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Please adjust your audio to an appropriate level at this time.

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ACI Web Sessions

ACI Web Sessions are recorded at ACI conventions and other concrete industry events. At regular intervals, a new set of presentations can be viewed on ACI's website free of charge.

After one week, the presentations will be temporarily archived on the ACI website or made part of ACI's Online CEU Program, depending on their content.

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ACI Conventions

ACI conventions provide a forum for networking, learning the latest in concrete technology and practices, renewing old friendships, and making new ones. At each of ACI's two annual conventions, technical and educational committees meet to develop the standards, reports, and other documents necessary to keep abreast of the ever-changing world of concrete technology.

With over 1,300 delegates attending each convention, there is ample opportunity to meet and talk individually with some of the most prominent persons in the field of concrete technology. For more information about ACI conventions, visit www.aciconvention.org.

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American Concrete Institute®
Advancing concrete knowledge

Advancements in the Use of Building Information Modeling (BIM) Systems

ACI Fall 2012 Convention
October 21 – 24, Toronto, ON

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Thomas Strong is EllisDon Construction's Director of Virtual construction. Mr. Strong is responsible for the strategic direction and management of the EllisDon's Virtual Construction Services group. Strong builds relationships in technology with business partners and guides the adaptation of new innovative solutions to ensure EllisDon continues to meet the evolving needs of its clients.

Mr. Strong has been active in the construction industry for 10 years, working in R&D and Construction Management. His educational background includes Architectural technology & Plastic injection Mold Making in the automotive sector.

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BIM IMPLEMENTATION TECHNIQUES IN A DESIGN – BUILD MENTAL HEALTH PROJECT – CASE STUDY

Thomas Strong
 Director, Virtual Construction
 EllisDon Corporation

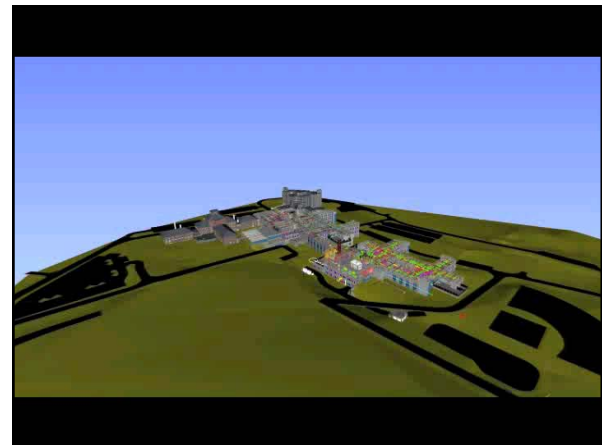
Who Are We...

EllisDon
 We build on great relationships™

- 3D Analysis
- 3D Coordination & submissions
- 4D Scheduling
- 3D Quantity Estimating
- 3D As-builts & Point Cloud Surveying
- XYZ project control
- 3D Database for FM & Asset Management

Agenda

- WCMHC Profile
- Main Design Challenges
- BIM Goals
- BIM Implementation Strategy
- CAD & BIM Models Integration
- NavisWork Presentation



