

# State of Tennessee Office of the State Architect Building Information Modeling Standards (TN OSA BIMs) Version 2.0 Webinar

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Tennessee Office of the State Architect Panelists: Ann McGauran – State Architect, Alan Robertson – Assistant State Architect, Chloe Shafer – Director of Compliance

# Acknowledgements

- TN OSA BIMs Task Force Members – AIA, ACEC, AGC, ABC, SPAs, THEC, KFA, JLL, Skanska, AUTODESK, CADD MICROSYSTEMS, OSU, OSA
- Pilot project teams – The Lewis Group, Christman Co., Centric Architecture, Messer Construction

# Outline

1. TN OSA BIM Mission
  2. TN OSA BIM Purpose
  3. Version 2.0 – Guiding Principles
  4. State-Designated BIM Projects
  5. TN OSA BIMs Background | 2012 - Present
  6. What is BIM? What is COBie?
  7. Questions
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8. TN OSA BIMs v2.0 Overview – Designer / Contractor Requirements
  9. Version 2: Key Revisions
  10. OSA Resources / Website / BIM Tools
  11. Useful Links
  12. OSA Contact
  13. Questions

# TN OSA BIM Mission

The mission of the State of Tennessee Office of the State Architect (TN OSA) BIM Standards is **to utilize consistent Building Information Modeling (BIM) technology standards** to create building projects with **greater long term owner value** through a collaborative design, construction and operations process.

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 2*

# TN OSA BIM Purpose

The TN OSA has established these BIM Standards for the **consistent development and management of BIM on State designated BIM projects**. For projects designated by the State Procurement Agency (SPA) to use BIM, **these BIM Standards apply to designers and their consultants, and/or to contractors and their subcontractors**, qualified by the State Procurement Agencies (SPAs).

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 2*

# Version 2.0

## GUIDING PRINCIPLES

- **Quality** – Maintaining the highest standards of BIM deliverables for the State of Tennessee
- **Scalable** – Responsive with regard to scope and varying owner requirements
- **Adaptable** – To align with various conventions of conveying design intent
- **Simple** – Focused on essential BIM and COBie deliverables

# Which projects are State-designated BIM projects?

- Determined by the SPA
- There is not a project budget threshold
- Should be considered as part of a broader campus/agency BIM and/or facility management strategy
- Projects not designated by the State as BIM-required projects may implement these standards.

On State projects not designated to use BIM, the designers and/or contractors **may voluntarily choose, on their own, to use BIM**. The State encourages designers and contractors using BIM on projects, where BIM is not a State requirement, to adopt these BIM Standards. **Designers and contractors using BIM on projects, where BIM is not a State requirement, may deliver BIMs, in addition to paper documents, for the aspects of the project for which they have followed these BIM Standards.**

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 2*

# TN OSA BIMs Background

2012 - PRESENT

- **August 2012** - KFA brought under contract
- **September 2012** - BIM Kickoff with KFA
- **September 2012** - KFA Presentation to the SBC
- **September 2012** - KFA Presentation to the SPAs
- **September 2012** - KFA Presentation to industry
- **December 2012** - BIM Standards – v.0
- **August 2013** - KFA: BIM Training
- **Completed 2017** BIM Pilot Projects: Tennessee School for the Deaf and
- **Completed 2018** Julius T Johnson Metrology Laboratory
- **October 2017** - Published “Lessons Learned” from pilot projects
- **July 2015** - BIM Standards – v.1.0
- **July 2020** - BIM Standards – v.2.0



# TN OSA BIMs Pilot Projects

TENNESSEE SCHOOL FOR THE DEAF  
Knoxville, TN



## BIM DELIVERABLES

- **3D BIM Models (IFC format)**
- **COBie Managed Assets Spreadsheets**

# TN OSA BIMs Pilot Projects

JULIUS T JOHNSON METROLOGY LAB  
Nashville, TN



## BIM DELIVERABLES

- **3D BIM Models (IFC format)**
- **COBie Managed Assets Spreadsheets**

# What is BIM ?

**Building Information Model:** Is the digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility, **forming a reliable basis for decisions during its life cycle from inception onwards.**

*National BIM Standard – United States Version 3.0*

# What is COBie ?

**Construction Operations Building Information Exchange**: An international standard relating to **managed asset information including space and equipment**. It is closely associated with building information modeling approaches to design, construction, and management of built assets.

