Northeastern University

BIM Standards March 15, 2023

Acknowledgements

Northeastern University Leadership

Catherine Walsh	Associate Vice President, Fiscal & Management Services
Cassandra McKenzie	Associate Vice President, Real Estate & Capital Projects
Joe Lalley	Associate Vice President, Operations
Timothy Singleton	Assistant Vice President, Capital Projects

Northeastern University BIM Steering Committee

Gary Younger	Director, Program/Project Controls
Sarah Warren	BIM/VDC Technology Manager
Mark Bontempo	Program Director
Adam Sandore	Program Director
Jing Chen	Associate Director, Facilities ITS
Amy Lane	Senior Capital Projects Manager
Negar Pourshadi	Space & Planning Systems Manager
Gregory Geyer	Assistant Director, Life Safety
Rosanna Molinaro	Procurement & Contracts Manager
Carmen Lifrieri	Director Commissioning/MEP Design Standards
Gerard Buggy	Senior Project Manager Design and Construction
Darin Baumunk	Maintenance Planner/Scheduler

References

BIM Forum 2019 Level of Development Specification, April 23, 2019





Ack	nowled	dgements	1
1.	Noi	rtheastern Strategy & Vision	4
2.	Noi	rtheastern University BIM Use Cases / Reason for Requirements	5
	2.1.	Space Planning / Program Management	5
	2.2.	Design	5
	2.3.	Construction	5
	2.4.	Operations and Maintenance	5
3.	Abo	out, How-To-Read	7
	3.1.	Owner	7
	3.2.	Architects	7
	3.3.	Engineers and Design Consultants	7
	3.4.	Construction Managers or General Contractors	8
	3.5.	Sub-Contractors	8
4.	Pro	ject Size / Deliverable Decision	9
5.	RFF	P Requirements	10
6.	Pro	ject Information Flow	11
7.	Mil	estones and Deliverables	12
	7.1.	Schematic Design (SD)	13
	7.2.	100% Design Development (DD) and 50% Construction Documents (CD)	13
	7.3.	100% Construction Documents (CD)	14
	7.4.	Major Bulletins	15
	7.5.	Construction Coordination	15
	7.6.	Substantial Completion	16
8.	Me	eting Requirements	18
	8.1.	Design Kickoff	18
	8.2.	Construction Kickoff Meeting Requirements	18
	8.3.	Construction Document Closeout Meeting Requirements	
9.	BIN	1 Execution Plan Template	
10.	Rol	es	21
	10.1.	Prime Team BIM Manager	21
	10.2.	Consultant BIM Coordinators	21



	10.3.	Construction BIM/VDC Manager	22
	10.4.	Construction BIM Coordination	22
	10.5.	Sub-Contractor BIM Coordinators	23
11.	Softw	/are	24
12.	Mode	l Structure	25
13.	Room	s and Spaces	26
14.	Coord	linates and Origin	27
15.	Existi	ng Condition Guidelines	28
	15.1.	Accessing as-builts from Archives	28
	15.2.	Working with Existing Conditions Models	28
16.	Indem	nnification Clause (Field Verification Clause)	29
17.	Objec	t Modeling	30
	17.1.	Level of Development	30
	17.2.	Granularity	30
18.	Asset	Attributes	31
	18.1.	Designers	31
	18.2.	Architect and Sub-Contractors	31
19.	Classi	fication Requirement	33
20.	Gloss	ary	34
Арр	endix A:	Asset Inventory	36
Арр	endix B:	BIM Deliverables Checklist	61
Арр	endix C:	BIM Ex Template	62
Арр	endix D:	Northeastern Shared Parameter File	63



N



Northeastern University envisions a better-constructed, operated and maintained campus.

In support of this vision, Northeastern University has adopted leading edge technology and project delivery practices, such as Building Information Modeling [BIM] and Virtual Design and Construction [VDC] for new construction, renovation and improvement projects.

When used successfully, BIM and VDC offer higher-quality construction with improved coordination among stakeholders, early resolution of conflicts, fewer delays, lower cost, less material waste and improved safety.

Well-developed BIM models also support operations and maintenance. BIM can improve handover of documents critical for operations, provide asset inventories for populating Northeastern's Integrated Workplace Management System [IWMS] and generate room inventories for space planning and tracking.

Standardization is key to successful BIM collaboration. These BIM guidelines outline minimum requirements by stakeholders to achieve the University's vision.





2. Northeastern University BIM Use Cases / Reason for Requirements

For each of the following job functions, Northeastern University intends Building Information Models to:

2.1. Space Planning / Program Management

- Provide a single-source inventory of Room Names and Numbers.
- Provide accurate area calculations.
- Classify rooms by use and department and sun areas.
- Print floor plans color-themed by use, occupancy or department code.

2.2. Design

- Graphically communicate design intent between architects and engineers.
- Coordinate with consultants in design-level LOD 300 Coordination.
- Ensure consistency across multiple stakeholders' design, such as in room naming and equipment tagging.
- Provide takeoffs for design calculations and models for simulations.
- Provide a visual QA tool for enhanced page-turns.
- Assist in record document turnover.

2.3. Construction

- Provide detail to coordinate virtually among the trades to identify conflicts early and prevent them in the field.
- Provide a visual QA tool for enhanced page-turns.
- Reduce drawing re-work by subcontractors' detailers.
- Support pre-fabrication among subcontractors.
- Reduce coring and drilling through inter-discipline coordination, such as placing concrete sleeves pre-pour.
- Provide point layouts for installation.
- Assist in providing equipment inventories for commissioning.
- Support punch-listing.
- Deliver as-built condition model(s) at substantial completion.

2.4. Operations and Maintenance

- Generate and validate an inventory of maintainable assets and populate records in Northeastern University's IWMS prior to substantial completion.
- Locate maintainable assets by consistent Room Names and Numbers.
- Isolate systems or highlight assets of interest.



- Print drawings or publish them to mobile viewing software.
- Provide tools and information to organize submittals and operation and maintenance manuals (O&M's).
- Trace the parent / child relationship of duct, pipe and electrical systems.





3. About, How-To-Read

Northeastern University's Building Information Modeling Guide details responsibilities, requirements, deliverables and milestones for stakeholders participating in capital projects at the University. It has been developed as an instructional project management tool for all parties, including Northeastern University's internal project management staff.

Requirements have been developed based on the current state of the design and construction industry and are limited to minimize additional work for stakeholders beyond the normal rigors of design and construction.

This guideline speaks to those stakeholders developing electronic documentation during design and construction.

3.1. Owner

Not limited to Campus Planning and Real Estate, Design & Construction, ITS, Operations, and Project Controls.

3.2. Architects

It is especially important for Architects to gain a complete understanding of Northeastern University's BIM vision and requirements for all stakeholders in design and construction.

Firstly, because Architects provide a leadership and management role among design consultants, Northeastern University expects this leadership to extend to its BIM program. This includes scheduling meetings, marshaling consultants and assembling transmittal packages at project milestones.

Secondly, Architects uniquely provide models upon which all other disciplines design, and Architects uniquely maintain their models throughout construction. In Northeastern University's requirements, downstream stakeholders rely on information from background architectural models, such as room locations.

It is therefore important that project Architects understand not only their own requirements, but those for all Designers, Construction Managers and Subcontractors.

3.3. Engineers and Design Consultants

The role of Engineers and Design Consultants within Northeastern University's BIM program prioritizes constructability, early asset management and smooth model-handover to Subcontractors to avoid rework by trade detailers.

Because Design Consultants rely on information upstream from the Architect and provide information downstream to the trade contractors, it is important for Consultants to understand not only their own requirements, but Northeastern University's BIM vision and where they fit in.



Additionally, it is critical to understand the requirements of downstream project stakeholders relying on Consultants' models, to ensure proper collaboration.

Northeastern University's BIM requirements apply to MEPFP Engineers, Structural Engineers, Civil Engineers, Food Service Designers and Lighting Designers.

3.4. Construction Managers or General Contractors

Construction Managers provide a critical role in Northeastern University's BIM program, writing RFPs to Subcontractors, coordinating among trades, scheduling meetings, defining milestones, orchestrating document handover between designers and subcontractors, and preventing and resolving disputes.

Just like Architects in design, it is important that Construction Managers understand not only their own requirements, but requirements for Designers and Subcontractors. The CM's job will be to manage subcontractors' milestone deliverables and coordinate handovers.

3.5. Sub-Contractors

Northeastern University has identified Subcontractors managed through the CM as the best source for models and asset information in its BIM program for two key reasons:

Firstly, in modern construction, Subcontractors develop virtual models, coordinate among other trades, and prefabricate. Subcontractors' Building Information Models provide the best, close-to-accurate digital representation of as-constructed building systems.

Subsequently, Subcontractors purchase and install the physical assets which the University maintains. Subcontractors are therefore the best source of information for Northeastern University's asset management program.

It is therefore important for Subcontractors to understand Northeastern University's modeling and data management requirements, what information they should expect to receive from designers, as well as project milestones in which they may be required to provide information to other stakeholders including the University.

Northeastern University's BIM requirements apply to subcontractors working in the following trades:

Ductwork
HVAC Piping
Plumbing

Fire Suppression

Fire Alarm

Power

Lighting

Tel-data / AV

Kitchen Equipment

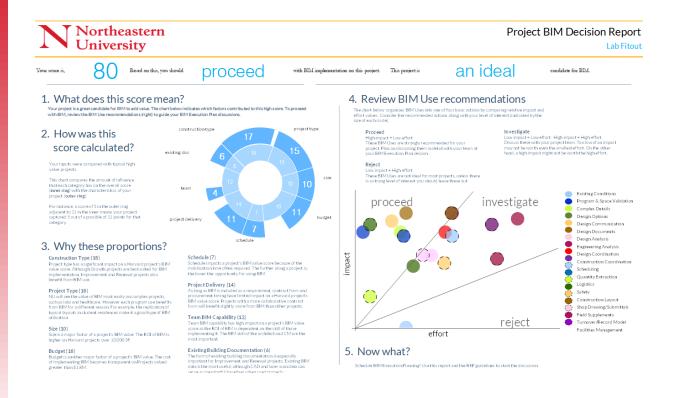


4. Project Size / Deliverable Decision

For all reasons described in Section 1, BIM will be used to develop well-coordinated, costeffective projects and support design, construction and operations.

As a rule, Northeastern University requires BIM for new construction and substantial renovations and improvements. However, many factors such as project type, cost, size, schedule and team capability affect the impact and practicality of BIM.

Northeastern University provides a BIM Decision Selector which a Project Manager may fill out, answering 9 questions. The Selector calculates a score and informs the PM the degree to which BIM should be executed on the project. To further define the feasibility of BIM, the Selector plots data points mapping impact and effort of key uses. For borderline cases, the decision to use BIM may be made at the PM's discretion, using the Selector's results as guidance.







Once a project has been determined as an appropriate application for BIM, the NU project manager must ensure NU's BIM standards are included in the contract language to the Prime, and the Prime must include it in their contract language to their subconsultants.

Construction Managers and General Contractors are expected to include Northeastern University's BIM requirements as line items in their RFP's to subcontractors, and exceptions to these requirements shall not be granted after award of contract.





6. Project Information Flow

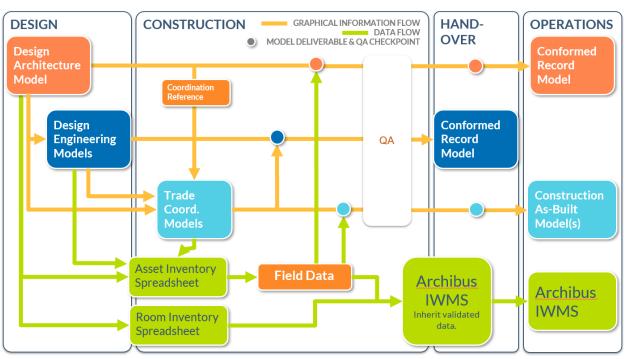


fig. 1 Flow of graphical and non-graphical data throughout design, construction and handover.

Northeastern University's asset inventory, along with all relevant information and reference documents, must be accumulated and normalized from many different sources during a very dynamic construction process. This section details a strategy that relies on existing construction processes to check and recheck data as the project evolves, so that Northeastern University's asset inventory is validated and uploaded to its IWMS software in advance of substantial completion.

Design models, developed by architects and engineers, provide a coarse, preliminary asset and room inventory. Though quantities, locations, tags and nameplate information are subject to change, design models provide a very good baseline for final deliverables

Because the design models assist in providing an asset inventory for the commissioning agent, their assets must contain enough information for the commissioning agent to relate records in the inventory to equipment in the field, such as tags and room numbers.

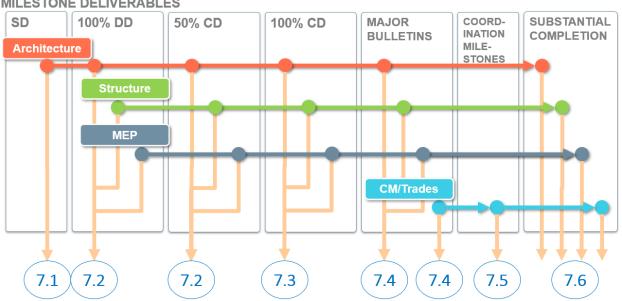


Milestones and Deliverables 7.

Any requirements or allowances made in this document are considered for electronic BIM turnover purposes, and do not supersede or replace any requirements, written or implicit, necessary for design, coordination or construction.

BIM turnover requirements also do not supersede submittal requirements for design review. For design review needs, please communicate with the Northeastern University Project Manager, Commissioning Unit and Trades and Services Managers.

Transfer of BIM models will be through Autodesk Construction Cloud. Final BIM models should also be uploaded to eBuilder as part of closeout document submission.



MILESTONE DELIVERABLES

fig. 2 Submittal Milestones for stakeholders.



7.1. Schematic Design (SD)

Northeastern University requires an electronic deliverable at SD to ensure that design stakeholders understand Northeastern University's BIM requirements and have a plan to execute.

Architects:

The SD Electronic BIM submission should be packaged and transmitted by the Prime, typically the project architect, and include:

- 1. Confirmation of completed BIM Kickoff Meeting
- 2. Finalized BIM Execution Plan (responsibility of the Prime)

7.2. 100% Design Development (DD) and 50% Construction Documents (CD)

Northeastern University requires a BIM deliverable at both 100% DD and 50% Progress CD primarily for quality assurance. Northeastern University reviews files to ensure designers are modeling together in proper coordinate space, that designers are thinking about design constructability and coordinating among disciplines, that a room inventory has been created by the architect and provided for the engineers, that required Parameters have been loaded into all models and that effort is made to begin classifying maintainable assets.

At these milestones, Northeastern University backchecks any comments that have arisen.

Architects:

At DD, an electronic BIM handover should be packaged and transmitted by the Prime, typically the project architect, and include:

- 1. An architectural design Building Information Model containing:
 - a. Northeastern University Parameters, applied to assets, though not yet required to be filled out.
 - b. Intelligent Revit Rooms numbered according to input from Northeastern University's Campus Planning and Real Estate Unit.c. A pdf sheet set.
- 2. A spreadsheet exported from the architectural Building Information Model(s) cataloging the current room inventory with names and numbers.
- 3. A spreadsheet or spreadsheets exported from the Building Information Model(s) cataloging a progress-asset inventory with columns for each of the required Parameters.
- 4. Any additional BIM model(s) used in reference to the project.



Page | **13**

- 1. Any consultant's Building Information Model (MEP, Structure, Lighting, Food Service, etc.) which contains or will eventually contain Northeastern University maintainable assets described in Appendix A. These models include:
 - a. Northeastern University Parameters, applied to assets, though not required to be filed out.
 - b. Intelligent Revit Spaces numbered according to the architectural model.

