

Engineering Department



BIM Data Quality Control Plan

***Last Updated: 01/01/2021
Released 2021 v01***

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DOCUMENT CONTROL

Document History			
Version	Issue Date	Author	Details of Changes
v01	06/01/2020	Wes Beaumont	First draft
v01	01/01/2021		Final

1.0 PURPOSE

Data Governance (DG) covers the policies and procedures on data and its management. The purpose of this document is to support the creation and exchange of high-quality data produced through the VDC process.

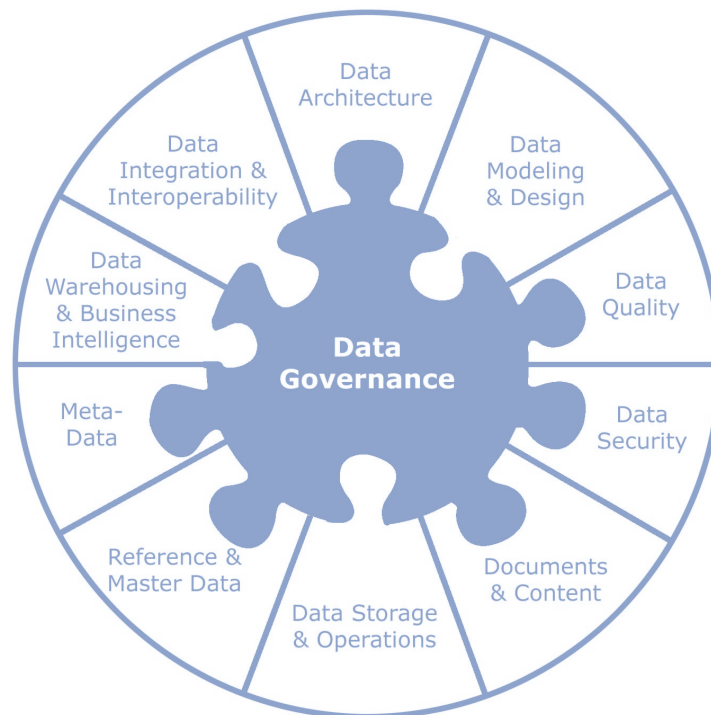


Figure 1-1 Data governance categories

The Agency considers data as an asset. This plan supports policy to ensure that data, in the context of the engineering department, is treated as such.

*Data Governance Plan – BIM Data Quality Control Plan***1.1 PRINCIPLES**

Like all management processes, data management and governance must balance strategic and operational needs. The following principles apply:

1. Data is an asset with unique properties.
2. The value of data can, and should, be expressed in economic terms.
3. Managing data means managing the quality of data.
4. It takes metadata to manage data.
5. It takes planning to manage data.
6. Data management requires an enterprise perspective.
7. Data management must account for a range of perspectives.
8. Data management is lifecycle management.
9. Managing data includes managing the risks associated with data.
10. Data management requirements must drive information technology decisions.

1.2 APPLICATION

This document provides requirements in relation to The Port Authority of New York and New Jersey's ("Authority") Virtual Design and Construction strategy. Robust data governance will enable the Authority to manage the availability, usability, integrity, and security of data with particular emphasis on design scope, schedule, cost, and asset management. Its main purpose is to assure that BIM (building information modeling) data is produced and exchanged in accordance with the Authority requirements to support access to the consumption of that data.

This document should be read in conjunction with the VDC Specification, which includes:

Table 1-1 Associated Materials

Document	Type	Owner
VDC Requirements	Requirements	The Port Authority of NY & NJ
Information Delivery Plan	Requirements and Specification	The Port Authority of NY & NJ
BIM Standard	Standard	The Port Authority of NY & NJ
CAD Standard	Standard	The Port Authority of NY & NJ
Support files	Templates	The Port Authority of NY & NJ

1.3 DATA ASSURANCE OBJECTIVES

The Authority's strategic objectives, relative to these requirements, are to:

Quantum	Increase the quantity of structured data to at least 80 percent.
Timeliness	Enable information to be produced four times faster and exchanged monthly.
Quality	Deploy performance measures with a compliance target of 80 percent.

There are five areas within the data quality control plan as illustrated in figure 2.



Figure 1-2 Data Quality Subject Areas

Each area is individually defined and described within this document and shall be deployed as part of the monthly cycle of activities.

2.0 DATA EXCHANGE

2.1 PURPOSE

To ensure that the data (processed and unprocessed) which has been procured by the Authority has been created and submitted in line with requirements.

2.2 PREREQUISITES

The following is required:

- Model volume list with first submittal dates.
- File exchange facility with agreed protocols and submittal instructions.
- Project or program nomenclature requirements.

