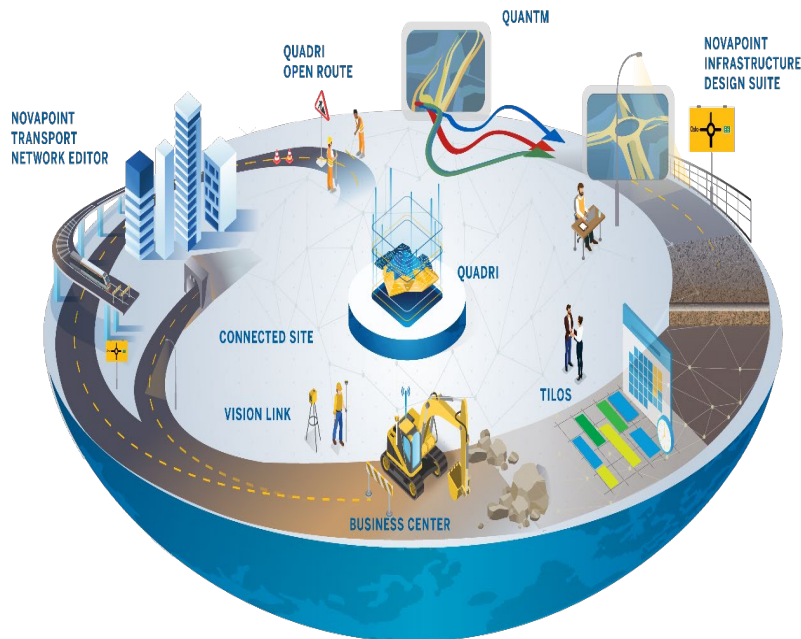




NETTWERK

C3D Connector - Utveksle data mellom C3D og NP Quadri

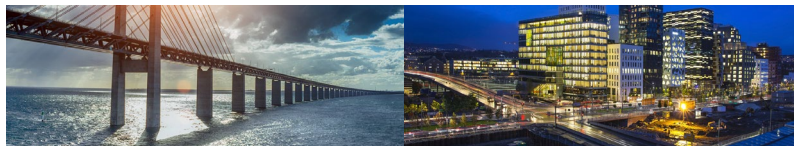
Tesfaye Kebede (Siv.Ing. MS.c/Byggeteknikk)



Velkommen

Trimble Brukermøte 2019

Tesfaye Kebede (Siv.Ing. MS.c/Byggeteknikk)
Senior Technical Sales Engineer
tesfaye_kebede@trimble.com

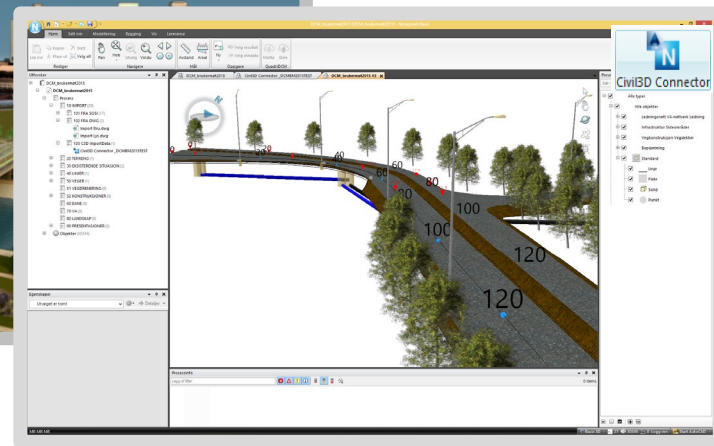
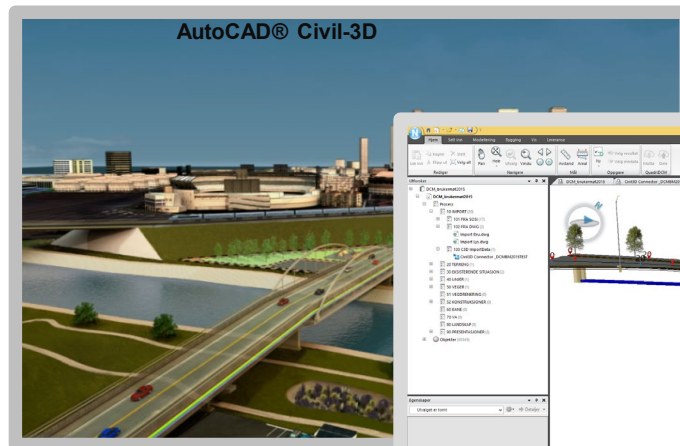




C3D CONNECTOR

Civil 3D Connector er en utvidelse i Novapoint Basis som vi bruker til å importere NATIVE Civil 3D-objekter i Quadri.

Civil 3D AEC objekter / data kan bli importert dynamisk og kan brukes videre til beregningsgrunnlag





C3D CONNECTOR

Hva er nytt?

- Corridor Solid Import
- Alignment Task
- Property data Import
- Input file Path and name
- COGO point Import
- Tin Volume Surface

TIN Volume Import

Alignment Task

Corridor Solid Import

COGO Point Import

Property Data

Egenskaper	
Kum	
metadata	
gyltighetsperiode	
generiskEgenskap	
Civi3DObjectType	Structure
Civi3DObjectName	Ov_kum_1
Layer	VA-KUM-ALLE
Beskrivelse	Nedstigningskum
DWGNAME	DCM_C3D-Connector_All_RailWay...
DWGFULLNAME	C:\Users\lter\AppData\Local\Temp\...
FeatureName	ENKUM119114
InstallertR	1996
Materialtype	Concrete_cast
ProducedBy	Norge KUM

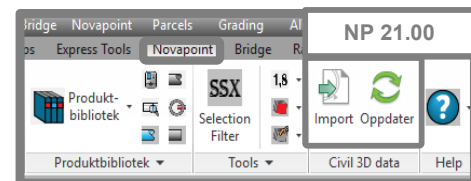
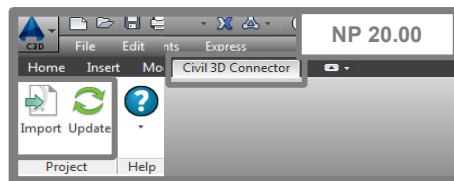
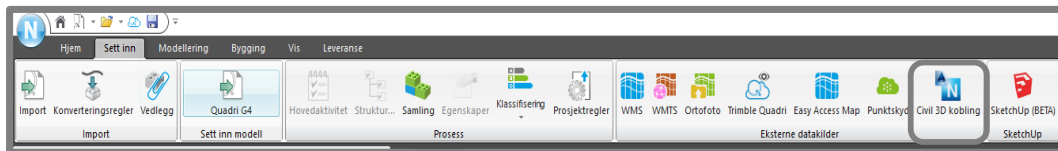
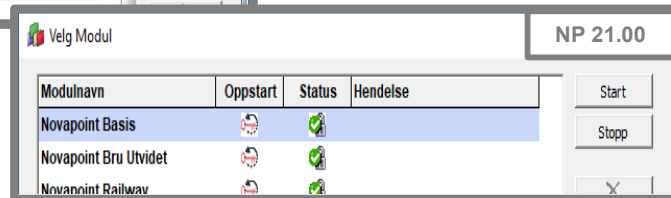
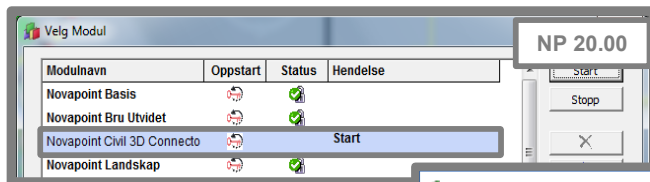
File Path and DWG name

