

# ConsensusDocs® 301

## BUILDING INFORMATION MODELING (BIM) ADDENDUM

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### ARTICLE 1 GENERAL PRINCIPLES

1.1 This Addendum identifies rights and responsibilities of Project Participants related to the use of BIM on this Project. It is not intended to create privity of contract among any Project Participants beyond that which otherwise exists at law or by the terms of the Governing Contracts or Affiliated Contracts.

1.2 This Addendum and its Exhibits shall be appended to or incorporated by reference in the Governing Contracts and all Affiliated Contracts of Contributors, as well as any contracts of others having rights or obligations under this Addendum, as needed.

1.3 Nothing in this Addendum shall relieve the Design Professional from any design obligations under its Governing Contract, including responsibility for its Contributions to comply with applicable codes, regulations, or laws. No Contributor may require the Design Professional to provide designs inconsistent with these obligations or may modify another Contributor's Contribution without that Contributor's consent.

1.4 Nothing in this Addendum shall diminish or expand the extent to which, under applicable law, Owner confirms or warrants the adequacy, sufficiency, or both of any Model.

1.5 Except to the extent required under the Constructor's Governing Contract, Constructor's and its Subcontractors' and Suppliers' Contributions or participation in modeling activities shall not constitute the performance of design services.

1.6 If any Project Participant becomes aware of a discrepancy between a Model and another Model or Contract Document, that Project Participant shall promptly notify the other affected Model Contributors and the BIM Manager.

1.7 Except as expressly provided in this Addendum, this Addendum shall take precedence over any conflicting or inconsistent Governing Contract or Affiliated Contract terms.

### ARTICLE 2 DEFINITIONS

2.1 Capitalized terms not otherwise defined in this Addendum shall have definitions as set forth in the most current edition at the time of execution to the Governing Contract of the ConsensusDocs 200 Standard Agreement and General Conditions between Owner and Constructor.

2.2 "4D" means integrating time or schedule information, including phase planning modeling into a Model.



2.3 “5D” means integrating quantity or cost data, including cost estimation modeling and cost control analysis into a Model.

2.4 “Affiliated Contract” means any Project contract to which this Addendum is attached or into which it is incorporated by reference, other than the Governing Contracts. |

2.5 “As-Built Construction Model” is a Construction Model modified to reflect as-built conditions of the Work as constructed during Construction Phase, including facility Geometric data, fabrication, and coordination modeling.

2.6 “Building Information Modeling” or BIM, means the collaborative development of a three-dimensional digital representation that is Intelligent and Parametric, depicting the physical and functional characteristics of a structure or site for use as a shared knowledge resource; it may also include generation of Geometric and non-graphic Information, and related processes, analysis, and deliverables for use over the lifecycle of the structure or site depicted. |

2.7 “BIM Execution Plan” means a plan that enumerates the goals, implementation processes, metrics, and deliverables that will be used to develop BIM for the Project, which also may be referred to as a PXP or project execution plan. |

2.8 “BIM Manager” means the Project Participant or parties responsible for the information management program for the Project. |

2.9 “CIM” or civil information modeling, means the digital representation of the physical and functional characteristics of a site, including topography and location of structures on the site, usable as a shared knowledge resource.

2.10 “Conformed Design Model” means a Design Model that reflects all final changes to physical conditions of the modeled structure and other as-built updates to the design that occurred throughout the construction Phase, including Intelligent attributes, and may include related deliverables.

2.11 “Construction Model” is a Model that utilizes data imported from a Design Model or Drawings containing the equivalent of shop drawings and other information useful for construction.

2.12 “Contract Documents” is as defined in a Governing Contract, but is hereby modified to include the Full Design Model, this Addendum, as modified and agreed to by the parties, and the BIM Execution Plan adopted by the parties pursuant to this Agreement.

2.13 “Constructor” is identified in the Governing Contract with Owner as the responsible entity to provide or coordinate construction Work for the Project, and may be referred to as the General Contractor, Contractor, Prime Contractor, Constructor, Design-Builder, or Construction Manager.

2.14 “Contribution” means the expression, design, data or information created or prepared for the Project that is incorporated, distributed, transmitted, communicated by, or shared with Project Participants through or in connection with a Model.

2.15 “Contributor” is any Project Participant who makes a Contribution.



2.16 “Coordinated Construction Model” is: (a) a discipline-specific Shop Model; (b) updated to incorporate the changes and updates approved during the digital design coordination process and before commencement of the Work; (c) that is modeled to a Level of Granularity; and (d) is delivered in the format and with the file extension specified in Attachment A to the BIM Execution Plan.

2.17 “Design Model” is a discipline-specific Model prepared by a Design Professional to illustrate the architectural, structural, mechanical electrical and plumbing (MEP), or other specialty design requirements of the Project, exclusive of analysis undertaken by other Contributors to that Model.

