

AIA[®] Document E202[™] – 2008

Building Information Modeling Protocol Exhibit

This Exhibit is incorporated into the accompanying agreement (the “Agreement”) dated the _____ day of _____ in _____ the year _____
(In words, indicate day, month and year.)

BETWEEN:
(Name, address and contact information, including electronic addresses)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AND:
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 This Exhibit establishes the protocols, expected levels of development, and authorized uses of Building Information Models on this Project and assigns specific responsibility for the development of each Model Element to a defined Level of Development at each Project phase. Where a provision in this Exhibit conflicts with a provision in the Agreement into which this Exhibit is incorporated, the provision in this Exhibit will prevail.

§ 1.1.1 The parties agree to incorporate this Exhibit by reference into any other agreement for services or construction for the Project.

§ 1.2 Definitions

§ 1.2.1 Building Information Model. A Building Information Model(s) is a digital representation of the physical and functional characteristics of the Project and is referred to in this Exhibit as the “Model(s),” which term may be used herein to describe a Model Element, a single Model or multiple Models used in the aggregate. “Building Information Modeling” means the process and technology used to create the Model.

§ 1.2.2 Level of Development. The Level(s) of Development (LOD) describes the level of completeness to which a Model Element is developed.

§ 1.2.3 Model Element. A Model Element is a portion of the Building Information Model representing a component, system or assembly within a building or building site. For the purposes of this Exhibit, Model Elements are represented by the Construction Specifications Institute (CSI) UniFormat™ classification system in the Model Element Table at Section 4.3.

§ 1.2.4 Model Element Author. The Model Element Author is the party responsible for developing the content of a specific Model Element to the LOD required for a particular phase of the Project. Model Element Authors are identified in the Model Element Table at Section 4.3.

§ 1.2.5 Model User. The Model User refers to any individual or entity authorized to use the Model on the Project, such as for analysis, estimating or scheduling.

ARTICLE 2 PROTOCOL

§ 2.1 Coordination and Conflicts

Where conflicts are found in the Model, regardless of the phase of the Project or LOD, the discovering party shall promptly notify the Model Element Author(s). Upon such notification, the Model Element Author(s) shall act promptly to mitigate the conflict.

§ 2.2 Model Ownership

In contributing content to the Model, the Model Element Author does not convey any ownership right in the content provided or in the software used to generate the content. Unless otherwise granted in a separate license, any subsequent Model Element Author’s and Model User’s right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project, and nothing contained in this Exhibit conveys any other right to use the Model for another purpose.

§ 2.3 Model Requirements

§ 2.3.1 Model Standard. The Model shall be developed in accordance with the following standard, if any:

(Set forth below object naming conventions, graphic standards, common symbology, etc., or state an applicable standard, such as the National Building Information Model Standards (NBIMS).)

§ 2.3.2 File Format(s). Models shall be delivered in the following format(s) as appropriate to the use of the Model:

Use of Model

Required File Format(s)

§ 2.4 Model Management

§ 2.4.1 The requirements for managing the Model include, but are not limited to, the duties set forth below in this Section 2.4. The Architect will manage the Model from the inception of the Project. If the responsibility for Model management will be assigned to another party at a particular phase of the Project, indicate below the identity of the party that will assume that responsibility, and the phase at which that party will assume those responsibilities.

Responsible Party	Project Phase
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§ 2.4.2 **Initial Responsibilities.** The party responsible for managing the Model shall facilitate the establishment of protocols for the following:

- .1 Model origin, coordinate system, and units
- .2 File storage location(s)
- .3 Processes for transferring and accessing Model files
- .4 Clash detection
- .5 Access rights
- .6 Other protocols:
(Insert additional protocols below.)

§ 2.4.3 **Ongoing Responsibilities.** The party responsible for managing the Model shall have the following ongoing responsibilities:

- .1 Collect incoming Models:
 - .1 Coordinate submission and exchange of Models
 - .2 Log incoming Models
 - .3 Validate that files are complete and usable and in compliance with applicable protocols
 - .4 Maintain record copy of each file received
- .2 Aggregate Model files and make available for viewing
- .3 Perform clash detection in accordance with established protocols and issue periodic clash detection reports
- .4 Maintain Model archives and backups
- .5 Manage access rights
- .6 Follow protocols established in Section 2.4.2

§ 2.4.4 **Model Archives.** The party responsible for Model management as set forth in this Section 2.4 shall produce a Model Archive at the end of each Project phase and shall preserve the Model Archive as a record that may not be altered for any reason.

§ 2.4.4.1 The Model Archive shall consist of two sets of files. The first set shall be a collection of individual Models as received from the Model Element Author(s). The second set of files shall consist of the aggregate of those individual Models in a format suitable for archiving and viewing. The second set shall be saved in the following file format:

§ 2.4.4.2 Additional Model Archive requirements, if any, are as follows:

§ 2.4.4.3 The procedures for storing and preserving the Model upon final completion of the Project are as follows:

§ 2.4.5 Other requirements for Model management, if any, are as follows:
(Describe in detail any other Model management requirements.)