Egenskaper	
Civi 3D	
Opprettet dato	
Spesifik	
Input file path	C:\Users\lter\AppData\Local\Temp\DCM_C3D-Con...
Input File name	DCM_C3D-Connector_All_RailWay_Solid_1_32749...
Konverteringsregler	Civi3D.DCM.Convert.Civi3D to DCM.crx.xml
Konverteringsregler som blir in...	Civi3D.DCM.Convert.Civi3D to DCM.crx.xml
Beregningsgrunnlag	0 objekter
Illustrasjonsobjekter	0 objekter
Hovedfiltype	<Finnes ikke>

Hva trenger vi?

- Vi trenger Civil-3D Platform med Novapoint C3D connector lisens (For NP 21,00 inkludert i NP Basis).
- Forbindelsen mellom Civil 3D og Quadri forgår i tre trinn.
 - Civil-Connector** - Oppgave/task (Novapoint Base).
 - VNNP_ImportC3D_to_DCM** - Kommando i Civil 3D for å velge oppgaven/Task.
 - VNNP_UpdateC3D_to_DCM** - Kommando i Civil 3D til å oppdatere.

NB:- Data Shortcuts støttes også (Data imported fra shortcuts)



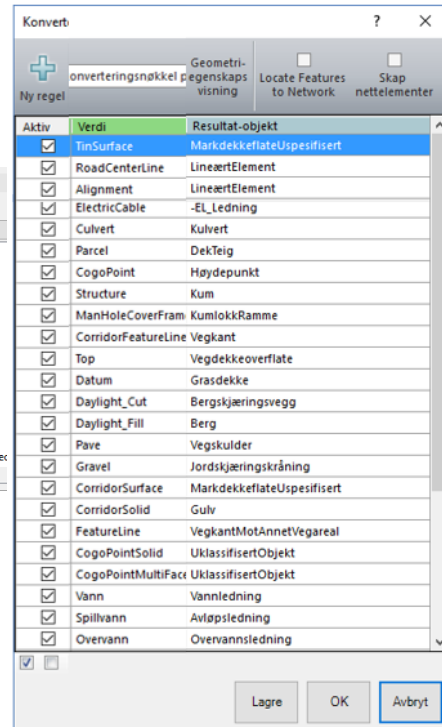
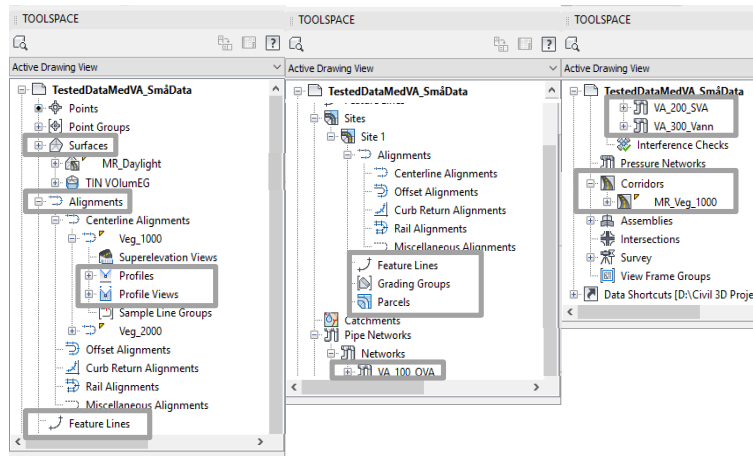


Exported Feature

Civil3D Features/objekter eksportert til Quadri

Verktøyet tillater å sende eller oppdatere følgende Civil-3D Native AEC Objekter til Quadri.

- Alignments / Profiles
- Surfaces
- Corridor information (Feature Lines / Surfaces)
- Gradings (Features Lines used and Detached Surfaces)
- Featurelines
- Pipe Networks (both pipes and structures)
- Property dataset (NP 21.00)
- 3D Parcels (NP 21.00)
- Cogo Points (NP 21.00)
- Corridor Solid (NP 21.00)
- TIN Volume Surface (NP 21.00)

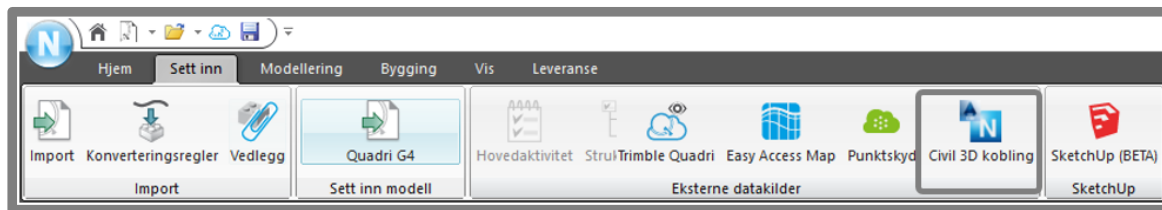




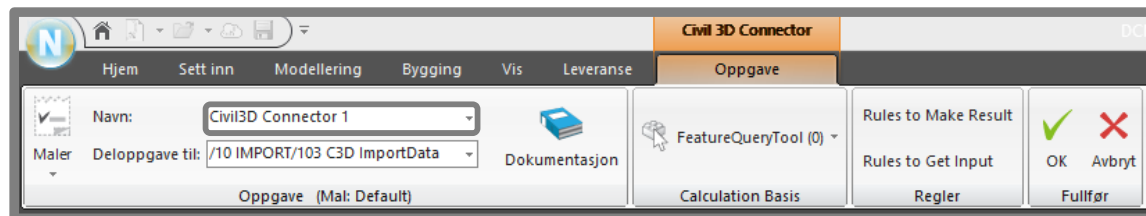
Oppgave / Task

Lag en oppgave i Quadri for Civil-3D-objekters

Sett Inn -> Civil 3D Connector.



