presented does not represent a full set of construction documents.

VICINITY MAP

NO.	REVISION OR ISSUE	DATE
1	ISSUE FOR REVIEW	OCT 2007
2	REVISION OF ISSUE	DATE

DRAWN: _____
 CHECKED: _____
 DESIGNED: _____
 EST. NO.: _____
 PROJ. NO.: _____

PROJECT NAME
 BIM SAMPLE PROJECT

OWNER
 BENTLEY SYSTEMS, INC
 Software for the World's Infrastructure
www.bentley.com/BIM

SHEET TITLE
 FIRST FLOOR PLAN

SHEET
 A-1

Property Publishing



A-1 First Floor.package.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 1 125%

Find

Model Tree

- Stair Rm# 1-110
- Men Rm# 1-111
- Women Rm# 1-112
- Reception Rm# 1-201
- Office Rm# 1-202
- Office Rm# 1-203
- Office Rm# 1-204
- Office Rm# 1-205
- Open Office Rm# 1-206
- Supplies Rm# 1-207**
- Stair Rm# 1-208
- Office Rm# 1-302

<No 3D Model Selected>

Property	Value
Actual Area	74.341667
Building	
Catalog Instance	Storage
Catalog Type	Space
Ceiling Finish	2x4 Acoustic
Ceiling Height	9
Department	
East Base Finish	Rubber
East Wall Finish	Paint-Semi-Gloss
Floor Finish	Carpet
Floor	
Height	
Label 2	
Label	Supplies
North Base Finish	Rubber
North Wall Finish	Paint-Semi-Gloss
Notes	

Analysis

1-201

1-206

258.10 Feet

300.00 Feet

1-107

1-201

Lobby

1-308

734.08 Feet

1000.00 Feet

1-207

Supplies

1-207

74.34 Feet

100.00 Feet

1-208

1-208

161.56 Feet

100.00 Feet

1-308A

863.6 x 558.8 mm

Property Publishing



The screenshot displays the Adobe Reader interface for a PDF document titled "A-1 First Floor.package.pdf". The main content is a floor plan with several rooms and dimensions highlighted in red. The rooms and their dimensions are:

- 1-107: 258.10 Feet
- 1-201: 300.00 Feet
- Lobby (1-308): 734.08 Feet, 1000.00 Feet
- Supplies (1-207): 74.34 Feet, 100.00 Feet
- Stair (1-208): 161.56 Feet, 100.00 Feet
- 1-207: 74.34 Feet, 100.00 Feet
- 1-208: 161.56 Feet, 100.00 Feet
- 1-308A: 161.56 Feet, 100.00 Feet

The Model Tree on the left lists the following items:

- A-1 First Floor.package
 - CurtainWalls
 - Door
 - PlumbingFixtures
 - Space
 - Office Rm# 1-102
 - Office Rm# 1-103
 - Office Rm# 1-104
 - Office Rm# 1-105
 - Conference Rm# 1-106
 - Reception Rm# 1-107
 - Open Office Rm# 1-109

The Properties panel at the bottom left shows a table with columns "Property" and "Value". The status bar at the bottom indicates a resolution of 863.6 x 558.8 mm.



Dynamic Plot Support



Dynamic Plot Support er blevet præsenteret af John Simmons i den forrige præsentation.



Forbedret InterPlot Organizer



Der er kommet nogle ekstra funktioner:

- **Preview, print og plot af PDF filer.**
- **Ekstra print opsætninger.**
- **Word og Excel Providers.**



Easter Eggs



- **MS_LEGACYDRAWORDER**
- **Plotning af 3D Hidden Line views.**
- **Global Lighting Solutions i 3D PDF.**



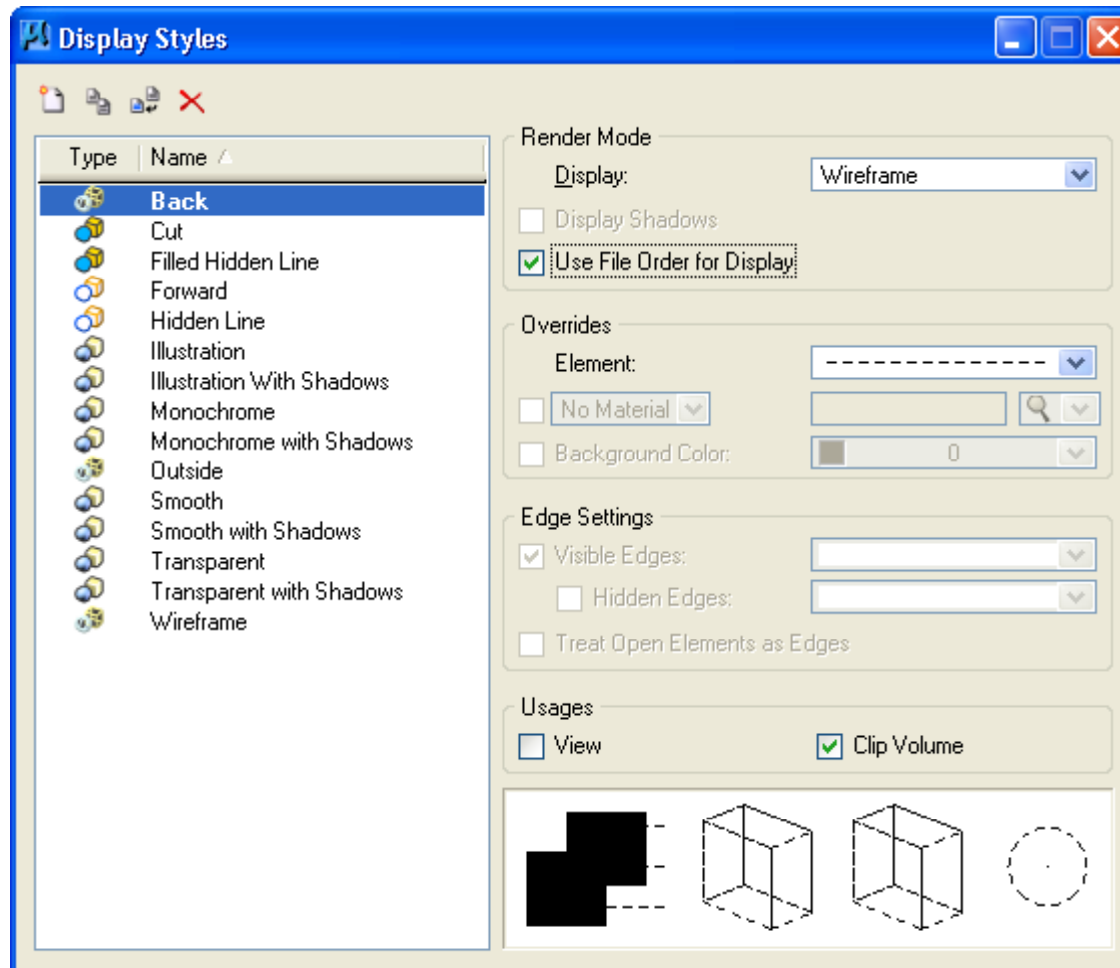
MS_LEGACYDRAWORDER var en MicroStation variabel med følgende betydning:

For 3D wireframe views and when plotting 3D files in a non-rasterized mode, use a draw order based on the element position.