7.3. 100% Construction Documents (CD)

Northeastern University requires a BIM deliverable at 100% CD to satisfy design constructability and support project management, commissioning and asset data-gathering activities. Northeastern University will review the electronic deliverables at 100% CD for accuracy and completeness.

Architects:

At CD, an electronic BIM handover should be packaged and transmitted by the Prime, typically the project architect, and include:

- 1. A set of construction documents, in pdf.
- 2. A collection of BIM Models demonstrating a coordinated, constructible building design.
- 3. An architectural BIM Model containing:
 - a. All sheets in the construction document set.
 - b. Northeastern University parameters applied to all Northeastern University maintainable assets (described in Appendix A) populated with accurate, required information.
 - c. Intelligent Revit Rooms numbered according to Northeastern University's Campus Planning and Real Estate Unit.
- 4. A spreadsheet exported from the architectural BIM Model(s) cataloging the current room inventory with names and numbers.
- 5. A spreadsheet or spreadsheets exported from all BIM Model(s) cataloging an accurate asset inventory with columns for each of the required Parameters filled in.
- 6. Any additional BIM models used in reference to the project.

Engineers and Design Consultants:

- 1. All consultants' BIM Models (MEP, Structure, Lighting, Food Service, etc.) which include Northeastern University maintainable assets described in Appendix A. These models should contain:
 - a. All sheets in the construction document set.
 - b. Northeastern University parameters, applied to assets, with required parameters filled in.

c. Intelligent Revit Spaces numbered according to the architectural model.

2. A spreadsheet or spreadsheets exported from all BIM Model(s) cataloging an accurate asset inventory with columns for each of the required Parameters filled in.

7.4. Major Bulletins

Northeastern University may require updated BIM models from the design team at major bulletins to support project management, commissioning and asset data-gathering activities.

Architects:

At Northeastern University's request following a major bulletin, an electronic BIM handover should be packaged and transmitted by the Prime, typically the project architect, and include:

- 1. A set of bulletin drawings, in pdf.
- 2. A collection of BIM Models which have changed since the previous BIM transmittal to Northeastern University.
- 3. An architectural BIM Model containing:
 - a. All [revised] sheets in the construction document set.
 - b. Northeastern University parameters applied to all Northeastern University maintainable assets (described in Appendix A) populated with accurate, required information.
 - c. Intelligent Revit Rooms numbered according to Northeastern University's Campus Planning and Real Estate Unit.
- 4. If the room inventory has changed since the previous BIM transmittal, a spreadsheet exported from the architectural Building Information Model(s) cataloging the current room inventory with names and numbers.
- 5. If the asset inventory has changed since the previous BIM transmittal, a spreadsheet or spreadsheets exported from all Building Information Model(s) cataloging an accurate asset inventory with columns for each of the required Parameters filled in.

7.5. Construction Coordination

Northeastern University may request latest coordination/fabrication Building Information Models from the CM for major trades. Northeastern University will perform quality checks to ensure design information is not lost after the handover to construction, and that detailers are staying current entering new information and classifying new assets.

Construction Manager and Subcontractors:

At Northeastern University's request, at coordination milestones, an electronic BIM handover should be packaged and transmitted by the CM and include:



- 1. A collection of Revit Building Information Models, developed by the trade subcontractors listed in Section 3.5, at the current state of coordination. These models should contain:
 - a. All relevant shop drawings.
 - b. Northeastern University parameters, applied to assets, though not yet required to be filed out at this milestone.
 - c. Intelligent Revit Spaces numbered according to the architectural model.

7.6. Substantial Completion

At substantial completion of the project, all project stakeholders must provide requisite closeout documents. A complete list of required documents is provided in a closeout checklist in Appendix B.

Architects:

At substantial completion, an electronic BIM handover should be packaged and transmitted by the Prime, typically the project architect, and include:

- 1. Record drawings, in pdf.
- 2. Record drawings, in AutoCAD format, exported from the BIM Model.
- 3. A federated model containing all linked models from consultants & subconsultants. This may be the architectural model or an additional federated model.
- 4. A collection of Revit BIM Models conformed with all design changes which occurred after CD's. The Architectural model must contain:
 - a. All sheets in the record set, containing all revisions.
 - b. Northeastern University parameters applied to all Northeastern University maintainable assets (described in Appendix A) populated with accurate required information.
 - c. Intelligent Revit Rooms numbered according to Northeastern University's Campus Planning and Real Estate Unit.
- 5. A spreadsheet exported from the architectural BIM Model(s) cataloging the final room inventory with names and numbers.
- 6. A spreadsheet or spreadsheets exported from all BIM Model(s) cataloging an accurate asset inventory with columns for each of Northeastern University's required parameters filled in.
- 7. Any additional BIM models used in reference to the project.

Revit models submitted at this time should be audited & compacted, as well as purged of unnecessary families, materials, views, sheets, and links. Delete reference-only linked AutoCAD/Navisworks files.



Engineers and Design Consultants:

At substantial completion, all design consultants (MEP, Structure, Lighting, Food Service, etc.) must provide the following electronic files to the Prime for transmittal to NU:

- 1. Record drawings, in pdf.
- 2. Record drawings, in AutoCAD format, exported from the Building Information Model(s).
- 3. Consultant's BIM Models of record in Revit. These models must contain:
 - a. All sheets in the construction document set, containing all revisions.

Construction Manager and Subcontractors:

At substantial completion, the Construction Manager must coordinate among its subcontractors and package an electronic BIM handover for transmittal, which must include:

- 1. As-Built drawings, in pdf.
- 2. As-Built drawings, in AutoCAD format, exported from the Revit models.
- 3. A collection of Revit BIM Models, if developed by the trade subcontractors, showing the final, "as-built" state of construction. These models shall contain:
 - a. All relevant shop drawings, as Sheets in the Revit Models.
 - b. Northeastern University parameters applied to all Northeastern University maintainable assets (described in Appendix A) and populated with accurate, required information.
 - c. Intelligent Revit Spaces numbered according to the architectural model.
- 4. Spreadsheets exported from all Building Information Model(s) cataloging an accurate asset inventory with columns for each of Northeastern University's required parameters filled in.
- 5. Operations and Maintenance Manuals, in pdf format.
- 6. Warranties, in pdf format.
- 7. Final Commissioning Report(s).

See Northeastern University Requirements for Closeout Deliverable.



8. Meeting Requirements

8.1. Design Kickoff

Required Attendees

Northeastern University BIM Manager

Architect/Engineer Project Manager

Architect/Engineer BIM Manager

Consultant BIM Coordinators

Northeastern University Project Manager, Space Planner

As soon as possible after the contract award, the Prime BIM Manager and Northeastern University Project Manager will schedule a BIM kick-off meeting. BIM Managers from all participating design entities will attend the meeting. The Northeastern University Project Manager or Prime BIM Manager will work with the other team members to complete a BIM Execution Plan using Northeastern University's template, or their own when approved.

8.2. Construction Kickoff Meeting Requirements

Required Attendees

Northeastern University BIM Manager

Architect/Engineer Project Manager

Architect/Engineer BIM Manager

Construction Manager

Construction Manager BIM Manager

Northeastern University Project Manager, ITS

As soon as possible after the Construction Manager is selected, the CM and Northeastern University Project Manager will schedule a BIM kick-off meeting. BIM Managers from major design entities will attend the meeting. If the CM's BIM Execution Plan meets the requirements of Northeastern University, the CM's Execution plan will be used for the project. Otherwise, Northeastern University's BIM Execution plan will be updated and used for the project.

At the meeting, the CM should get questions answered regarding Northeastern University's BIM program, asset management and barcoding requirements, and RFP language when selecting subcontractors.



8.3. Construction Document Closeout Meeting Requirements

Required Attendees

Northeastern University BIM Manager Prime Architect Project Manager Prime Architect BIM Manager Consultant BIM Coordinators Construction Manager Construction Manager BIM Manager

Northeastern University Project Manager(s), Facilities Trade Operations Supervisors, Commissioning Agent, Asset Data Analysts, ITS

At or nearing substantial completion of the project, the Construction Manager must assemble all electronic documents required for closeout and coordinate a meeting with stakeholders and Northeastern University project managers. During the meeting, Northeastern University Project Managers will fill in the checklist from Appendix B, verifying all required electronic documents have been received and satisfy Northeastern University's guidelines. Northeastern University project managers may supplement Appendix B with more granular, project-specific checklists, for example to ensure *all* warranties have been received.

As long as milestones are met throughout the project, the closeout meeting should be straightforward. However, it is normal that there will be deficiencies, given the large amount of data. It is first the job of the Construction Manager to identify and resolve deficiencies prior to the meeting, and then the job of Northeastern University project managers to review the data to their satisfaction.





9. BIM Execution Plan Template

Northeastern University provides a BIM Execution Plan Template for completion by the Architect during the BIM Kickoff Meeting. Northeastern University projects managers may review the Architect's or CM's BIM Execution Plan, which may be used instead if it meets the requirements of the University.



10. Roles

10.1. Owner's BIM Manager

The Owner's BIM Manager provides overall BIM direction, and enforcement of University BIM Standards. These responsibilities are predominantly during project setup and project closeout. This individual is available as a resource for internal BIM Users, as well as to communicate with external consultants to convey project requirements. This BIM Manager's tasks include:

- Communicating project requirements with the Owner's PM Team
- Reviewing the Prime A/E provided BIM Execution Plan or enforcement of Owner's BIM Execution Plan
- Providing template information and standards to external users
- Facilitating exchange of existing conditions models at project startup
- Facilitating receipt and review of as-built models at project closeout
- Integration of as-built conditions as part of project closeout

10.2. Prime Team BIM Manager

The Design BIM Manager provides overall BIM direction, continuity in model development, and quality control, per the BIM execution plan. This BIM Manager's tasks include:

- Communicating directly with the project architect.
- Creating the BIM execution plan for the project.
- Overseeing development and publication of model configurations and supporting seamless integration of the models and project data.
- Facilitating design clash detection of models for meetings; providing detection reports and managing the resolution of collisions.
- Ensuring that BIM Models are used appropriately to test design requirements and criteria for functionality.
- Assuming responsibility for the proper classification of all spaces and equipment.
- Determining the project BIM geo-reference point(s) if not provided in existing conditions models and assuring ALL technical discipline models are properly referenced.
- Assuring that the design deliverables specified in the contract are provided in accordance with Northeastern University's requirements.
- Ensuring construction documents are produced from a fully coordinated design intent model.
- Ensuring the transfer of BIM management responsibilities to the construction team.

10.3. Consultant BIM Coordinators

All major disciplines shall assign an individual to the role of BIM Discipline Coordinator. These individuals shall have the relevant BIM experience for project responsibilities, which include:



- Coordinating discipline BIM development, standards, and data requirements, as necessary, with the Design BIM Manager.
- Support the discipline BIM teams.
- Coordinating clash detection and resolution, and federation of the discipline models with Prime BIM Manager.
- Coordinating specific discipline activities in the BIM execution plan.
- Coordinating information needed by Northeastern University from trade and technical disciplines (for example, asset inventory spreadsheets).

10.4. Construction BIM/VDC Manager

The design team's model will be shared with the constructor. "Constructor" includes the traditionally designated General Contractor (GC) or Construction Manager (CM) or CM at Risk (CMR) as well as subcontractors in their capacities as both builders and influencers of design execution. BIM responsibilities of the Constructor BIM Manager include:

- Maintaining the BIM models and integrating appropriate information developed during the construction phase, managing model handover from Design BIM Manager.
- Developing the BIM Coordination Room.
- Ensuring the Construction Team has necessary hardware and BIM software installed and accessible.
- Coordinating sub-contractor BIM use.
- Facilitating clash detection and resolution.
- Coordinating construction sequencing and scheduling activities, and assuring they are integrated with the Construction BIM.
- Communicating with the Design Team and coordinating the data extraction sets required by the construction trades and ensuring that these requests are met.
- Coordinating with the Design Team to facilitate documentation of field design changes and timely update of the As-Built BIM.
- Working with the Design Team BIM Manager to coordinate model commissioning and data handover.
- Packaging the electronic handover transmittal.

10.5. Construction BIM Coordinators

In addition to the project scope of work requirements, the constructor shall provide consulting, leadership, oversight, and technical capability to support Northeastern University's BIM objectives on projects. The CM shall provide expertise and resources to maximize the effectiveness of BIM and related technologies for program management, project and construction management, and other analytical services to improve quality, reduce costs, and gain operational efficiencies on Northeastern University projects. In regard to BIM, the constructor shall:

- Facilitate development of the BIM execution plan, review BIM Use strategies defined by the team, and monitor execution.
- Provide oversight of the model progression, standards and data development.



Page | 22

- Coordinate BIM reviews with Northeastern University personnel for quality assurance.
- Work with the design team and contractor to maximize BIM sharing and data re-use.
- Provide additional BIM capabilities if needed to minimize project risk.

10.6. Sub-Contractor BIM Coordinators

All major trades shall assign a BIM Coordinator to manage trade model development, sharing, and use with the CM. Sub-Contractor Coordinators' roles include:

- Developing detailed models for Shop Drawings.
- Supporting pre-fabrication and fabrication requirements.
- Providing data required by Northeastern University standards.
- Managing scheduled model updates and exchanges.
- Participating in clash detection and resolution activities.
- Coordinating internal BIM training.

11. Software

Northeastern University requires all architects, engineers, design consultants and those trade contractors listed in Section 3.5 to design in Autodesk Revit.

Required software version numbers will be provided by Northeastern University during the project kickoff meeting and documented in the BIM Execution Plan. Use of correct software versions is a strict requirement and critical for interoperability with Northeastern University's asset and program management software. Use of an incorrect software version may greatly limit BIM's usefulness to the University.

This includes not only Revit year but also version/hotfix. Revit version should be agreed upon by the Project Team at project kickoff (ex. 2023.1)





This section provides guidelines, not requirements, for structuring Building Information Models.

We often refer to a singular Building Information Model when in fact designers and contractors turn over a collection of models linked into one another. An architectural model, for example, will not contain many structural elements, but rather will reference the structural engineer's model. Linking models allows designers and contractors to work together in parallel and provide each other updates efficiently.

Additionally, very large or phased projects may be separated to a finer degree. It is not uncommon for a large architectural "model" to consist of separate models such as core/shell and an interior fit out.

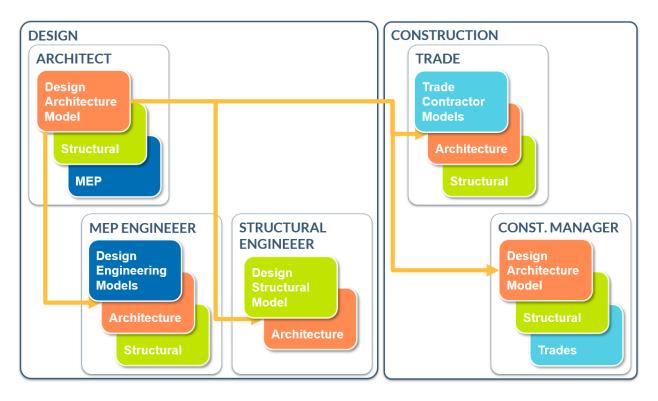


fig. 3 – The Building Information Model(s) provided by the Architect is linked into all other stakeholders' models as a background for design and coordination.

The Project Model Folder Structure should be preserved on transmittal, and during the kickoff meeting, Northeastern University may provide a cloud service for the transmission and storage of the files.



13. Rooms and Spaces

Note: Architects should not create their own room numbers, but rather reach out to Northeastern University's PM and space planners for numbering and naming standards.

Assets in a Building Information Model can tell you what Room or Space they are located in. BIM is therefore well-suited to provide Northeastern University with data for its IWMS software, where location information is critical.