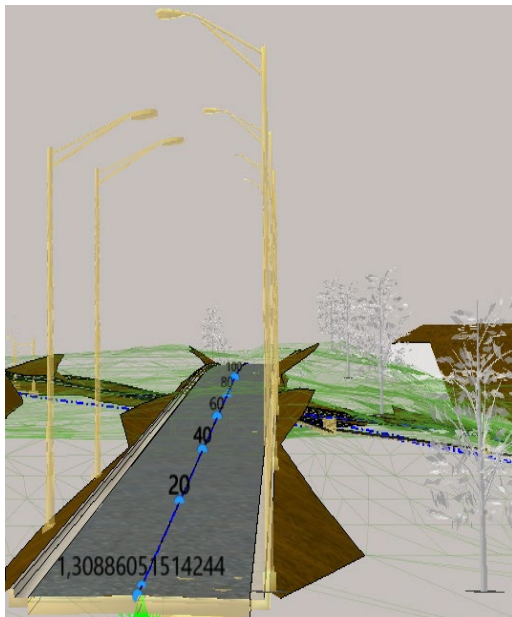
Civil 3D Connector -> Task name -> Display Civil 3D environment





Standard Konvertering Regel

Generer regler fra Forhåndsvist modell.



- C3D Objekt Navn
- C3D Objekt type
- C3D ObjektStyle Navn
- Resultat Objekt

Konverteringsregler | Adm av regisset | Civil3D To DCM

Ny regel Slett regel Slett alle reglene Generer regler fra forhåndsvist modell Generer regler fra .tbl.fil Match egenkaper Kildens Resultat objekt Vis En konverteringsnøkkel pr regel Attributt visning Geometri-egenkaps visning Skap nettlestener

Aktiv	Kildens objekt	Objektets egenskap	Egenskaps sub-egenskap	Verdi	Resultat-objekt
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectType	MultiSurface	KlassifisertUspesifisert
<input checked="" type="checkbox"/>	LegacyCurve	leago/tagged/valuelist	Civil3DObjectType	RoadCenterLine	LineElement
<input checked="" type="checkbox"/>	LegacyCurve	leago/tagged/valuelist	Civil3DObjectType	Alignment	LineElement
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectName	ElectricCable	EL_Ledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectName	Culvert	Kulvert
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectType	Parcel	DekTeig
<input checked="" type="checkbox"/>	LegacyPoint	leago/tagged/valuelist	Civil3DObjectType	CogoPoint	Haydepunkt
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectType	Structure	Kum
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectType	ManHoleCoverFrame	KumlokkRamme
<input checked="" type="checkbox"/>	LegacyCurve	leago/tagged/valuelist	Civil3DObjectType	CorridorFeatureLine	Vegkant
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Top	Vegdekkoverflate
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Datum	Grasdekke
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Daylight_Cut	Berøpingsvegg
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Daylight_Fill	Berg
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Pave	Vegtsulder
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectName	Gravel	Jordskjeringstulling
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectType	CorridorSolid	Gulv
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/valuelist	Civil3DObjectType	FeatureLine	VegkantMotAnnetVegareal
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectType	CogoPointSolid	UklassifisertObjekt
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectType	CogoPointMultiFace	UklassifisertObjekt
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Vann	Vannledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Spillvann	Avløpsledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Overvann	Overvannsledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Vand	Vannledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Spilldevand	Avløpsledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Regmand	Overvannsledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Vesi	Vannledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	JØtevesi	Avløpsledning
<input checked="" type="checkbox"/>	LegacySolid	leago/tagged/valuelist	Civil3DObjectStyleName	Hulevesi	Overvannsledning

36 regler

OK Avbryt

Konvertering Regel fra modell

Generer regler fra forhåndsvist modell (Civil 3D geometry -> Quadri Feature types)

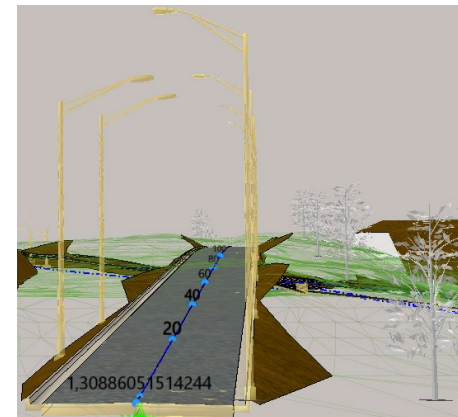
Konverteringsregler | Adm av regelsett | Civil3D To DCM

Ny regel Slett regel Omorganisering Slett alle reglene Flytt opp Flytt ned Kontrollér for duplikater Generer regler fra forhåndsvist modell Generer regler fra .txt-fil Match egenskaper Kildens objekt Resultat objekt Vis

Aktiv	Kildens objekt	Objektets egenskap	Egenskaps sub-egenskap	Verdi	Resultat-objekt
<input checked="" type="checkbox"/>	LegacySurface	leagyTaggedValueList	Civil3DObjectType	TinSurface	MarkdekkeflateUspe...
<input checked="" type="checkbox"/>	LegacyCurve	leagyTaggedValueList	Civil3DObjectType	RoadCenterLine	LineærtElement
<input checked="" type="checkbox"/>	LegacyCurve	leagyTaggedValueList	Civil3DObjectType	Alignment	LineærtElement
<input type="checkbox"/>	LegacySolid	leagyTaggedValueList	Civil3DObjectName	Vatten	Vannledning

Conversion rule editor

konvertere civil-3D geometri til quadri dynamisk resultat objekter.



Opprett regler fra forhåndsvist modell

Kildens objekter

Definer konverteringsnøkler

Resultatets objekter

Kildens objekter

Velg kildens objekter

Velg	Kildens objekt
<input checked="" type="checkbox"/>	LegacyCurve
<input checked="" type="checkbox"/>	LegacyMultiSurface
<input checked="" type="checkbox"/>	LegacyPoint
<input checked="" type="checkbox"/>	LegacySolid
<input checked="" type="checkbox"/>	LegacySurface

Avbryt

Opprett regler fra forhåndsvist modell

Kildens objekter

Definer konverteringsnøkler

Resultatets objekter

Definer kolonnen som kan brukes som konverteringsnøkkel for objektene

For å oppnå en vellykket import som skaper ønskede objekter, trengs et konverteringsregelsett som tilordner objektene i kilden til objekter i Quadri. Hver konverteringsregel i regelsettet er vanligvis gitt av en konverteringsnøkkelens navn og -verdi.

Konverteringsnøkkelens navn kan f.eks. være "Layername", med korresponderende verdi "K--DI--02100".