Den er fjernet i MicroStation V8i. Den er gemt væk under Display Styles.

Den skal sættes i seed-filerne.

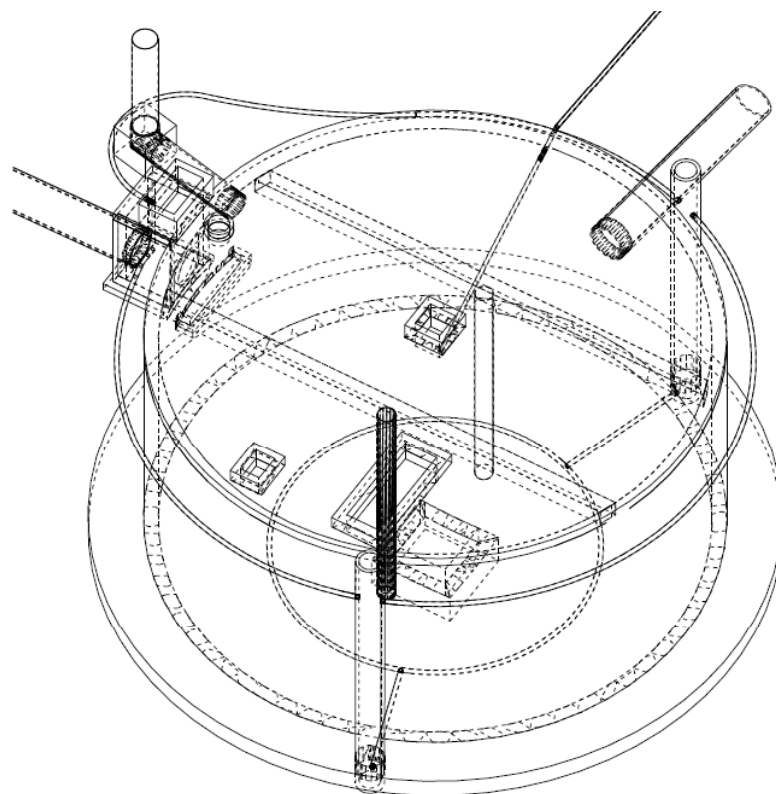
MS_LEGACYDRAWORDER



"Use File Order for Display" erstatter MS_LEGACYDRAWORDER i
MicroStation V8i SELECTseries 1.



Pas på indsatte views hvor Presentation er sat til Hidden Line.



Isometri af bassin
IKKE I MÅL

Et indsat view hvor "Hidden Line Presentation" er forkert.

Plotting of 3D Hidden Line Views



References (6 of 6 unique, 5 displayed)

Tools Settings

Hilite Mode: Boundaries

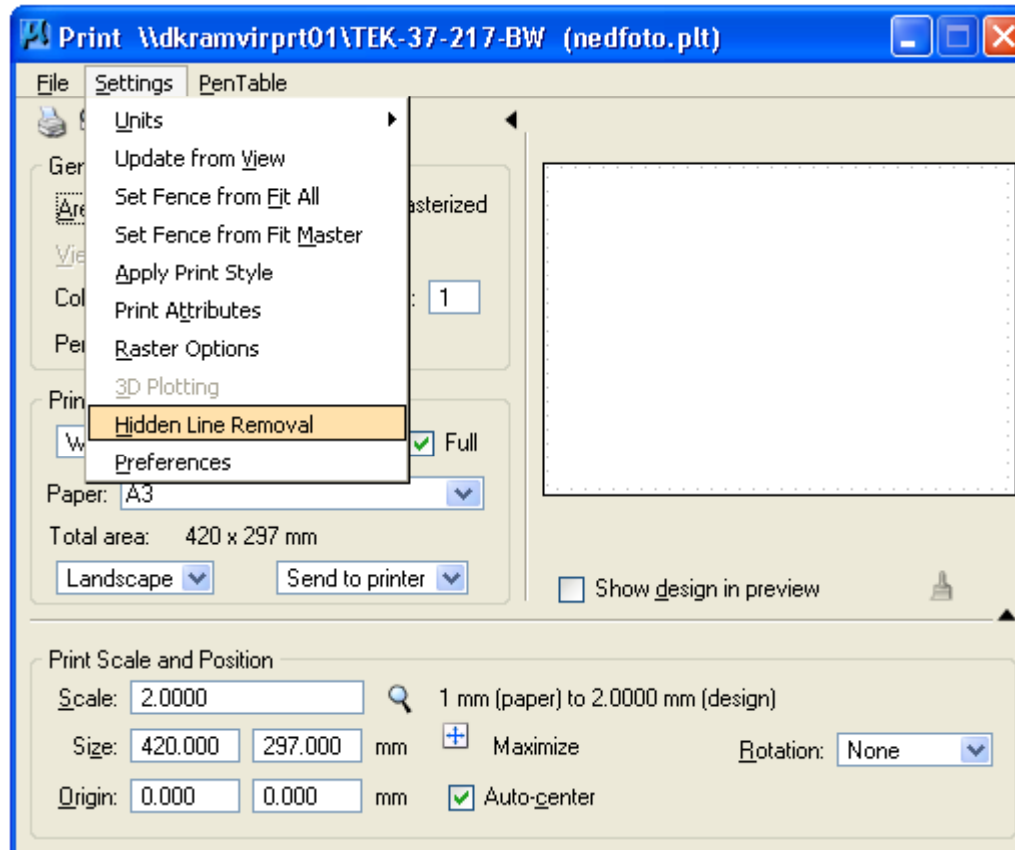
Slot	File Name	Model	Description	Logical	Orientation	Presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	...\nskill_hø...	Default	A1 liggende - standard	Std_594x840_ramme	Std_594x840	Wireframe	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	...\M-TUP-XX...	Default	set mod å	bassin3	bassin3	Hidden Line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	...\M-TUP-XX...	Default	set mod tilløbsbyg...	bassin2	bassin2	Hidden Line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	...\M-TUP-XX...	Default	isometri	iso-bassin	iso-bassin	Hidden Line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	T-H-4002.dgn	lejder	Aligned with Master...		Coincident	Wireframe	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	...\M-TUP-XX...	Default	drænbrønd	drænbrønd-1	drænbrønd	Hidden Lin...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Scale: 1.000000 : 1.000000 Rotation: 0° Offset X: 1916.7785 Y: -1477.1284