Architects are required to use intelligent Revit Rooms in their Building Information Models. Within Revit's Area and Volume Computations dialog box, Architects should select "Areas and Volumes" under "Volumes are computed at", and "At wall finish" under "Room Area Computation".

Architects are required to provide Revit Rooms wherever maintainable assets may be found, which may include rooftops, shafts, outdoor spaces, open-to-below and large interstitial spaces.

The Room Bounding Parameter on all Revit ceilings should be unchecked, and Room Volumes should extend to the Level above.

One Revit model should contain a complete room inventory, within the project's new construction Phase, for floor(s) where new work is shown. In projects where the core and shell is modeled in a separate file from the interior fit-out, core and shell rooms must be pasted into the fit-out model. Existing-to-Remain Rooms must exist in the new construction Phase.

The model must contain no "Redundant" or "Not Placed" rooms when all necessary background models are linked. Rooms must be accurately placed and bounded within their surrounding Walls and Room Separator Lines. Northeastern University requires the following Parameters to be populated for each room in the Architectural model:

Name

Number

MEP designers and trade contractors are required to create intelligent Spaces in their model(s), with names and numbers matching the architectural Rooms, and extending to the level above. MEP designers are required to ensure that all maintainable asset families properly detect their Space.



14. Coordinates and Origin

Northeastern University may provide architects and consulting engineers with a base model containing a pre-established coordinate system.

Whenever a base model is provided, Northeastern University requires all other models to Link the provided Revit base model "Origin-to-Origin" and ensure the base model link is never moved.

When no base model exists, architects are required to establish a coordinate system using the following workflow to edit Revit's Survey Point:

1. Open a Floor Plan View.

Page | 27

- 2. Open the Visibility/Graphics Overrides, and under the Model Categories tab, expand Site and check on Internal Origin, Project Base Point, and Survey Point.
- 3. Initially, the project base point, appearing as a circle, and the survey point, appearing as a triangle, are at the same location.
- 4. To select the survey point, move the cursor over the two symbols. If the tooltip or status bar says Site: Project Base Point, press Tab until it says Site: Survey Point. Click to select the survey point.
- 5. A paperclip icon displays next to the survey point to indicate its clipped state. If the survey point is clipped, **click to unclip it.**
- 6. Under the Manage Tab, Project Location Panel, Coordinates Dropdown, Select "Specify Coordinates at Point"
- 7. Hover over the Survey Point/Project Base Point, and press Tab until the status bar says "Site: Survey Point"
- 8. Type the Northing, Easting, and Elevation values into the fields that appear on the drawing area.
- 9. Click the paperclip icon to clip the survey point again.
- 10. To ensure the survey point does not move inadvertently, pin it in place by clicking Modify tab Modify panel (Pin).
- 11. Position the Project Base Point at the same place as the Survey Point.

All consultants and contractors are required to use the Architectural model as their base, linking it into their own models Origin-to-Origin, acquiring Shared Coordinates, and ensuring the link is never moved.

If the project is the fit-out of a floor within an existing building for which no Revit model yet exists, architects are required to model using Levels with the correct offset relative to sea level and establish a coordinate system following the steps above.



Project managers, planners and consultants should reach out to Northeastern University for understanding of existing conditions; not simply drawings, but utilities as well.

15.1. Accessing as-builts from Archives

Whenever legacy BIM models exist, they will be stored within Northeastern University's Autodesk Construction Cloud Hub. Architects and engineering consultants will be provided access to this self-service library upon request.

15.2. Working with Existing Conditions Models

Whenever linking existing conditions models, Northeastern University requires architects, engineering consultants and contractors to follow the Coordinates and Origin guidelines of section 20.

Regardless of workflow, the project Prime shall create a 'New Construction' Phase in their model named using the year, Northeastern University project Number and descriptor (i.e. 2016-14899 Auditorium Renovation).

Upon handover, the tenant improvement model will be stored by Northeastern University in its document warehouse. Northeastern University will create a new phase in their master model corresponding to the new work and demolish appropriate objects in the master model. Northeastern University will copy and paste 3D asset work from the fit-out model into the master model, expecting coordinates to align. Northeastern University will reconnect new duct and pipe to existing risers. Northeastern University will transfer annotation on a per-view basis.



16. Indemnification Clause (Field Verification Clause)

Beyond project closeout, Northeastern University may share data files consisting of data, information, communications, drawings, texts, models (including, but not limited to building information models or "BIM"), or a combination of the foregoing, created, used, or stored within the Northeastern University's Document Warehouse in digital form (hereinafter collectively, "Digital Data") with future architects, engineers, contractors, consultants, service providers, or other parties (hereinafter collectively, "Recipient Party"). Notwithstanding the terms governing the use of Digital Data in any other agreement the Recipient Party may have with Northeastern University, the Recipient Party's use of such Digital Data shall be at the Recipient Party's sole risk and without liability to the authoring party and its contractors or consultants, the authors of or contributors to the Digital Data, and each of their agents and employees. To the fullest extent permitted by law, the Recipient Party of any such Digital Data shall indemnify and hold harmless the authoring Party and its contractors, consultants, agents, and employees from and against any and all claims, damages, losses and expenses, including, but not limited to, attorneys' fees and costs, arising out of or resulting from such Recipient Party's use, transmission, or reliance on such Digital Data.



17. Object Modeling

17.1. Level of Development

Northeastern University requires architects and designers to model building features relevant to their disciplines at LOD 300 or greater according to the BIM Forum's 2019 specification.

Contractors are required to model building features relevant to their trades at LOD 350 or greater according to the BIM Forum's 2019 specification.

17.2. Granularity

Northeastern University requires building features listed in Appendix A to be modeled as discrete Revit Families containing attributes listed in Section 24.

In general, Northeastern University does not require building features to be broken apart into smaller components than what would be typically listed in a design schedule. For example, door hardware does not need to be modeled separately from doors, and motors do not need to be modeled separately from doors, and motors do not need to be modeled separately from equipment.

Northeastern University requires two notable exceptions:

- Variable Frequency Drives and Heat Recovery Wheels inside of packaged Air Handling Units must be modeled separately from the Air Handling Unit
- Alarm Devices such as **Waterflow Switches** provided in Floor Control Valve Assemblies.





Northeastern University provides a table in Appendix A listing its inspected and maintained asset classes which are typically installed during construction. Equipment, fixtures and building features described in that table all require the following Revit Parameters filled out:

18.1. Designers

NU Building Code	Room Number (Revit Default)
NU Floor Number	Room name (Revit Default)
NU Design Tag*	NU Uniformat Classification & Description

18.2. Architect/Enginner and Sub-Contractors

All listed above, plus:

NU Room Number	NU Barcode*
NU Room Name	Manufacture
Submittal Number	Model
Operation and Maintenance Manual [Submittal Number]***	Install Date

Serial Number**

Attributes listed above must be applied to all maintainable assets listed in Appendix A using only Revit Shared Parameters provided by Northeastern University. Designers' and contractors' BIM Managers may choose *how* to apply those parameters (as project- or family-parameter, as instance- or type-parameters).

It is critical that all designers and contractors use the same Revit Parameters. Northeastern University maintains a Shared Parameter file which may be obtained from the University on request. Alternately, Appendix D contains the Shared Parameter text and instructions for creating the file.



*The Design Tag simply requires the label with which designers or trade contractors uniquely label their equipment, fixtures and building features. Designers and contractors may also use a different Parameter field for their tags, to work with their own schedules and annotation, but Northeastern University requires that all stakeholders include those tags in the common NU Design Tag Parameter as well.

** Serial Number and Barcode values shall be provided to the Architect. Architects and contractors are not responsible for researching that information and are not required to enter those fields if not provided.

***The Operation and Maintenance Manual parameter, where applicable, should contain the submittal number which the O&M was submitted under.

**** In MEP Models, proprietary NU Room Number and NU Room Name parameters must be used in addition to the standard built-in Revit Room data.





19. Classification Requirement

Northeastern University classifies all its inspected and maintained assets using industry standard Uniformat codes, provided in Appendix A. For each asset class, Appendix A lists the project stakeholder responsible for its digital data, namely its geometry and location in the BIM model, as well as attribute values described in section 24.

All stakeholders in the project are required to identify equipment, fixtures and building features for which they are responsible. For each instance of that class in the stakeholder's BIM model, apply the **NU Uniformat Classification** parameter and enter its correct value.

Building features not described in Appendix A do not require attributes.



20. Glossary

AEC Architecture, Engineering and Construction

As-Built The definition for as-built drawings may differ depending on organization, but Northeastern University defines as-built drawings as drawings that are prepared at the end of a construction project by the contractor. These are drawings / plans that show the work, as actually installed.

Asset A physical object in the building that requires inspections, maintenance or preventive maintenance and is therefore tracked in Northeastern University's work order management software. The word "Asset" in this document may also refer to the physical object's electronic representation in the BIM model.

BIM Building Information Modeling, an alternative to Computer-Aided Drafting which uses an object-based, parametric modeling approach.

CD Construction Documents which detail 100% architectural and engineering design. Whenever this document refers to "CD" as a milestone, it indicates the completion date of 100% Construction Documents.

CM Construction Manager

DD Design Development design phase. When this document refers to "DD" as a milestone, it indicates the *completion* of the DD phase.

GC General Contractor

IWMS Integrated Work Management System used for managing facility assets, space utilization and work requests.

LOD Level of Development. A reference defining characteristics, accuracy and detail of BIM model elements. Northeastern University's BIM guidelines refer to the BIM Forum's 2019 Level of Development Specification.

LOD300 In general, a Level of Development with accuracy and detail sufficient for designers to create Construction Documents and coordinate their models to demonstrate constructability. Northeastern University's BIM guidelines refer to the BIM Forum's most current Level of Development Specification.

LOD350 In general, a Level of Development with accuracy and detail sufficient for contractors to create shop drawings and coordinate among trades to demonstrate constructability. Northeastern University's BIM guidelines refer to the BIM Forum's most current Level of Development Specification.

MEP Mechanical, Electrical, Plumbing and Fire Protection.



Page | 34

MEPFP Mechanical, Electrical, Plumbing and Fire Protection design.

O&M Operations and Maintenance Manual

Prime Used in this document to refer to the design firm, most commonly the architect, who entered into a prime agreement with Northeastern University in a Design-Bid-Build project, and who subcontracts and leads other designers to produce Construction Documents.

Record Drawings Record drawings are prepared by the architect and its consultants and reflect on-site design changes the contractor noted in the as-built drawings. They are often compiled as a set of on-site changes made for the owner per owner/architect contract. (see contract Northeastern University Agreement Between Owner and Architect / Engineer)

SD Schematic Development design phase. When this document refers to "SD" as a milestone, it indicates the *completion* of the SD phase.

VDC Virtual Design and Construction is an approach led by Construction Managers to coordinate a digital computer model of a building prior to construction. Using their computer model, a VDC manager anticipates conflicts and communicates them to the subcontractors, avoiding time and cost overruns.





Appendix A: Asset Inventory

Classifications

Classifying inventoried assets, whether in Integrated Work Management Systems (IWMS) like Archibus, Construction Management software like BIM 360 Field, or BIM software like Revit, provides three major functions:

First, well-developed classifications allow users to search, filter, view, and take off assets based on what they are. For example, a user may wish to see a list of all rooms containing Duct Smoke Detectors. If Duct Smoke Detectors were classified as anything less granular, the search query might return a list that includes Elevator Smoke Detectors and Ceiling Smoke Detectors as well.

Second, classifications are often used for assigning templates in different applications. For example, classifications help Northeastern University assign Preventive Maintenance checklists in its IWMS.

Finally, thoughtful classifications alleviate confusion that may occur between MEP trades, where often the same equipment might go by different names, or different equipment might share the same name.

Tags and Unique Identifiers

Throughout construction, asset tags will be transferred across different platforms, and be referenced by multiple subcontractors, consultants and manufacturers. It is therefore best to identify, consolidate and sometimes create these identifiers early in the process.

Designers often do a great job in their Design Models using intelligent parameters to identify their fixtures and equipment. However, requirements of their design process and features of the Revit software often require them to store identifying tags inconsistently across assets. For example, a chilled water pump may be identified as CHWP-1, but its tag is stored in two separate parameter fields, so that the 'CHWP' and the '1' can appear in separate lines within a hexagonshaped tag on the piping plans. Anyone viewing the plans infers the pump's tag by combining the two fields mentally. Meanwhile, electrical designers might identify their equipment on a single line, so Emergency Lighting Panel ELP-1 exists already as a single, yet different, parameter. To reduce Northeastern's workload of mapping parameters during each of the data transfer steps, both the pump tag and the lighting panel tag should be migrated to a parameter that is common to all assets, namely the NU Design Tag.

*Manufacturer, Model Number, Serial Number and Barcode values shall be provided to the Architect by the Commissioning Agent or by NU to be imported into their models. Architects and contractors are not resposible for researching that information, and are not required to enter those fields if not provided.

**Limited to Riser Isolation Valves, Control Valves and Isolation Valves 2-1/2" and greater.

- ***Date Installed required only when warranty is provided
- ****O&M Manual Submittal Number required only when applicable.





41034 ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
B1029	SUPERSTRUCTURE	ROOF	✓		✓	~	~	~	~	~	✓				√*				
				ADCU															
B2033	EXTERIOR ENCLOSURE	DOOR, REVOLVING	✓	ARCH	√	✓	√	✓	√	✓	√				√ *		✓		****
B2034	EXTERIOR ENCLOSURE	DOOR, OVERHEAD ROLL-UP, MANUAL	✓	ARCH	×	1	1	1	✓	✓	1				√ *		✓		****
B2034	EXTERIOR ENCLOSURE	DOOR, OVERHEAD ROLL-UP, POWERED	✓	ARCH	×	✓	√	✓	✓	✓	 ✓ 				√ *		✓		****
B2039	EXTERIOR ENCLOSURE	DOORS AND HARDWARE, EXTERIOR																	
B2039	EXTERIOR ENCLOSURE	DOOR, EXTERIOR, SWINGING, POWERED	✓	ARCH	✓	✓	✓	✓	✓	~	✓				√*		✓		****
B2039	EXTERIOR ENCLOSURE	DOOR, SWINGING, MANUAL	✓	ARCH	×	1	×	1	1	✓	1				√ *		✓		****
B3011	ROOFING	MEMBRANE ROOF																	
B3012	ROOFING	VEGETATIVE ROOF																	
B3016	ROOFING	HEAT TRACE - GUTTER																	
B3016	ROOFING	GUTTERS AND DOWNSPOUTS																	
C1021	INTERIOR CONSTRUCTION	DOOR, RADIO FREQUENCY SHIELDED																	
C1021	INTERIOR CONSTRUCTION	DOORS AND HARDWARE, INTERIOR																	
C1021	INTERIOR CONSTRUCTION	DOOR, FIRE, OVERHEAD	✓	ARCH	×	✓	√	✓	✓	✓	×				√ *		✓		****
C1021	INTERIOR CONSTRUCTION	DOOR, FIRE-RATED	✓	ARCH	×	~	×	✓	✓	✓	×				√ *		~		****
C1021	INTERIOR CONSTRUCTION	DOOR, FIRE-RATED, SLIDING	✓	ARCH	×	✓	×	✓	×	✓	×				√ *		✓		****
C1021	INTERIOR CONSTRUCTION	DOOR, HANGER	✓	ARCH	×	✓	×	✓	×	✓	×				√ *		✓		****
C1021	INTERIOR CONSTRUCTION	DOOR, INTERIOR, SWINGING, POWERED	✓	ARCH	✓	~	✓	✓	✓	~	~				√ *		✓		****
C1021	INTERIOR CONSTRUCTION	DOOR, SLIDING, POWERED	✓	ARCH	×	~	×	✓	✓	✓	×				√ *		~		****
C1021	INTERIOR CONSTRUCTION	SHUTTER, POWERED	✓	ARCH	×	~	×	~	~	~	×				√ *		✓		****
D1011	CONVEYING	ELEVATOR, PASSENGER TRACTION MACHINEROOMLESS																	
D1011	CONVEYING	ELEVATOR, PASSENGER HYDRAULIC	✓	ARCH	✓	~	✓	~	✓	~	✓	√ *	√*	√*	√*		~	***	****