Velg	Egenskapstype	Navn Tekst Kolonne
<input type="checkbox"/>	leagyTaggedValueList	Civil3DObjectName
<input type="checkbox"/>	leagyTaggedValueList	Civil3DObjectTypeName
<input type="checkbox"/>	leagyTaggedValueList	Civil3DObjectType
<input type="checkbox"/>	leagyTaggedValueList	Civil3DObjectTypeNameAndStyleName
<input type="checkbox"/>	leagyTaggedValueList	Layer

Avbryt Tilbake Neste Fullfør

Opprett regler fra forhåndsvist modell

Kildens objekter

Definer konverteringsnøkler

Resultatets objekter

Definer kolonnen som kan brukes som konverteringsnøkkel for objektene

"Resultatets objekttyper" er de objektene du vil få i modellen. Her kan du definere hvilke kolonne fra din modell som korresponderer med objekttypen i Quadri-modellen.

La resultatets objekttype stå tom. Sett resultatets objekttype senere.

Jeg ønsker å koble alle definisjonene til en og samme objekttype

Velg resultatets objekttype

Jeg har en kolonne med Quadri objekttyper som definerer hva mine objekter, objektkoder eller

Velg kolonnen som representerer resultatets objekttype

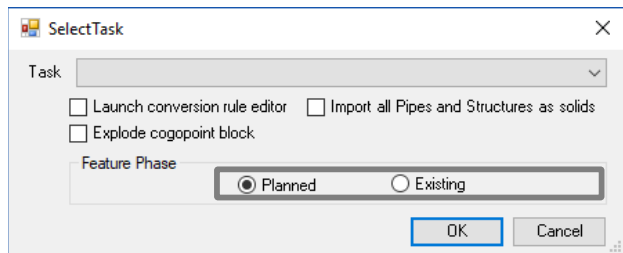
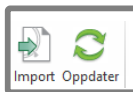
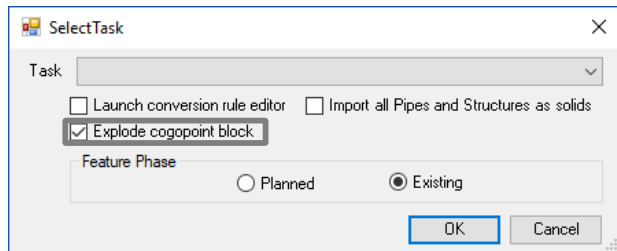
Koble kolonnen med resultatets objekttype-definisjon

Avbryt Tilbake Neste Fullfør

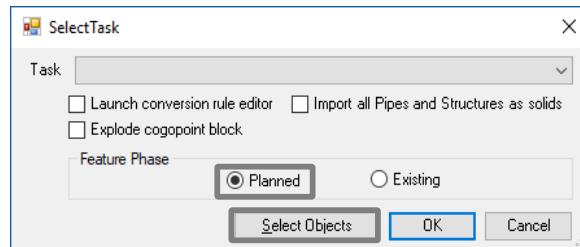
Import / Eksport dialogboks (filsti / filnavn)

OPPDATER kommandoen oppdaterer C3D connector oppgaven og forbedrer delingen av C3D connector oppgaven i Quadri (serverprosjekt).

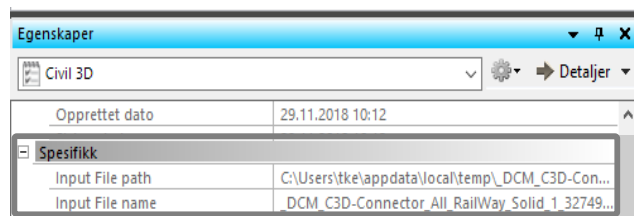
Inkluderer innstillingsdialog for (Design eller eksisterende)

A screenshot of the 'SelectTask' dialog box. The 'Task' dropdown is empty. There are three checkboxes: 'Launch conversion rule editor' (unchecked), 'Import all Pipes and Structures as solids' (unchecked), and 'Explode cogpoint block' (unchecked). The 'Feature Phase' section has two radio buttons: 'Planned' (selected) and 'Existing' (unselected). 'OK' and 'Cancel' buttons are at the bottom.A screenshot of the 'SelectTask' dialog box. The 'Task' dropdown is empty. There are three checkboxes: 'Launch conversion rule editor' (unchecked), 'Import all Pipes and Structures as solids' (unchecked), and 'Explode cogpoint block' (checked). The 'Feature Phase' section has two radio buttons: 'Planned' (unselected) and 'Existing' (selected). 'OK' and 'Cancel' buttons are at the bottom.

Oppdatering tillater å legge til nye oppdaterte objekter.

A screenshot of the 'SelectTask' dialog box. The 'Task' dropdown is empty. There are three checkboxes: 'Launch conversion rule editor' (unchecked), 'Import all Pipes and Structures as solids' (unchecked), and 'Explode cogpoint block' (unchecked). The 'Feature Phase' section has two radio buttons: 'Planned' (selected) and 'Existing' (unselected). There is a 'Select Objects' button to the left of the 'OK' button. 'OK' and 'Cancel' buttons are at the bottom.

Input File Path og filnavn (informasjonen)

A screenshot of the 'Egenskaper' (Properties) dialog box for a 'Civil 3D' object. It shows a table with properties for the object.

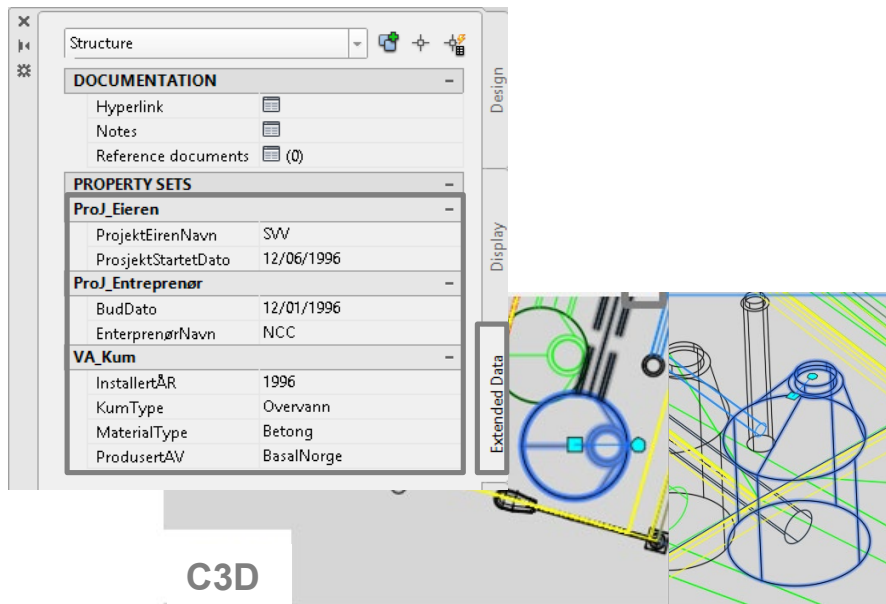
Egenskaper	
Opprettet dato	29.11.2018 10:12
Spesifikk	
Input File path	C:\Users\tke\AppData\Local\temp_DCM_C3D-Con...
Input File name	DCM_C3D-Connector All RailWay Solid 1.32749...