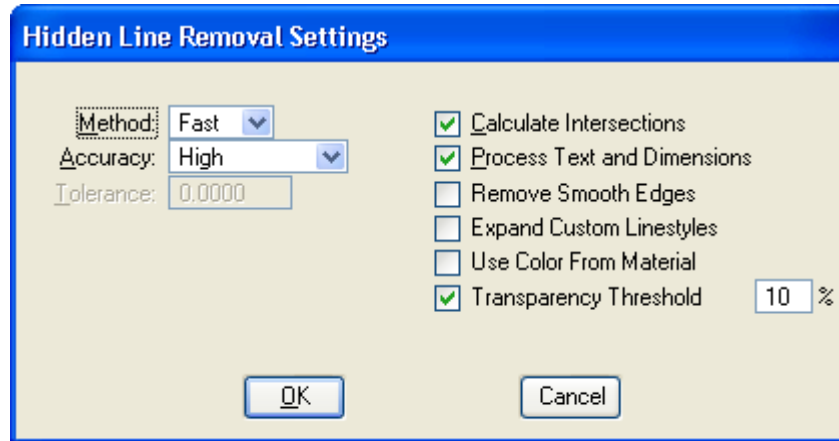
Depth: 1 New Level Display:

Georeferenced:

Plotting of 3D Hidden Line Views

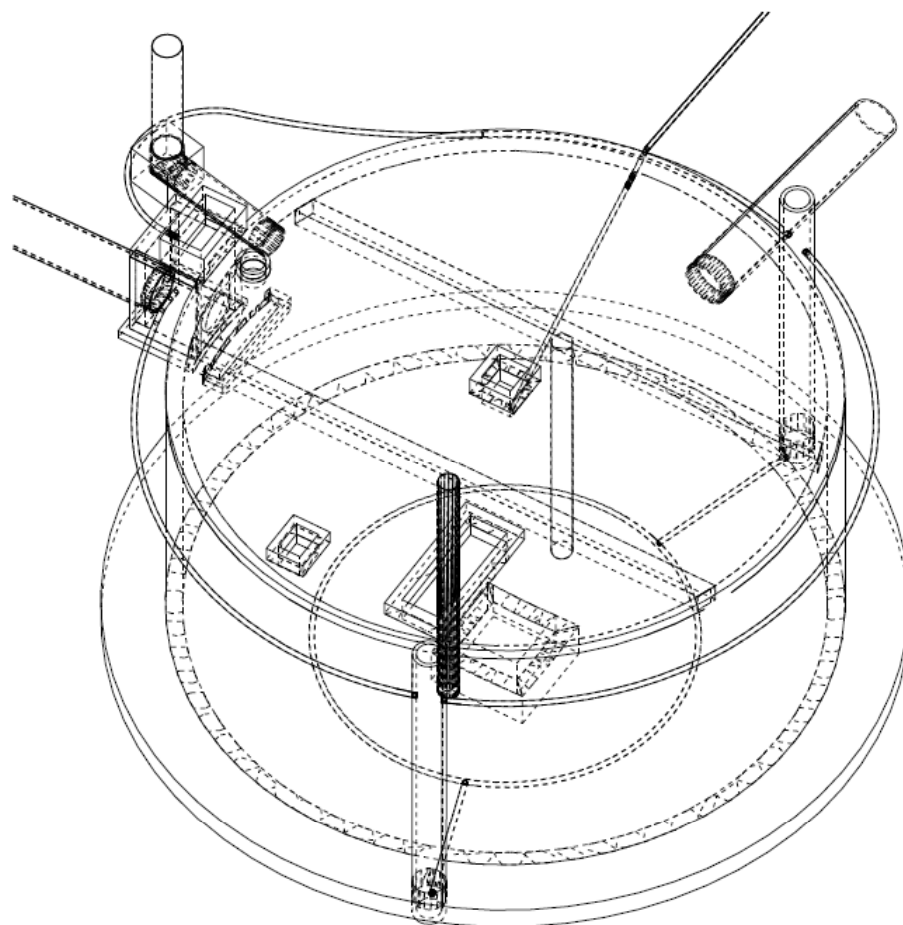


Plotning af 3D Hidden Line Views



Metoden "Fast" var eneste metode i MicroStation V8i.
Den fejlede ofte.

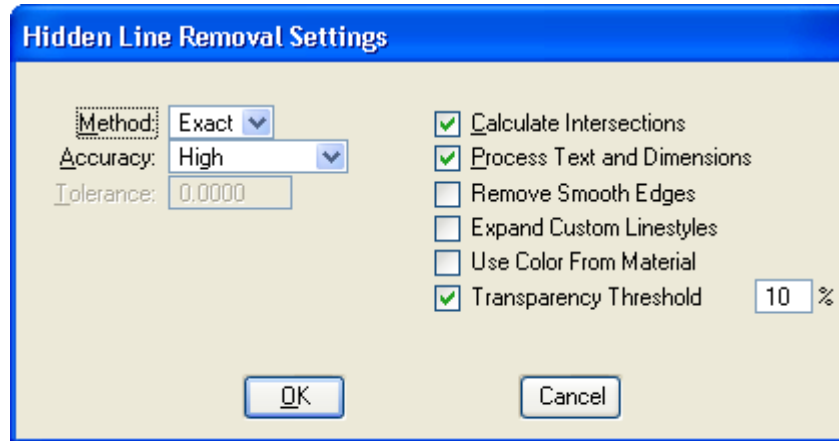
Plotning af 3D Hidden Line Views



Isometri af bassin
IKKE I MÅL

Bemærk snavset ved rørene og hele det tynde rør.

