AIA Contract Documents

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Digital Documents Guide

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PURPOSE OF THIS GUIDE

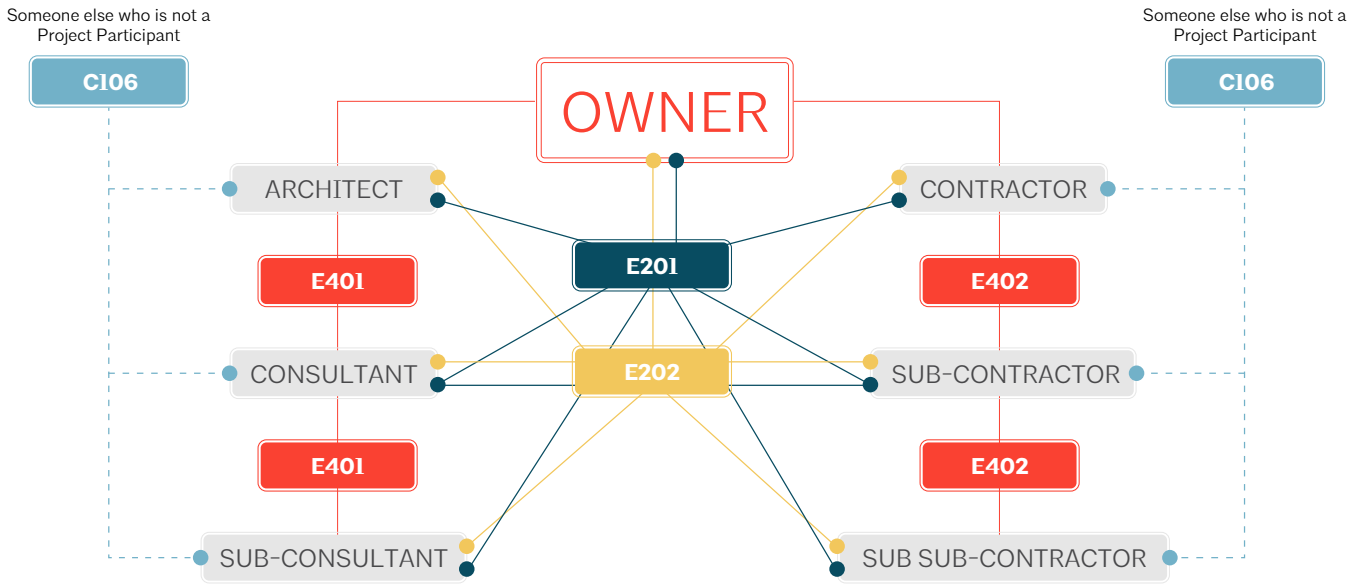
The purpose of this guide is to explain and analyze the AIA Contract Documents' 2022 Digital Practice Documents and, thereby, streamline the process of completing those documents.

Structural Revisions to AIA's Digital Practice Documents

The 2022 revisions to the AIA's suite of Digital Practice documents were significant. The topic of the legal implications of BIM is an incredibly complicated one. However, and somewhat paradoxically, since the prior versions of the AIA's BIM documents were published in 2013, the industry has been trending toward preferring a simplified BIM exhibit. The AIA Contract Documents program recognized this trend and revised the suite of BIM documents accordingly. Additionally, since 2013 the industry has been increasing its utilization of project-specific BIM execution plans. As a result, the AIA Contract Documents program recognized that the industry would benefit from the AIA's creation a BIM Execution Plan. Accordingly, the new G203-2022 BIM Execution Plan template was created to serve that purpose.