2.18 “Design Professional” is responsible for the development and delivery of design services for the Project, and may be referred to as the architect/engineer, architect, engineer, or Design Professional in their Governing Contract with Owner.

2.19 “Digital Fabrication” means the process by which machine technology is used to prefabricate Elements used in construction directly from Model data, including spooling into appropriate sections and inputting into fabrication equipment for production of system assemblies to be used in construction of the Project.

2.20 “Dimensional Accuracy” means the expected content of a Model and its prescribed reliability at each milestone or Model Phase established in the BIM Execution Plan.

2.21 “Drawings” are (1) two-dimensional projections derived from a Model, which may be supplemented with independent graphics and annotations and (2) two-dimensional plans, sketches, or other graphic depictions created separately and not derived from a Model.

2.22 “Element” means a self-contained, uniquely identified object in a Model representing a building component, system, or assembly within a structure or on the Project site.

2.23 “Federated Model” is a Model that links distinct component Models, Drawings, analysis, and other data sources that do not lose their identity or integrity by being so linked, such that a change to one component Model does not change another component Model in the Federated Model.

2.24 “Full Design Model” is a Model consisting of linked component Design Models that illustrate the construction-ready designs as designated in the BIM Execution Plan.

2.25 “Geometric” means rectilinear or curvilinear points, lines, and surfaces developed using BIM.

2.26 “Geospatial” means three dimensional objects developed using BIM.

2.27 “Governing Contract” means an agreement between the Project Owner and Design Professional or between Owner and Constructor, to which this Addendum is to be attached or incorporated by reference.

2.28 “Granularity” means the level of accuracy of Geometric representation of a Model Element needed to support a specific BIM use.



2.29 “Intelligent” means the imbedded specifications, sizes, material definitions, characteristics, manufacturer properties, identification numbers, and other data describing the attributes and configuration of an Element that are readable directly within the Model.

2.30 “Interoperability” means the capability of different software programs to exchange data via a common set of exchange formats, to read and write in those formats, and to use the same protocols so that Model data is not dropped, repurposed, or reformatted.

2.31 “Level of Detail” means the input detail, information maturity, and richness of a Model Element.

2.32 “Level of Development (LOD)” specifies the completeness of a Model Element or reliability of Model output at various stages in the design and construction process, and the minimum requirements for its expression.

2.33 The “LOD Specification,” unless otherwise defined in the Contract Documents, is as defined or incorporated into the BIM Forum’s Levels of Development Specification as published at <https://bimforum.org/loa/> on the Governing Contract’s effective date.

2.34 “Level of Granularity (LOG)” means the level of dimensional accuracy of Model data.

2.35 “Model” means an electronic, three-dimensional representation of building Elements representing solid objects with true-to-scale Geospatial relationships and dimensions, which may include additional attribute information, or data, and 4D, 5D, sustainability, or other analyses.

2.36 “Model Use” is the deliverable that is derived from a specific Model or an intended use of a Model.

2.37 “Model Phase” means any of the following phases of development or anticipated use of a Model over the lifecycle of a Project, including conceptual planning, design development, construction, commissioning, turnover, facility operation & maintenance, enterprise management, and decommissioning and recycling.

2.38 “Parametric” means that attributes of construction materials, equipment, and assemblies are linked and consistently coordinated and maintained in all Model views and schedules such that a change to a Model Element or other data in any view or schedule is automatically similarly modified in all views and schedules where it appears in the Model.

2.39 “Project Model” means a Model consisting of the federation of a Full Design Model and one or more Construction Models designated to be produced in the BIM Execution Plan.

2.40 “Project Participants” means all parties to a Governing Contract or Affiliated Contract for the Project.

2.41 “Record Model” means a separate, discipline-specific Model that accurately reflects clarifications and changes made during Project construction to the Geospatial and Geometric attributes that comprise Elements of a Design Model, but which does not modify the original Design Model or require creation of new Design Model Elements beyond the LOG established in the BIM Execution Plan. If required under § 4.5.4 as a data collection protocol, a Record Model may require the addition of new, or refinement of existing, non-graphic Information.



2.42 "Shop Model" means a digital Model created from data derived from one or more Design Models or a Full Design Model and prepared by a Constructor, Subcontractor, or Supplier to illustrate some portion of their Work and its conformity to Project specifications and other design requirements.

2.43 "UniFormat™" means the UniFormat Classification System used to arrange construction information for Elements of a structure characterized by their functions without regard to the materials and methods used to complete these systems or assemblies, often for 5D costing analysis.

### ARTICLE 3 BIM MANAGER

3.1 Owner designates the following BIM Manager to undertake overall responsibility for the use, implementation, and creation of BIM for the Project:

- Constructor
- Design Professional
- Other: [ ].