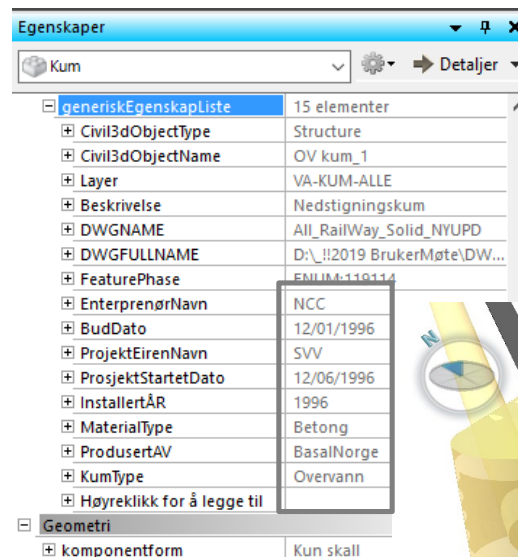
Property dataset

Egendefinerte data/attribute

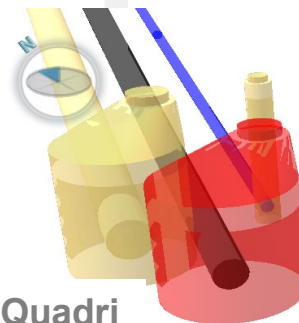
C3D connector import Property dataset (egendefinerte data) av Civil-3D AEC objektere til Quadri.



C3D

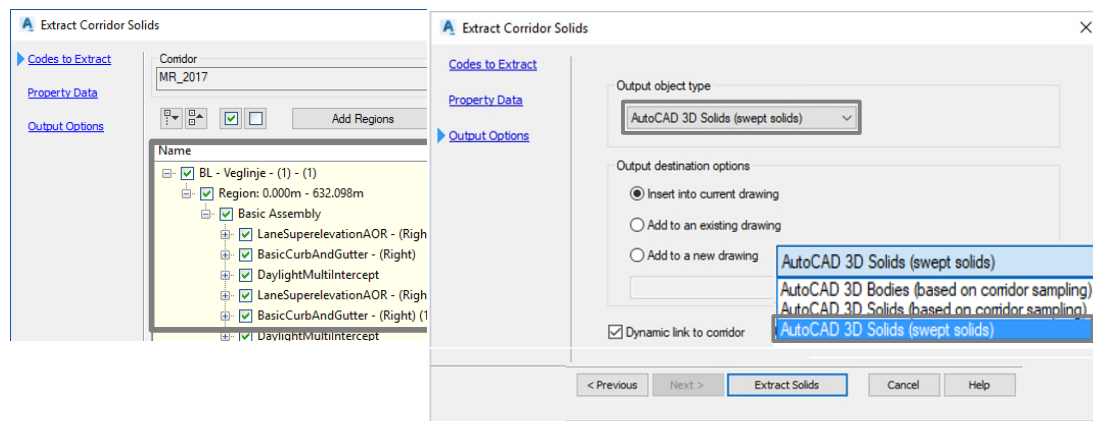
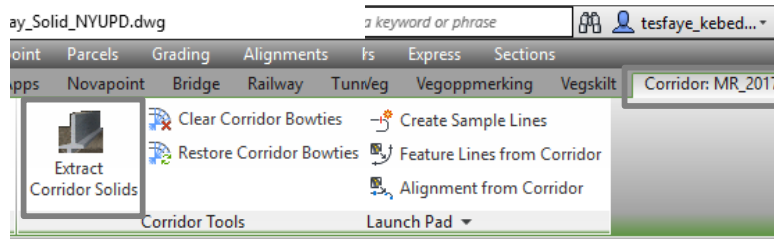
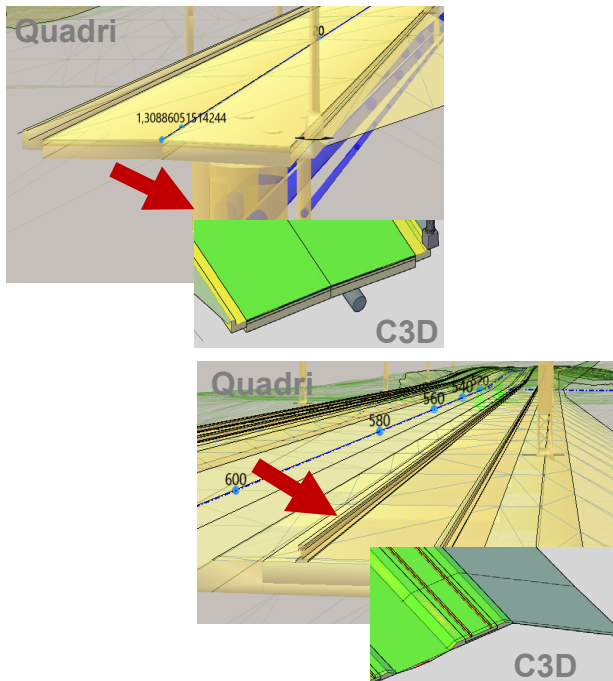


Quadri



Korridor Solid

C3D connector importere Korridor Solid fra Civil-3D-korridor (støtte kun Sweep metoden).





C3D Extract korridor solid

Alle corridor property set definition er importer i Quadri

Extract Corridor Solids

Codes to Extract: MFR_2017

Property Data

Output Options

Name	Code Type	Side	Start Station	End Station	Color
BL - Veglinje - (1) - (1)					ByLayer
Region: 0.000m - 632.096m			0.000m	632.096m	ByLayer
Basic Assembly			0.000m	632.096m	ByLayer
LaneSuperelevationAOR - (Right)		Right			ByLayer
Shape - 0Base	Shape				yellow
Shape - 1Pave1	Shape				yellow
Shape - 2Pave2	Shape				yellow
Shape - 3SubBase	Shape				ByLayer
BasicCurbAndGutter - (Right)		Right			yellow
Shape - 0Curb	Shape				yellow
DaylightMultiIntercept		Right			153
Link - 0Top_Daylight_Daylight_Cut_Datum	Link				153
Link - 1Top_Daylight_Daylight_Fill_Datum	Link				153
LaneSuperelevationAOR - (Right) (1)		Left			yellow
Shape - 0Base	Shape				yellow
Shape - 1Pave1	Shape				yellow
Shape - 2Pave2	Shape				yellow
Shape - 3SubBase	Shape				ByLayer
BasicCurbAndGutter - (Right) (1)		Left			yellow
Shape - 0Curb	Shape				yellow
DaylightMultiIntercept		Left			153
Link - 0Top_Daylight_Daylight_Cut_Datum	Link				153
Link - 1Top_Daylight_Daylight_Fill_Datum	Link				153