*TN OSA BIMs Version 2.0 , July 1, 2020, Appendix E*

# COBie Data

## Managed Assets

Name	CreatedBy	CreatedOn	Category	ComponentNames	ExSystem	ExObject	ExIdentifier	Description
Domestic Cold Water 39	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	38a3334	n/a
Domestic Cold Water 1	bwest@skmes.com	2017-11-28T20:26:43	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	615980d	n/a
Domestic Cold Water 3	bwest@skmes.com	2017-11-28T20:26:43	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	f8db650	n/a
Domestic Cold Water 26	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	c8c131e	n/a
Domestic Cold Water 28	bwest@skmes.com	2017-10-20T19:04:06	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	c510f8f4	n/a
Domestic Cold Water 32	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	7df7f64e	n/a
Domestic Cold Water 38	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	be7bd8f	n/a
Domestic Cold Water 31	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	0955fee	n/a
Domestic Cold Water 35	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	a1c6cec	n/a
Domestic Cold Water 31	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	0955fee	n/a
Domestic Cold Water 38	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	be7bd8f	n/a
Domestic Cold Water 38	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	be7bd8f	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	59af99f8	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	59af99f8	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
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Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	59af99f8	n/a
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Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	59af99f8	n/a
Hot Water Return 12	bwest@skmes.com	2017-11-28T20:26:47	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	745d546	n/a
Domestic Cold Water 28	bwest@skmes.com	2017-10-20T19:04:06	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	c510f8f4	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	d7f642f6	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	d7f642f6	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	d7f642f6	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Hot Water 120	bwest@skmes.com	2017-11-28T20:26:46	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	d7f642f6	n/a
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Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a
Domestic Cold Water 53	bwest@skmes.com	2017-11-28T20:26:49	21-04 20 10: Domestic Water Distribution	PLBG-47010047	EcoDomus PM	n/a	1ecd9fa	n/a

- Contact
- Facility
- Floor
- Space (e.g., FICM, OMNICLASS TABLE 13), See Useful Links
- Type
- Components
- System
- Document
- Attribute
- Spreadsheet format, .xlsx, .xls

TN OSA BIMs Version 2.0 , July 1, 2020, Appendices C and E, Table E1

# COBie Data

## Managed Assets

TABLE D2 - STATE OF TENNESSEE - STANDARD REQUIRED EQUIPMENT - ASSET MAPPING AND ATTRIBUTES					
1	2	3	4	5	6
ASSET DESCRIPTION	OmniClass TITLE	TABLE 23 OmniClass #	TYPE ID	ATTRIBUTE GROUP (See Table D1)	GROUP C ATTRIBUTES *
<b>EQUIPMENT CATEGORY: HVAC</b>					
CHILLERS	Chillers	23.33.21.00	CH	A, B	Power, Capacity, ChillerType, RefrigerantType, VariableSpeedDrive
BOILERS	Commercial Boilers	23.33.11.00	BLR	A, B	FullLoadFuelConsumption, ThermalEfficiency, FuelType
AIR HANDLING UNITS	Air Handling Units	23.33.25.00	AHU	A, B	CoilFlow, CoilCapacity, HeatingCoilType
FAN COIL UNITS	HVAC Fan Coil Units	23.33.33.00	FCU	A, B	TotalCapacity, CoolingCoilDeltaP, FanMotorHorsepower, Phase, HeatingCoilType
EVAPORATOR UNITS (INDOOR UNITS)	Refrigerant Condensing Units	23.33.37.00	EU	A, B	FanMotorHorsepower, Phase, CoilType, ExpansionDevice
FANS	Air Circulators	23.33.31.00	FAN	A, B	FanMotorHorsepower
AIR TERMINAL UNITS	HVAC Air Terminals	23.33.41.00	ATU	A, B	AirFlow-Minimum, HeatType
HEAT PUMPS (PACKAGED/SPLIT)	Heat Pumps	23.33.17.00	HP	A, B	Capacity, RefrigerantType
CONDENSER UNITS (OUTDOOR UNITS)	HVAC Condenser Units	23.33.43.00	CU	A, B	Cooling Capacity, RefrigerantType

- Asset Description
- OmniClass Title
- Table 23 OmniClass #
- Type ID
- Attribute Groups A and B
- Attribute Group C