Waypoint Center for Mental Health Care -wcmhc

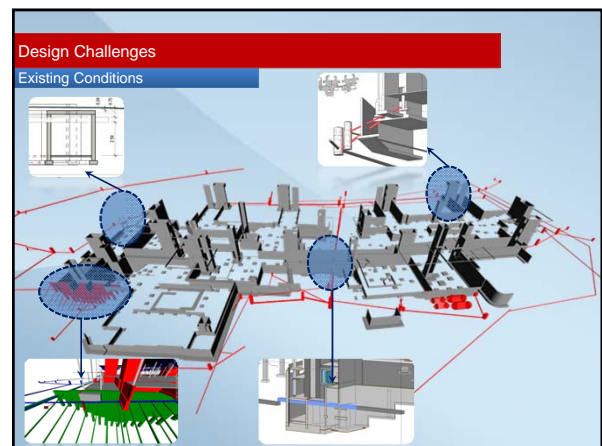
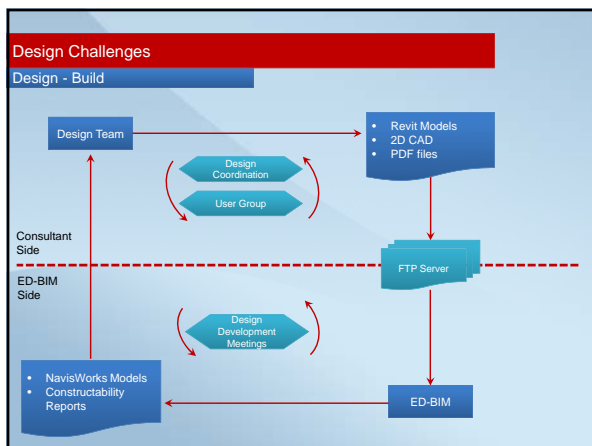
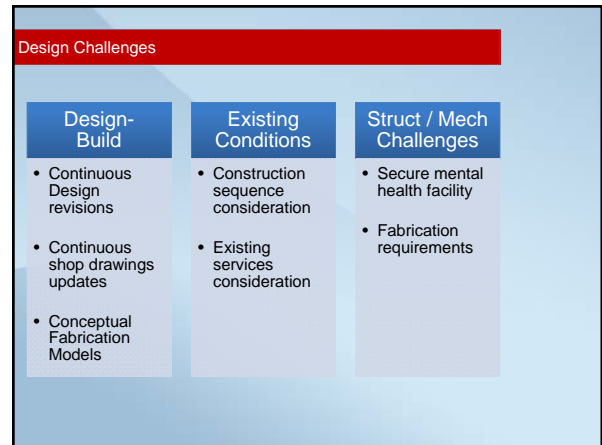
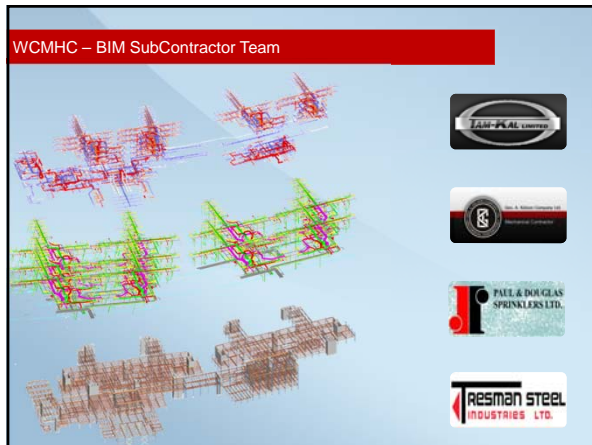
Courtesy of cannon design

- A new forensic hospital
- Overall 312-bed psychiatric hospital located on Georgian Bay in the Town Penetanguishene, Ontario
- For treatment and care people with mental health disorders who have had involvement with the criminal justice system.

Waypoint Center for Mental Health Care -wcmhc

Courtesy of cannon design

- P3 - Lump Sum - DB Project
- 350,000 sqf
- 474 M \$
- Targeting LEED Gold
- Steel Structure
- External Precast Panels (Envelope)
- Geothermal Field renewable energy
- Maximum Security forensic hospital



Design Challenges
Structural / Mechanical

Courtesy of cannon design

BIM Goals

- Master Model**
 - Used for design development
 - Design coordination
- Constructability**
 - Detect early issues
 - Clash Detection
- Quantities take off**
 - Monitor material quantities as design progresses
- Generate Fabrication Models**
 - Upgrade 200 LOD design models to 400 LOD fabrication models
- 3D Design Coordination**
 - Generate missing BIM Components
 - Integrate 2D CAD with 3D models