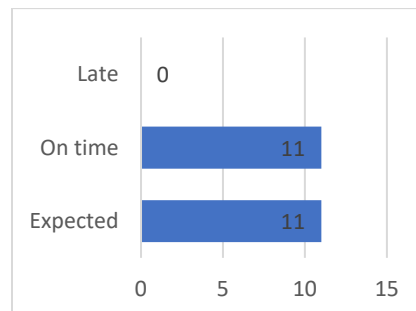
2.3 PROCESS

The process is established and managed to assure:

- Project building information models are created and shared in the appropriate location and are up to date, measured against the requirements in the Information Delivery Plan (IDP).
- Models confirm to the project or program nomenclature requirements.
- A list of models, in accordance with the model volume strategy, shall be produced confirming the date of the most recent submittal. Models shall be exchanged at intervals no greater than one month until they are completed and signed off.

2.4 OUTPUT

The following is an example reporting output:



The performance will be measured by the percentage of on-time submittals across the total expected in accordance with the agreed model volume list. Refer to [Section 7](#) for further details about performance management.

3.0 TECHNICAL COMPLIANCE

3.1 PURPOSE

To analyze the quality of the graphical/non-graphical information being provided by the project team and the adherence to standards and requirements as defined by the Authority and the project.

3.2 PREREQUISITES

The following is required:

- The Authority VDC Specification.
- BIM models produced in accordance with requirements.
- Rule sets for rule-based checking software.

3.3 PROCESS

The following is required to be processed:

1. Model Object Authoring and Deficiency

Compliance against technical standards (BIM and CAD – see [Appendix A](#) and [Appendix B](#)) will be reported. This includes items like model nomenclature, taxonomy, structure, and completeness i.e., type marks to identify component types, units of measurements. A series of manual and automated ‘rule-based’ model checks, shall identify deficiencies in the graphical/non-graphical 3D model data, report these to the team and guide the team to resolve errors that will affect design outputs and analytical data. Duplicated and rogue objectives, which may affect the integrity and validity of the model, shall be identified and reported on for resolution.

2. Model Space Authoring and Deficiency

Compliance against technical standards will be reported. This includes items like model nomenclature, taxonomy, structure, and completeness. A series of manual and automated ‘rule-based’ model checks, shall identify deficiencies in the graphical/non-graphical 3D model data, report these to the team and guide the team to resolve errors that will affect design outputs and analytical data. Duplicated and rogue objectives, which may affect the integrity and validity of the model, shall be identified and reported on for resolution.

3.4 OUTPUT

The following output is expected:

- SMC file including results of the 3D graphical data assurance checks using the agreed rule sets.
- Results of the 3D non-graphical data assurance checks
- Complete project or workstream model audit report.
- Complete assurance workbook.
- Actions for rectification.

The performance will be measured by the percentage of identified model object issues against the total number of objects within the model(s). Refer to Section 7 for further details about performance measurement.

4.0 FUNCTIONAL COMPLIANCE

4.1 PURPOSE

To identify and benchmark the functional compliance of the BIM models.

4.2 PREREQUISITES

The following is required:

- BIM models produced in accordance with the VDC specification.
- 4D model

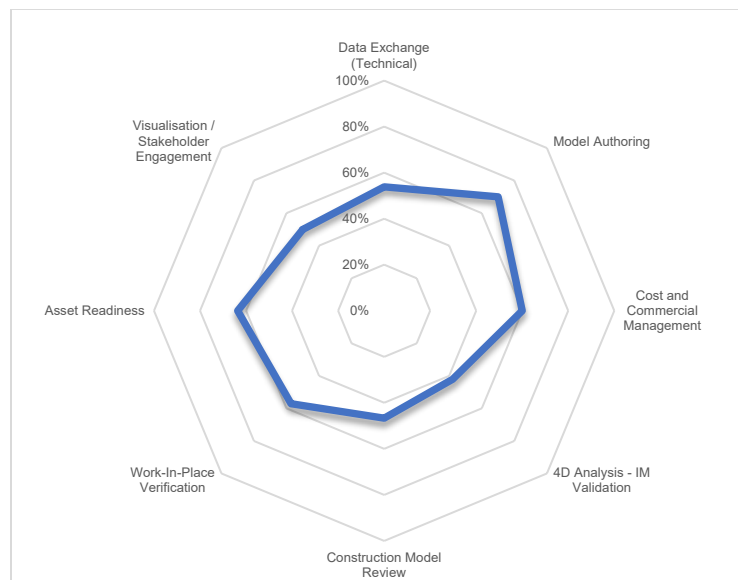
4.3 PROCESS

The process is deployed to monitor the BIM model(s) functional use in relation to:

1. Data exchange (technical).
2. 3D Model authoring.
3. 4D analysis.
4. 5D Cost and commercial management.
5. 7D asset readiness.
6. Construction model review.
7. Work-in-place verification.
8. Visualization and stakeholder engagement.