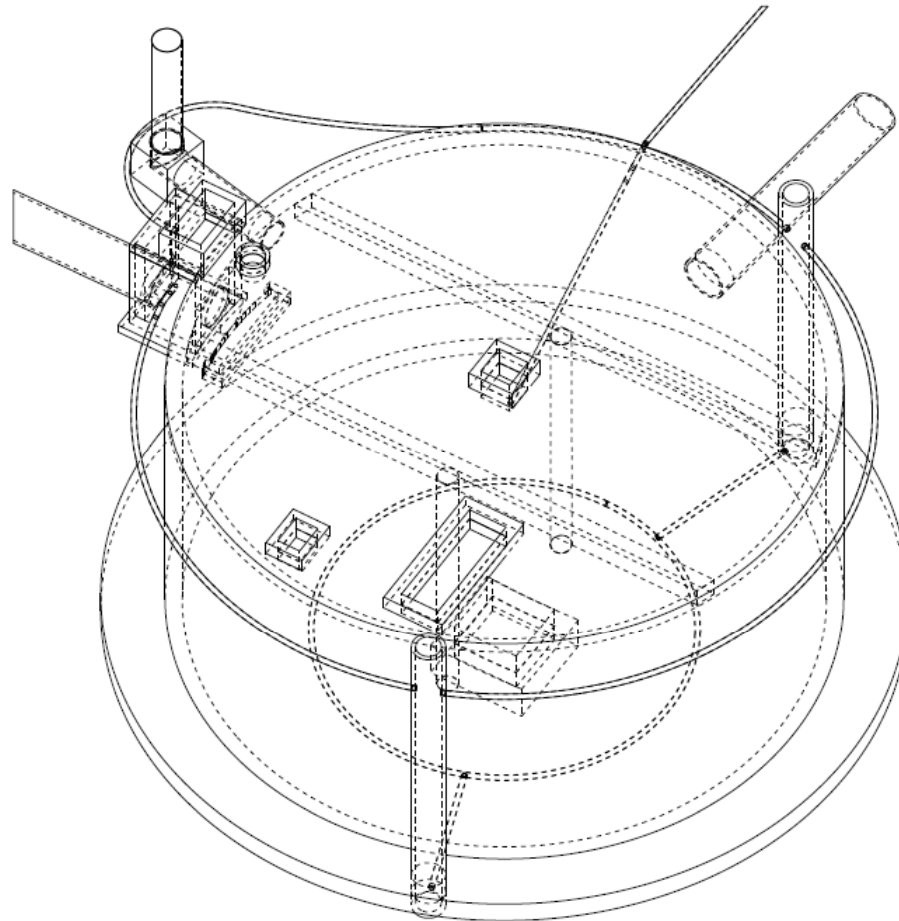
Plotning af 3D Hidden Line Views



Metoden "Exact" er tilføjet i MicroStation V8i SELECTseries 1.

Metoden "Exact" kan sættes med parameteren MS_VISEDGES_PLOT_EXACT_MODE=1

Plotning af 3D Hidden Line Views



Isometri af bassin
IKKE I MÅL

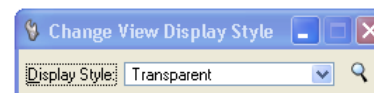
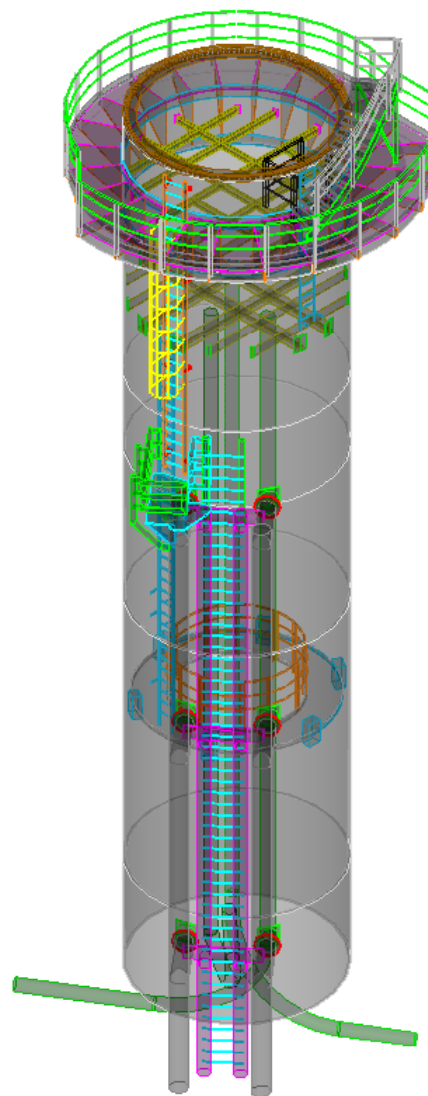
Bemærk, at fjernelsen af skjulte linjer nu er korrekt.



**Global Lighting Solution i 3D PDF blev
introduceret i MicroStation V8i**

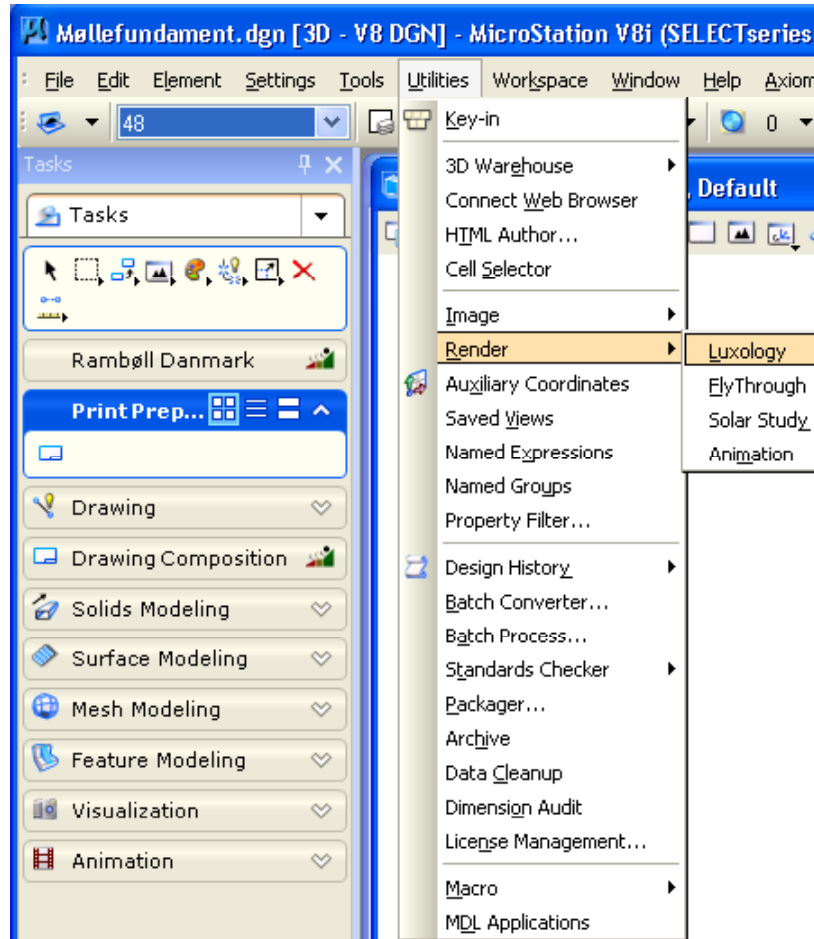
Er skjult i MicroStation V8i SELECTseries 1.

Lad os lede gennem et eksempel.