TN OSA BIMs Version 2.0 , July 1, 2020, Appendix D, Table D2

# COBie Data

## Managed Assets

TABLE E1 - STATE OF TENNESSEE - DESIGNER AND CONTRACTOR REQUIRED BIM ATTRIBUTE VALUES FOR COBie						
DOCUMENTATION BY PROJECT STAGE						
COBie WORKSHEET	REQUIRED ATTRIBUTES*	BIM TYPE WHERE ATTRIBUTE VALUES ARE PROVIDED	PROJECT STAGE WHEN ATTRIBUTE VALUES ARE PROVIDED OR UPDATED			
			DESIGN DEVELOPMENT	CONSTRUCTION DOCUMENTS PHASE	CONTRACTOR APPROVED SUBMITTALS	CONTRACTOR INSTALLATION
FACILITY	Name	Design BIMs	D	U/D		
	CreatedBy	Design BIMs	D	U/D		
	CreatedOn	Design BIMs	D	U/D		
	Category	Design BIMs	D	U/D		
	ProjectName	Design BIMs	D	U/D		
	SiteName	Design BIMs	D	U/D		
	LinearUnits	Design BIMs	D	U/D		
	AreaUnits	Design BIMs	D	U/D		
	VolumeUnits	Design BIMs	D	U/D		
	CurrencyUnit	Design BIMs	D	U/D		
	AreaMeasurement	Design BIMs	D	U/D		
	Description	Design BIMs	D	U/D		
FLOOR	Name	Design BIMs	D	U/D		
	CreatedBy	Design BIMs	D	U/D		
	CreatedOn	Design BIM	D	U/D		
	Category	Design BIMs	D	U/D		
	Elevation	Design BIMs	D	U/D		
	Height	Design BIMs	D	U/D		
SPACE	Name	Design BIMs	D	U/D		
	CreatedBy	Design BIMs	D	U/D		
	CreatedOn	Design BIMs	D	U/D		
	Category	Design BIMs	D	U/D		
	FloorName	Design BIMs	D	U/D		
	Description	Design BIMs	D	U/D		
	GrossArea	Design BIMs	D	U/D		
	NetArea	Design BIMs	D	U/D		

### Designer

- Contact
- Facility
- Floor
- Space
- Type (Name only)
- Components (Name only)

TN OSA BIMs Version 2.0 , July 1, 2020, Appendix E, Table E1

# COBie Data

## Managed Assets

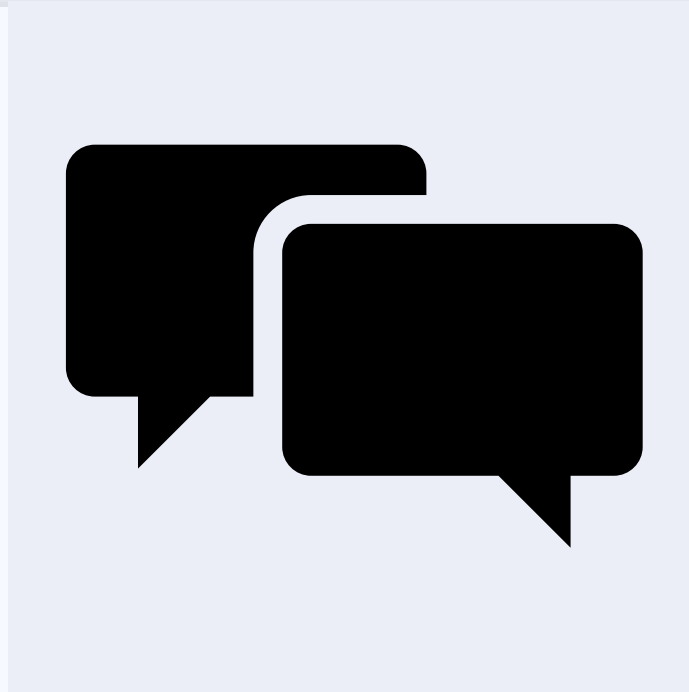
TABLE E1 - STATE OF TENNESSEE - DESIGNER AND CONTRACTOR REQUIRED BIM ATTRIBUTE VALUES FOR COBie DOCUMENTATION BY PROJECT STAGE						
COBie WORKSHEET	REQUIRED ATTRIBUTES*	BIM TYPE WHERE ATTRIBUTE VALUES ARE PROVIDED	PROJECT STAGE WHEN ATTRIBUTE VALUES ARE PROVIDED			
			DESIGN DEVELOPMENT	CONSTRUCTION DOCUMENTS PHASE	CONTRACTOR APPROVED SUBMITTALS	CONTRACTOR INSTALLATION
SYSTEM	Name	Construction BIMs			C	U/C
	CreatedBy	Construction BIMs			C	U/C
	CreatedOn	Construction BIMs			C	U/C
	Category	Construction BIMs			C	U/C
	ComponentNames	Construction BIMs			C	U/C
ATTRIBUTE	Name	Construction BIMs			C	U/C
	CreatedBy	Construction BIMs			C	U/C
	CreatedOn	Construction BIMs			C	U/C
	Category	Construction BIMs			C	U/C
	SheetName	Construction BIMs			C	U/C
	RowName	Construction BIMs			C	U/C
	Value	Construction BIMs			C	U/C
	Unit	Construction BIMs			C	U/C
*See Table E2, Column 3 for Attribute Descriptions						
END OF TABLE						