4.4 OUTPUT

The following is an example of the output expected:



5.0 GEOMETRIC COMPLETENESS AND COORDINATION

5.1 PURPOSE

Progress shall be monitored via the Level of Development (LOD), tracked, and reported graphically through assurance reports to provide an indication of design progress and coordination.

5.2 PREREQUISITES

The following is required:

- BIM models produced in accordance with project requirements
- Agreed rule sets for use in rule-based checking software i.e., Solibri Model Checker / Autodesk Navisworks.

5.3 PROCESS

The process is established and delivered to assure the following:

1. Completeness, Resolution, and Commonality

Monitoring and tracking of the production of the models in accordance with the agreed model production table. A review of the model to identify instances where model geometry resolution falls outside of the tolerances of best practice i.e., incompatible families. The commonality of objects shall be reported i.e., objects which have been deleted and recreated which may cause inconsistent reporting outputs. **Note that this is required separately for spaces and components.**

2. Coordination

The results of the clash detection exercise will be distributed to the project team and reviewed in design team meetings, during which issues can be allocated to a responsible stakeholder. During the initial phases of model development, using the naming taxonomy defined in the project IDP, selection sets should be created for model elements, and a series of project-specific clash checks to identify high level (macro) model clashes. The priority of clashes will be recorded in a clash matrix and agreed with the project team. As models gain complexity more detailed rule sets shall be introduced to identify hard and soft clashes with more precise tolerance keeping an audit trail of identified, resolved, and unresolved clashes. **Note that this is required separately for spaces and components.**

5.4 OUTPUT

The following is an example of the output expected:

- BCF file including results of the coordination exercise with issues allocated to a responsible stakeholder.
- Updated data governance dashboard with current LOD qualified.
- Complete project or workstream model audit report showing LOD progress (This shall be sourced from the assurance workbook).
- Confirmation of the model elements that are in the model (3D) and those that are not in the model.

The performance will be measured by the number of items that are developed in accordance with the required LOD and the percentage of 'clashes' in comparison to the overall number of elements. Refer to Section 7 for further details about performance measurement.

6.0 METADATA COMPLETENESS AND VERIFICATION

6.1 PURPOSE

Progress shall be monitored via the completeness of parameters within the models and is tracked and reported graphically through assurance reports to provide an indication of dataset completeness and integrity. The work in progress model shall be provided throughout the project and a complete, accurate, and relevant dataset will be provided to the Authority for migration to business-as-usual systems. It is expected that this check follows on from the geometric completeness and coordination event.

6.2 PREREQUISITES

The following is required:

- BIM models produced in accordance with the VDC Specification.
- Agreed rule sets for use in rule-based checking software i.e., Solibri Model Checker.

6.3 PROCESS

The process is established and delivered as follows:

1. Data completeness and verification

Agreed rule sets shall be used to incrementally monitor the development of metadata within the models and identify where data has not been input or input with incorrect values.

6.4 OUTPUT

The following output is expected:

- Solibri Model Checker file (.SMC) which includes the results of the metadata assurance check.
- Updated data governance dashboard with current LOI qualified which non-conformance illustrated.
- Complete project or workstream model audit report showing LOI progress (This shall be sourced from the assurance workbook).

The performance will be measured by the number of items that are developed in accordance with the required LOI and the percentage of non-compliant metadata fields. Refer to Section 7 for further details about performance measurement.

7.0 PERFORMANCE MEASUREMENT

The performance will be measure using the results of the assurance procedure and seeks to address three main areas:

1. The quantum of usable information received.
2. The timeliness of information received.
3. The quality of information received.

The objective is to achieve 100% accuracy and compliance.

7.1 DEFINITIONS

The following definitions are used to define issues identified during the assurance process.

Code	Status	Timescales for Resolution
A	Major error requiring immediate action	48 hours
B	Error which should be resolved	Two weeks
C	Minor error requiring monitoring	Monitor at next review

7.2 PERFORMANCE TARGETS

The following targets per work stage are set.