ASTM UNIFORMAT II LEVEL ASTM UNIFORMAT II LEVEL I CORMAT II LEVEL I CORPENDINE CONTANDI II LEVEL I CONTANDI CONTANDI II LEVEL I CONTANDI CONTANDI II LEVEL I CONTANDI CONTANDI II CONTANDI I CONTANDI II CONTANDI	Serial Number	Barcode Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D1011 CONVEYING ELEVATOR, ARCH PASSENGER I I I I I I I I I I I I I I I I I I I	√ * y	√*	~	***	****
D1012 CONVEYING ELEVATOR CONTROL SYSTEM					
D1012 CONVEYING ELEVATOR, FREIGHT ARCH ARCH ARCH ARCH ARCH ARCH ARCH ARCH	√ * •	√ *	1	***	****
D1012 CONVEYING ELEVATOR, FREIGHT , ARCH , I , I , I , I , I , I , I , I , I ,	√ * •	√*	×	***	****
D1013 CONVEYING LIFT, ELECTRIC, ARCH 🗸 🖌 🖌 🖌 🗸 🗸 🗸 🗸	√ * •	√ *	~	***	****
D1013 CONVEYING LIFT, HYDRAULIC , ARCH , , , , , , , , , , , , , , , , , , ,	√ ∗ •	√*	1	***	****
D1013 CONVEYING LIFT, WHEELCHAIR , ARCH , AR	√ ∗ v	√*	~	***	****
D1021 CONVEYING ESCALATOR , ARCH , AR	√ * v	√*	1	***	****
D1091 CONVEYING DUMBWAITER , ARCH , ARCH , J , J , J , J , J , J , J , J , J ,	√ * •	√*	~	***	****
D1092 CONVEYING PNEUMATIC TUBE BLOWER					
D1092 CONVEYING PNEUMATIC TUBE SYSTEM, TRANSFER UNIT					
D1092 CONVEYING PNEUMATIC TUBE ARCH ARCH		√*	1	***	****
D1093 CONVEYING CHAIN HOIST AND TROLLEY			1		****
D1093 CONVEYING CRANE, ELECTRIC BRIDGE			1		****
D1093 CONVEYING CRANE, LAB			1		****
D1093 CONVEYING HOIST			~		****
D1098 CONVEYING LOCOMOTIVE ENGINE, DIESEL, DFC-ONLY			1		****
D1098 CONVEYING RAILROAD TRACKAGE			1		****
D1098 CONVEYING RAILROAD TURNOUTS			1		****
D2011 PLUMBING TOILET , ARCH , , , , , , , , ,			1		****
D2012 PLUMBING URINAL ARCH V V V V V V			~		****
D2013 PLUMBING LAVATORY , ARCH , , , , , , , , ,			~		****
D2017 PLUMBING SHOWER , ARCH , X , X , X , X			~		****



ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D2018	PLUMBING	DRINKING FOUNTAIN	1	MEPFP / Trade	1	1	1	×	×	1	×	1	✓	1	×		✓	***	****
D2019	PLUMBING	EMERGENCY PLUMBING FIXTURES																	
D2019	PLUMBING	EMERGENCY DRENCH HOSE	✓	MEPFP / Trade	1	1	1	✓	1	1	1	1	1	1	✓		✓		****
D2019	PLUMBING	EMERGENCY EYE WASH	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	1	1	1	✓		✓		****
D2019	PLUMBING	EMERGENCY EYE WASH & SHOWER COMBINATION STATIONS	1	MEPFP / Trade	~	~	✓	~	~	1	~	~	~	~	~		1		****
D2019	PLUMBING	EMERGENCY SHOWER	✓	MEPFP / Trade	×	1	✓	✓	×	~	✓	1	✓	✓	✓		~		****
D2020	PLUMBING	PIPING, DOMESTIC WATER																	
D2020	PLUMBING	VALVE, PRESSURE REDUCING																	
D2020	PLUMBING	VACUUM BREAKER	✓	MEPFP / Trade	×	1	×	1	×	1	×	1	✓		✓		~		
D2020	PLUMBING	VACUUM BREAKER, SPILL-PROOF	1	MEPFP / Trade	1	1	1	1	1	1	1	1	1		1		1		
D2020	PLUMBING	VALVE, AUTOMATIC**	1	Trade	×	1	×	×	×	1	×	1	×		1		✓	***	****
D2020	PLUMBING	VALVE, MANUAL**	✓	Trade	1	1	1	1	1	1	1	1	1		✓		✓	***	****
D2020	PLUMBING	VALVE, MOTORIZED**	1	Trade	×	×	×	1	×	×	×	1	✓		<		✓	***	****
D2021	PLUMBING	METER, WATER																	
D2021	PLUMBING	BACKFLOW PREVENTER - DOMESTIC WATER	~	MEPFP / Trade	×	~	✓	~	✓	~	~	~	✓	~	✓		~	***	****
D2022	PLUMBING	STEAM BATH, ELECTRIC	1	ARCH	×	1	×	✓	×	×	×	√ *	√ *	√ *	√ *		✓	***	****
D2022	PLUMBING	VALVE, HOT WATER MIXING	1	MEPFP / Trade	×	√	×	1	×	√	×	1	✓	 ✓ 	✓		✓	***	****
D2022	PLUMBING	WATER HEATER, ELECTRIC	1	MEPFP / Trade	×	1	×	×	×	1	×	1	✓	1	×		✓	***	****
D2022	PLUMBING	WATER HEATER, FUEL OIL	~	MEPFP / Trade	×	×	×	✓	×	✓	×	1	✓	✓	✓		✓	***	****
D2022	PLUMBING	WATER HEATER, NATURAL GAS	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	✓	1	✓		✓	***	****
D2022	PLUMBING	WATER HEATER, SOLAR	✓	MEPFP / Trade	×	1	✓	✓	√	✓	×	1	✓	 ✓ 	✓		✓	***	****
D2022	PLUMBING	WATER HEATER, STEAM	1	MEPFP / Trade	×	×	×	✓	×	✓	×	1	×	1	√		✓	***	****
D2022	PLUMBING	WATER HEATER, TANKLESS INSTANTANEOUS	~	MEPFP / Trade	1	~	1	1	1	~	~	~	1	~	1		~	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D2023	PLUMBING	PUMP, DOMESTIC WATER	1	MEPFP / Trade	×	1	×	✓	✓	1	1	1	1	1	✓		✓	***	****
D2024	PLUMBING	EXPANSION TANK, DOMESTIC WATER																	
D2034	PLUMBING	CONTROLLER, SEWAGE EJECTION																	
D2034	PLUMBING	GREASE TRAP	1	MEPFP / Trade	✓	1	×	1	✓	1	1	1	1		1		1		
D2034	PLUMBING	PUMP, SEWAGE EJECTION	1	MEPFP / Trade	✓	1	✓	✓	✓	✓	×	1	✓	~	✓		✓	***	****
D2042	PLUMBING	ROOF DRAIN	1	MEPFP / Trade	×	 Image: A start of the start of	×	✓	✓	 Image: A start of the start of	×	1	✓		✓		√		
D2043	PLUMBING	PUMP, CONTROLLER																	
D2043	PLUMBING	TRAP PRIMER																	
D2043	PLUMBING	DRAINS, SITE STORMWATER	1	MEPFP / Trade	×	✓	×	✓	✓	√	×				~		✓		
D2043	PLUMBING	PUMP, STORMWATER	1	MEPFP / Trade	✓	✓	×	✓	×	✓	×	~	✓	~	✓		✓	***	****
D2043	PLUMBING	PUMP, SUMP	×	MEPFP / Trade	×	×	×	✓	×	 Image: A start of the start of	×	~	✓	~	✓		×	***	****
D2091	PLUMBING	INERT GAS COMPRESSOR, PROCESS	1	MEPFP / Trade	✓	✓	✓	✓	✓	~	✓	~	~	~	~		~	***	****
D2092	PLUMBING	ACID WASTE NEUTRALIZATION SYSTEM																	
D2092	PLUMBING	PUMP, ACID	1	MEPFP / Trade	✓	1	✓	✓	✓	1	1	1	1	1	1		✓	***	****
D2092	PLUMBING	PUMP, ACID WASTE	1	MEPFP / Trade	×	1	×	✓	✓	1	1	1	1	1	✓		✓	***	****
D2094	PLUMBING	CHEMICAL FEED SYSTEM, POOL																	
D2094	PLUMBING	FILTRATION SYSTEM, POOL																	
D2094	PLUMBING	POOL, SWIMMING	1	MEPFP / Trade	×	1	×	✓	1	1	1				1		1	***	****
D2094	PLUMBING	PUMP, POOL CIRCULATION	1	MEPFP / Trade	×	1	×	✓	×	1	×				1		1	***	****
D2099	PLUMBING	AIR COMPRESSOR, SCROLL PROCESS																	
D2099	PLUMBING	PIPING, COMPRESSED AIR																	
D2099	PLUMBING	PIPING, IMAGING CHILLED WATER																	
D2099	PLUMBING	PIPING, LAB/MEDICAL GAS																	