### Contractor

- Contact
- Type (Except name)
- Components (Except name)
- System
- Document
- Attribute

TN OSA BIMs Version 2.0 , July 1, 2020, Appendix E, Table E1





# Questions

# TN OSA BIMs Overview

- BIM Requirements for Designers
- BIM Requirements for Contractors
- Appendices A - F

# Who produces Design BIMs ?

- Architectural
- Structural
- Mechanical
- Plumbing
- Electrical
- Other specialties

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 3.1*

# Formats Compatibility Asset Naming

- IFC and COBie - compliant BIM authoring software
- COBie data / managed asset names (e.g. Space, Equipment)
- Encourages BIM Analysis (Energy Modeling, Program Verification, Clash Detection)
- BIM Execution Plan (BEP)

*TN OSA BIMs Version 2.0 , July 1, 2020, Sections 3.2-3.10.6, Appendices A - E*

# BIM Execution Plan (BEP)

This plan lays out how BIM will be implemented and which goals or BIM uses will be pursued on the project as a result of the decisions of the Project Team. **This is a living document that is updated at key milestones during the project. In most cases, there will be one BEP developed by the design team and a second BEP developed by the contractor.**

*TN OSA BIMs Version 2.0, July 1, 2020 Sections 3.9, Appendices A and F*

# TN OSA BIMs Overview

Requirements for **Designers**

## BIM Execution Plan (BEP)

- Deliverable for all design phases (Not Early Design Phase (EDP))
- Project Information
- Designer and Consultant Contact Information
- BIM Goals and Objectives
- Roles and Responsibilities
- BIM Software and Versions
- Project Deliverables

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 3.9 and Appendix A*

# TN OSA BIMs Overview

Requirements for **Designers**

## BIM Methodology

- Geometrically and Dimensionally Accurate
- Drawings are direct representation of the BIM
- Details at scales larger than 1/4"=1'-0" are not required to be a direct representation in the BIM
- COBie data (Managed Asset Information) is applied in the BIM
- Design changes are updated in the BIM

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 3.11*

# BIM Deliverables Summary

## Design BIMs

- CDP and Closeout
- Required Disciplines
- IFC format
- Contain COBie Data
- Include design changes
- Validated - COBie Validator
- File naming system

## BIM Execution Plans

- Alternate BEPs contain minimum content in Appendix A
- Each design phase
- PDF format
- File naming system

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 3, Appendices A, C, D and E*