BIM Goals
Master Model

BIM Goals
Constructability

BIM Goals
Quantities Take off

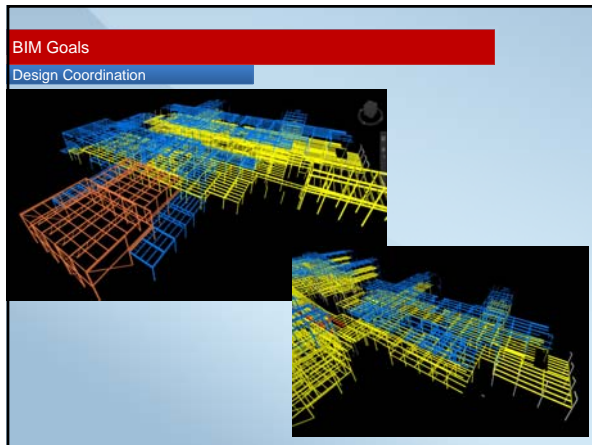
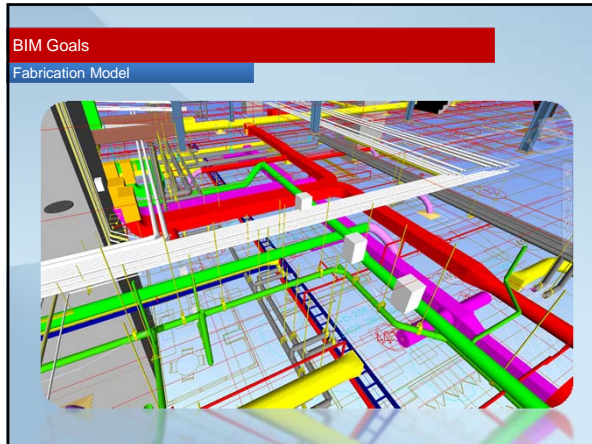
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Wall - Double Core	2000	Sq Ft
Partition - Wall and Ceiling, 2000 2	1500	Sq Ft
Partition - Wall and Ceiling, 2000 1	1500	Sq Ft
Partition - Wall and Ceiling, 2000 3	1500	Sq Ft
Partition - Wall and Ceiling, 2000 4	1500	Sq Ft
Partition - Wall and Ceiling, 2000 5	1500	Sq Ft
Partition - Wall and Ceiling, 2000 6	1500	Sq Ft
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Item	Quantity	Unit
Door - Single Core	100	Each
Door - Double Core	200	Each
Door - Partition - Wall and Ceiling, 2000 2	150	Each
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Door - Partition - Wall and Ceiling, 2000 18	150	Each
Door - Partition - Wall and Ceiling, 2000 19	150	Each
Door - Partition - Wall and Ceiling, 2000 20	150	Each

Item	Quantity	Unit
Ceiling - Single Core	1000	Sq Ft
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Ceiling - Partition - Wall and Ceiling, 2000 12	1500	Sq Ft
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Ceiling - Partition - Wall and Ceiling, 2000 15	1500	Sq Ft
Ceiling - Partition - Wall and Ceiling, 2000 16	1500	Sq Ft
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Ceiling - Partition - Wall and Ceiling, 2000 18	1500	Sq Ft
Ceiling - Partition - Wall and Ceiling, 2000 19	1500	Sq Ft
Ceiling - Partition - Wall and Ceiling, 2000 20	1500	Sq Ft

Item	Quantity	Unit
PC Panel - Single Core	1000	Sq Ft
PC Panel - Double Core	2000	Sq Ft
PC Panel - Partition - Wall and Ceiling, 2000 2	1500	Sq Ft
PC Panel - Partition - Wall and Ceiling, 2000 1	1500	Sq Ft
PC Panel - Partition - Wall and Ceiling, 2000 3	1500	Sq Ft
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BIM Goals
Fabrication Model



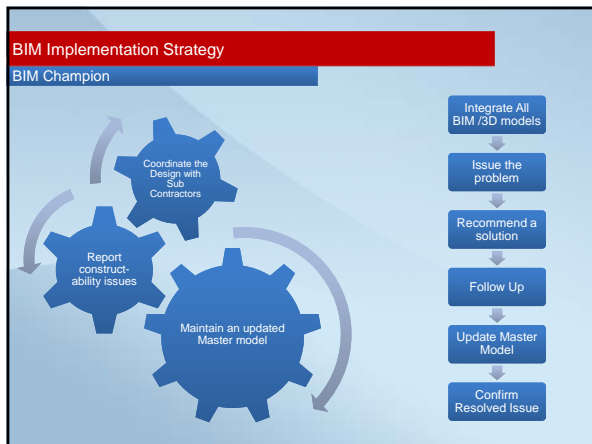
BIM Implementation Strategy

- Full Time BIM Specialist
- BIM Execution Plan
- Develop a Process for Sub-Contractors
- Reporting & Communication

proactive [prəʊˈæktɪv]
adj

- Acting in advance to deal with an expected difficulty; anticipatory
- tending to initiate change rather than reacting to events