Unless otherwise agreed in the BIM Execution Plan, all compensation and related costs for the BIM Manager shall be paid by Owner. Owner may replace the BIM Manager at its own discretion.

3.2 The BIM Manager shall perform, or procure from third parties approved by Owner, the following functions:

3.2.1 Develop and oversee Contributor compliance with the BIM Execution Plan for the Project;

3.2.2 Schedule and manage BIM-related meetings with Contributor BIM technicians and coordinators to assist them in their development of their respective Contributions;

3.2.3 Create, delete, modify, and maintain individual user accounts, including confirming Contributor use of hardware, software, formatting, file exchange, maintenance, archiving, and other technology protocols specified in the BIM Execution Plan;

3.2.4 Assign, delete, and modify access rights to Contributors, including coordinating necessary access training, and facilitating proper export and data extraction from BIM to support the Model Uses;

3.2.5 Develop system access controls so that only authorized Contributors to the Model can access Model data, and so they may only access the data they are authorized to access;

3.2.6 Establish and maintain encryption and access security measures selected;

3.2.7 Maintain Model Element continuity, and coordinate Geospatial coordination, clash resolution, and Model quality control processes;

3.2.8 Backup and restore Model data, as appropriate, including developing protocols for versioning, storage, access rights, and availability;

3.2.9 Undertake information system scans to maintain Model security;

3.2.10 Maintain and monitor information system logs documenting access to the Models and resolving functional problems associated with Model access;



3.2.11 Determine measures needed to achieve Interoperability of Model applications and resolve documented Model Interoperability issues;

3.2.12 Document and report any incident relating to the Model, including but not limited to an incident originating outside the Model that results in the Model data loss, corruption, or unauthorized access, and take action to protect the Model;

3.2.13 Provide authorized users with system hardware configuration and software and related version requirements, and access instructions;

3.2.14 Respond to requests by authorized users for assistance in maintaining access;

3.2.15 Review all deliverables for compliance with submittal requirements developed pursuant to § 4.3, § 4.4, and § 4.5 for the BIM Execution Plan adopted for the Project;

3.2.16 Confirm that changes made during the Project design and construction are updated in the Model; and

3.2.17 Perform any and all other responsibilities or functions as required of the BIM Manager in the BIM Execution Plan.

3.3 BIM Manager shall transfer unconditionally to a successor BIM Manager, as directed by Owner, all tangible and intangible property and information in the BIM Manager's possession, custody, or control related to the Project.

#### **ARTICLE 4 BIM EXECUTION PLAN**

**BIM EXECUTION PLAN DEVELOPMENT** The BIM addendum assumes that Owner, Design Professional, and Contractor may not be able to meet, confer and agree on issues relating to the BIM Execution Plan until after Owner-Design Professional and Owner-Contractor agreements are negotiated. Ideally, if possible, the details of the BIM Execution Plan should be resolved prior to execution of the agreements, so that the compensation for such agreements can accurately reflect the scope of services to be provided. As additional Project Participants join the Project, it is necessary to convene another meeting to consider whether the addition of other Project Participants requires any modification of the BIM Execution Plan. Such a meeting could easily occur as part of a regular meeting.

4.1 No later than thirty (30) calendar days after execution of the first Governing Contract for the Project, the parties to that Governing Contract, together with any other anticipated or actual Contributors that have then been identified, shall develop a BIM Execution Plan for the Project. When completed, the BIM Execution Plan shall become an Exhibit to this Addendum. The BIM Execution Plan may be revised by mutual agreement of Owner, Constructor, and Design Professional as additional Contributors whose Contributions require modification of the Plan are identified.

4.2 The BIM Manager shall schedule and manage all meetings necessary for development of the BIM Execution Plan.

4.3 **MODEL USES AND DELIVERABLES** The BIM Execution Plan shall address, at a minimum, the following Model Uses and deliverables:

4.3.1 Identify and prioritize desired goals and objectives for BIM;

4.3.2 Maximize structure lifecycle best value and develop a list of Model Uses; and





4.3.3 Determine required Geometric modeling, related deliverables, process and Model deliverable requirements, including:

4.3.3.1 Identify by Model Phase the Models needed to achieve each Model Use;

4.3.3.2 Identify the parties responsible for each Model deliverable;

4.3.3.3 Determine which Models will be Contract Documents;

4.3.3.4 Create a schedule for Model deliverables, including dates for completion of Model Phases and interim coordination milestones within Model Phases, as necessary; and

4.3.3.5 Determine a process to preserve versions of each Federated Model and its constituent Models, and scheduling for such process.