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D2099	PLUMBING	PIPING, NATURAL GAS																	
D2099	PLUMBING	PIPING, SNOW MELT																	
D2099	PLUMBING	PIPING, TEMPERED WATER																	
D2099	PLUMBING	PIPING, VACUUM																	
D2099	PLUMBING	AIR COMPRESSOR, RECIPROCATING PROCESS	1	MEPFP / Trade	×	1	1	1	~	~	~	~	1	~	~		1	***	****
D2099	PLUMBING	AIR COMPRESSOR, SCREW PROCESS	✓	MEPFP / Trade	1	1	1	✓	×	1	×	1	1	1	✓		✓	***	****
D2099	PLUMBING	AIR DRYER, AFTER COOLER AND SEPARATOR PROCESS	1	MEPFP / Trade	✓	✓	✓	~	✓	✓	✓	~	~	~	~		~	***	****
D2099	PLUMBING	AIR DRYER, REFRIGERATED PROCESS	1	MEPFP / Trade	✓	~	✓	~	~	~	~	~	~	~	~		✓	***	****
D2099	PLUMBING	AIR-DRYER, DESICCANT PROCESS	1	MEPFP / Trade	1	1	1	1	~	1	~	~	~	~	~		1	***	****
D2099	PLUMBING	AIR-DRYER, GLYCOL PROCESS	1	MEPFP / Trade	×	1	1	✓	×	1	×	1	1	1	✓		✓	***	****
D2099	PLUMBING	PUMP, GENERAL- USE	1	MEPFP / Trade	×	1	×	×	×	1	×	1	✓	1	✓		1	***	****
D2099	PLUMBING	PUMP, VACUUM, SINGLE	1	MEPFP / Trade	×	1	×	1	×	1	×	1	1	 ✓ 	✓		×	***	****
D2099	PLUMBING	TANKS – AIR / REFRIGERANT / LP GAS	1	MEPFP / Trade	1	1	1	1	~	1	~	~	1	~	1		1	***	****
D2099	PLUMBING	TANKS, STORAGE	1	MEPFP / Trade	1	1	1	1	1	1	1	1	1	1	1		1	***	****
D2099	PLUMBING	VACUUM PUMP SYSTEM	1	MEPFP / Trade	×	1	×	×	×	1	×	1	✓	1	✓		1	***	****
D3011	HVAC	FILTER, FUEL OIL	1	MEPFP / Trade	×	1	×	×	×	1	×	1	1	1	✓		✓	***	****
D3011	HVAC	PUMP, FUEL OIL	1	MEPFP / Trade	×	1	1	✓	×	1	×	1	1	1	✓		✓	***	****
D3011	HVAC	TANK, FUEL OIL	1	MEPFP / Trade	×	1	×	×	×	1	×	1	1	1	✓		✓	***	****
D3012	HVAC	NATURAL GAS COMPRESSOR	1	MEPFP / Trade	×	1	1	1	×	1	1	~	1	1	1		1	***	****
D3012	HVAC	NATURAL GAS MAIN	1	MEPFP / Trade	×	1	×	×	×	1	1				×				
D3014	HVAC	EXPANSION JOINT, PIPING SYSTEM	1	MEPFP / Trade	×	1	×	✓	×	1	×				×		✓		
D3021	HVAC	BURNER ASSEMBLY																	
D3021	HVAC	BOILER, CONDENSING	1	MEPFP / Trade	×	1	1	√	1	1	1	1	×	×	×		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3021	HVAC	BOILER, HEAT RECOVERY STEAM GENERATOR	1	MEPFP / Trade	✓	1	✓	1	~	1	1	~	1	~	~		~	***	****
D3021	HVAC	BOILER, NATURAL GAS	1	MEPFP / Trade	✓	1	1	1	1	1	1	1	1	1	✓		✓	***	****
D3021	HVAC	BOILER, NATURAL GAS/FUEL OIL	1	MEPFP / Trade	×	1	×	1	×	1	×	1	 ✓ 	1	×		✓	***	****
D3021	HVAC	ELECTRIC BOILER	1	MEPFP / Trade	×	1	×	×	×	1	×	1	✓	~	×		✓	***	****
D3022	HVAC	DEAERATOR TANK	1	MEPFP / Trade	✓	1	1	1	1	1	1	1	1	1	1		~	***	****
D3023	HVAC	BLOWDOWN SEPERATOR	1	MEPFP / Trade	1	1	1	1	1	1	1	1	1	✓	✓		✓	***	****
D3023	HVAC	DAMPER, AIR, BOILER	1	MEPFP / Trade	1	1	×	1	1	1	1	1	1	1	✓		✓	***	****
D3023	HVAC	ECONOMIZER	1	MEPFP / Trade	1	1	1	1	1	1	1	1	1	1	1		✓	***	****
D3023	HVAC	FAN, BOILER DRAFT	1	MEPFP / Trade	×	1	×	1	×	1	1	1	1	1	1		✓	***	****
D3031	HVAC	CHILLED BEAM																	
D3031	HVAC	CHILLER, AIR- COOLED, PACKAGE	1	MEPFP / Trade	×	1	×	×	×	1	1	1	1	~	×		✓	***	****
D3031	HVAC	CHILLER, AIR- COOLED, RECIPROCATING	1	MEPFP / Trade	✓	1	×	~	1	1	1	~	~	~	✓		✓	***	****
D3031	HVAC	CHILLER, AIR- COOLED, SCREW	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	✓	~	✓		✓	***	****
D3031	HVAC	CHILLER, WATER COOLED, SCREW	1	MEPFP / Trade	×	1	×	1	×	1	×	1	×	1	~		✓	***	****
D3031	HVAC	CHILLER, WATER- COOLED, ABSORPTION	1	MEPFP / Trade	✓	1	✓	1	1	1	1	1	✓	~	~		✓	***	****
D3031	HVAC	CHILLER, WATER- COOLED, CENTRIFUGAL	1	MEPFP / Trade	✓	✓	✓	✓	✓	×	✓	~	✓	✓	✓		✓	***	****
D3031	HVAC	CHILLER, WATER- COOLED, RECIPROCATING	1	MEPFP / Trade	✓	1	×	1	×	1	×	~	✓	~	<		✓	***	****
D3031	HVAC	COOLING POND	×	MEPFP / Trade	×	✓	×	~	×	×	×				×		~		
D3031	HVAC	COOLING TOWER	1	MEPFP / Trade	×	~	×	~	×	√	×	~	✓	~	×		~	***	****
D3031	HVAC	COOLING TOWER, EVAPORATIVE	1	MEPFP / Trade	✓	~	×	~	×	~	×	~	✓	✓	✓		✓	***	****
D3031	HVAC	COOLING TOWER, PROCESS	1	MEPFP / Trade	×	1	×	1	×	1	×	1	1	1	×		~	***	****
D3031	HVAC	FLOW METER, ULTRASONIC, CHILLED WATER	1	MEPFP / Trade	✓	1	1	1	1	1	1	~	~	~	1		~	***	****
D3031	HVAC	PURGE UNITS, HIGH EFFICIENCY	1	MEPFP / Trade	•	1	1	1	1	1	1	1	1	1	1		1	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3031	HVAC	REFRIGERATION UNIT, WATER- COOLED		MEPFP / Trade															
D3032	HVAC	CONDENSING UNIT	1	MEPFP / Trade	✓	1	✓	✓	×	1	1	1	1	1	1		✓	***	****
D3032	HVAC	CONDENSING UNIT, CRITICAL	1	MEPFP / Trade	×	1	×	×	×	×	×	1	✓	1	 ✓ 		×	***	****
D3032	HVAC	CONDENSING UNIT, EVAPORATIVE	1	MEPFP / Trade	×	×	×	×	×	×	×	1	✓	1	 ✓ 		×	***	****
D3032	HVAC	CONDENSING UNIT, SPLIT	1	MEPFP / Trade	✓	1	✓	✓	<	1	1	1	✓	1	1		✓	***	****
D3032	HVAC	DRY COOLER	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	1	1	1		✓	***	****
D3032	HVAC	EVAPORATOR, SPLIT SYSTEM	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	1	1	1		✓	***	****
D3032	HVAC	HEAT PUMP	✓	MEPFP / Trade	✓	1	✓	✓	×	×	×	1	×	×	×		✓	***	****
D3032	HVAC	REFRIGERATION UNIT	✓	MEPFP / Trade	×	1	×	✓	✓	1	1	1	1	1	1		✓	***	****
D3032	HVAC	SPLIT SYSTEM, DUCTLESS	✓	MEPFP / Trade	✓	1	×	✓	×	1	1	1	1	1	1		✓	***	****
D3041	HVAC	AIR HANDLING UNIT, EXHAUST																	
D3041	HVAC	DUCTWORK & SPECIALTIES																	
D3041	HVAC	VALVE, EXHAUST AIR																	
D3041	HVAC	AIR HANDLING UNIT	1	MEPFP / Trade	×	1	×	×	×	×	×	1	✓	1	✓		×	***	****
D3041	HVAC	AIR HANDLING UNIT, COOLING- ONLY	1	MEPFP / Trade	✓	✓	✓	✓	✓	✓	✓	~	✓	~	✓		✓	***	****
D3041	HVAC	AIR HANDLING UNIT, DX COOLING, ELECTRIC HEAT	1	MEPFP / Trade	✓	✓	✓	✓	✓	~	×	~	✓	~	✓		✓	***	****
D3041	HVAC	AIR HANDLING UNIT, DX COOLING, GAS HEAT	1	MEPFP / Trade	✓	~	✓	✓	✓	~	✓	~	✓	~	✓		✓	***	****
D3041	HVAC	AIR HANDLING UNIT, FAN WALL	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓		✓	***	****
D3041	HVAC	AUTOMATIC MIXING BOX	~	MEPFP / Trade	×	~	×	~	×	×	×	~	×	~	×		~	***	****
D3041	HVAC	BLOWER COIL UNIT, DX COOLING	~	MEPFP / Trade	✓	~	✓	✓	✓	~	×	~	✓	~	✓		✓	***	****
D3041	HVAC	BLOWER COIL UNIT, DX COOLING, GAS HEAT	1	MEPFP / Trade	1	1	✓	~	×	1	1	~	1	~	1		~	***	****
D3041	HVAC	DAMPER, AIR	×	MEPFP / Trade															
D3041	HVAC	DAMPER, FIRE OR SMOKE	1	MEPFP / Trade	1	1	×	×	×	1	1	1	1	1	1		×	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3041	HVAC	FAN	✓	MEPFP / Trade	✓	✓	✓	✓	×	✓	×	1	✓	 ✓ 	✓		✓	***	****
D3041	HVAC	FAN, AXIAL	✓	MEPFP / Trade	✓	~	✓	✓	✓	✓	✓	~	✓	✓	✓		✓	***	****
D3041	HVAC	FAN, CENTRIFUGAL	1	MEPFP / Trade	×	~	×	~	×	~	×	~	~	~	~		~	***	****
D3041	HVAC	FAN, MIXED-FLOW	1	MEPFP / Trade	✓	1	×	✓	×	✓	×	1	×	~	✓		✓	***	****
D3041	HVAC	FAN, SHORT STACK HIGH PLUME	1	MEPFP / Trade	×	1	×	~	×	~	×	~	×	~	~		~	***	****
D3041	HVAC	FILTER RACK	1	MEPFP / Trade	✓	✓	✓	✓	×	✓	×	1	✓	✓	✓		✓	***	****
D3041	HVAC	FILTER, HIGH EFFICIENCY (OTHER)	✓	MEPFP / Trade	✓	~	✓	~	✓	✓	✓	~	✓	~	~		✓	***	****
D3041	HVAC	FILTER, LOW EFFICIENCY	1	MEPFP / Trade	✓	1	×	1	1	1	1	1	1	1	1		1	***	****
D3041	HVAC	HEAT RECOVERY WHEEL	1	MEPFP / Trade	✓	1	×	1	1	1	1	1	1	1	1		✓	***	****
D3041	HVAC	VAV BOX	✓	MEPFP / Trade	×	1	×	1	1	✓	×	1	1	1	1		✓		****
D3042	HVAC	BIOSAFETY CABINET																	
D3042	HVAC	HEAT RECOVERY VENTILATOR																	
D3042	HVAC	ACID SCRUBBER	1	MEPFP / Trade	✓	1	✓	✓	×	✓	×	✓	1	✓	✓		✓	***	****
D3042	HVAC	EXHAUST FAN	✓	MEPFP / Trade	✓	1	✓	✓	1	✓	×	✓	✓	✓	✓		✓	***	****
D3042	HVAC	EXHAUST HOOD, FUME	✓	MEPFP / Trade	×	1	✓	✓	×	1	×	1	✓	✓	✓		✓	***	****
D3042	HVAC	EXHAUST HOOD, KITCHEN	✓	MEPFP / Trade	×	1	×	×	×	✓	×	1	✓		✓		✓		
D3042	HVAC	EXHAUST SYSTEM, FLUE/CHIMNEY	1	MEPFP / Trade	×	1	×	✓	×	✓	×				✓		✓		
D3042	HVAC	FAN, AXIAL, FUME HOOD	1	MEPFP / Trade	×	1	×	1	×	×	×	1	✓	√	✓		√	***	****
D3042	HVAC	FAN, CENTRIFUGAL, FUME HOOD	1	MEPFP / Trade	×	✓	×	×	×	✓	×	1	✓	1	√		✓	***	****
D3042	HVAC	FAN, INLINE	1	MEPFP / Trade	×	✓	×	✓	×	~	×	1	✓	×	✓		~	***	****
D3042	HVAC	FUME SNORKEL ARM	1	MEPFP / Trade	×	1	×	✓	×	✓	×	1	✓	×	✓		✓	***	****
D3043	HVAC	PIPING, STEAM & CONDENSATE																	
D3043	HVAC	CONDENSATE RETURN UNIT	1	MEPFP / Trade	×	×	×	×	×	✓	×	1	✓	×	✓		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3043	HVAC	PUMP, TRAP	1	MEPFP / Trade	×	1	×	✓	1	1	×	1	✓		✓		✓		****
D3043	HVAC	STEAM TRAP	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	✓		×		✓		
D3043	HVAC	STEAM TRAP, BUCKET	1	MEPFP / Trade	×	✓	×	1	×	×	×	1	1		1		×		
D3043	HVAC	STEAM TRAP, FLOAT	✓	MEPFP / Trade	1	1	1	✓	1	1	1	1	1		1		✓		
D3043	HVAC	STEAM TRAP, FLOAT AND THERMOSTATIC	1	MEPFP / Trade	×	×	×	✓	×	×	×	~	✓		1		×		
D3043	HVAC	STEAM TRAP, IMPULSE	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	✓		✓		✓		
D3043	HVAC	STEAM TRAP, THERMOSTATIC	1	MEPFP / Trade	✓	1	✓	✓	✓	1	✓	~	✓		✓		✓		
D3043	HVAC	VALVE, PRESSURE REDUCING	✓	Trade	×	1	√	1	1	1	✓	~	✓	✓	✓		~	***	****
D3044	HVAC	AIR COOLED HEAT EXCHANGER																	
D3044	HVAC	PIPING, HEATING HOT WATER																	
D3044	HVAC	BACKFLOW PREVENTER, HEATING HOT WATER	1	MEPFP / Trade	~	~	✓	~	~	~	~	~	~		~		~		
D3044	HVAC	CHEMICAL FEEDER, HOT WATER	1	MEPFP / Trade	1	1	1	✓	1	1	1	1	✓	1	1		1	***	****
D3044	HVAC	CHEMICAL FEEDER, WATER TREATMENT	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	✓	1	 ✓ 		✓	***	****
D3044	HVAC	EXPANSION TANK, HEATING HOT WATER	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	1	✓	1	1		✓		
D3044	HVAC	FLOW METER, ULTRASONIC, HEATING HOT WATER	*	MEPFP / Trade	~	~	<	✓	~	~	~	~	~	~	~		✓		****
D3044	HVAC	HEAT EXCHANGER, SHELL AND TUBE	1	MEPFP / Trade	1	1	×	1	1	1	1	1	✓	1	1		✓		****
D3044	HVAC	PUMP, BOILER FEED WATER	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	✓	1	1		1	***	****
D3044	HVAC	PUMP, HEATING HOT WATER	✓	MEPFP / Trade	×	✓	×	✓	×	1	×	~	✓	1	✓		✓	***	****
D3044	HVAC	PUMP, REGENERATIVE TURBINE	1	MEPFP / Trade	~	~	×	~	~	~	~	~	~	~	~		~	***	****
D3044	HVAC	PUMP, TURBINE WELL	1	MEPFP / Trade	×	1	×	✓	×	1	×	1	✓	1	✓		~	***	****
D3044	HVAC	SEPARATORS AND STRAINERS, HEATING HOT WATER	1	MEPFP / Trade	~	~	1	1	1	~	1	~	~		1		1		
D3045	HVAC	CLOSED LOOP, CHILLED/CONDENSER WATER																	
D3045	HVAC	PIPING, CHILLED WATER																	





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3045	HVAC	PIPING, ECONOMY COOLING WATER																	
D3045	HVAC	PIPING, PROCESS CHILLED WATER																	
D3045	HVAC	THERMAL EXPANSION TANK, CHILLED WATER																	
D3045	HVAC	AIR WASHER	1	MEPFP / Trade	×	✓	✓	✓	×	✓	×	✓	✓	✓	✓		✓	***	****
D3045	HVAC	BACKFLOW PREVENTER, CHILLED WATER	1	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	✓	✓	~	✓		✓		****
D3045	HVAC	CENTRIFUGAL SEPERATOR	1	MEPFP / Trade	×	✓	×	1	×	✓	×	~	✓	~	~		~	***	****
D3045	HVAC	CHEMICAL FEEDER, CHILLED / CONDENSER WATER	1	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	~	✓	~	✓		✓	***	****
D3045	HVAC	EXPANSION TANK, CHILLED/CONDENSER WATER	1	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	~	✓	~	~		~		****
D3045	HVAC	FILTER SYSTEM, CHILLER	1	MEPFP / Trade	×	~	✓	✓	×	✓	×	~	×	~	~		~	***	****
D3045	HVAC	HEAT EXCHANGER, PLATE AND FRAME	✓	MEPFP / Trade	×	✓	✓	✓	✓	✓	×	✓	✓	✓	✓		✓	***	****
D3045	HVAC	PUMP, CHILLED WATER	1	MEPFP / Trade	×	×	×	1	×	1	×	✓	1	~	×		✓	***	****
D3045	HVAC	PUMP, CONDENSER WATER	1	MEPFP / Trade	×	✓	✓	✓	✓	✓	×	✓	✓	✓	✓		✓	***	****
D3045	HVAC	SEPARATORS AND STRAINERS, CHILLED WATER	1	MEPFP / Trade	×	✓	✓	✓	✓	✓	×	✓	✓		✓		✓		
D3045	HVAC	VALVE, CHILLED WATER**	1	Trade	×	~	×	1	×	~	×	√	✓	√	√		1		****
D3045	HVAC	VALVE, CONDENSER WATER**	1	Trade	×	✓	×	✓	✓	✓	×	✓	✓	✓	×		×		****
D3047	HVAC	PIPING, ENERGY RECOVERY																	
D3047	HVAC	PUMP, GLYCOL WATER	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	✓	×	✓	×		✓	***	****
D3047	HVAC	WATER TREATMENT, GLYCOL																	
D3051	HVAC	AIR CONDITIONER, PACKAGE TERMINAL	1	MEPFP / Trade	×	~	×	1	×	✓	×	✓	✓	~	✓		✓	***	****
D3051	HVAC	AIR CONDITIONER, PORTABLE	1	MEPFP / Trade	×	✓	×	✓	✓	✓	×	✓	✓	✓	✓		~	***	****
D3051	HVAC	AIR CONDITIONER, TERMINAL, WATER- COOLED	1	MEPFP / Trade	1	✓	•	✓	•	1	1	✓	✓	✓	✓		~	***	****
D3051	HVAC	AIR CONDITIONER, WINDOW-MOUNTED	1	MEPFP / Trade	✓	✓	✓	✓	✓	✓	1	✓	✓	✓	✓		~	***	****
D3051	HVAC	COIL, HYDRONIC	✓	MEPFP / Trade	×	✓	~	✓	×	✓	×	✓	✓		✓		✓		