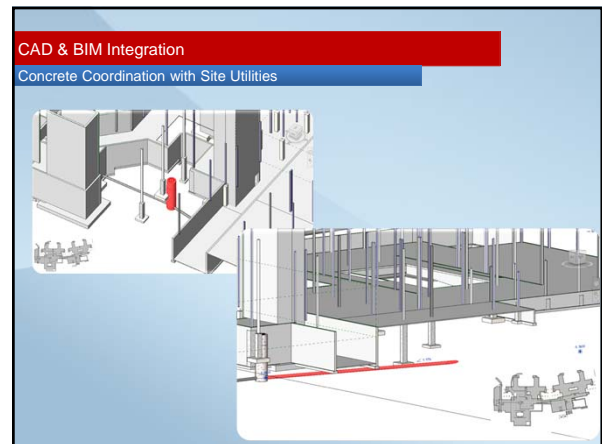
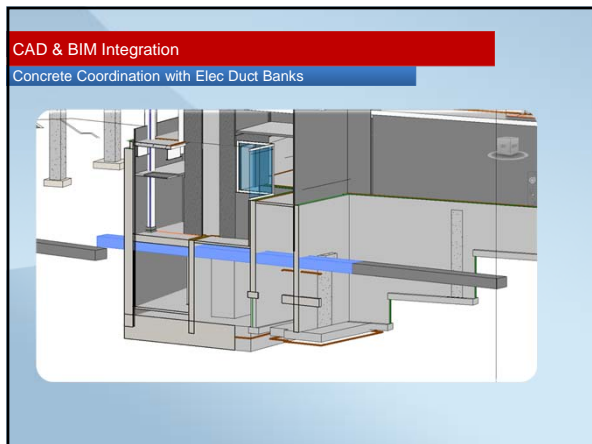
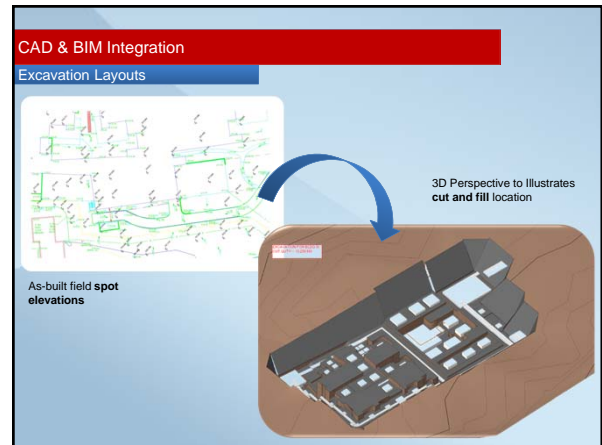
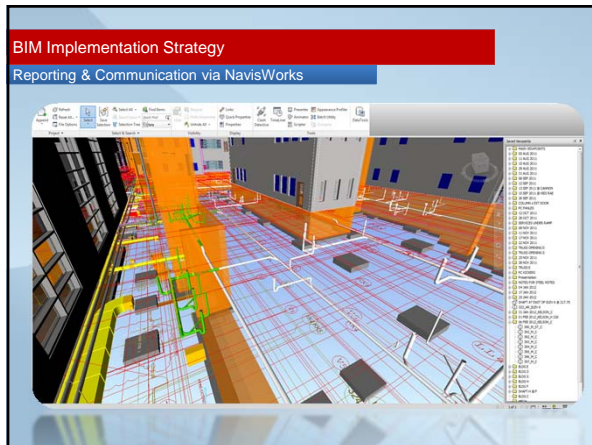
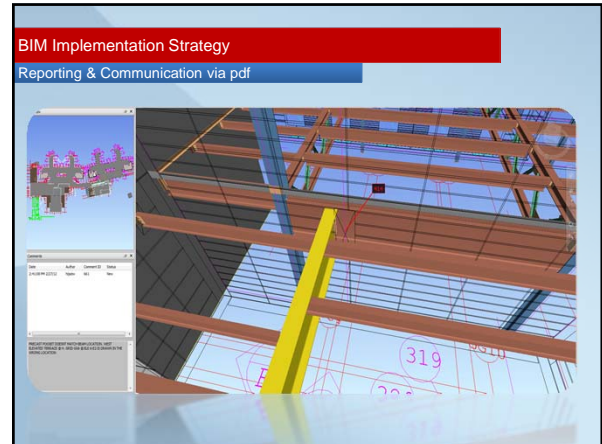
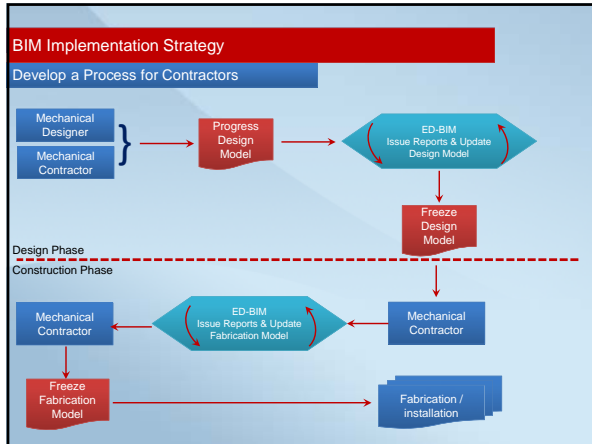