Section	Work Stage	Target
1. Information Exchange	All	100% compliance
2. Technical Compliance	Stage II	85% compliance
	Stage III	90% compliance
	Stage IV	95% compliance
	Work package completion	100% compliance
3. Functional Compliance	All	Fully functional model(s) per requirements.
4. Geometric Completeness	All (End of work stage)	100% compliance
4. Geometric Coordination	In accordance with coordination matrix and design development schedule	Zero coordination issues
5. Metadata Completeness and Verification	All	100% compliance

Data Governance Plan – BIM Data Quality Control Plan

7.3 PERFORMANCE MONITORING

The table below illustrates how performance is monitored in line with the assurance procedure.

Section	Performance Indicator	Measure	Frequency
1. Information Exchange	Models exchanged	Number of models exchanged compared to total number of models	Monthly
	Compliance against model federation frequency target	Existence of updated federated model	Monthly
2. Technical Compliance	Percentage of identified model object issues against the total number of objects within the model(s).	In accordance with definitions in 7.1.	Monthly
3. Functional Compliance	Number of uses per model e.g., 4D, 5D, construction as-built verification.	Usability of model data for each function.	Monthly
4. Geometric Completeness	The number of items that are developed in accordance with the required LOD	In accordance with the LODs defined Model Element Table in the Information Delivery Plan	Tracked monthly, formally measured at end of work stage.
4. Geometric Coordination	Number of clashes identified and mitigated during design	In accordance with definitions in 7.1	Tracked monthly, formally measured in accordance with agreed design development programme and clash matrix.
5. Metadata Completeness and Verification	The number of items that are developed in accordance with required parameters.	In accordance with the data defined by the Model Element Table in the Information Delivery Plan and the “common parameters” or “detailed parameters”.	Tracked monthly, formally measured at end of work stage or work package completion.

APPENDIX A – CAD COMPLIANCE REVIEW

The VDC Support Group has developed a form called the CAD Standards Compliance Report, which allows for the rating of CAD Standards compliance on every project worked on by each discipline. CAD Standards reports are applicable to all projects, in-house and/or consultants that are issued either for construction contracts or work orders.

A1. INSTANCES OF REVIEW AND SPECIFICATIONS:

A1.1 PA WIDE CAD REVIEW

- CAD Review is mandatory for:
 - All CAD drawings used to produce Construction Documents
- Review Process:
 - Initial compliance report is issued to the LEA and Task Leaders
 - 3 weeks are provided for the correction of non-compliance files
 - At the end of the 3-week period, a Report is issued to the Assistant Chiefs, Principals, LEA, and Task Leaders
- Requirements:
 - When: Required at the on-set of PA Wide Review
 - A PA Wide CAD Review is initiated by the LEA via an EOL request form
 - Upon receipt of the request the CAD Support Group is to upload the files to Live Link for electronic review and notify the Contract Engineer of the initiation of PA Wide Review

A1.2 WORK ORDER CAD REVIEW

- CAD Review is mandatory for:
 - Mandatory for all Contract Drawings
 - Initial failures are issued to the LEA and Task Leaders
 - 3 weeks are provided for the correction of the files
 - At the end of the 3 weeks, a Report is issued to the Assistant Chiefs, Principals, LEA and Task Leaders
- Requirements:
 - Initiated by the LEA via an EOL request form

A2. CAD – DISCIPLINE COMPLIANCE REPORT

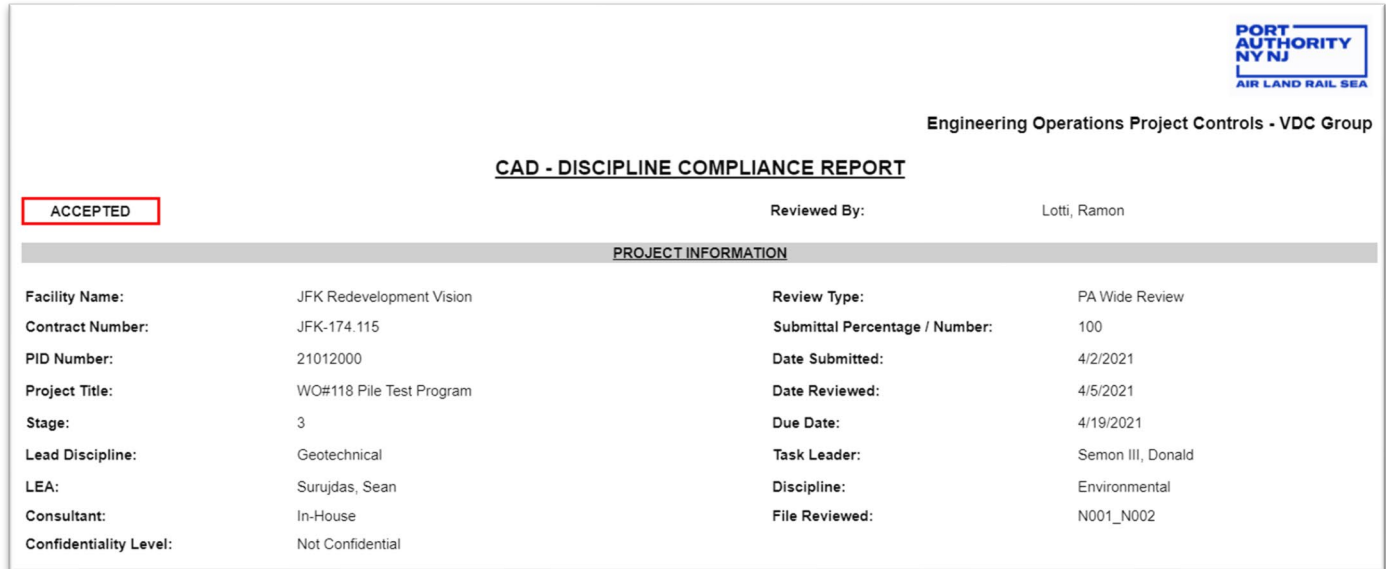
The CAD Standards Review Report is divided into 2 sections:

- **Project Information:** Project files submission information. Prefilled from the Request form.
- Review fields: **Pre-Audit, Performance Summary** and **Drawing Performance Summary** sections, indicating compliance with CAD Standards results.
- **Notes:** Contain general comments referred to the review, CAD Standard Sections to refer to, etc. This notes will support the understanding of the items failed in the review.

This form will be reviewed on a regular basis and is subject to changes. If a change is approved, it will be posted on the E/A Design Division CAD Standard website <https://panynj.gov/business-opportunities/engineering-documents-bim-cad-standards.html> and incorporated into the next revision of this document.

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The following two figures illustrate the CAD Standards Review Report. (See **Figure 0-1** and **Figure 0-2**)

Project information Items

The screenshot shows a web-based form titled "CAD - DISCIPLINE COMPLIANCE REPORT". At the top right is the Port Authority NY NJ logo. Below the logo, the text "Engineering Operations Project Controls - VDC Group" is displayed. The form has a status box on the left labeled "ACCEPTED" in a red border. To the right of this box, it says "Reviewed By: Lotti, Ramon". Below this is a section header "PROJECT INFORMATION" in a grey bar. Underneath, there are two columns of fields. The left column contains: Facility Name: JFK Redevelopment Vision, Contract Number: JFK-174.115, PID Number: 21012000, Project Title: WO#118 Pile Test Program, Stage: 3, Lead Discipline: Geotechnical, LEA: Surujdas, Sean, Consultant: In-House, and Confidentiality Level: Not Confidential. The right column contains: Review Type: PA Wide Review, Submittal Percentage / Number: 100, Date Submitted: 4/2/2021, Date Reviewed: 4/5/2021, Due Date: 4/19/2021, Task Leader: Semon III, Donald, Discipline: Environmental, and File Reviewed: N001_N002.

ACCEPTED		Reviewed By: Lotti, Ramon	
PROJECT INFORMATION			
Facility Name:	JFK Redevelopment Vision	Review Type:	PA Wide Review
Contract Number:	JFK-174.115	Submittal Percentage / Number:	100
PID Number:	21012000	Date Submitted:	4/2/2021
Project Title:	WO#118 Pile Test Program	Date Reviewed:	4/5/2021
Stage:	3	Due Date:	4/19/2021
Lead Discipline:	Geotechnical	Task Leader:	Semon III, Donald
LEA:	Surujdas, Sean	Discipline:	Environmental
Consultant:	In-House	File Reviewed:	N001_N002
Confidentiality Level:	Not Confidential		

Figure 0-1

Data Governance Plan – BIM Data Quality Control Plan

Mandatory Items

PRE-AUDIT					
PRE-AUDIT	<input type="text" value="YES"/>				
Folder Structure	<input type="text" value="Yes"/>				
File Location	<input type="text" value="Yes"/>				
File Submitted	<input type="text" value="Yes"/>				
File Naming Convention	<input type="text" value="Yes"/>				