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3045	HVAC	PIPING, ECONOMY COOLING WATER																	
D3045	HVAC	PIPING, PROCESS CHILLED WATER																	
D3045	HVAC	THERMAL EXPANSION TANK, CHILLED WATER																	
D3045	HVAC	AIR WASHER	1	MEPFP / Trade	×	✓	✓	✓	1	1	×	✓	✓	✓	1		✓	***	****
D3045	HVAC	BACKFLOW PREVENTER, CHILLED WATER	1	MEPFP / Trade	×	✓	✓	✓	×	✓	×	✓	✓	✓	×		~		****
D3045	HVAC	CENTRIFUGAL SEPERATOR	✓	MEPFP / Trade	×	✓	✓	✓	×	✓	×	✓	✓	✓	✓		✓	***	****
D3045	HVAC	CHEMICAL FEEDER, CHILLED / CONDENSER WATER	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓		~	***	****
D3045	HVAC	EXPANSION TANK, CHILLED/CONDENSER WATER	1	MEPFP / Trade	✓	✓	✓	✓	✓	~	✓	✓	✓	✓	✓		~		****
D3045	HVAC	FILTER SYSTEM, CHILLER	✓	MEPFP / Trade	×	~	✓	✓	×	×	×	~	×	~	×		~	***	****
D3045	HVAC	HEAT EXCHANGER, PLATE AND FRAME	1	MEPFP / Trade	×	1	×	1	1	1	1	✓	1	~	1		1	***	****
D3045	HVAC	PUMP, CHILLED WATER	✓	MEPFP / Trade	×	✓	×	✓	×	✓	×	✓	✓	✓	1		~	***	****
D3045	HVAC	PUMP, CONDENSER WATER	1	MEPFP / Trade	×	✓	×	✓	×	×	×	✓	√	✓	×		✓	***	****
D3045	HVAC	SEPARATORS AND STRAINERS, CHILLED WATER	1	MEPFP / Trade	×	✓	✓	✓	×	1	×	✓	✓		1		✓		
D3045	HVAC	VALVE, CHILLED WATER**	✓	Trade	×	✓	✓	✓	×	✓	×	✓	✓	✓	1		✓		****
D3045	HVAC	VALVE, CONDENSER WATER**	1	Trade	×	✓	×	✓	1	1	×	✓	✓	✓	✓		✓		****
D3047	HVAC	PIPING, ENERGY RECOVERY																	
D3047	HVAC	PUMP, GLYCOL WATER	1	MEPFP / Trade	×	✓	✓	✓	1	1	1	✓	✓	✓	✓		✓	***	****
D3047	HVAC	WATER TREATMENT, GLYCOL																	
D3051	HVAC	AIR CONDITIONER, PACKAGE TERMINAL	1	MEPFP / Trade	×	✓	~	✓	×	×	×	✓	×	✓	×		✓	***	****
D3051	HVAC	AIR CONDITIONER, PORTABLE	1	MEPFP / Trade	×	✓	×	✓	×	1	×	✓	×	✓	1		~	***	****
D3051	HVAC	AIR CONDITIONER, TERMINAL, WATER- COOLED	1	MEPFP / Trade	×	✓	•	•	×	1	1	✓	✓	✓	✓		~	***	****
D3051	HVAC	AIR CONDITIONER, WINDOW-MOUNTED	1	MEPFP / Trade	×	✓	✓	✓	×	1	×	✓	✓	✓	1		✓	***	****
D3051	HVAC	COIL, HYDRONIC	1	MEPFP / Trade	× .	×	×	×	×	1	×	×	×		× .		1		





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3051	HVAC	CONVECTORS, HYDRONIC	1	MEPFP / Trade	✓	✓	✓	✓	✓	1	×	1	✓	1	1		✓	***	****
D3051	HVAC	FAN COIL UNIT, CEILING-MOUNTED	1	MEPFP / Trade	×	✓	×	✓	×	1	×	1	<	1	<		✓	***	****
D3051	HVAC	FAN COIL UNIT, WALL-MOUNTED	✓	MEPFP / Trade	✓	✓	✓	~	✓	✓	1	1	1	1	✓		~	***	****
D3051	HVAC	FURNACE	✓	MEPFP / Trade	✓	✓	×	✓	×	✓	×	✓	✓	✓	✓		✓	***	****
D3051	HVAC	HEAT PUMP, WATER- SOURCE	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	~	✓	~	✓		✓	***	****
D3051	HVAC	RADIATOR	×	MEPFP / Trade	✓	✓	√	✓	✓	✓	✓	~	✓		~		✓		
D3051	HVAC	UNIT HEATER, CABINET	×	MEPFP / Trade	✓	✓	 Image: A start of the start of	✓	✓	✓	✓	~	✓	~	~		✓	***	****
D3051	HVAC	UNIT HEATER, ELECTRICAL	1	MEPFP / Trade	✓	✓	 Image: A start of the start of	✓	✓	✓	√	~	✓	~	✓		✓	***	****
D3051	HVAC	UNIT HEATER, FUEL OIL	×	MEPFP / Trade	✓	✓	√	✓	✓	✓	√	~	✓	~	~		✓	***	****
D3051	HVAC	UNIT HEATER, GAS- FIRED	×	MEPFP / Trade	✓	✓	√	✓	√	✓	√	~	✓	~	~		✓	***	****
D3051	HVAC	UNIT HEATER, GAS- FIRED, DECORATIVE	1	MEPFP / Trade	✓	✓	 Image: A start of the start of	✓	✓	✓	√	~	✓	~	✓		✓	***	****
D3051	HVAC	UNIT HEATER, HYDRONIC	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	~	1	~	✓		~	***	****
D3051	HVAC	UNIT HEATER, INFRARED	1	MEPFP / Trade	✓	✓	✓	✓	×	✓	×	~	1	~	✓		~	***	****
D3052	HVAC	AIR CONDITIONER, PACKAGE, COMPUTER	×	MEPFP / Trade	✓	✓	✓	✓	✓	~	✓	~	✓	~	~		~	***	****
D3052	HVAC	PACKAGE HVAC UNIT, ELECTRIC HEAT	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	~	✓	~	✓		~	***	****
D3052	HVAC	PACKAGE HVAC UNIT, GAS HEAT	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	×	1	✓	✓	✓		✓	***	****
D3052	HVAC	PACKAGE HVAC UNIT, HEAT PUMP	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	~	✓	✓	✓		✓	***	****
D3052	HVAC	PACKAGE HVAC UNIT, NO HEAT	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	✓	~	✓		~	***	****
D3061	HVAC	CONTROLS, BOILER	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	×	~	✓		~		****
D3062	HVAC	CONTROLS, CHILLER	×	MEPFP / Trade	×	✓	×	✓	×	✓	×	~	×	~	✓		✓		****
D3063	HVAC	CONTROLS, HVAC																	
D3063	HVAC	HVAC CONTROLS, CONTROLLER	×	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	~	✓	✓	✓		~	***	****
D3063	HVAC	HVAC CONTROLS, HEAT EXCHANGER	✓	MEPFP / Trade	✓	✓	✓	✓	✓	√	✓	~	✓	~	✓		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D3063	HVAC	HVAC CONTROLS, PNEUMATIC	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	***	****
D3063	HVAC	HVAC CONTROLS, SENSOR, AIR HANDLING UNIT	*	MEPFP / Trade	×	~	1	✓	×	~	✓	1	✓	1	✓		1	***	****
D3067	HVAC	VARIABLE FREQUENCY DRIVE	1	MEPFP / Trade	×	1	1	1	×	✓	×	1	1	1	1		1	***	****
D3068	HVAC	AIRCUITY SYSTEM																	
D3068	HVAC	ENERGY MANAGEMENT SYSTEM																	
D3068	HVAC	AIR COMPRESSOR, CENTRIFUGAL	✓	MEPFP / Trade	×	 Image: A start of the start of	×	✓	×	 Image: A start of the start of	×	~	×	~	×		×	***	****
D3068	HVAC	AIR COMPRESSOR, GAS ENGINE	1	MEPFP / Trade	×	 Image: A start of the start of	×	~	×	~	×	~	×	~	×		×	***	****
D3068	HVAC	AIR COMPRESSOR, RECIPROCATING	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	✓	~	✓	1	✓		✓	***	****
D3068	HVAC	AIR DRYER, AFTER COOLER AND SEPARATOR	1	MEPFP / Trade	✓	1	✓	✓	✓	~	✓	~	✓	~	✓		✓	***	****
D3068	HVAC	AIR DRYER, REFRIGERATED	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	~	×	1	✓		✓	***	****
D3068	HVAC	AIR-DRYER, DESICCANT	✓	MEPFP / Trade	✓	1	1	✓	×	1	×	1	1	1	1		✓	***	****
D3068	HVAC	AIR-DRYER, GLYCOL	✓	MEPFP / Trade	✓	1	1	1	✓	1	1	1	1	1	1		✓	***	****
D3068	HVAC	HVAC CONTROLS, COMPUTER	✓	MEPFP / Trade	×	1	×	✓	×	1	×	1	1	1	1		✓	***	****
D3069	HVAC	MONITORING SYSTEM, CO/NO2	✓	MEPFP / Trade	×	1	×	✓	×	1	×	1	✓	1	1		✓	***	****
D3069	HVAC	MONITORING SYSTEM, REFRIGERANT LEAK	*	MEPFP / Trade	✓	✓	✓	✓	✓	✓	✓	1	✓	✓	✓		✓	***	****
D3092	HVAC	DEHUMIDIFIER																	
D3092	HVAC	DEHUMIDIFIER, DESICCANT WHEEL	1	MEPFP / Trade	×	1	×	✓	×	×	×	1	×	×	✓		×	***	****
D3092	HVAC	HUMIDIFIER, ELECTRIC	1	MEPFP / Trade	×	√	×	✓	×	√	×	×	×	×	✓		×	***	****
D3092	HVAC	HUMIDIFIER, STEAM	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	1	1	1	×		✓	***	****
D3092	HVAC	DEHUMIDIFIER, HOT GAS																	
D3093	HVAC	DUST COLLECTOR	✓	MEPFP / Trade	✓	✓	1	✓	✓	✓	✓	✓	✓	✓	✓		✓	***	****
D3094	HVAC	AIR CURTAIN	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		~	***	****
D3095	HVAC	INDUSTRIAL AIR CLEANER/ PURIFIER	✓	MEPFP / Trade	×	✓	× .	✓	×	✓	×	1	× .	1	×		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	ER	Asset ID (Tag)	Uniformat Classification	Uniformat Description	Building Code	Floor Number	Room Number	Room Name	Manufacturer	Model Number	Serial Number	de		Submittal Number	Date Installed	O&M Manual Submittal Number
ASTN			REQI	OWNER	Asset	NUL	Unifo	NU B	NUF	NUR	NUR	Manı	Mode	Seria	Barcod	Notes	Subr	Date	O&N
D4011	FIRE PROTECTION	TAMPER SWITCH																	
D4011	FIRE PROTECTION	BACKFLOW PREVENTER - FIRE SUPPRESSION	1	MEPFP / Trade	✓	~	✓	✓	✓	✓	✓	~	✓	✓	~		✓	***	****
D4011	FIRE PROTECTION	DOUBLE CHECK VALVE - FIRE SUPPRESSION	1	MEPFP / Trade	×	1	1	•	×	~	•	~	1	~	1		~	***	****
D4011	FIRE PROTECTION	FLOW STATION, FIRE SUPPRESSION	1	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1		 ✓ 		✓	***	****
D4011	FIRE PROTECTION	OS AND Y VALVES	✓	Trade	×	1	1	1	×	1	1	1	1		1		✓		
D4011	FIRE PROTECTION	VALVE, POST INDICATOR	✓	Trade	×	✓	×	✓	×	✓	×	1	✓	✓	 ✓ 		✓	***	
D4011	FIRE PROTECTION	VALVES, STREET, FIRE SUPPRESSION	✓	Trade	×	~	×	✓	×	√	×	~	×	~	1		×	***	
D4011	FIRE PROTECTION	FIRE SUPPRESSION SYSTEM, WET-PIPE															✓		****
D4011	FIRE PROTECTION	SPRINKLER HEAD, FIRE SUPPRESSION																	
D4012	FIRE PROTECTION	PUMP, FIRE, DIESEL	1	MEPFP / Trade	1	1	1	1	✓	~	✓	1	1	✓	1		~	***	****
D4012	FIRE PROTECTION	PUMP, FIRE, ELECTRIC	1	MEPFP / Trade	×	1	×	×	×	×	×	1	×	✓	 ✓ 		✓	***	****
D4012	FIRE PROTECTION	PUMP, FIRE, TURBINE	1	MEPFP / Trade	×	1	×	✓	×	~	×	1	1	1	1		✓	***	****
D4012	FIRE PROTECTION	PUMP, JOCKEY	×	MEPFP / Trade	×	1	×	✓	×	~	×	1	×	1	1		✓	***	****
D4013	FIRE PROTECTION	PUMP, FIRE, CONTROLLER																	
D4013	FIRE PROTECTION	AIR COMPRESSOR, FIRE SUPPRESSION	1	MEPFP / Trade	×	×	×	✓	×	✓	×	1	×	✓	×		✓	***	****
D4013	FIRE PROTECTION	FIRE SUPPRESSION SYSTEM, DRY-PIPE	1	MEPFP / Trade	×	1	×	✓	×	✓	×	1	✓	✓	1		✓	***	****
D4013	FIRE PROTECTION	FIRE SUPPRESSION SYSTEM, PREACTION/DELUGE	1	MEPFP / Trade	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	***	****
D4023	FIRE PROTECTION	STANDPIPE, DRY	1	MEPFP / Trade	1	1	1	✓	×	✓	1				1		✓		
D4023	FIRE PROTECTION	STANDPIPE, WET	1	MEPFP / Trade	×	×	×	1	×	1	×				1		1		
D4024	FIRE PROTECTION	FIRE HOSE	1	MEPFP / Trade	×	1	×	×	×	×	×	1	1		1		✓		
D4031	FIRE PROTECTION	FIRE EXTINGUISHER	1	ARCH	×	1	1	1	×	1	×	√*	√ *	√ *	√*		1	***	****
D4092	FIRE PROTECTION	FIRE SUPPRESSION SYSTEM, FOAM																	
D4093	FIRE PROTECTION	FIRE SUPPRESSION SYSTEM, INERT GAS	1	MEPFP / Trade	×	1	×	✓	1	✓	×	1	×	×	×		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D4095	FIRE PROTECTION	FIRE SUPPRESSION, KITCHEN																	
D5011	ELECTRICAL	SUBSTATION ROOM	1	ARCH	√	1	√	✓	√	✓	1	√ *	√ *	√ *	√ *		✓	***	****
D5011	ELECTRICAL	AC GENERATOR	✓	MEPFP / Trade	✓	1	1	✓	✓	1	1	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	BREAKER, HIGH VOLTAGE	✓	MEPFP / Trade	√	1	×	✓	~	1	× .	1	1	1	√		✓	***	****
D5011	ELECTRICAL	BUS DUCT	1	MEPFP / Trade	×	1	×	√	×	1	1	1	1		1		√		
D5011	ELECTRICAL	DISCONNECT, HIGH VOLTAGE	1	MEPFP / Trade	✓	1	×	✓	✓	1	×	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	DRIVE, STEAM TURBINE	✓	MEPFP / Trade	✓	1	×	✓	✓	1	1	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	GENERATOR, NATURAL GAS TURBINE	1	MEPFP / Trade	✓	1	✓	✓	✓	1	~	1	1	✓	✓		~	***	****
D5011	ELECTRICAL	METERING DEVICES AND PROTECTIVE RELAYS	1	MEPFP / Trade	✓	1	✓	✓	✓	✓	✓	~	✓	✓	✓		✓	***	****
D5011	ELECTRICAL	RELAY, INDUCTION DISC	✓	MEPFP / Trade	✓	✓	×	✓	✓	1	×	1	✓	✓	1		✓	***	****
D5011	ELECTRICAL	RELAY, POWER FACTOR	1	MEPFP / Trade	✓	✓	×	✓	✓	1	×	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	RELAY, THERMAL OVERCURRENT	1	MEPFP / Trade	×	×	×	✓	✓	1	×	1	<	✓	×		✓	***	****
D5011	ELECTRICAL	RESISTOR BANK	1	MEPFP / Trade	×	×	×	×	✓	1	×	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	SWITCH, AIR	1	MEPFP / Trade	×	×	×	×	×	×	×	1	1	✓	1		✓	***	****
D5011	ELECTRICAL	SWITCH, BOLTED PRESSURE	1	MEPFP / Trade	×	×	×	×	✓	×	×	1	1	✓	×		×	***	****
D5011	ELECTRICAL	SWITCH, HV INTERRUPT	1	MEPFP / Trade	×	×	×	×	×	×	×	1	1	✓	1		×	***	****
D5011	ELECTRICAL	SWITCH, OIL	1	MEPFP / Trade	×	1	×	×	×	1	×	1	 ✓ 	✓	×		✓	***	****
D5011	ELECTRICAL	SWITCHGEAR AND DISTRIBUTION ASSEMBLY, HIGH VOLTAGE	4	MEPFP / Trade	1	~	1	1	1	~	~	~	~	~	~		~	***	****
D5012	ELECTRICAL	COGEN TURBINE CONTROL PANEL																	
D5012	ELECTRICAL	CONDUCTORS & SPECIALTIES, LOW VOLTAGE																	
D5012	ELECTRICAL	ELECTRICAL ROOM																	
D5012	ELECTRICAL	ISOLATION PANEL																	
D5012	ELECTRICAL	SELECTOR SWITCH																	