ARTICLE 3 LEVEL OF DEVELOPMENT

§ 3.1 The following LOD descriptions identify the specific content requirements and associated authorized uses for each Model Element at five progressively detailed levels of completeness. Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels. The parties shall utilize the five LOD described below in completing the Model Element Table at Section 4.3, which establishes the required LOD for each Model Element at each phase of the Project.

§ 3.2 LOD 100

§ 3.2.1 **Model Content Requirements.** Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.

§ 3.2.2 Authorized Uses

§ 3.2.2.1 **Analysis.** The Model may be analyzed based on volume, area and orientation by application of generalized performance criteria assigned to the representative Model Elements.

§ 3.2.2.2 **Cost Estimating.** The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, condominium unit, hospital bed, etc.).

§ 3.2.2.3 **Schedule.** The Model may be used for project phasing and overall duration.

§ 3.2.2.4 **Other Authorized Uses.** Additional authorized uses of the Model developed to a Level 100, if any, are as follows:

§ 3.3 LOD 200

§ 3.3.1 **Model Content Requirements.** Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

§ 3.3.2 Authorized Uses

§ 3.3.2.1 **Analysis.** The Model may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.

§ 3.3.2.2 **Cost Estimating.** The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).

§ 3.3.2.3 **Schedule.** The Model may be used to show ordered, time-scaled appearance of major elements and systems.

§ 3.3.2.4 **Other Authorized Uses.** Additional authorized uses of the Model developed to a Level 200, if any, are as follows:

§ 3.4 LOD 300

§ 3.4.1 **Model Content Requirements.** Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

§ 3.4.2 Authorized Uses

§ 3.4.2.1 **Construction.** Suitable for the generation of traditional construction documents and shop drawings.

§ 3.4.2.2 **Analysis.** The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.

§ 3.4.2.3 **Cost Estimating.** The Model may be used to develop cost estimates based on the specific data provided and conceptual estimating techniques.

§ 3.4.2.4 **Schedule.** The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

§ 3.4.2.5 **Other Authorized Uses.** Additional authorized uses of the Model developed to a Level 300, if any, are as follows:

§ 3.5 LOD 400

§ 3.5.1 **Model Content Requirements.** Model Elements are modeled as specific assemblies that are accurate in terms of size, shape, location, quantity, and orientation with complete fabrication, assembly, and detailing information. Non-geometric information may also be attached to Model Elements.

§ 3.5.2 Authorized Uses

§ 3.5.2.1 **Construction.** Model Elements are virtual representations of the proposed element and are suitable for construction.

§ 3.5.2.2 **Analysis.** The Model may be analyzed for performance of approved selected systems based on specific Model Elements.

§ 3.5.2.3 **Cost Estimating.** Costs are based on the actual cost of specific elements at buyout.

§ 3.5.2.4 **Schedule.** The Model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

§ 3.5.2.5 **Other Authorized Uses.** Additional authorized uses of the Model developed to a Level 400, if any, are as follows:

§ 3.6 LOD 500

§ 3.6.1 Model Content Requirements. Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Non-geometric information may also be attached to modeled elements.

§ 3.6.2 Authorized Uses

§ 3.6.2.1 General Usage. The Model may be utilized for maintaining, altering, and adding to the Project, but only to the extent consistent with any licenses granted in the Agreement or in a separate licensing agreement.

§ 3.6.2.2 Other Authorized Uses. Additional authorized uses of the Model developed to a Level 500, if any, are as follows:

ARTICLE 4 MODEL ELEMENTS

§ 4.1 Reliance on Model Elements

§ 4.1.1 The Model Element Table at Section 4.3 identifies (1) the LOD required for each Model Element at the end of each Project phase, and (2) the Model Element Author responsible for developing the Model Element to the LOD identified. Each Model Element Author's content is intended to be shared with subsequent Model Element Authors and Model Users throughout the course of the Project.

§ 4.1.2 It is understood that while the content of a specific Model Element may include data that exceeds the required LOD identified in Section 4.3 for a particular phase, Model Users and subsequent Model Element Authors may rely on the accuracy and completeness of a Model Element consistent only with the content required for the LOD identified in Section 4.3.

§ 4.1.3 Any use of, or reliance on, a Model Element inconsistent with the LOD indicated in Section 4.3 by subsequent Model Element Authors or Model Users shall be at their sole risk and without liability to the Model Element Author. To the fullest extent permitted by law, subsequent Model Element Authors and Model Users shall indemnify and defend the Model Element Author from and against all claims arising from or related to the subsequent Model Element Author's or Model User's modification to, or unauthorized use of, the Model Element Author's content.