PERFORMANCE SUMMARY					
PROJECT SETUP	<input type="text" value="YES"/>	NAMING CONVENTION	<input type="text" value="YES"/>	MODEL INTEGRITY	<input type="text" value="YES"/>
Project Coordinates	<input type="text" value="Yes"/>	Layers	<input type="text" value="Yes"/>	Overlaps	<input type="text" value="Yes"/>
All Xrefs Within PID Folder Structure	<input type="text" value="Yes"/>			Duplicates	<input type="text" value="Yes"/>
External Reference	<input type="text" value="Yes"/>			Floating Contents	<input type="text" value="Yes"/>
Layout Tab	<input type="text" value="Yes"/>			Model Cleanup	<input type="text" value="Yes"/>
1:1 Scale	<input type="text" value="Yes"/>				
Page Setups	<input type="text" value="Yes"/>				

DRAWINGS PERFORMANCE SUMMARY			
PLAN SET PREPARATION	<input type="text" value="YES"/>	STYLES	<input type="text" value="YES"/>
Contract Border	<input type="text" value="Yes"/>	Text	<input type="text" value="Yes"/>
Drawing Information	<input type="text" value="Yes"/>	Dimensions	<input type="text" value="Yes"/>
No Linework in Sheets	<input type="text" value="Yes"/>	Tables	<input type="text" value="Yes"/>
Professional Stamps	<input type="text" value="N/A"/>	CTB	<input type="text" value="Yes"/>
PDFs Setup	<input type="text" value="Yes"/>		

CIVIL 3D	
CIVIL 3D	<input type="text" value="YES"/>
Data Shortcuts	<input type="text" value="N/A"/>
Alignments	<input type="text" value="N/A"/>
Corridors	<input type="text" value="N/A"/>
Pipe Networks	<input type="text" value="N/A"/>
Surfaces	<input type="text" value="N/A"/>













NOTES
<div> Normal   B <i>I</i> <u>U</u>           </div> Great Job

Figure 0-2

For more information, Refer to [Section 1.11](#) in the CAD Standards and [Section 1.3](#) from the CAD Guidelines

APPENDIX B – BIM COMPLIANCE REVIEW

The same as for CAD, the VDC Group has developed a form called the BIM Discipline Compliance Report, which allows for the rating of BIM Standards compliance on every project worked on by each discipline at every project Stage. BIM Standards reviews are applicable to all projects, in-house and/or consultants that are issued either for construction contracts or work orders.

In addition to this review, there are two additional forms called BIM 3D Coordination Report and BIM 4D Simulation Report which allows for the rating of BIM Standards Federated and Synchro Models compliance on every project at every Stage.

B1. INSTANCES OF REVIEW AND SPECIFICATIONS:

B1.1 INTERIM COMPLIANCE REVIEW

- BIM Review is mandatory for:
 - Revit models used to produce report drawings (Stage I).
 - Revit Models used to produce contract drawings by one discipline or more (Stage I to III).
 - Revit Models used for 3D Coordination and As-Constructed (Stage IV).
 - Navisworks files used for 3D Coordination and 4D Simulation. (All Stages)
 - Synchro files used for 4D Simulation. (All Stages)
- Requirements
 - When:
 - **During Design** is required at 50% milestone and 100% submission, additionally as determined by the LEA if no official interim milestone prior to each official submission.
 - **During Construction** is required on every monthly submission or as determined by the RE.
 - Initiated by the LEA, RE via EOL request form.
- Report is issued to the Assistant Chiefs, Principals, LEA, Task Leaders and RE.

B1.2 PA WIDE BIM REVIEW

- BIM Review is mandatory for:
 - BIM models used to produce Construction Documents.
- Review process:
 - An initial compliance report is issued to the LEA and Task Leaders.
 - 2 weeks are provided for the correction of non-compliant model files.
 - At the end of the 2-week period the final BIM Review Reports are issued to the Assistant Chiefs, Principals, LEA and Task Leaders.
- Requirements
 - When: Required at the onset of PA Wide Review.
 - A PA Wide BIM Review is initiated by the LEA via an EOL request form.
 - Upon receipt of the request, the VDC Group is to upload the files to Live Link for electronic review and notify the Contract Engineer of the initiation of PA Wide Review.

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B1.2 AS-CONSTRUCTED BIM REVIEW

- BIM Review is mandatory for:
 - BIM models used to produce As-Constructed models.
- Review process:
 - An initial compliance report is issued to the RE and Contractor.
 - 2 weeks are provided for the correction of non-compliant model files.
 - At the end of the 2-week period the final BIM Review Reports are issued to the RE.
- Requirements
 - When: Required at the onset of Stage IV.
 - The final BIM Review is initiated by the RE via an EOL request form.