Page | **51**



ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D5012	ELECTRICAL	BREAKER, AIR, INSULATED CASE / MOLDED CASE	✓	MEPFP / Trade	✓	✓	✓	✓	✓	✓	✓	~	✓	✓	✓		✓	***	****
D5012	ELECTRICAL	DISTRIBUTION PANEL	1	MEPFP / Trade	1	✓	1	✓	✓	1	1	1	✓	✓	1		✓	***	****
D5012	ELECTRICAL	ENGINE, NATURAL GAS GENERATOR	1	MEPFP / Trade	×	✓	×	×	×	✓	×	1	×	✓	1		✓	***	****
D5012	ELECTRICAL	MEDIUM VOLTAGE STARTER / VFD	1	MEPFP / Trade	✓	1	×	1	✓	1	1	1	1	✓	1		~	***	****
D5012	ELECTRICAL	MOTOR CONTROL CENTER	✓	MEPFP / Trade	√	✓	×	✓	✓	✓	×	1	✓	✓	✓		✓	***	****
D5012	ELECTRICAL	MOTOR CONTROLLER	✓	MEPFP / Trade	×	✓	×	√	✓	~	×	~	×	✓	✓		~	***	****
D5012	ELECTRICAL	SUBSTATION	✓	MEPFP / Trade	√	✓	×	✓	✓	✓	1	1	1	✓	✓		~	***	****
D5012	ELECTRICAL	SWITCH, AIR, LOW VOLTAGE	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	1	1	✓	✓		~	***	****
D5012	ELECTRICAL	SWITCHBOARD	✓	MEPFP / Trade	×	✓	×	✓	✓	✓	×	1	✓	✓	✓		✓	***	****
D5012	ELECTRICAL	SWITCHGEAR AND DISTRIBUTION ASSEMBLY, LOW- VOLTAGE	1	MEPFP / Trade	~	~	~	~	~	~	~	~	~	~	~		~	***	****
D5012	ELECTRICAL	TRANSFER SWITCH, AUTOMATIC	1	MEPFP / Trade	×	✓	×	1	✓	×	×	~	1	~	×		~	***	****
D5012	ELECTRICAL	TRANSFER SWITCH, MANUAL	✓	MEPFP / Trade	×	✓	×	✓	✓	✓	1	1	✓	✓	1		✓	***	****
D5012	ELECTRICAL	TRANSFORMER, DRY	1	MEPFP / Trade	×	✓	×	1	✓	1	×	1	<	✓	✓		~	***	****
D5012	ELECTRICAL	TRANSFORMER, OIL- FILLED	1	MEPFP / Trade	1	1	1	1	✓	1	1	1	1	✓	1		✓	***	****
D5012	ELECTRICAL	TRANSFORMER, SECONDARY	1	MEPFP / Trade	1	1	1	1	✓	1	1	1	1	✓	1		✓	***	****
D5012	ELECTRICAL	DISCONNECT																	
D5012	ELECTRICAL	MOTOR																	
D5022	ELECTRICAL	LIGHTING DIMMER PANEL	✓	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	1	1	✓	✓		~	***	****
D5022	ELECTRICAL	LIGHTING, EXTERIOR																	
D5022	ELECTRICAL	LIGHTING, EXTERIOR, STANCHION- MOUNTED																	
D5022	ELECTRICAL	LIGHTING, INTERIOR																	
D5022	ELECTRICAL	LIGHTING, INTERIOR, FLUORESCENT																	
D5022	ELECTRICAL	SPOTLIGHTS																	





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D5031	ELECTRICAL	CONTROL PANEL, AUDIO	✓	MEPFP / Trade	~	✓	×	✓	×	✓	×	×	✓	√	1		✓	***	****
D5031	ELECTRICAL	PUBLIC ADDRESS SYSTEM	1	MEPFP / Trade	✓	1	1	1	×	✓	×	1	1	1	1		✓	***	****
D5033	ELECTRICAL	TELE-COMM EQUIPMENT	✓	MEPFP / Trade	✓	1	×	✓	✓	✓	×	 ✓ 	1	1	1		✓	***	****
D5033	ELECTRICAL	TELE-COMM MODULAR ENCLOSURE	1	MEPFP / Trade	✓	1	<	✓	✓	✓	1	~	~	~	~		✓	***	****
D5036	ELECTRICAL	CLOCK SYSTEM, CENTRAL	1	MEPFP / Trade	×	1	×	×	×	✓	×	1	1	1	1		✓	***	****
D5037	ELECTRICAL	FIRE ALARM DEVICES																	
D5037	ELECTRICAL	FIREMAN PHONE JACK																	
D5037	ELECTRICAL	PHONE, ELEVATOR EMERGENCY																	
D5037	ELECTRICAL	ANNUNCIATOR	✓	MEPFP / Trade	×	1	×	✓	×	✓	×	1	~	 ✓ 	1		✓	***	****
D5037	ELECTRICAL	CENTRAL STATION RECEIVER AND COMMUNICATOR	1	MEPFP / Trade	✓	~	✓	1	✓	✓	✓	~	~	~	~		✓	***	****
D5037	ELECTRICAL	FIRE ALARM CONTROL PANEL	1	MEPFP / Trade	✓	✓	×	✓	×	✓	×	~	~	 ✓ 	✓		✓	***	****
D5037	ELECTRICAL	FIRE ALARM EVENT PRINTER	✓	MEPFP / Trade	✓	1	1	1	✓	1	1	1	1	 ✓ 	1		~	***	****
D5037	ELECTRICAL	FIRE ALARM POWER PANEL	1	MEPFP / Trade	✓	1	1	1	✓	✓	1	1	1	1	1		✓	***	****
D5037	ELECTRICAL	FIRE SUPERVISORY SIGNALS	1	MEPFP / Trade	×	1	×	1	×	×	×	1	1	1	1		×	***	****
D5037	ELECTRICAL	HEAT DETECTOR	1	MEPFP / Trade	×	1	×	1	×	✓	×	1	1		1		✓	***	****
D5037	ELECTRICAL	HORN STROBE DEVICE	1	MEPFP / Trade	✓	1	×	1	✓	✓	×	✓	1		1		✓	***	****
D5037	ELECTRICAL	MANUAL PULL STATION	1	MEPFP / Trade	×	✓	×	×	×	✓	×	✓	1		✓		✓	***	****
D5037	ELECTRICAL	RECORDER	1	MEPFP / Trade	✓	1	×	×	✓	✓	×	1	1		1		✓	***	****
D5037	ELECTRICAL	SMOKE DETECTOR	1	MEPFP / Trade	✓	✓	×	✓	✓	✓	×	1	~		1		~	***	****
D5037	ELECTRICAL	EVACUATION PLAN REVIEW																	
D5038	ELECTRICAL	KEY CARD NODE																	
D5038	ELECTRICAL	ALARMS, GENERAL	1	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1		1		~	***	****
D5038	ELECTRICAL	KEY CARD SYSTEM	1	MEPFP / Trade	×	✓	×	1	×	×	×	1	1		1		1	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
D5038	ELECTRICAL	SECURITY SYSTEM	✓	MEPFP / Trade	×	1	×	✓	×	1	1	1	1		✓		✓	***	****
D5039	ELECTRICAL	LIGHTNING PROTECTION																	
D5092	ELECTRICAL	LOAD BANK																	
D5092	ELECTRICAL	BATTERY	1	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY CHARGER	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	1	✓	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY SYSTEM	1	MEPFP / Trade	×	~	×	✓	×	~	×	~	1	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY SYSTEM, REMOTE , EXIT AND EGRESS	1	MEPFP / Trade	✓	~	×	✓	✓	~	✓	~	~	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY, ALKALINE	✓	MEPFP / Trade	×	1	×	×	×	✓	×	1	1	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY, FLOODED LEAD ACID	✓	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1	✓	✓		✓	***	****
D5092	ELECTRICAL	BATTERY, NICKEL CADMIUM	1	MEPFP / Trade	×	1	1	1	1	1	1	1	1	✓	1		1	***	****
D5092	ELECTRICAL	EMERGENCY GENERATOR	1	MEPFP / Trade	1	1	1	1	1	1	1	1	1	✓	1		✓	***	****
D5092	ELECTRICAL	EMERGENCY LIGHT, BATTERY BACK-UP	1	MEPFP / Trade	×	1	×	1	1	✓	×	1	✓	✓	1		1	***	****
D5092	ELECTRICAL	EXIT SIGN	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	1	✓		✓		✓	***	****
D5092	ELECTRICAL	GENERATOR, PORTABLE	1	MEPFP / Trade	×	✓	×	✓	×	✓	×	1	✓	✓	✓		✓	***	****
D5092	ELECTRICAL	POWER STABILIZER	1	MEPFP / Trade	×	×	×	✓	×	√	×	1	1	✓	×		✓	***	****
D5092	ELECTRICAL	UNINTERRUPTIBLE POWER SUPPLY	✓	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1	✓	✓		✓	***	****
D5093	ELECTRICAL	EMERGENCY GENERATOR CONTROLLER																	
D5094	ELECTRICAL	PHOTOVOLTAIC POWER PANEL	✓	MEPFP / Trade	×	1	×	✓	×	✓	×	1	✓	✓	✓		✓	***	****
D5094	ELECTRICAL	POWER INVERTER	✓	MEPFP / Trade	×	1	×	✓	×	1	1	×	1	✓	√		✓	***	****
D5094	ELECTRICAL	SURGE ARRESTOR	✓	MEPFP / Trade	×	1	×	✓	×	✓	×	1	1	✓	✓		✓	***	****
E1018	EQUIPMENT	COMPUTER, PERSONAL																	
E1027	EQUIPMENT	CAGEWASH																	
E1027	EQUIPMENT	CENTRIFUGE, LABORATORY																	





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	es	Submittal Number	Date Installed	O&M Manual Submittal Number
			REC	ð	Ass	R	Uni	R	Ŋ	R	P	Aa	β	Ser	Bar	Notes	Sub	Dat	O&
E1027	EQUIPMENT	DISSECTION TABLE																	
E1027	EQUIPMENT	GLASS DRYER																	
E1027	EQUIPMENT	GLASSWASH																	
E1027	EQUIPMENT	STERILIZER																	
E1028	EQUIPMENT	MEDICAL GAS MANIFOLD																	
E1028	EQUIPMENT	MEDICAL GAS PANEL																	
E1033	EQUIPMENT	DOCK LEVELER	×	ARCH	✓	✓	√	✓	√	√	√	√*	√*	√*	√*		~	***	****
E1033	EQUIPMENT	RAMP, ADJUSTABLE LOADING																	
E1039	EQUIPMENT	PRESSURE WASHER, STATIONARY																	
E1039	EQUIPMENT	TRACTOR, DIESEL																	
E1091	EQUIPMENT	FLOOR AUTOSCRUBBER																	
E1091	EQUIPMENT	FLOOR BUFFER																	
E1091	EQUIPMENT	LADDER																	
E1091	EQUIPMENT	LAWN MOWER OR EDGER																	
E1091	EQUIPMENT	MATERIAL HANDLING TRANSPORT, BATTERY																	
E1091	EQUIPMENT	MATERIAL HANDLING TRANSPORT, GAS																	
E1091	EQUIPMENT	SNOW BLOWER																	
E1091	EQUIPMENT	SWEEPER																	
E1092	EQUIPMENT	BALER	✓	ARCH	✓	✓	✓	✓	✓	✓	✓	√*	√ *	√ *	√ *		✓	***	****
E1092	EQUIPMENT	INCINERATOR	1	ARCH	×	✓	×	~	×	~	×	√*	√ *	√ *	√ *		~	***	****
E1092	EQUIPMENT	TRASH COMPACTOR	1	ARCH	×	~	×	~	✓	~	×	√*	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	BLAST CHILLER																	
E1093	EQUIPMENT	KITCHEN HOOD CONTROL SYSTEM			×	✓	×	✓	✓	×	×	√ *	√ *	√ *	√ *			***	