§ 4.2 Table Instructions

§ 4.2.1 The table in Section 4.3 indicates the LOD to which each Model Element Author (MEA) is required to develop the content of the Model Element at the conclusion of each phase of the Project.

§ 4.2.2 Abbreviations for each MEA to be used in the Model Element Table are as follows:
(Provide abbreviations such as "A – Architect," or "C – Contractor.")

§ 4.3 Model Element Table

Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.

Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."

NOTE: LODs must be adapted for the unique characteristics of each Project.

Note Number (See 4.4)

Model Elements Utilizing CSI UniFormat™					LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA		
A SUBSTRUCTURE	A10 Foundations	A1010 Standard Foundations																
		A1020 Special Foundations																
		A1030 Slab on Grade																
	A20 Basement Construction	A2010 Basement Excavation																
		A2020 Basement Walls																
	B SHELL	B10 Superstructure	B1010 Floor Construction															
B1020 Roof Construction																		
B20 Exterior Enclosure		B2010 Exterior Walls																
		B2020 Exterior Windows																
		B2030 Exterior Doors																
B30 Roofing		B3010 Roof Coverings																
		B3020 Roof Openings																
C INTERIORS		C10 Interior Construction	C1010 Partitions															
			C1020 Interior Doors															
			C1030 Fittings															
	C20 Stairs	C2010 Stair Construction																
		C2020 Stair Finishes																
	C30 Interior Finishes	C3010 Wall Finishes																
		C3020 Floor Finishes																
		C3030 Ceiling Finishes																
	D SERVICES	D10 Conveying	D1010 Elevators & Lifts															
D1020 Escalators & Moving Walks																		
D1030 Other Conveying Systems																		
D20 Plumbing		D2010 Plumbing Fixtures																
		D2020 Domestic Water Distribution																
		D2030 Sanitary Waste																
		D2040 Rain Water Drainage																
		D2090 Other Plumbing Systems																
D30 HVAC		D3010 Energy Supply																
		D3020 Heat Generating Systems																
		D3030 Cooling Generating Systems																
		D3040 Distribution Systems																
		D3050 Terminal & Package Units																
		D3060 Controls & Instrumentation																
		D3070 Systems Testing & Balancing																
D3090 Other HVAC Systems & Equipment																		
D40 Fire Protection		D4010 Sprinklers																
		D4020 Standpipes																
		D4030 Fire Protection Specialties																
		D4090 Other Fire Protection Systems																

Init.

§ 4.3 Model Element Table

Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.

Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."

NOTE: LODs must be adapted for the unique characteristics of each Project.

Note Number (See 4.4)

Model Elements Utilizing CSI UniFormat™			LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA		
D50	Electrical	D5010	Electrical Service & Distribution													
		D5020	Lighting and Branch Wiring													
		D5030	Communications & Security													
		D5090	Other Electrical Systems													
E EQUIPMENT & FURNISHINGS	E10 Equipment	E1010	Commercial Equipment													
		E1020	Institutional Equipment													
		E1030	Vehicular Equipment													
		E1090	Other Equipment													
	E20 Furnishings	E2010	Fixed Furnishings													
		E2020	Movable Furnishings													
	F SPECIAL CONSTR. & DEMO	F10 Special Construction	F1010	Special Structures												
			F1020	Integrated Construction												
F1030			Special Construction Systems													
F1040			Special Facilities													
F1050			Special Controls & Instrumentation													
F20 Selective Bldg Demo		F2010	Building Elements Demolition													
		F2020	Hazardous Components Abatement													
		G10 Site Preparation	G1010	Site Clearing												
			G1020	Site Demolition & Relocations												
			G1030	Site Earthwork												
G1040	Hazardous Waste Remediation															
G20 Site Improvements	G2010	Roadways														
	G2020	Parking Lots														
	G2030	Pedestrian Paving														
	G2040	Site Development														
	G2050	Landscaping														
G30 Site Civil/ Mech. Utilities	G3010	Water Supply & Distribution Systems														
	G3020	Sanitary Sewer Systems														
	G3030	Storm Sewer Systems														
	G3040	Heating Distribution														
	G3050	Cooling Distribution														
	G3060	Fuel Distribution														
	G3090	Other Civil/ Mechanical Utilities														
G40 Site Electrical Utilities	G4010	Electrical Distribution														
	G4020	Site Lighting														
	G4030	Site Communications & Security														
	G4090	Other Electrical Utilities														
G50 Other Site Construction	G5010	Service Tunnels														
	G5090	Other Site Systems & Equipment														

<p>§ 4.3 Model Element Table <i>Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.</i></p> <p><i>Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."</i></p> <p><i>NOTE: LODs must be adapted for the unique characteristics of each Project.</i></p>													<p>Note Number (See 4.4)</p>
<p>Model Elements Not Utilizing CSI UniFormat™</p>	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	

§ 4.4 Model Element Table Notes

Notes:

(List by number shown on table.)

Sample