# TN OSA BIMs Overview

Requirements for **Designers**

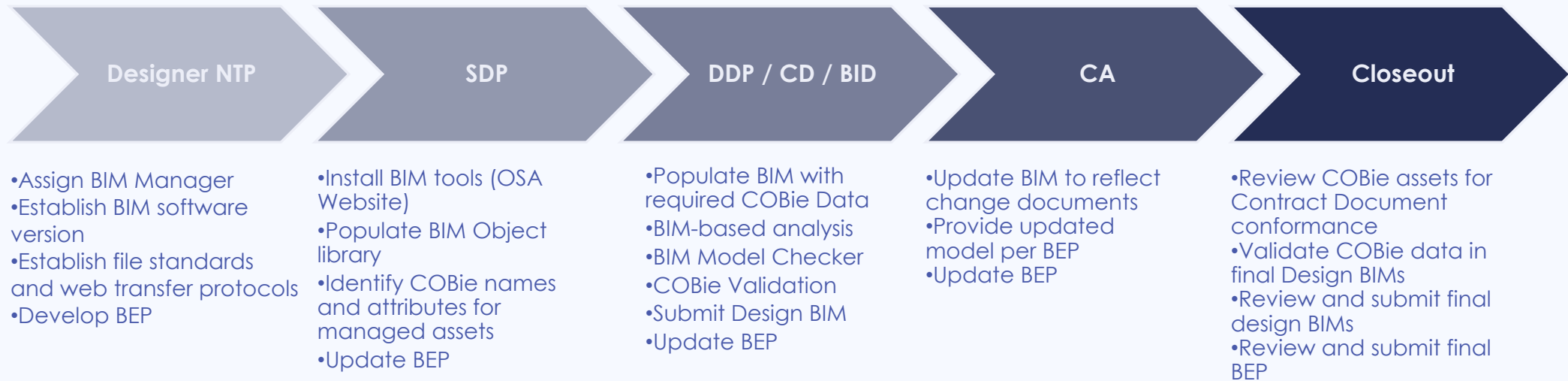
## Summary

- Design BIMs (IFC format, COBie Validator, File Naming System, Include design changes / design Intent, not required to include contractor field changes) – Required Disciplines
- BIM Execution Plans (Each design phase, pdf format, other BEPs must contain minimum content in Appendices A)
- COBie data (Contact, Facility, Floor, Space and Equipment Names), Appendix E, Table E1

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 3*

# TN OSA BIMs Overview

## BIM Process for **Designers**



TN OSA BIMs Version 2.0 , July 1, 2020, Section 4

## TN OSA BIMs Overview

Requirements for **Contractors**

# Who produces Construction BIMs?

- Structural Steel
- Mechanical (HVAC, HVAC Pipe)
- Plumbing
- Electrical
- Pneumatic Tube
- Building Automation Systems \*
- Fire Protection \*
- Low Voltage \*
- Civil \*
- Other Fabrication, Other Trades \*

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 5.1*

# Formats Compatibility Asset Naming

- IFC and COBie - compliant BIM authoring software
- COBie managed asset data (e.g. Type, Components, Attributes)
- BIM Analysis (Coordination, Fabrication, Installation)
- BIM Execution Plan (BEP)

*TN OSA BIMs Version 2.0 , July 1, 2020, Sections 5.1-5.11.3, Appendices D and E*

# TN OSA BIMs Overview

Requirements for **Contractors**

## **BIM Execution Plan (BEP)**

- Deliverables for key milestones
- Project Information
- Contact Information: contractor, subcontractors and major suppliers
- BIM Goals and Objectives
- Roles and Responsibilities
- BIM Software and Versions
- Modeling Standards and Content
- Project Deliverables

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 5.8 and Appendix F*

## TN OSA BIMs Overview

Requirements for **Contractors**

# BIM Execution Plan (BEP) BIM Kickoff Meeting

- BIM / COBie coordination meetings
- Software versions/limitations impacting deliverables
- BIM collaboration utilities
- COBie data capture process / data QA
- Model update schedules
- Model coordination software
- Interference detection / resolution
- Final BIM / COBie Deliverables

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 5.8 and Appendix F*

# BIM Deliverables

- Construction BIMs
- BIM Execution Plans
- COBie Worksheets

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 5.11*

# TN OSA BIMs Overview

Requirements for **Contractors**

## Summary

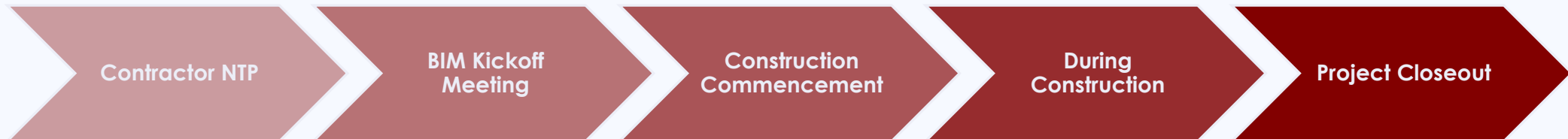
- Construction BIMs (IFC format) – Required Trades
- BIM Execution Plans (pdf format, key milestones)
- COBie data (e.g., Contact, Type Component, Attribute, Document), Appendix E, Table E1
- BIM for analysis