< Previous Next > Extract Solids

Extract Corridor Solids

Codes to Extract

Property Data

Output Options

Corridor property set definitions

Property Set Definitions

Name	Visible
CorridorName	<input checked="" type="checkbox"/>
CorridorDesc	<input checked="" type="checkbox"/>
BaselineName	<input checked="" type="checkbox"/>
HorizontalBaseline	<input checked="" type="checkbox"/>
VerticalBaseline	<input checked="" type="checkbox"/>
RegionName	<input checked="" type="checkbox"/>

3D Solid

General

Color: ByLayer

Layer: LaneSuperelevationAOR

Linetype: ByLayer

Linetype scale: 1

Plot style: ByColor

Lineweight: ByLayer

Transparency: ByLayer

Hyperlink

< Previous Next > Extract Solids Cancel

Extract Corridor Solids

Codes to Extract

Property Data

Output Options

Corridor property set definitions

Property Set Definitions

Name	Description	Default	Visible
CodeName			<input checked="" type="checkbox"/>
Side			<input checked="" type="checkbox"/>
Payitem			<input checked="" type="checkbox"/>
ClassificationCode			<input checked="" type="checkbox"/>
AssemblyName			<input checked="" type="checkbox"/>
AssemblyStartStation			<input checked="" type="checkbox"/>
AssemblyEndStation			<input checked="" type="checkbox"/>
Volume	Volume		<input checked="" type="checkbox"/>

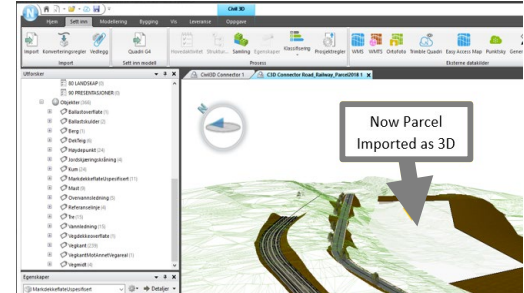
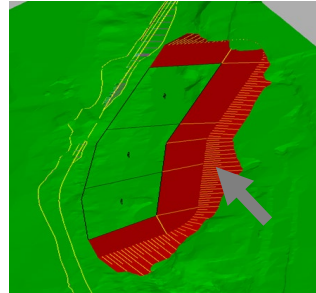
Corridor Shape Information

< Previous Next > Extract Solids Cancel Help

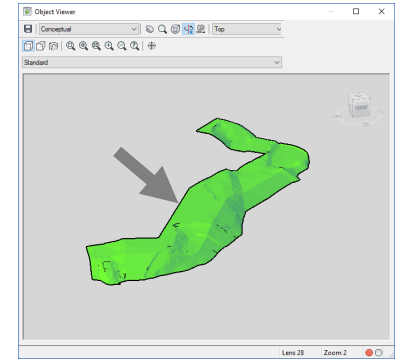
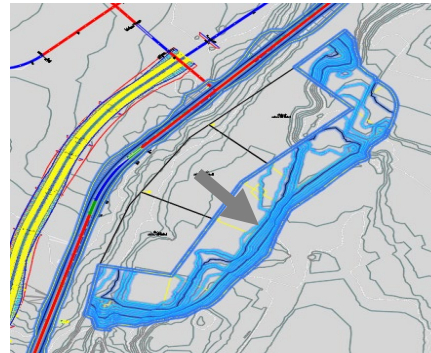
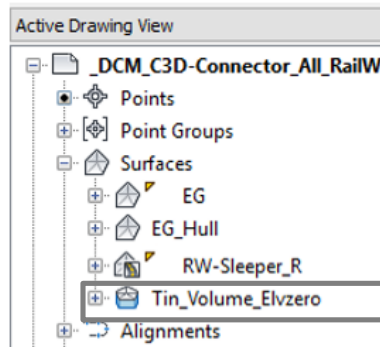


Parcel og TIN volume surface

3D Parcels importert med 3D geometri).

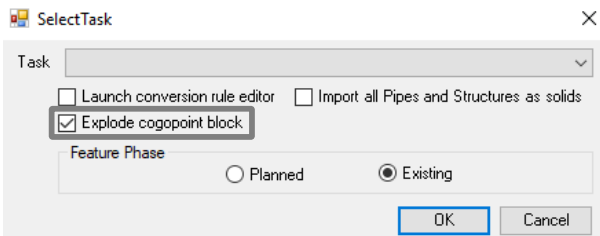
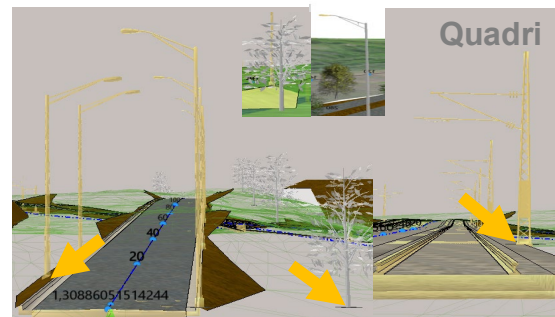
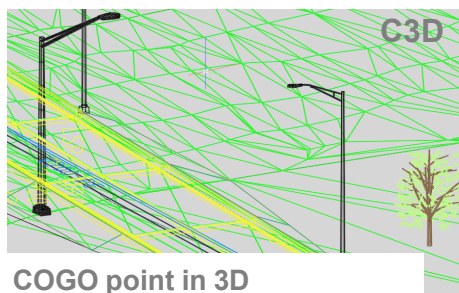
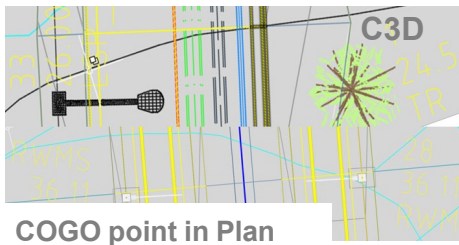
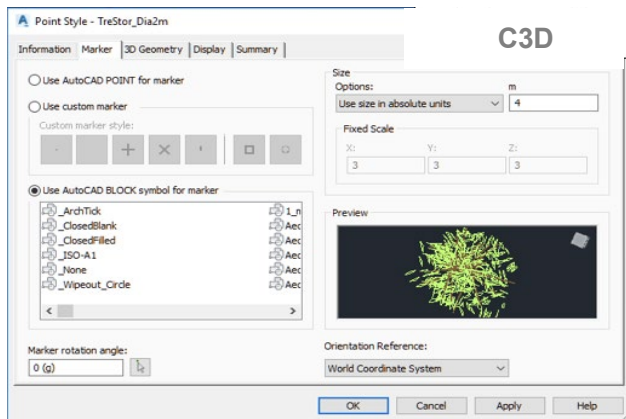


Tin Volume importert som vanlige AEC object fra C3D.