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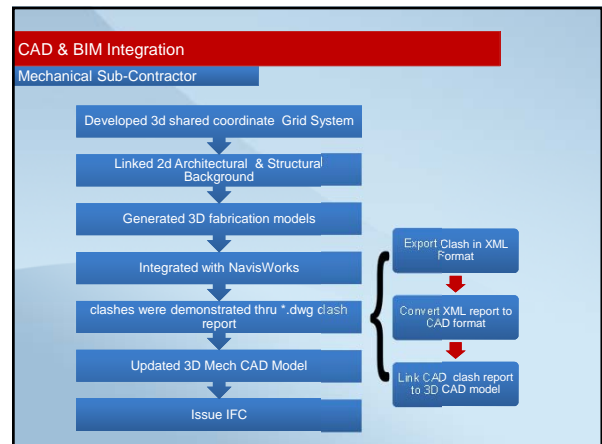
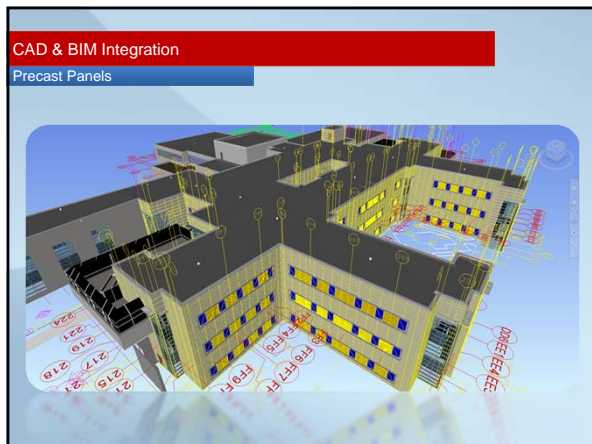
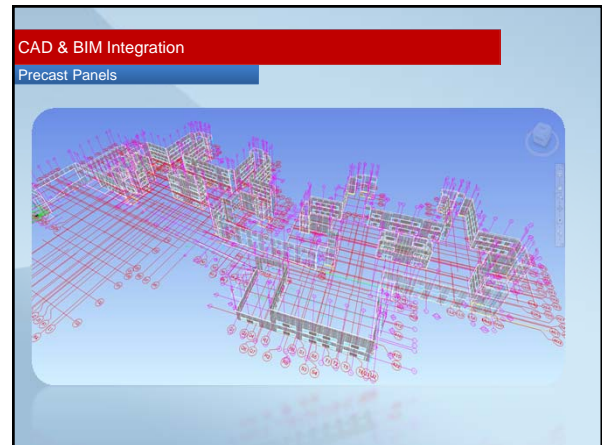
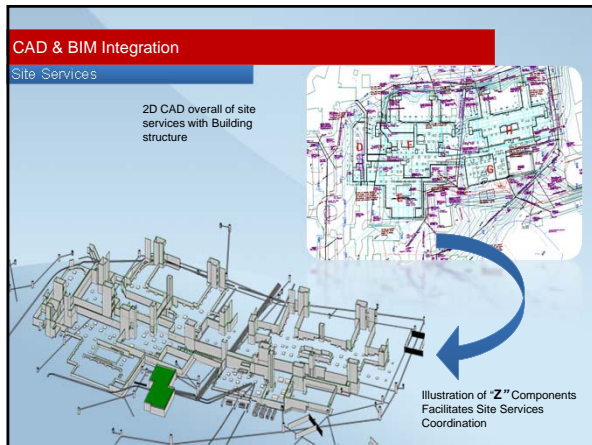
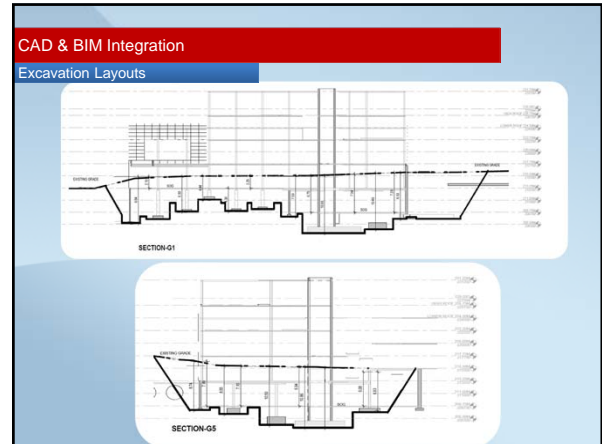
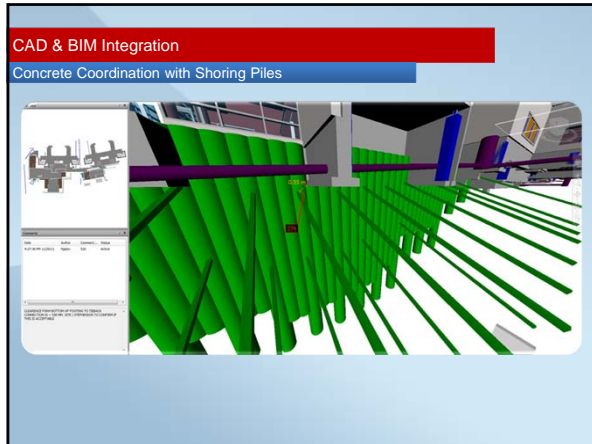