4.4 BIM PROCESS EXECUTION: GEOMETRIC MODELING Specific Models and their development sequence shall be identified. This shall include (a) Project areas to be depicted in each Model; (b) the Geospatial portions or Project areas not to be modeled; (c) the process of collaborative information exchanges; and (d) the sequence and required development of required Models at each of the following Model Phases in order to achieve the Project Model Uses:

#### 4.4.1 Conceptual Planning

4.4.1.1 Project budget development.

4.4.1.2 Project schedule development.

4.4.1.3 CIM or civil survey, master planning, and analysis – geolocation, boundary, topography, geographic information system and map (GIS) development, including necessary surface and subsurface data.

4.4.1.4 Site utilization, demolition, space, and phase planning.

4.4.1.5 Existing conditions modeling – laser scan and manual measurement-based.

4.4.1.6 Programming review – Geospatial or adjacency analysis and confirmation.

#### 4.4.2 Design

4.4.2.1 Design authoring and related schedule development – specifying required disciplines.

4.4.2.2 Design review, audit, and analysis – including quality control, lean coordination and resolution requirements, and building systems performance analysis – structural, MEP, fire protection, etc.

4.4.2.3 Constructability and life-cycle value engineering analysis.

4.4.2.4 Shop modeling and fabrication modeling, including any 3D printed objects or components to be derived from Model data (specify individual disciplines and coordination requirements).



4.4.2.5 Planning approval and regulatory permitting designs.

4.4.2.6 Digital Fabrication modeling and tolerance requirements.

4.4.2.7 Energy and sustainability massing or other modeling for simulation and analysis, including energy distribution and consumption, temperature control, solar radiation, shading and wind analysis, seismic, CO<sup>2</sup> emissions, carbon footprint, thermal, lighting and water usage, acoustics, and airflow studies.

4.4.2.8 Geospatial coordination and clash resolution – identifying Design Models and Coordinated Construction Models to be compared at each Model Phase.

4.4.2.9 Life safety and other code analysis and validation.

4.4.2.10 Record Model and Conformed Design Model development; source of changes and updates will be derived from: |

- annotated 2D Drawings
- annotated Construction Model
- scaled dimensions of the as-built Work field measured at the Project site
- electronic scan or laser point cloud of the as-built Work at the Project site
- other (specify):

#### 4.4.3 Construction

4.4.3.1 Construction management – site utilization, Geospatial coordination, phasing, layout and Work control and sequencing for Intelligent and automated construction site activities.

4.4.3.2 Assembly and Work sequence training simulations for construction systems.

4.4.3.3 Construction quality control.

4.4.3.4 Timeframes and milestones for model updating during construction.

4.4.3.5 Safety planning.

4.4.3.6 Site logistics and security controls.

4.4.3.7 Digital Fabrication – searchable and indexed pre-assembly, modularization and prefabrication processes and production of any 3D printed objects and building components.

4.4.3.8 Construction waste management and reduction.

4.4.3.9 Material supply and RFID or other smart tagging.

4.4.3.10 Model-based request for information (RFI) and Change Order management.

4.4.3.11 As-Built Construction Model development.

4.4.3.12 Work completion Model deliverables.





#### 4.4.4 Commissioning and Turnover

4.4.4.1 Building system performance confirmation.

4.4.4.2 Model documentation of commissioning performance levels.

4.4.4.3 Operation and maintenance staff training using Model simulations.

4.4.4.4 Identification of specific data, software (current and planned), systems, and databases which will be exchange information. Chart A below specifies the purpose (for As-Built Construction Models, Record Models, or both), information type (Geometric, non-graphical, or both), exchange dynamic (one-way or reciprocal), Participant responsible for the deliverable, and the schedule for doing so: (*Chart A on the next page*)

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Chart A								
Owner System	As-Built Construction Models	As-Built Construction Models			Record Models	Record Models		
		Geometric Data	Related deliverables (specify)	One-way or reciprocal?		Geometric Data	Related deliverables (specify)	One-way or reciprocal?
<input type="checkbox"/> Project Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Project Document Management (Drawings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Project Document Management (Non-Drawings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Project Collaboration (if separate or distinct from above)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> As-Built Repository (Drawings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Preventative Maintenance (a/k/a CMMS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Building Automation and Controls (a/k/a BAS or BMS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Life Safety Management and Reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Space and Lease Management (a/k/a CAFM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Furniture and Equipment Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Finance, Accounting and Tax – Any & All Programs used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify
<input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify

#### 4.4.5 Facility Operation & Maintenance (O&M) and Enterprise Management

4.4.5.1 Facility operation and management – Model-embedded O&M manual and warranty data requirements for intelligent or smart building, self-maintaining, and reporting operational facilities within a structure.

4.4.5.2 Maintenance – scheduling, job planning, training processes.

4.4.5.3 Asset management



(a) Furniture Fixtures & Equipment (FF&E) – fixed and moveable – RFID or other smart tagging and management.