COGO Points

COGO Points importert som multiple blokk.

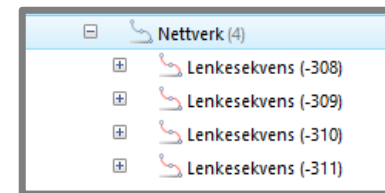
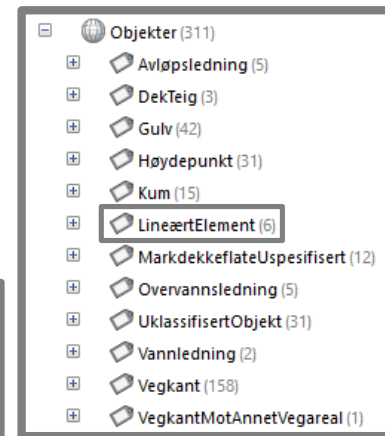
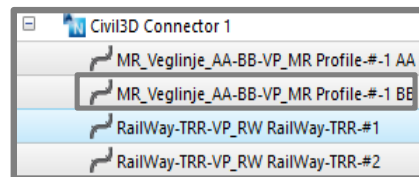
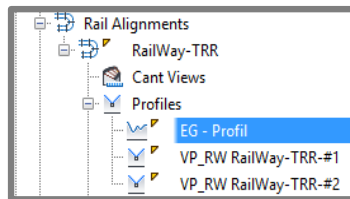
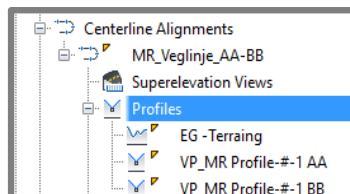
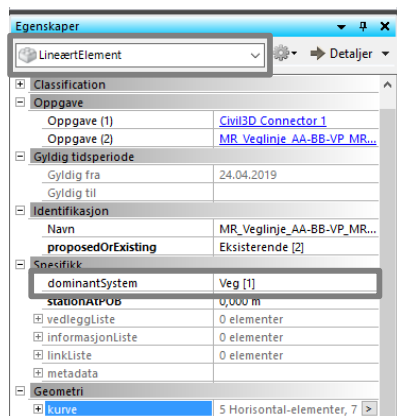




Alignment / Senterlinje

Importerte C3D senterlinjer oppretter linjeoppgave automatisk i Quadri.

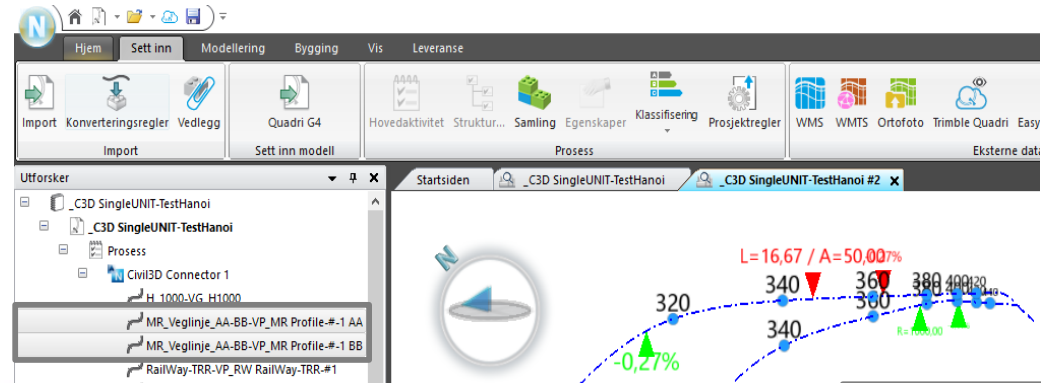
Dele oppgaven og oppdatere Quadri er enkelt nå. (nytt AEC-objekt import ved oppdatering)





Alignment/Senterlinje

Oppgave opprettes automatisk og lagres som et lineært element egenskaper med lenkesekvens.



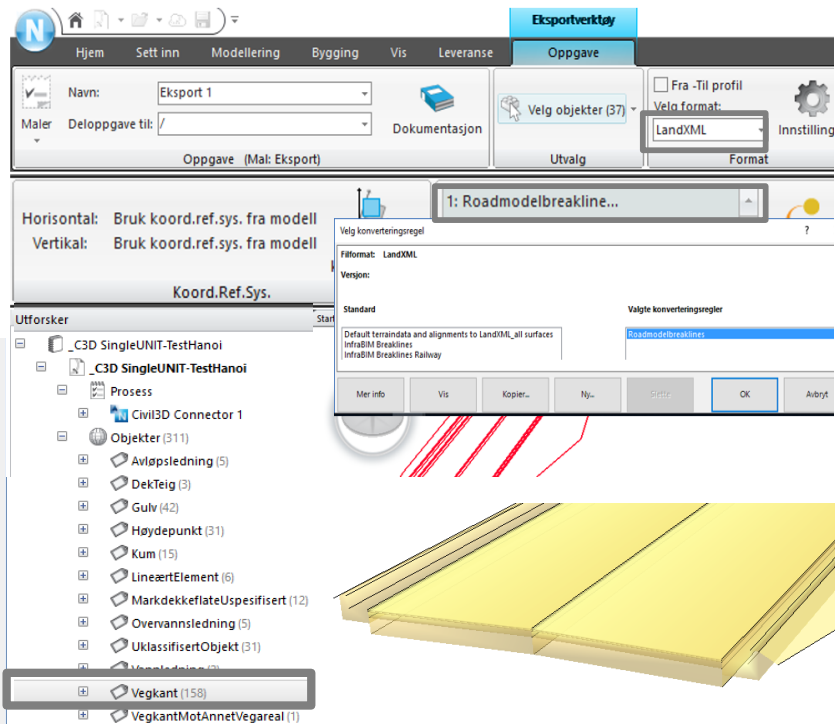
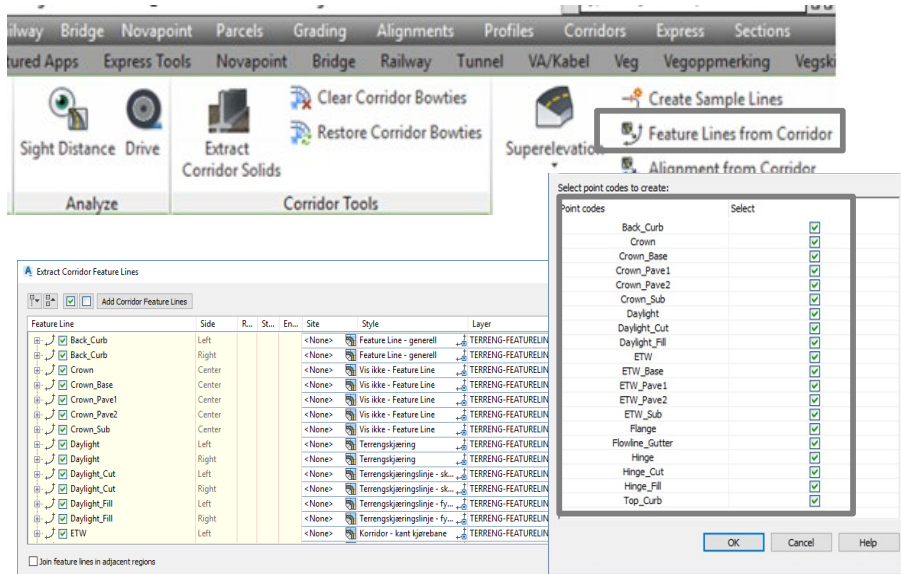
Egenskaper	
Lenkesekvens	
[Settings] [Details]	
Interne egenskaper	
Nettelement Id	-2807
Nettelement status	Local
UUID	
Generelt	
Lengde	636,906m
Topologinivå	0
Lenker	1
Porter	2
Oppgave	
Oppgave	MR Veglinje AA-BB-VP MR...
Objekter	
Gulv (1700017)	21
	LaneSuperelevationAOR - (...)
	DaylightMultiIntercept
LineærtElement (1002001)	1
	MR Veglinje AA-BB-VP MR...
MarkdekkeflateUspesifisert...	3
	MR Kantstein-2017
	MR Asfalt2017
	MR TopSurf 2017
Vegkant (1310001)	54
	Top Curb
	Hinge Cut