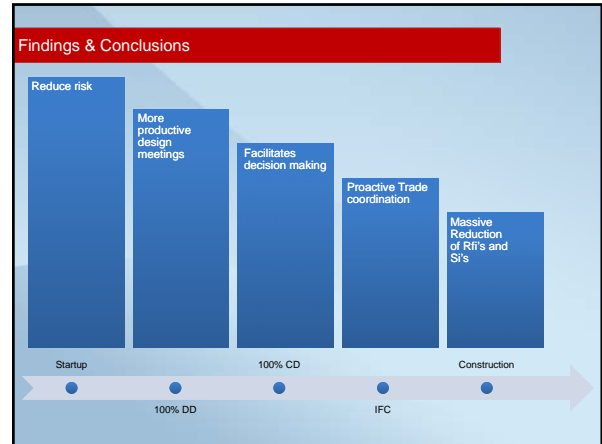
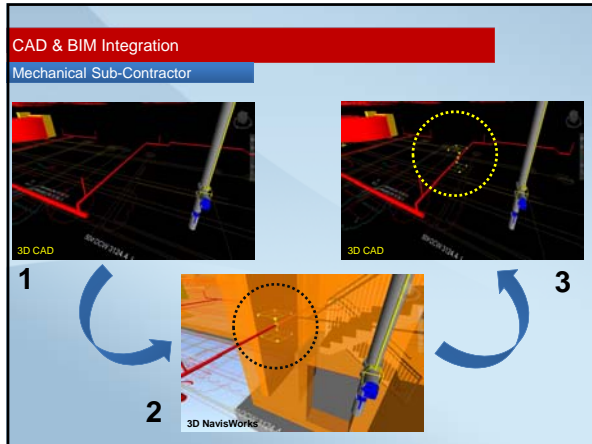
BIM Implementation Strategy
BIM Execution Plan

- Contact Info
- Software
- FTP Server info
- Naming Convention
- Model Scope by Levels
- Model Scope by Systems
- Missing yet needed objects

System	Level	Color	Notes
MECHANICAL	FM 100	Dark Red	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Red	MECHANICAL ONLY (1.5" and larger) (Simulation included)
MECHANICAL	FM 200	Dark Blue	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Blue	MECHANICAL ONLY (1.5" and larger) (Simulation included)
MECHANICAL	FM 200	Dark Purple	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Purple	MECHANICAL ONLY (1.5" and larger) (Simulation included)
MECHANICAL	FM 200	Orange	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Orange	MECHANICAL ONLY (1.5" and larger) (Simulation included)
MECHANICAL	FM 200	Yellow	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Yellow	MECHANICAL ONLY (1.5" and larger) (Simulation included)
MECHANICAL	FM 200	Dark Green	MECHANICAL ONLY (1" and larger)
MECHANICAL	FM 400	Light Green	MECHANICAL ONLY (1.5" and larger) (Simulation included)







EllisDon
We build on great relationshipsSM

"The Best Way to Predict the Future is to Create it"
Peter F. Drucker