(b) Installed Building Equipment (IBE) – performance monitoring of Project equipment.

(c) Inventory – tracking and location monitoring.

(d) Exterior Assets – performance monitoring of Project equipment and fixtures located outside of structures (transformers, light and utility poles, etc.).

4.4.5.4 Space and lease management and tracking and related computer-aided facility management (CAFM) or integrated workplace management system (IWMS).

4.4.5.5 Building systems analysis – energy management and comparison of as planned and actual energy use, equipment, and systems functionality.

4.4.5.6 Building automation system, building management system (BAS/BMS), and related controls.

4.4.5.7 Disaster planning – dynamic automation and static building information, and routing, access, and evacuation protocol development.

4.4.5.8 Access and security monitoring.

4.4.5.9 CIM data, site, and auxiliary systems management.

4.4.5.10 Record Model - repository and updating, including As-Built Construction Model and Record Model requirements, with one-way and two-way integration; related deliverables documentation, and delivery format and file extension development.

4.4.5.11 Expansion and renovation planning.

4.4.5.12 Decommissioning and recycling.

4.5 BIM EXECUTION: RELATED DELIVERABLES Determine related non-Model deliverables, such as Drawings, reports, records, performance data, diagrams, and analyses and activities, including schedule of information sharing and required development milestones to achieve the Model Uses, including:

4.5.1 Drawings – Two-dimensional documents, including details, sections, elevations, plans, permitting sets, and diagrammatic RFI responses:

4.5.1.1 2D Drawings will be derived from:

- 3D Model data; or
- Non-Model, computer-assisted design data (CAD) or other non-computerized sources.

4.5.1.2 If there is a conflict between a Model Contribution and a portion of the design generated in a 2-dimensional medium then:

- The Model Contribution shall take precedence over the dimensions called for in or reasonably inferred from the Drawings; or
- Dimensions called for in or reasonably inferred from the Drawings shall take precedence over a Model Contribution.



4.5.2 4D scheduling – Model-based or Model-embedded Project and Work schedule sequencing and phase planning, including fixed chart and simulation sequencing; quantity take off by location (material type, work area, floor, structure, type of amenity, corners); on-site production control (as planned vs. as-built, forecasting by trade, location, or assembly).

4.5.3 5D estimating – Model-based or Parametric Project and Work cost estimating and quantity planning, including unit pricing by location and Element type; budget tracking (as planned vs. as-built); target cost analysis for value engineering and design changes; cash flow projection; and sustainability feature valuation.

4.5.4 Data collection protocols – determine Construction Operations Building Information Exchange (COBie) or other Owner-specific Element data spreadsheet requirements by Project Model Phase, Contributor and deliverable type and format for all data collection protocol requirements, including identifying Element listings by location, identification number, space type, manufacturer, model number, serial number, O&M requirements and any other data fields required for the Project. Identify any Governing or Affiliated Contract provisions that will be amended to reflect the use of the selected data collection protocol, including submittal schedules, submittal review, review of information and Final Completion, As-Built Drawings, commissioning, and final payment.

4.5.5 Sustainability analyses – energy analysis, use and performance; lighting and daylighting studies; airflow (computational fluid analysis), HVAC, and thermal comfort analysis; lifecycle impact; materials performance modeling; and LEED®, Energy Star®, Green Globes®, GreenMark®, or other environmental evaluation and certification testing, including formats and required content of written reports from analysis derived from Model data.

4.5.6 Other Related Deliverables – any other related deliverables, including spreadsheets, reports, photographic documentation, .pdf deliverables, RFI and Change Order management logs and lists.

4.6 TECHNOLOGY INFRASTRUCTURE & INFORMATION EXCHANGE After determination of the necessary Model Geometric and related deliverables as provided in § 4.4 and § 4.5, develop necessary technology infrastructure and information exchange processes and protocols to support the Model Uses, including determination of the following:

4.6.1 Hardware – configuration specifications (processor, operating system, memory storage, random access memory, graphics, network card, etc.) for computers and related peripherals (printers, scanners, screens, etc.) and mobile devices (tablets, smart phones, slates, etc.);

4.6.2 Software – proprietary and open source authoring and file sharing platforms and applications including version (and version upgrade process, if applicable);

4.6.3 Physical workspaces – mobile, fixed and collaborative, co-located, including furniture, power, connectivity and interactivity tools, and lighting needs;

4.6.4 Access – permitted users, including security protocols and training, collaboration and communication process requirements, priority of access, and data transfer interoperability and patching obligations;

4.6.5 Model sharing and networking infrastructure;

4.6.6 Meeting scheduling – including frequency, participants and locations, decision documentation for each Phase of Model development;



4.6.7 Model management and content, including:

4.6.7.1 data formatting (font, dimension, line styles, unit conventions, levels, etc.);