B2. BIM – DISCIPLINE COMPLIANCE REPORT

The BIM Discipline Compliance report is divided into 3 main sections:

- **Project Information:** Project files submission Information. Prefilled from the Request form.
- Review fields: **Pre-Audit, Performance Summary** and **Drawing Performance Summary** sections, indicating compliance with BIM Standards results.
- **Notes:** Contain general comments referred to the review, BIM Standard Sections to refer to, etc. This notes will support the understanding of the items failed in the review.

The following images show the different sections of the BIM Discipline Compliance Report using a project example. See images below:



Engineering Operations Project Controls - VDC Group

BIM - DISCIPLINE COMPLIANCE REPORT

ACCEPTED		Reviewed By:	Kozameh, Gabriela
PROJECT INFORMATION			
Facility Name:	Port Authority Trans-Hudson	Review Type:	Stage IV Submittal
Contract Number:	PAT024031	Submittal Percentage / Number:	1298
PID Number:	08969000	Date Submitted:	01/11/2021
Project Title:	Replacement of Substation #7	Date Reviewed:	01/15/2021
Stage:	4	Due Date:	01/29/2021
Lead Discipline:	Architecture	Task Leader:	
LEA:	Stern, Jerome	Discipline:	Architecture
Resident Engineer:	May, Robert (ENG)	File Reviewed:	A08969000-3D_CENTRAL.rvt
Consultant/Contractor:	Mass. Electric Construction Co.	Confidentiality Level:	Not Confidential

Example of BIM Discipline Compliance Report – Project Information

Data Governance Plan – BIM Data Quality Control Plan

PRE-AUDIT					
PRE-AUDIT	YES				
Folder Structure	N/A				
File Location	Yes				
File Submitted	Yes				
File Naming Convention	Yes				
File Size	Yes				
PERFORMANCE SUMMARY					
PROJECT SETUP	NO	NAMING CONVENTION	YES	MODEL INTEGRITY	NO
Project Coordinates	No	Levels	Yes	Phases	Yes
Project Information	Yes	Families	Yes	Worksets	Yes
Project Browser	Yes	Phases	Yes	Family Size	Yes
Project Level	Yes	Room	N/A	Rooms Setup	Yes
Project Grids	Yes	Worksets	Yes	Views Category	Yes
Project Units	Yes	Views	Yes	Sheets Category	N/A
AutoCAD Links	N/A	Sheet Names	N/A	Schedules	N/A
Revit Links	Yes	Sheet Numbers	N/A	Overlaps	No
Point Clouds Links	N/A	GENERAL	YES	Duplicates	Yes
Phase Setup	Yes	BIM Execution Plan	N/A	Object Hosting	Yes
Phase Settings	Yes			Floating Content	Yes
Symbol Settings	N/A			Object Category	Yes
Fill Pattern Settings	N/A			Parameter Assignment	Yes
PDF Export Settings	N/A			Model Cleanup	Yes
DRAWINGS PERFORMANCE SUMMARY					
PLAN SET PREPARATION	N/A	STYLES	N/A		
Title Sheet (Lead)		Objects			
Contract Border		Text			
Drawing Information		Dimensions			
Consultant Information		Lines			
No Linework in Sheets		Symbols			
PDFs Setup		Tags			
		Fill Regions			

Example of BIM Discipline Compliance Report – Review sections

NOTES	
PROJECT SETTINGS	
1. Coordinate System is not consistent with the one set up in the Site Model file provided by the PANYNJ. Site Coordinates are: N/S 694190' 5 97/128" E/W 609262' 0 159/256" Elev 2' 2" Angle to True North 17.66".	
MODEL INTEGRITY	
1. Exterior Railings need to be adjusted.	
2. Some doors are overlapping with walls. Door ID258129 vs Wall ID320358.	
MITIGATION	
No action was needed	

Example of BIM Discipline Compliance Report – Notes

For more information, Refer to [Section 9.0](#) BIM Review Process in the BIM Standards and [Section 3.1](#) from the BIM Guidelines.

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B3. BIM – 3D COORDINATION REPORT

Same as the Discipline Report, the 3D Coordination report is divided into 3 main sections:

- **Project Information:** Project files submission Information. Prefilled from the Request form.
- Review fields: **Pre-Audit** and **Performance Summary** sections, indicating compliance with BIM Standards results.
- **Notes:** Contain general comments referred to the review, BIM Standard Sections to refer to, etc. This notes will support the understanding of the items failed in the review.

The following images show the different sections of the 3D Coordination Report using a project example.