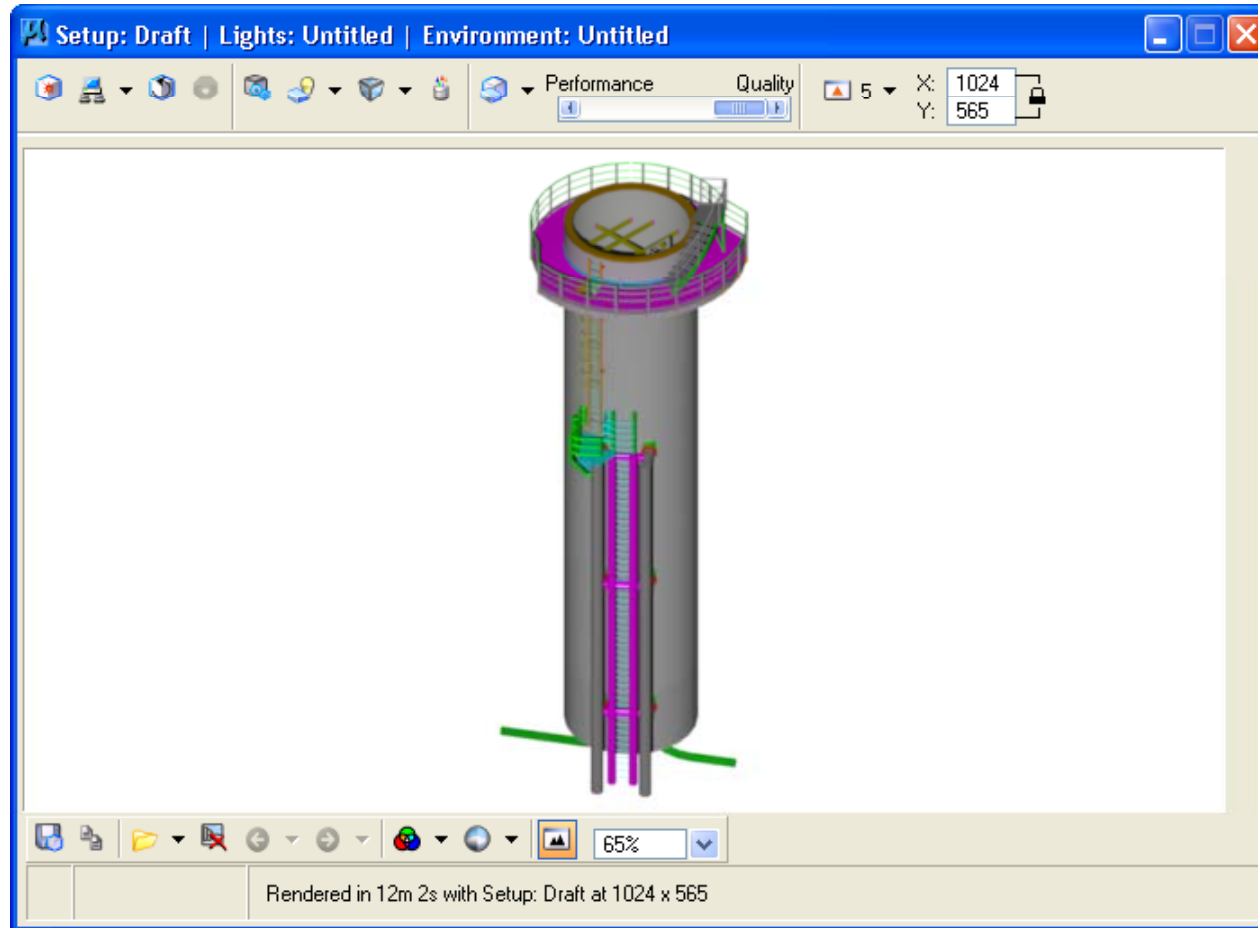
Denne models rendering skal gemmes i en 3D PDF fil.