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
E1093	EQUIPMENT	DISHWASHER, ELECTRIC	1	ARCH	×	✓	✓	~	✓	✓	✓	√*	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	DISHWASHER, STEAM	1	ARCH	1	1	V	✓	V	1	1	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	FREEZER, WALK-IN	1	ARCH	×	1	×	√	×	1	1	√ *	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	ICE MACHINE	1	ARCH	×	✓	×	✓	×	1	×	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	REFRIGERATOR, WALK-IN	1	ARCH	×	1	1	1	×	1	1	√*	√*	√*	√ *		✓	***	****
E1093	EQUIPMENT	BEVERAGE DISPENSER	✓	KITCH	×	✓	×	✓	✓	√	×	√*	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	BEVERAGE DISPENSER, CARBONATED	~	KITCH	~	~	~	~	~	~	~	√*	√*	√*	√*		~	***	****
E1093	EQUIPMENT	BRAISING PAN	1	KITCH	×	1	1	×	×	1	1	√ *	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	BREAD SLICER	✓	KITCH	×	✓	×	 Image: A start of the start of	✓	1	✓	√*	√*	√*	√ *		~	***	****
E1093	EQUIPMENT	BROILER, CONVEYER, GAS	✓	KITCH	×	✓	×	~	✓	✓	✓	√*	√*	√*	√ *		✓	***	****
E1093	EQUIPMENT	BROILER, GAS/ELECTRIC	1	KITCH	×	✓	×	✓	✓	✓	✓	√*	√*	√*	√ *		~	***	****
E1093	EQUIPMENT	BROILER, HOT DOG, ELECTRIC	✓	KITCH	×	✓	×	✓	✓	✓	✓	√*	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	CHOPPER, ELECTRIC	✓	KITCH	×	✓	×	~	×	√	×	√*	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	COFFEE MAKER	✓	KITCH	×	✓	×	✓	✓	~	✓	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	COMMERCIAL KITCHEN REFRIGERATION EQUIPMENT	1	KITCH	~	~	1	1	1	~	~	√*	√*	√*	√*		1	***	****
E1093	EQUIPMENT	CONVECTION OVEN	1	KITCH	×	1	1	✓	×	1	×	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	CONVEYOR, TRAY	1	KITCH	×	1	1	×	×	1	1	√ *	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	COOKER, GAS	✓	KITCH	×	✓	×	√	✓	√	×	√*	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	COOKER, STEAM	1	KITCH	×	✓	×	✓	✓	~	~	√*	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	DISPOSER	1	KITCH	×	✓	×	✓	✓	✓	✓	√*	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	DOUGH DIVIDER	✓	KITCH	×	✓	×	✓	✓	✓	-	√*	√*	√*	√ *		~	***	****
E1093	EQUIPMENT	DOUGH ROLLER	✓	KITCH	✓	✓	✓	✓	✓	✓	✓	√*	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	DRINK COOLER	✓	KITCH	×	✓	×	✓	✓	✓	~	√*	√*	√*	√*		✓	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
E1093	EQUIPMENT	DROP-IN COLD WELL	✓	KITCH	×	1	×	✓	✓	✓	×	√ *	√*	√*	√ *		✓	***	****
E1093	EQUIPMENT	DROP-IN HOT WELL	✓	KITCH	×	1	×	✓	×	✓	×	√ *	√*	√*	√ *		✓	***	****
E1093	EQUIPMENT	FOOD SAW	1	KITCH	×	1	1	✓	×	~	×	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	FOOD SERVICE WASTE EQUIPMENT SYSTEM	1	KITCH	~	~	×	✓	×	~	~	√*	√*	√*	√*		~	***	****
E1093	EQUIPMENT	FOOD SLICER	✓	KITCH	×	1	1	✓	✓	1	✓	√*	√*	√*	√*		✓	***	****
E1093	EQUIPMENT	FREEZER, CHEST	✓	KITCH	×	√	×	✓	×	~	×	√*	√*	√*	√ *		~	***	****
E1093	EQUIPMENT	FREEZER, REACH-IN	✓	KITCH	✓	1	×	✓	✓	1	~	√*	√*	√*	√*		~	***	****
E1093	EQUIPMENT	FRYER	✓	KITCH	✓	✓	×	✓	✓	1	✓	√*	√*	√*	√*		~	***	****
E1093	EQUIPMENT	FRYER, CONVEYOR	✓	KITCH	✓	✓	×	✓	✓	✓	✓	√*	√*	√*	√*		✓	***	****
E1093	EQUIPMENT	FRYER, PRESSURIZED BROASTER	✓	KITCH	✓	✓	×	✓	✓	1	~	√*	√*	√*	√*		~	***	****
E1093	EQUIPMENT	GRILL, GAS OR ELECTRIC	1	KITCH	×	~	×	✓	×	~	×	√*	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	HEATED SHELF, ELECTRIC	1	KITCH	✓	~	×	✓	✓	~	✓	√ *	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	HEATING CABINET	1	KITCH	×	1	×	1	<	1	×	√*	√*	√ *	√ *		1	***	****
E1093	EQUIPMENT	INFRARED STRIP HEATER	✓	KITCH	×	√	×	✓	×	~	×	√*	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	MIXER, COUNTER	✓	KITCH	✓	✓	×	✓	✓	~	✓	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	MIXER, FLOOR	✓	KITCH	×	1	×	✓	×	✓	✓	√*	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	MODULAR RAPID COOKING OVEN	✓	KITCH	×	1	×	✓	×	✓	×	√*	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	OVEN, GAS/ELECTRIC	✓	KITCH	×	1	×	✓	×	✓	✓	√ *	√*	√ *	√ *		✓	***	****
E1093	EQUIPMENT	PIE MAKER	1	KITCH	×	1	×	✓	×	~	×	√ *	√*	√ *	√ *		~	***	****
E1093	EQUIPMENT	POWER SOAK SYSTEM	1	KITCH	×	1	×	1	×	~	×	√*	√ *	√ *	√*		~	***	****
E1093	EQUIPMENT	PROOFER	✓	KITCH	1	1	1	1	×	1	1	√*	√*	√*	√ *		1	***	****
E1093	EQUIPMENT	RANGE, GAS OR ELECTRIC	✓	KITCH	✓	~	×	✓	✓	~	✓	√ *	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	REFRIGERATOR, DOMESTIC	✓	KITCH	×	1	×	✓	✓	1	1	√ *	√*	√*	√ *		~	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
E1093	EQUIPMENT	REFRIGERATOR, REACH IN	1	КІТСН	✓	✓	×	1	√	✓	×	√ *	√ *	√ *	√ *		~	***	****
E1093	EQUIPMENT	SOFT SERVE MACHINE	1	KITCH	×	1	×	√	×	1	×	√ *	√ *	√ *	√ *		√	***	****
E1093	EQUIPMENT	STEAM KETTLE	1	KITCH	×	1	×	✓	✓	✓	×	√ *	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	STEAM TABLE	✓	KITCH	✓	✓	√	✓	✓	✓	✓	√*	√ *	√ *	√ *		✓	***	****
E1093	EQUIPMENT	STEAMER	✓	KITCH	✓	√	√	✓	✓	✓	✓	√*	√*	√*	√*		✓	***	****
E1093	EQUIPMENT	TOASTER, ROTARY	✓	KITCH	✓	✓	✓	✓	✓	~	✓	√*	√*	√*	√*		✓	***	****
E1093	EQUIPMENT	VEGETABLE PEELER	1	KITCH	✓	~	√	✓	✓	~	✓	√*	√*	√*	√*		✓	***	****
E1097	EQUIPMENT	SCAFFOLD, POWERED	×	ARCH	~	~	√	✓	√	~	~	√*	√ *	√*	√*		✓	***	****
E1099	EQUIPMENT	CENTRAL VACUUM SYSTEM																	
E1099	EQUIPMENT	PUMP OR VENTILATOR, PORTABLE																	
E2012	FURNISHINGS	CASEWORK																	
F1039	SPECIAL CONSTRUCTION	DOCK POWER SYSTEM	1	ARCH	✓	~	×	✓	✓	~	✓	√ *	√ *	√ *	√ *		~	***	****
G2016	SITE IMPROVEMENTS	TRAFFIC LIGHT	1	CIVIL													×		****
G2024	SITE IMPROVEMENTS	GATE, PARKING ARM	1	CIVIL	×	1	×	✓				√ *	√ *	√ *	√ *		~	***	****
G2031	SITE IMPROVEMENTS	PEDESTRIAN PAVING																	
G2041	SITE IMPROVEMENTS	GATE	1	CIVIL	×	1	×	✓				√ *	√ *		√ *		✓	***	****
G2041	SITE IMPROVEMENTS	GATE, CHAIN LINK FENCE	1	CIVIL	×	1	×	✓				√ *	√ *		√ *		✓	***	****
G2046	SITE IMPROVEMENTS	FOUNTAIN	✓	CIVIL	×	1	×	✓				√*	√ *	√ *	√ *		✓	***	****
G2048	SITE IMPROVEMENTS	FLAG POLE, POWERED	1	CIVIL	×	1	×	✓				√ *	√ *	√ *	√ *		✓	***	****
G2057	SITE IMPROVEMENTS	BACKFLOW PREVENTER - IRRIGATION	~	CIVIL	~	~	×	~				√*	√*	√*	√*		~	***	****
G2057	SITE IMPROVEMENTS	IRRIGATION CLOCK	1	CIVIL	×	1	1	1				√*	√*	√*	√ *		~	***	****
G2057	SITE IMPROVEMENTS	PUMP, IRRIGATION WATER	✓	CIVIL	~	~	×	✓				√*	√ *	√ *	√ *		~	***	****
G2057	SITE IMPROVEMENTS	SPRINKLER HEAD, IRRIGATION	1	CIVIL	×	×	×	√				√*	√ *		√ *		~	***	****





ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	ED		(Tag)	Uniformat Classification	Uniformat Description	ding Code	Floor Number	Room Number	Room Name	turer	lumber	Imber			Submittal Number	talled	O&M Manual Submittal Number
			REQUIRED	OWNER	Asset ID (Tag)	NU Unif	Uniform	NU Building (NU Floo	NU Rool	NU Rool	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submitta	Date Installed	O&M M
G3011	SITE MECHANICAL UTILITIES	CONTROLS, FRESH WATER DISTRIBUTION	✓	CIVIL	✓	✓	✓	✓				√ *	√ *	√ *	√*		✓	***	****
G3014	SITE MECHANICAL UTILITIES	FIRE HYDRANT	✓	CIVIL	✓	✓	✓	✓				√ *	√ *	√ *	√*		~	***	****
G3016	SITE MECHANICAL UTILITIES	FILTER, CARBON																	
G3016	SITE MECHANICAL UTILITIES	FILTER, ULTRAVIOLET																	
G3016	SITE MECHANICAL UTILITIES	PUMP, DEIONIZED WATER																	
G3016	SITE MECHANICAL UTILITIES	CHLORINATOR, WATER TREATMENT	1	CIVIL	~	~	×	✓				√*	√ *	√ *	√*		✓	***	****
G3016	SITE MECHANICAL UTILITIES	CHLORINE DETECTOR, WATER TREATMENT	1	CIVIL	~	~	×	~				√*	√*	√*	√*		~	***	****
G3016	SITE MECHANICAL UTILITIES	DISTILLED WATER SYSTEM	•	CIVIL	~	1	✓	✓				√ *	√ *	√ *	√ *		✓	***	****
G3016	SITE MECHANICAL UTILITIES	FILTER SYSTEM, DRINKING WATER	~	CIVIL	✓	~	1	~				√*	√*	√ *	√*		~	***	****
G3016	SITE MECHANICAL UTILITIES	FILTER, HEATING/COOLING MEDIA WATER	1	CIVIL	~	~	×	✓				√*	√ *	√*	√*		~	***	****
G3016	SITE MECHANICAL UTILITIES	FLUORIDE SATURATOR, WATER TREATMENT	1	CIVIL	~	~	×	~				√*	√ *	√ *	√ *		~	***	****
G3016	SITE MECHANICAL UTILITIES	HACH ANALYZER, WATER TREATMENT	~	CIVIL	✓	~	×	✓				√*	√*	√*	√*		✓	***	****
G3016	SITE MECHANICAL UTILITIES	WATER SOFTENER, NON-SODIUM	✓	CIVIL	✓	✓	✓	✓							√*		✓	***	****
G3016	SITE MECHANICAL UTILITIES	WATER SOFTENER, SODIUM EXCHANGE	~	CIVIL	~	~	×	✓							√ *		✓	***	****
G3016	SITE MECHANICAL UTILITIES	WATER TREATMENT SYSTEM, SURFACE TO POTABLE WATER, PLANT SCALE	~	CIVIL	~	~	~	1							√ *		1	***	****
G3016	SITE MECHANICAL UTILITIES	WATER TREATMENT, DEIONIZED WATER	•	CIVIL	~	1	✓	✓							√ *		✓	***	****
G3016	SITE MECHANICAL UTILITIES	WATER TREATMENT, REVERSE OSMOSIS	*	CIVIL	~	~	1	✓							√*		✓	***	****
G3016	SITE MECHANICAL UTILITIES	BACKFLOW PREVENTER - PURIFIED WATER	~	MEPFP / Trade	~	~	✓	✓	✓	✓	✓	~	~	~	✓		~	***	****
G3017	SITE MECHANICAL UTILITIES	SAND FILTER	1	MEPFP / Trade	~	~	×	✓	×	~	×				1		~	***	****
G3022	SITE MECHANICAL UTILITIES	MANHOLE, SEWER	~	CIVIL	✓	1	×	✓							√ *		✓	***	****



ASTM UNIFORMAT II LEVEL 4	LEVEL 2 DESCRIPTION	EQUIPMENT TYPE	REQUIRED	OWNER	Asset ID (Tag)	NU Uniformat Classification	Uniformat Description	NU Building Code	NU Floor Number	NU Room Number	NU Room Name	Manufacturer	Model Number	Serial Number	Barcode	Notes	Submittal Number	Date Installed	O&M Manual Submittal Number
G3023	SITE MECHANICAL UTILITIES	AERATOR, FLOATING	1	CIVIL	~	~	✓	✓							√*		~	***	****
G3023	SITE MECHANICAL UTILITIES	BARMINUTOR	1	CIVIL	~	~	1	✓							√*		~	***	****
G3023	SITE MECHANICAL UTILITIES	BLOWER, AERATION	1	CIVIL	~	~	✓	✓							√*		~	***	****
G3023	SITE MECHANICAL UTILITIES	CLARIFIER	1	CIVIL	~	~	✓	✓							√ *		~	***	****
G3023	SITE MECHANICAL UTILITIES	COMMINUTOR	1	CIVIL	~	~	✓	✓							√*		~	***	****
G3023	SITE MECHANICAL UTILITIES	FILTER, TRICKLING	1	CIVIL	~	~	✓	✓							√ *		~	***	****
G3023	SITE MECHANICAL UTILITIES	GRIT DRIVE	1	CIVIL	~	~	✓	✓							√*		~	***	****
G3023	SITE MECHANICAL UTILITIES	SEPTIC TANK	1	CIVIL	~	~	✓	✓							√ *		~	***	****
G3023	SITE MECHANICAL UTILITIES	SEWAGE MIXER	1	CIVIL	~	1	•	1							√ *		~	***	****
G3025	SITE MECHANICAL UTILITIES	BUBBLER SYSTEM																	
G3033	SITE MECHANICAL UTILITIES	SEDIMENT BASIN	1	CIVIL	~	1	✓	✓	•	1	1				√*		~	***	****
G3054	SITE MECHANICAL UTILITIES	WATER TREATMENT, COOLING TOWER																	
G3061	SITE MECHANICAL UTILITIES	NATURAL GAS FILTER																	
G3061	SITE MECHANICAL UTILITIES	NATURAL GAS REGULATOR	1	CIVIL	~	~	✓	✓	✓	~	✓				√ *		~	***	****
G4013	SITE ELECTRICAL UTILITIES	MANHOLE, ELECTRICAL	✓	CIVIL	×	1	×	✓	✓	1	×				√ *		~	***	****
G4014	SITE ELECTRICAL UTILITIES	PAD-MOUNTED SELECTOR SWITCH																	
G4091	SITE ELECTRICAL UTILITIES	CATHODIC PROTECTION	1	CIVIL	×	×	×	✓	×	×	×				√ *		✓	***	****



Appendix B: BIM Deliverables Checklist

- Record (Design) Models [RVT]
- Record Drawings [DWG]
- Record Drawings [PDF]
- Room Inventory Spreadsheet [XLS]
- Asset Inventory Spreadsheets [XLS]
- As-built (Contractor) Models [RVT]
- As-built (Contractor) Drawings [DWG]
- As-built (Contractor) Drawings [PDF]
- Operations and Maintenance Manuals [PDF]
- ? Warranties [PDF]
- Specifications [PDF, sometimes CAD as drawing]
- Final Commissioning Report, as applicable [PDF]
- I Land Survey, as applicable [TIFF, PDF]
- 2 Environmental Reports, as applicable [PDF, CAD as drawing]





Appendix C: BIM Ex Template





Appendix D: Northeastern Shared Parameter File

All required data fields must be stored in Shared Parameters provided by Northeastern University, matching its Global Unique Identifiers (GUIDs). A shared Parameter file may be requested from Northeastern University, or a BIM manager may create one by pasting the following text into Windows Notepad and saving the file with the name "NU Shared Parameters.txt".

# This is a Revit shared parameter file.											
[#] Do not edit manually.											
*META	VERSION MINVERSION										
META	2	1									
*GROUP	ID	NAME									
GROUP	1 NU Parameters										
*PARAM	GUID	NAME	DATATYPE	DATACATEGORY	GROUP	VISIBLE	DESCRIPTION	USERMODIFIA	ABLE		
PARAM	0433692a-bdf	3-4c3a-8cbc-e11	11db8c7d1d	NU Building Code	TEXT		1	1		1	
PARAM	68794c37-853	5-485a-a089-98	309f0fd21f7	NU Floor Number	TEXT		1	1		1	
PARAM	8DBCDA03-5E	DB-4FF1-BFDD)-58706083074E	NU Room Number	TEXT		1	1		1	
PARAM	84356D87-970	C6-4CE4-B241-:	16EC32D3155A	NU Room Name	TEXT		1	1		1	
PARAM	638ADA88-4D	8C-40A8-AC33	-A7B6EFC3D3B8	3 NU Design Tag TEXT		1	1		1		
PARAM	52735383-590	E-4D17-8BAD-	ACBB5DB6E4F6	NU Uniformat Classification	TEXT		1	1		1	
PARAM	4DC4FDF8-97	43-4BBC-87FE-	00CD298EB6A2	NU Barcode TEXT		1	1		1		
PARAM	02CC5BF7-D6	32-46D2-9297-	F7A754FFA3B8	NU Submittal Number	TEXT		1	1		1	
PARAM	5537A507-C4	34-414F-8E66-8	358D9DBB06D8	NU Operation and Maintenance	e Manual	TEXT		1	1		1