4.6.7.2 file- and element-naming and file size, protocols – including project identification number, discipline designation, model number, revision number, Element name and type, layer, sharing status, and related information;

4.6.7.3 measurement system;

4.6.7.4 Geospatial coordinate system (geo-referenced, origin point);

4.6.7.5 permitted native file types;

4.6.7.6 model Element and facility data accuracy requirements – minimum Geometric and Geospatial data, Element property, Element constitution, space holder parameters for cost and schedule data, and authoritative source information;

4.6.7.7 model partitioning; and

4.6.7.8 submission procedures and protocols – electronic stamping, approval process for designating a Model as a Design Model or Full Design Model, version and change tracking requirements, and system for notification of action on a request for approval of a Model or portion of it.

4.6.8 Model precision requirements – use of Level of Development, Granularity, and Level of Detail measurement tools by Phase and milestone.

4.6.9 DIMENSIONAL ACCURACY A Contribution of or to a Model shall be:

dimensionally accurate and take precedence over the dimensions called out in the Drawings or inferred from the Drawings; details and components that are not represented in a Contribution to a Model must be retrieved from the Drawings; or

accurate to the extent the LOD specified in the BIM Execution Plan requires dimensions to be accurate, and all other dimensions must be retrieved from the Drawings; or

not dimensionally accurate; the Model can be used for reference only and all dimensions must be retrieved from the Drawings; or

Other (*specify*): [\_\_\_\_\_].

4.6.10 Model reliability standards and quality control measures – visual, interference, standards, model integrity for accuracy and completeness of information, eliminating undefined, incorrectly defined and duplicated Elements. Paper and other non-electronic documentation requirements, including drawing set sizes, title sheet and sheet block designation formats, and content.

4.6.11 Utilization of BIM for RFI and Change Order processes, response protocols and timing, incorporation of responses into Models.

4.6.12 Workflow and revision management – process and approval, and validation tracking mechanisms.

4.6.13 Archiving, and data legacy integration and reuse rights – version, Record Model, Conformed Design Model control.



## 4.7 BIM STAFFING

4.7.1 Identify contact information for each Contributor and any other authorized users of ProjectBIM.

4.7.2 Determine roles and responsibilities – by Contributor organization and individually, including contact information sharing.

4.7.3 Develop training requirements for all Contributors.

4.7.4 Decision hierarchies – develop preferred sequence of information management and Model access, including identifying required decision makers for various aspects of Model development.

## ARTICLE 5 RISK ALLOCATION

5.1 Each Model Contributor shall be responsible for the Contributions it makes to a Model or the data that is developed as a result of that Contributor's access to a Model. A Model Contributor is also responsible for any Contribution or access to a Model by a Project Participant in privity with, and of a lower tier contractually than, that Contributor.

5.2 With respect to waiver of consequential damages:

5.2.1 The applicable Governing Contract shall govern, as between the parties to that Governing Contract, for any waiver of consequential damages by or in favor of Constructor or Design Professional arising from their respective Contribution; and

5.2.2 Each Affiliated Contract Contributor waives claims against the other Project Contributors for consequential damages arising out of or relating to the use of, or access to, a Model, including, but not limited to, damages for loss of use of the Project, rental expenses, loss of income or profit, costs of financing, loss of business, principal office overhead and expenses, loss of reputation, or insolvency.

5.3 The standard of care applicable to a Contributor's Contributions to, or use of, a Model shall be governed by a Contributor's Governing Contract or Affiliated Contract, or, if no such standard is stated, then pursuant to common law, as applicable.

5.4 Each Model Contributor shall use its best efforts to minimize the risk of claims and liability arising from that Contributor's use of, or access to, its Model or any other Project Models. Such efforts shall include promptly reporting to affected Contributors any errors, inconsistencies, or omissions the Contributor discovers in its Model or other Project Models; however, nothing in this section shall relieve any Contributor of liability it would otherwise bear under § 5.1.

5.5 To the extent that any Design Models are included as Contract Documents under the BIM Execution Plan adopted for the Project or otherwise in this Addendum, Project Participants may rely upon the accuracy of information in those Design Models; provided, however, the selection in § 4.6.9 shall control a Project Participant's right to rely on the Dimensional Accuracy of a Contribution, Model, or Model Elements.

5.6 No Contributor shall be responsible for costs, expenses, liabilities, or damages that may result from use of its Model by other Contributors beyond the uses set forth in this Addendum, as may be amended.

5.7 Model use beyond the permitted uses set forth in this Addendum, as may be amended, is at the sole risk of the user; provided, however, nothing in this Addendum conveys any right to use a Model or other Contribution for a purpose other than for this Project to the extent provided herein.