Global Lighting Solutions i 3D PDF

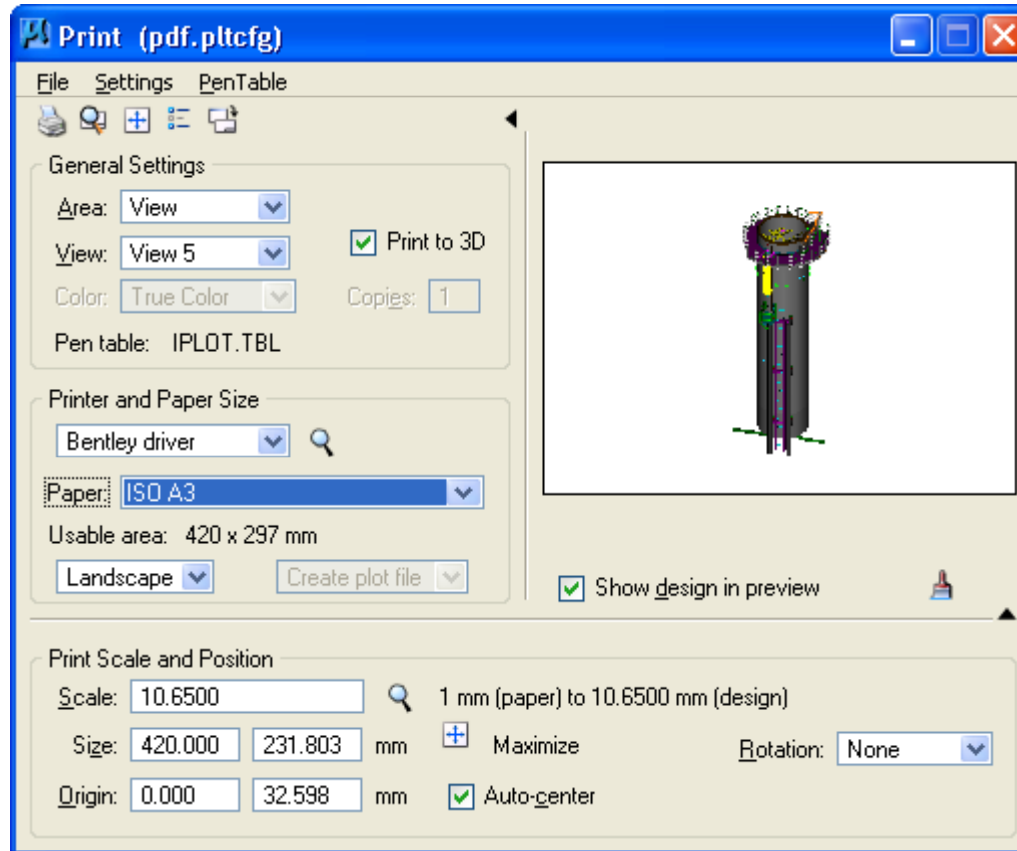


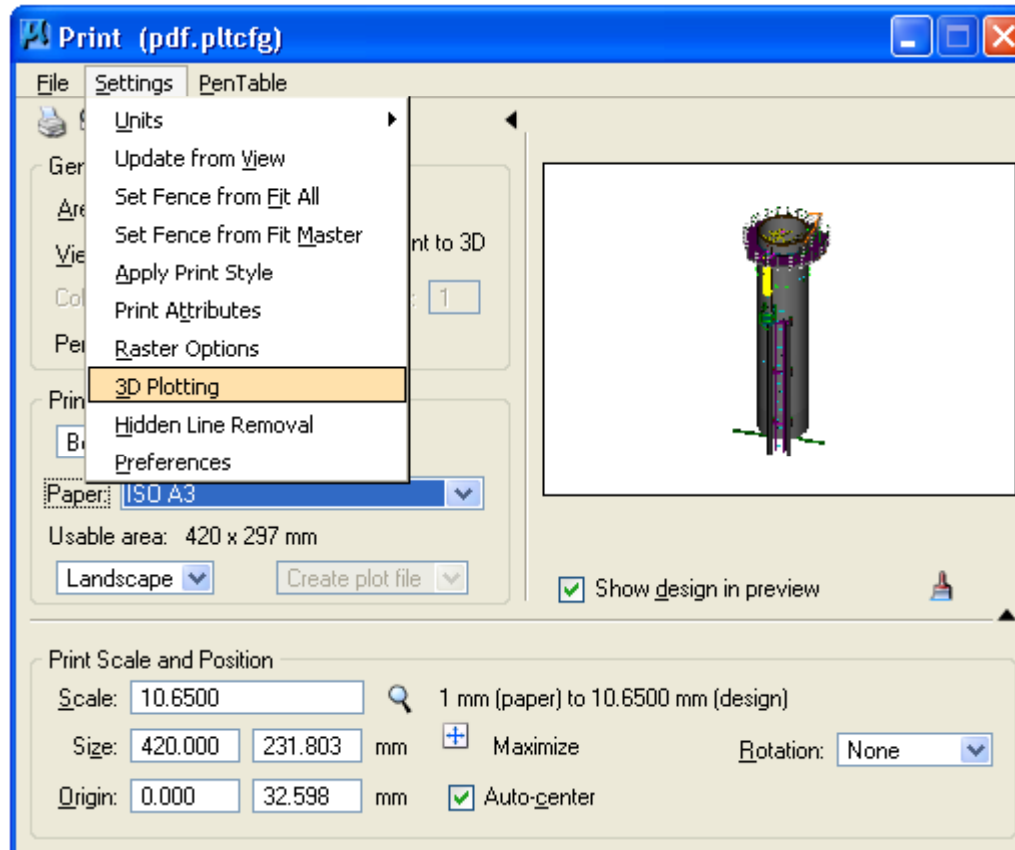
Renderingsmetoden i MicroStation V8i SELECTseries 1 er Luxology.

Global Lighting Solutions i 3D PDF



Global Lighting Solutions i 3D PDF





Global Lighting Solutions i 3D PDF



3D Plotting Options

General

Mesh Resolution: 4000 Coarse Fine

Mesh Tolerance (Meters): 0.00000

Minimum Element Size (Meters): 0.000

Texture Map Size: Small (128x128)

Elevation Drape Size: Medium (1600x1600)

Convert Wireframe Geometry

Convert Annotations

Export JavaScript With U3D

Animation

Convert Animation

Automatically Activate Animation

Continuous Loop

Frames per Second: 10.00000

Global Lighting Solutions

Export Solution

Quality: 0.85 Low High

PDF

Display Mode: Shaded (Solid)

Lighting Mode: From File

Hide 3D Toolbar in PDF

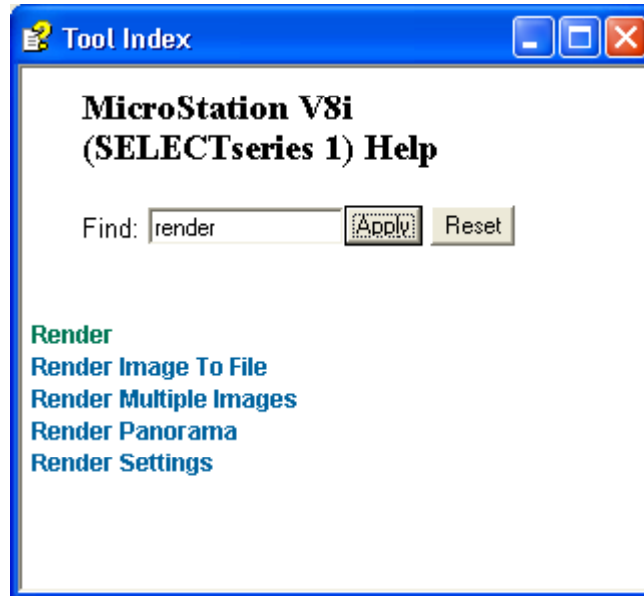
Place Walk on PDF Toolbar

Use Background Color From View Background Color...

JavaScript: pdfu3d_user.js Browse...

OK Cancel

Det er ikke muligt med Luxology at gemme renderingen, da "Global Lighting Solutions" er deaktiveret.



Søgning i HELP henviser til Luxology renderingen.



MicroStation V8i (SELECTseries 1) Help



Hide Back Home Print Options

Contents Index Search Favorites

- What's New?
- Getting Started
- Setting Up Projects
- AccuSnap and AccuDraw
- Creating Drawing Elements
- Working With Existing Elements
- Managing References and Raster Images
- 3D Design and Modeling
- Composing Drawings
- Working With Complete Designs
- Programmed Customizations
- Menus
- Glossary
- Technical Information Resources
- MicroStation V8i (SELECTseries 1) Help Tool Index
- MicroStation V8i (SELECTseries 1) Help Key-in Index

Working With Complete Designs

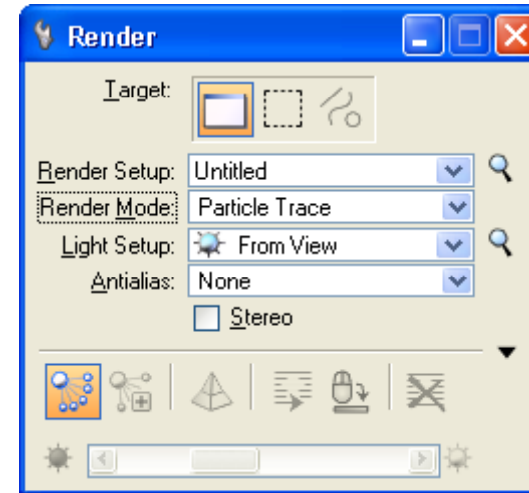
Render

Used to open the **Luxology Render dialog**, which lets you adjust rendering settings and preview the rendering of a view.