*TN OSA BIMs Version 2.0 , July 1, 2020, Section 6*



# TN OSA BIMs Overview

## BIM Process for **Contractors**



- Contractor assigns BIM Manager
- Subcontractor and vendors assign BIM Coordinator
- Establish BIM software implemented amongst contractor, vendors and subcontractors
- Align modeling standards with owner requirements and deliverables
- Contractor establishes file sharing system and protocols.
- Develop BEP

- Install BIM tools (OSA Website)
- Coordinate tools, systems, standards and protocols
- Update BEP

- Develop Construction BIMs
- Identify and resolve building system / asset conflicts
- Update BEP

- Update coordinated Construction BIMs
- Construct and fabricate from coordinated construction BIMs
- Leverage Construction BIMs for shop drawings
- Update and maintain required COBie asset attributes
- Perform preliminary COBie validation tests
- Update BEP

- Validate and export COBie worksheets for contractor and architect review for Contract Document conformance
- Submit final Construction BIMs for required trades
- Submit final validated COBie worksheets
- Submit final BEP

TN OSA BIMs Version 2.0 , July 1, 2020, Section 6

# Version 2: Key Revisions

## Designer

- Floor naming systems and equipment Type IDs may be established by the designer.
- The designer is responsible for the coordination of the design. The standard strongly encourages the implementation of BIM for clash detection by the designer and consultants. The standard does not require a clash detection report as a deliverable unless otherwise required by the owner.
- An abbreviated equipment tagging system is specified in the standard and may be used on the drawings in lieu of the full component name.
- The designer-provided Design BIM contains COBie equipment attributes for the Type and Component names only. Other equipment attributes are provided by the contractor upon approved submittal or install.
- Eliminated incremental COBie worksheet deliverables at various design stages. Design BIMs are COBie-validated per the standard prior to Design BIM hand off to the contractor and updated as design changes require.
- Removed the allowance for a contractor-created Architectural and Structural Proxy Model. Instead, a Design BIM is provided by the designer to the contractor. The contractor does not re-model a Design BIM.

*TN OSA BIMs Version 2.0 , July 1, 2020, Appendix H, Change Log*

# Version 2: Key Revisions

## Contractor

- The standard specifies that contractors update COBie equipment attribute data at the time of approved submittal or install eliminating the potential need to change designer-provided data when design changes occur.
- The standard specifies that while design changes must be incorporated into the final Construction BIMs, minor field changes are not required to be incorporated into the final Construction BIM.

*TN OSA BIMs Version 2.0 , July 1, 2020, Appendix H, Change Log*

# OSA Resources

## OSA Website – See Useful Links

- OSA COBie Validator, 32 bit/64 bit
- BIM Templates
- Shared Parameter Files
- COBie Toolkit / BIM Interoperability Tools
- BIM Model Checker (Customizable)

# Useful Links

- [TN OSA BIMs V.2.0, July 1, 2020 -  
https://www.tn.gov/content/tn/osa/capital---real-estate/capital-projects/bim-standards.html](https://www.tn.gov/content/tn/osa/capital---real-estate/capital-projects/bim-standards.html)
- COBie - [https://www.nibs.org/page/bsa\\_cobie](https://www.nibs.org/page/bsa_cobie)
- COBie - <https://www.biminteroperabilitytools.com/>
- Space Classification - <https://nces.ed.gov/pubs2006/ficm/index.asp>
- <https://www.csiresources.org/standards/omniclass>
- <https://www.tn.gov/osa/general-information/events---presentations.html>

# Next Steps

- Post-pilot project phase
- State-required BIM projects
- TN-Required BIM project data acquisition, utilization and analysis
- Part II TN OSA BIMs Session – SPA 's, BIM/COBie Deliverables
- Part III TN OSA BIMs Session – BIM / COBie Tools

# CONTACT



## WEBSITE

<https://www.tn.gov/osa.html>

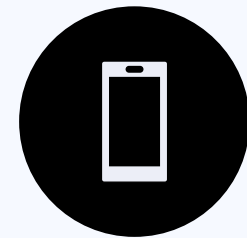
[HTTPS://WWW.TN.GOV/CONTENT/TN/OSA/CAPITAL---REAL-ESTATE/CAPITAL-PROJECTS/BIM-STANDARDS.HTML](https://www.tn.gov/content/tn/osa/capital---real-estate/capital-projects/bim-standards.html)



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# Questions