5.8 Unless agreed otherwise in the BIM Execution Plan, and in addition to any insurance required by a Governing Contract or Affiliated Contract, Contributors shall procure and maintain the following insurance coverage, with at least the following aggregate limits:

5.8.1 For the BIM Manager:

(a) Professional liability insurance with a policy definition of covered “professional services” including either “BIM model management,” “technical consulting,” or similar wording covering the BIM Manager services required under this Addendum: \$[ ]

(b) Electronic data processing insurance: \$[ ]

5.8.2 For any Contributor that is a Constructor, or a Subcontractor or Supplier having a direct contractual relationship with a Constructor:

(a) Constructor’s professional liability insurance having a policy definition of covered “professional services” that includes “BIM model management,” “technical consulting,” or similar wording: \$[ ]

5.8.3 For any Contributor that is a Design Professional or that furnishes a Design Model for the Project:

(a) professional liability insurance with a policy definition of covered “professional services” that includes “BIM model management,” “technical consulting,” or similar wording: \$[ ]

5.8.4 For all Contributors:

(a) technology or cyber liability insurance, including liability for exposures that include electronic security breaches, mistakes, and unauthorized employee acts, virus attacks, hacking, identity theft or private information loss, and infringing or disparaging content: \$[ ]

5.8.5 For any Project Participant providing hosting services:

(a) electronic data processing insurance, including coverage for electronic data processing (EDP), including media replacement cost coverage and EDP data coverage: \$[ ]

5.9 A defect in the software used in the creation, modification, federation, or other use of a Model shall entitle a Contributor to a reasonable time extension or other excuse from performance, provided the Contributor could not have reasonably avoided the delay or loss resulting from the defect and the Contributor uses reasonable diligence to mitigate such delay or loss.

## ARTICLE 6 MODEL INTELLECTUAL PROPERTY RIGHTS

6.1 LICENSE GRANT In addition to any other copyright or other intellectual property licenses that may be granted under a Governing Contract, each Contributor grants to Owner and the other Contributors limited, non-exclusive licenses (Copyright Licenses) to reproduce, distribute, display, make derivative works of, and otherwise use the following for purposes of this Project only:

6.1.1 That Contributor’s Contributions;

6.1.2 The Contributions of those other Project Participants who have granted that Contributor an identical license; and



6.1.3 Any Model relating to the Project to which that Contributor has intellectual property rights.

## 6.2 LICENSE LIMITATIONS

6.2.1 Unless otherwise provided in the BIM Execution Plan, the Copyright License will: (a) remain in effect as permitted by law and as required under this Addendum; and (b) after final completion of construction of the Project, be limited to retention of an archival copy of the Contributor's Project-related Contributions, and any additional Owner licenses as provided in §6.6.

6.3 OWNERSHIP AND LICENSING Each Contributor warrants to the Project Participants that the Contributor is the copyright owner of, possesses a valid copyright license for, or is otherwise authorized by the copyright owner to use its Contribution, including the right to grant licenses to other Project Participants to use such data or the software used to create it as needed to fulfill duties or Model Uses established in the BIM Execution Plan for the Project. Subject to waiver of subrogation in a Governing Contract or Affiliated Contract applicable to Contributions, each Contributor agrees to defend, indemnify, and hold the other Project Participants harmless, including for costs, expenses of defense, and attorneys' fees, for claims of, and causes of action by, third parties arising out of, or relating to, infringement or alleged infringement of expression by that Contributor's Contribution.

## 6.4 COLLABORATION IMPACT ON IP

6.4.1 CONTRIBUTOR MODEL RIGHTS No Contributor possesses rights in a Model greater than those of its own Contribution to that Model or to a joint work on a Model or Element(s) therein, if any, and those granted by the Copyright License provided in this Addendum.

6.4.2 NO JOINT WORK Project Participants, Contributors, and other persons or entities involved in the Project are not co-authors or co-owners in the Contributions of other Contributors, except as provided in § 6.4.3.

6.4.3 Collaborative work on Models by Contributors:

- will not result in the creation of joint work; or
- will result in the creation of joint work as follows: [ ].

6.5 NO TRANSFER OR DEPRIVATION OF RIGHTS Except as expressly granted by this Addendum, this Addendum is not intended to limit, transfer, deprive, dispossess, or otherwise affect any intellectual property rights that a Contributor has with respect to its respective Contribution.

6.6 ADDITIONAL OWNER LICENSES Owner's entitlement, if any, to use the Models developed for this Project for purposes other than this Project is as provided in the Governing Contract between Owner and Design Professional, and the Governing Contract between Owner and Constructor.

6.6.1 This entire subsection:

- does
- does not

take precedence over any terms in the Governing Contract pertaining to non-payment by Owner:



6.6.1.1 Except as provided in subsection 6.6.1.2 immediately below, the Copyright License granted to Owner in this Addendum to reproduce, distribute, display, or otherwise reuse the Contributions and Models for this Project shall be for the entire lifecycle of the Project.