See images below:



Engineering Operations Project Controls - VDC Group

BIM - 3D COORDINATION REPORT

ACCEPTED		Reviewed By:		Kozameh, Gabriela	
PROJECT INFORMATION					
Facility Name:	Port Authority Trans-Hudson	Review Type:	Stage IV Submittal		
Contract Number:	PAT024031	Submittal Percentage / Number:	1298		
PID Number:	08969000	Date Submitted:	01/11/2021		
Project Title:	Replacement of Substation #7	Date Reviewed:	01/15/2021		
Stage:	4	Due Date:	01/29/2021		
Lead Discipline:	Architecture	LEA:	Kearse, Rhonda		
Resident Engineer:	May, Robert (ENG)	Consultant/Contractor:	Mass. Electric Construction Co.		
File Reviewed:	08969000-4D.nwd	Confidentiality Level:	Not Confidential		

Example of BIM 3D Coordination Report – Project Information.

PRE-AUDIT					
PRE-AUDIT	YES				
Files Submitted	Yes				
Folder Structure	Yes				
File Location	Yes				
File Naming Convention	Yes				
PERFORMANCE SUMMARY					
GENERAL	YES	MODEL INTEGRITY	NO	COORDINATION	NO
BIM Progress Report	Yes	Models Alignment	Yes	Clash Report	No
PROJECT SETUP	YES	Site Context	No	Clash Tests	Yes
		Color Scheme	Yes	Clash Settings	Yes
All Links	Yes	Rooms	Yes	Clash Grouping	Yes
Appended Files Format	Yes	2D Elements	Yes	Clash Status	No
Search Sets	Yes			Viewpoints Folder Structure	Yes
Areas of Interest	Yes			Coordination Viewpoints	Yes
NAMING CONVENTION	NO				
Appended File Name	No				

Example of BIM 3D Coordination Report – Review sections.

Data Governance Plan – BIM Data Quality Control Plan

NOTES

NAMING CONVENTION

1. Site Model name differs from name in Revit model.

MODEL INTEGRITY

1. The Site Context is basic and should be improved.

COORDINATION

1. The BIM Report information does not match with the active clashes shown in the file.

Example of BIM 3D Coordination Report – Notes.

For more information, Refer to [Section 9.0](#) BIM Review Process in the BIM Standards and [Section 3.3](#) from the BIM Guidelines.

B4. BIM – 4D SIMULATION REPORT

Same as the previous reports, the 4D Simulation report is divided into 3 main sections:

- **Project Information:** Project files submission Information. Prefilled from the Request form.
- Review fields: **Pre-Audit** and **Performance Summary** sections, indicating compliance with BIM Standards results.
- **Notes:** Contain general comments referred to the review, BIM Standard Sections to refer to, etc. This notes will support the understanding of the items failed in the review.

The following images show the different sections of the 4D Simulation Report using a project example.

See images below:



Engineering Operations Project Controls - VDC Group

BIM - 4D SIMULATION REPORT

ACCEPTED

Reviewed By:

Kozameh, Gabriela

PROJECT INFORMATION

Facility Name:	Port Authority Trans-Hudson	Review Type:	Stage IV Submittal
Contract Number:	PAT024031	Submittal Percentage / Number:	1298
PID Number:	08969000	Date Submitted:	01/11/2021
Project Title:	Replacement of Substation #7	Date Reviewed:	01/15/2021
Stage:	4	Due Date:	01/29/2021
Lead Discipline:	Architecture	LEA:	Kearse, Rhonda
Resident Engineer:	May, Robert (ENG)	Consultant / Contractor:	Mass. Electric Construction Co.
File Reviewed:	08969000-4D.nwd	Confidentiality Level:	Not Confidential

Example of BIM 4D Simulation Report – Project Information.

Data Governance Plan – BIM Data Quality Control Plan

PRE-AUDIT			
PRE-AUDIT	YES		
Files Submitted	Yes		
Folder Structure	Yes		
File Location	Yes		
File Naming Convention	Yes		
PERFORMANCE SUMMARY			
GENERAL	YES	MODEL INTEGRITY	YES
BIM Progress Report	Yes	Task Names	Yes
PROJECT SETUP	YES	Task Activity IDs	Yes
Appearance Profiler	Yes	Planned Dates	Yes
Schedule Data Source	Yes	Actual Dates	Yes
		Attached By Sets	Yes
		Attached By Explicit Selection	Yes
		Unattached Items	Yes
		Items in Multiple Tasks	Yes
		Items in Overlapping Tasks	Yes

Example of BIM 4D Simulation Report – Review sections.

NOTES
MITIGATION No action was needed

Example of BIM 4D Simulation Report – Notes.

For more information, Refer to [Section 9.0](#) BIM Review Process in the BIM Standards and [Section 3.5](#) from the BIM Guidelines.