Vegkant / C3D feature lines

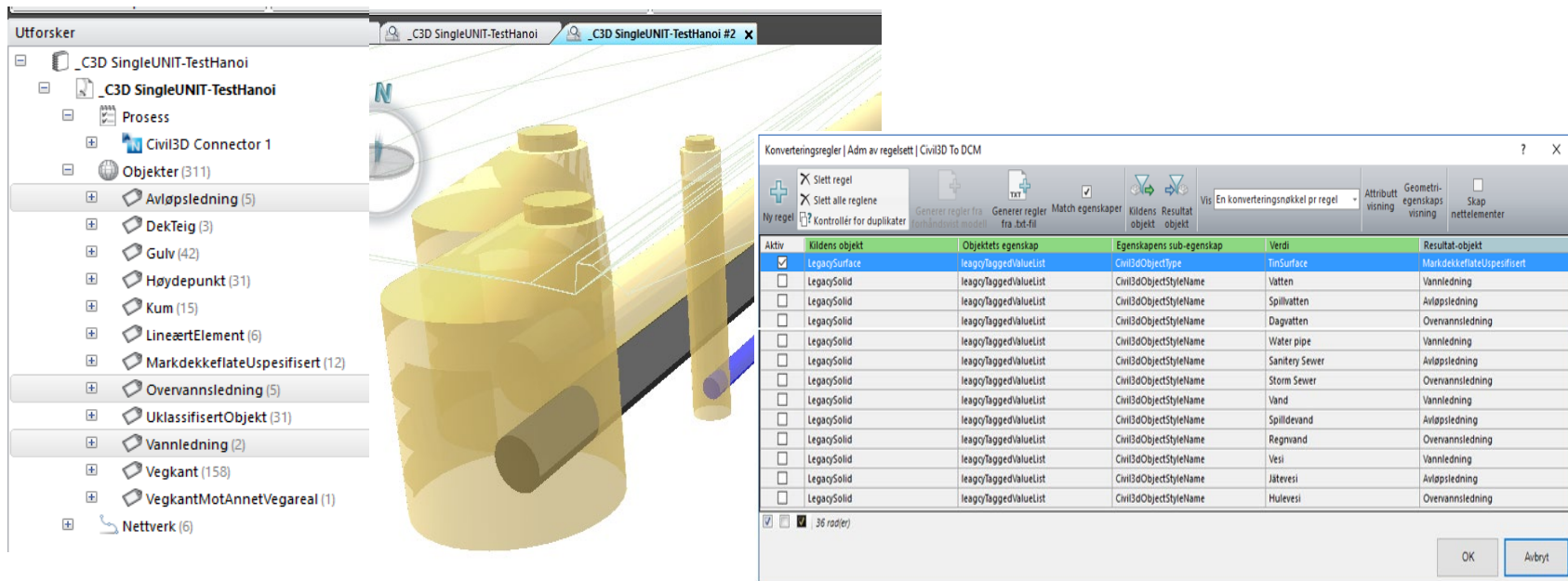
Det er enkelt å importere vegkant linjene fra C3D til Novapoint ved hjelp av C3D Connector.

OBS: - Å eksportere vegkantlinje direkte fra C3D som Lxml er ikke en enkel prosess



C3D VA Modellen

C3D connector importerer hele VA modellen inkluderte egenskapene på objektene (Vannledning, Overvannsledning og avløpsledning osv.)



The screenshot displays a software interface with a 3D model of a sewer system and a dialog box for conversion rules.

Utforsker (Left Panel):

- _C3D SingleUNIT-TestHanoi
 - _C3D SingleUNIT-TestHanoi
 - Prosess
 - Civil3D Connector 1
 - Objekter (311)
 - Avløpsledning (5)
 - DekTeig (3)
 - Gulv (42)
 - Høydepunkt (31)
 - Kum (15)
 - LineærtElement (6)
 - MarkdekkeflateUspefisert (12)
 - Overvannsledning (5)
 - UklassifisertObjekt (31)
 - Vannledning (2)
 - Vegkant (158)
 - VegkantMotAnnetVegareal (1)
 - Nettverk (6)

Konverteringsregler | Adm av regelsett | Civil3D To DCM (Right Panel):

Aktiv	Kildens objekt	Objektets egenskap	Egenskaps sub-egenskap	Verdi	Resultat-objekt
<input checked="" type="checkbox"/>	LegacySurface	leago/tagged/ValueList	Civil3DObjectType	TinSurface	MarkdekkeflateUspefisert
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Våtten	Vannledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Spillvatten	Avløpsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Dagvatten	Overvannsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Water pipe	Vannledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Sanitary Sewer	Avløpsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Storm Sewer	Overvannsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Vand	Vannledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Spilldevand	Avløpsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Regnvand	Overvannsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Vesi	Vannledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Jättevesi	Avløpsledning
<input type="checkbox"/>	LegacySolid	leago/tagged/ValueList	Civil3DObjectStyleName	Hulevesi	Overvannsledning

Buttons: OK, Avbryt



NETTWERK