6.6.1.2 If Owner fails to make Project-related payments to a Contributor when due under a Governing Contract, and that material failure is so adjudged against Owner by the final decision of the court of law, or alternative dispute resolution forum identified in that Governing Contract, or via such other forum mutually agreed by Owner and affected Contributor(s) (an "Adjudication"), then any Copyright Licenses granted to Owner from that Contributor shall be suspended as of the time of such Adjudication and reinstated upon satisfaction of the Adjudication.

6.6.1.3 Contributors waive any rights against other Contributors who are not found liable in an Adjudication (for failure to pay or otherwise) to:

6.6.1.3.1 claim contributory, direct, or vicarious copyright infringement;

6.6.1.3.2 to assert claims of misappropriation or like claims;

6.6.1.3.3 to revoke licenses granted in this Addendum; or

6.6.1.3.4 to pursue equitable remedies under the US Copyright Act, 17 U.S.C. §§ 101 et seq., or under applicable law, including their respective Model Use obligations, if any, to the Contributor unpaid by Owner.

6.6.1.4 The non-liable Contributor's licenses granted in this Addendum shall not be affected by the suspension of Owner's license due to an Adjudication.



**Chart B**

Phase	301® DEFINITION	System	Required	Responsible Party	Authoring Software : General Arrangement (additional Model Content Specified as per § 4 BIM Execution Plan)	Model Content: Geometri c	Model Content: Data	If "Yes" Data, Requirements;	Due Date (e.g.)	Phase
<b>DESIGN</b>	<b>Design Model</b>	Arch.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	Identify Authoring Software, e.g.: <input type="checkbox"/> Autodesk® Revit®; <input type="checkbox"/> Bentley Architecture®; <input type="checkbox"/> Graphisoft ArchiCad®; <input type="checkbox"/> Autodesk® AutoCad®: <input type="checkbox"/> 2D; <input type="checkbox"/> 3D <input type="checkbox"/> Other (specify) [ ]	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	<b>DESIGN</b>
		Struct.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	
		Mech.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	
		Plumb.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	
		EL.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	
		FP.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"100% CD"	
<b>CONSTRUCTION</b>	<b>Coordinated Construction Model</b>									<b>CONSTRUCTION</b>
		Arch.	<input type="checkbox"/> Yes	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	



		<input type="checkbox"/> No							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	
	Struct.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	
	Mech.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	
	Plumb.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	
	EL.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	
	FP.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Floor/Area/Zone Sign-Off as per Schedule"	

<b>CLOSE-OUT</b>	<b>As-Built Construction Model</b>							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Arch.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Struct.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Mech.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Plumb.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	EL.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"

**CLOSE-OUT**



		<input type="checkbox"/> Yes <input type="checkbox"/> No	Constructor	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	FP.							
<b>Conformed Design Model</b>								
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Arch.							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Struct.							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Mech.							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	Plumb.							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	EL.							
		<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Professional	identify as above	as per § 4 BIM Execution Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	as per Chart A in § 4.4.4.4	"Prior to Final Payment"
	FP.							

Chart C							
Phase	301® DEFINITION	System	Model Deliverable Format	Responsible Party (check one)	Source of Geospatial and Geometric Updates (check all that apply)	Non-Graphic Information	Phase
CLOSE-OUT	Design Model					as per Chart A in § 4.4.4.4	CLOSE-OUT
		Arch.	As indicated in Chart B.	<input type="checkbox"/> Architect	<input type="checkbox"/> hand-annotated 2D design documents created by: [ ]		
			<input type="checkbox"/> Engineer		<input type="checkbox"/> annotated As-Built Construction Model created by: [ ]		





		<input type="checkbox"/> Contractor		<input type="checkbox"/> scaled dimensions of the built work measured in the field by: [ ]	
		<input type="checkbox"/> Design Assist Subcontractor – Trade: [ ]		<input type="checkbox"/> electronic scan/laser point cloud of the built work created by: [ ]	
		<input type="checkbox"/> Design Build Subcontractor – Trade: [ ]		<input type="checkbox"/> other (specify): [ ]	
		<input type="checkbox"/> Other (specify): [ ]			
	Struct.	As above	Identified as above	Identified as above	as per Chart A in § 4.4.4.4
Mech.	As above	Identified as above	Identified as above	as per Chart A in § 4.4.4.4	
Plumb.	As above	Identified as above	Identified as above	as per Chart A in § 4.4.4.4	
EL.	As above	Identified as above	Identified as above	as per Chart A in § 4.4.4.4	
FP.	As above	Identified as above	Identified as above	as per Chart A in § 4.4.4.4	

END OF DOCUMENT.

DRAFT