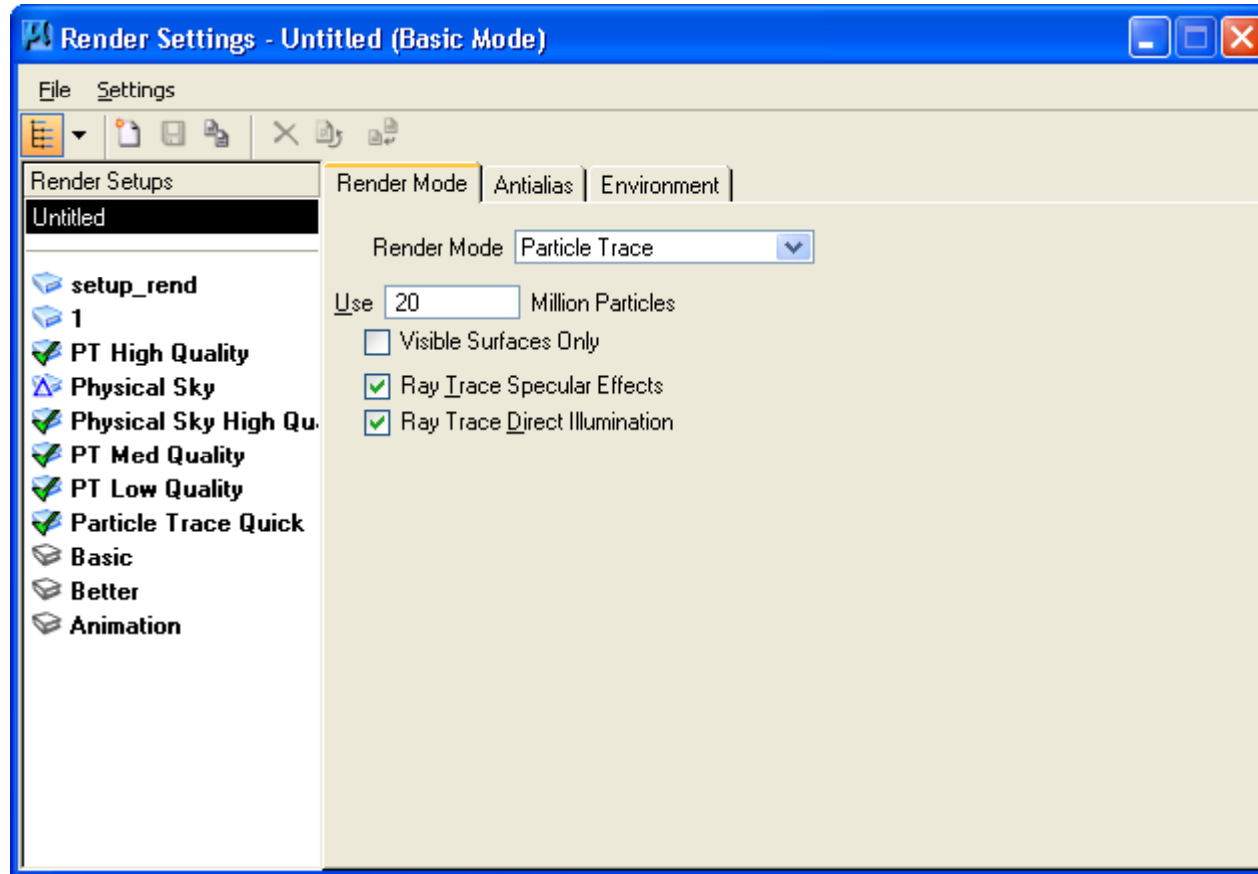
Key-in: DIALOG LUXOLOGY

Global Lighting Solutions i 3D PDF



Indtastning af kommandoen "Render" giver imidlertid adgang til "Particle Trace" renderingen og alle de øvrige "gamle" renderingsmetoder.

Global Lighting Solutions i 3D PDF



Global Lighting Solutions i 3D PDF



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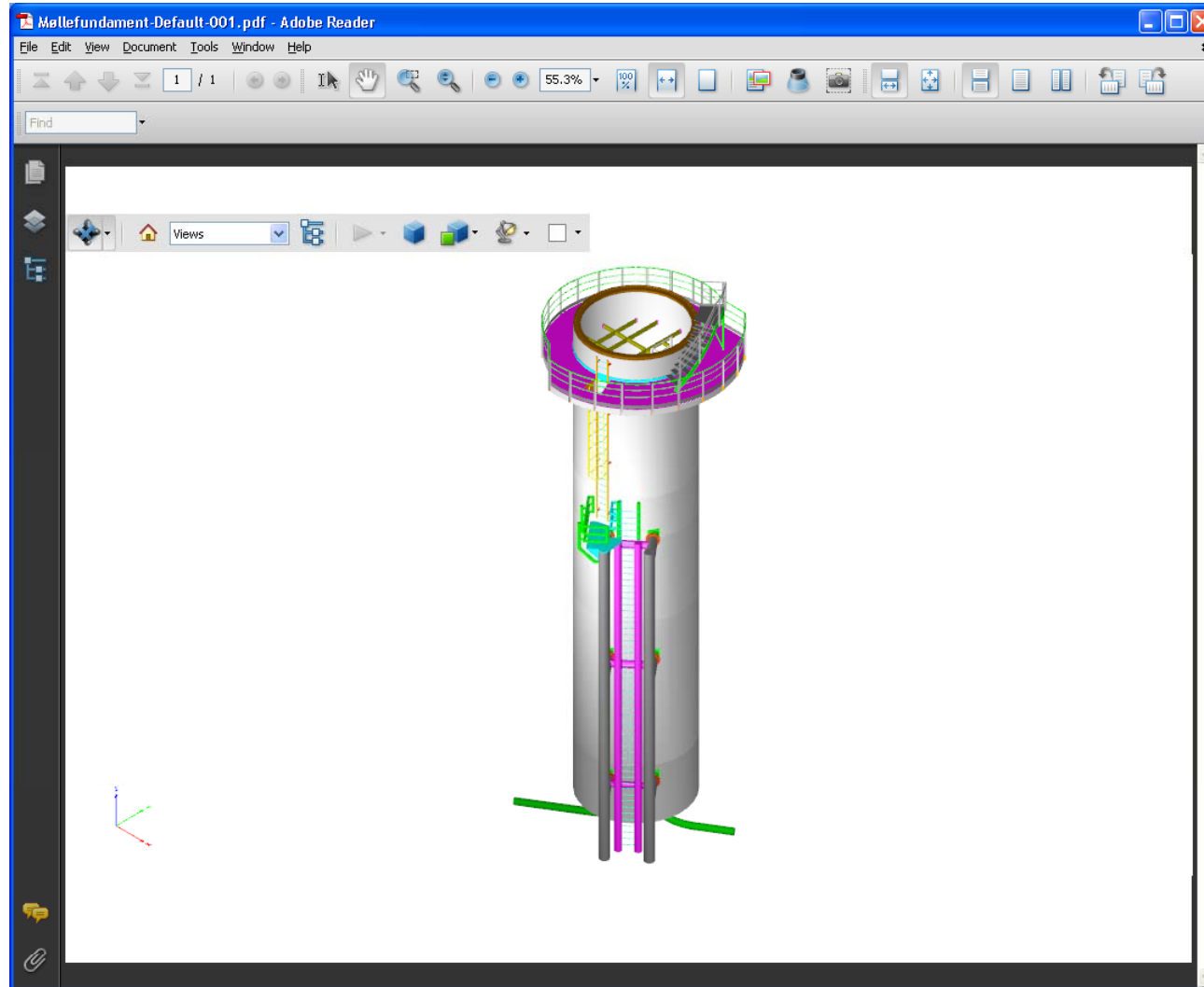
Use Background Color From View Background Color...

JavaScript: pdfu3d_user.js Browse...

OK Cancel

For denne er "Global Lighting Solutions" aktiv.

Global Lighting Solutions i 3D PDF



Particle tracing overført til 3D PDF fil.

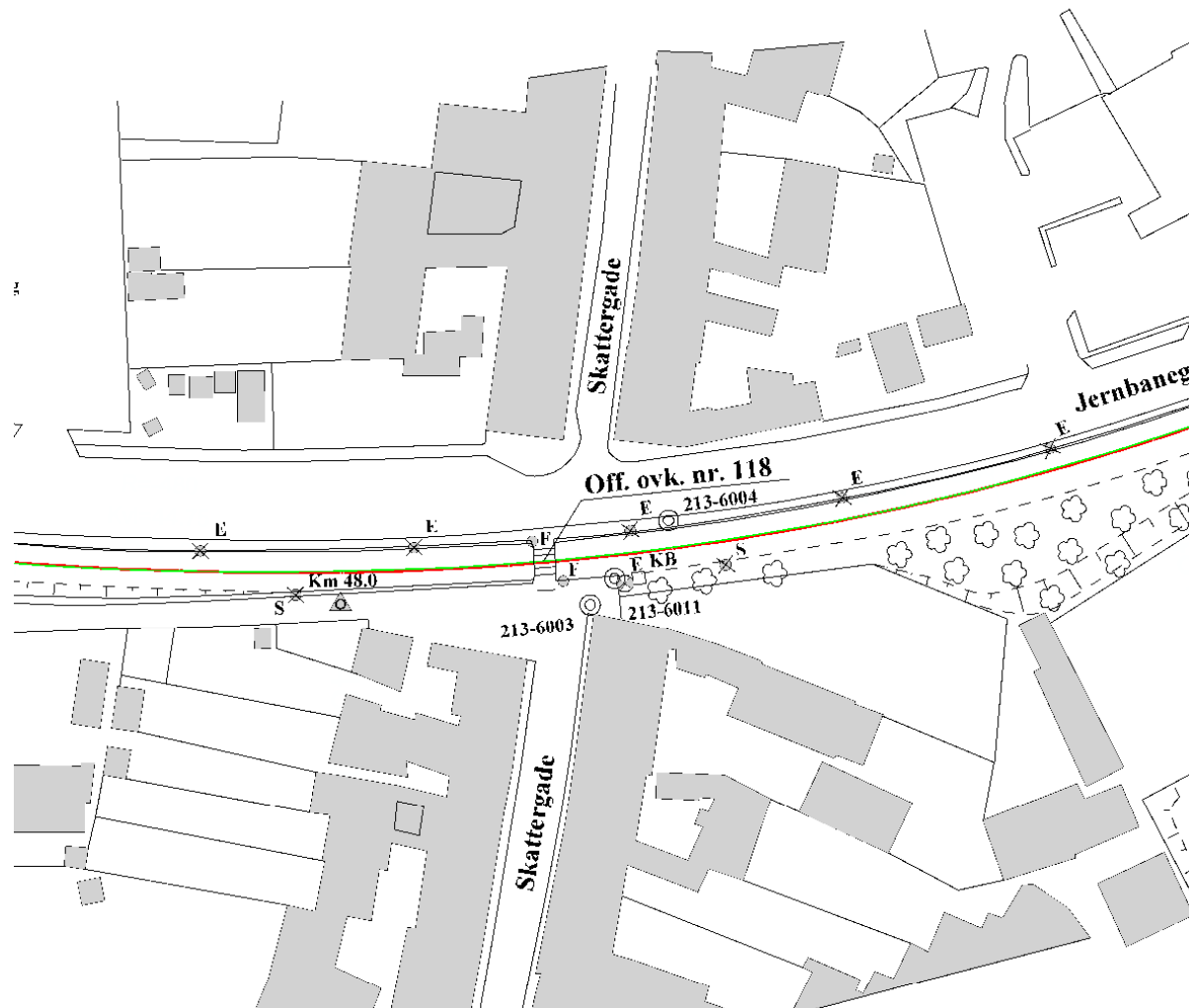


Udestående



- Udfyldte 3D shapes.
- Generering af store PDF filer.
- Andre problemer.

Udfyldte 3D shapes



Plottet med MicroStation V8 som IPLOT engine.

Udfyldte 3D shapes



Plottet med MicroStation V8i som IPlot engine.
Problemet er rettet i MicroStation V8i (08.11.07.177 eller senere).



Version 08.11.07.89 kan bedre generere store PDF filer, men der er stadig nogle problemer.

I kan prøve følgende:

- Brug 3 GB switchen ved opstart af Windows.**
- Brug en lavere resolution under plotningen.**
- Benyt MS_MEMORY_FREELIMIT.**
- Tillad brugeren at låse memory pages.**



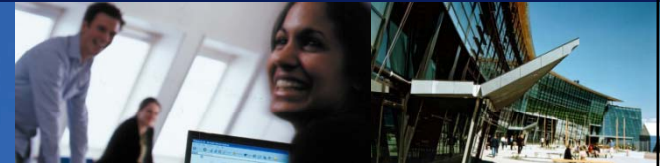
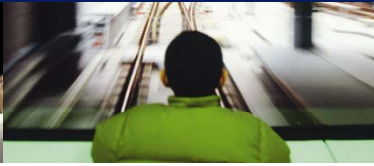
Tirsdag den 10. november kl. 16:30 afholdes der et PLOT SIG møde med repræsentanter fra Bentleys udviklingsgruppe for plotteprodukterne.

Der er udarbejdet en agenda, som mødet er skruet sammen over. På mødet vil I kunne få mere information.

John Simmons deltager i mødet og repræsentanter fra udviklingsgruppen i Huntsville er koblet på gennem en videoforbindelse.



MicroStation 8.5 as IPLOT Engine on Windows 7.
Error messages.
Knowledge Base.
PDF files.
Plotting 3D files.
Patterns.
InterPlot Organizer.
Plot drivers.
The Digital Print Room.
ProjectWise Dynamic Plot.
Other minor problems and proposals.
New product releases.
Product Roadmaps and Priorities by John Simmons.



Plotning og MicroStation V8i

Spørgsmål.