In the development of the new 2022 BIM documents, the AIA Contract Documents Committee performed extensive outreach to the industry. One of the common themes that arose from this outreach effort was that models can be a powerful tool on construction projects, but they are not always used to their full potential. One of the reasons that models were not used to their full potential was because of the risk associate with model sharing. The edits embedded within the 2022 BIM documents account for this risk by attempting to engage all project participants in a discussion related to model sharing, reliance, and use early in a project's lifespan, so that all project participants have clarity and understanding as to how their models will be shared, relied upon, and used by all other project participants. For example, if an owner and contractor wish to enumerate some portion of a design model as a Contract Document in their prime agreement, the design team should be made aware of this decision as early as practicable, so that modeling efforts can be adjusted accordingly. As another example, if a construction team wishes to perform their own modeling (in the event the owner asks for an "as-built" model to be delivered post construction), then the design team has that knowledge at the onset of their work and both sets of teams can adjust their modeling efforts accordingly.

Below is a contract relationship diagram showing the relationship and appropriate uses for the new 2022 versions of the Digital Practice documents.



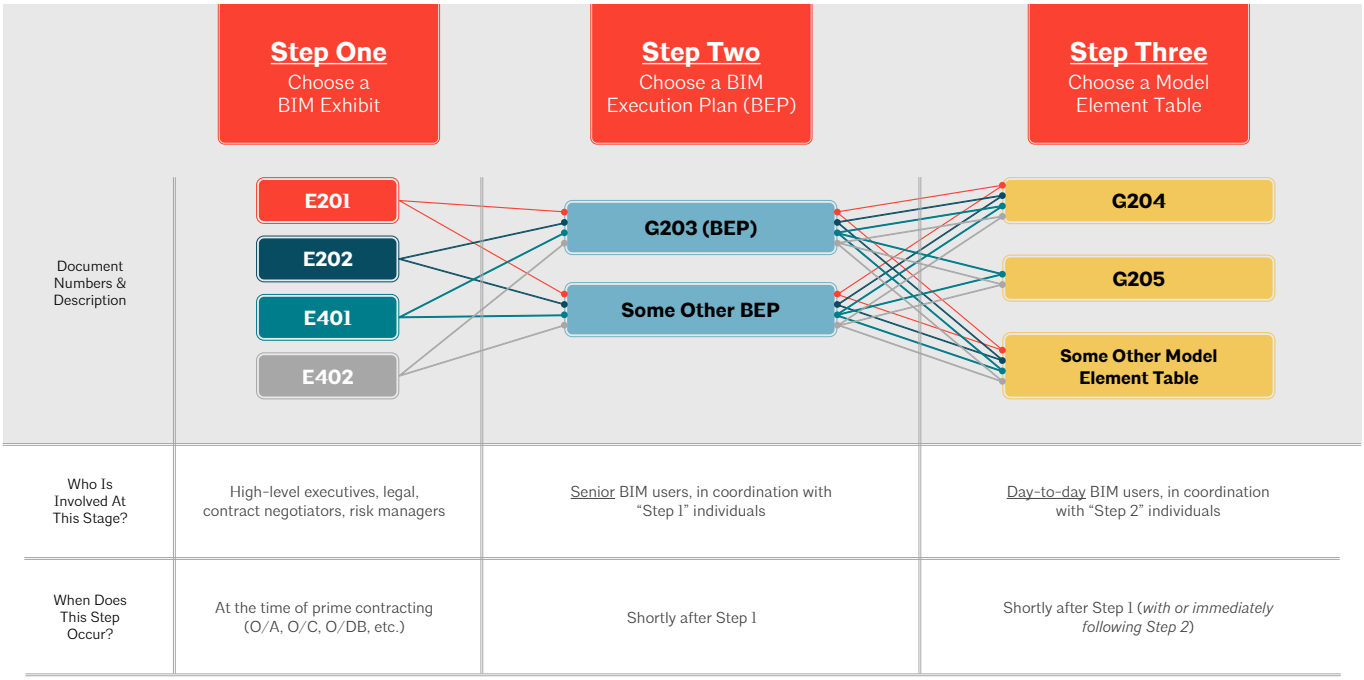
***G203: BIM Execution Plan / ** G204: Abbreviated Model Elememt Table / **G205: Model Element Table*

The primary purpose of the AIA's new BIM documents is to initiate, at the outset of a project, a substantive discussion about the extent to which Digital Data and BIM will be utilized, and how Digital Data and models can be used and relied upon. The new documents are also designed to facilitate a discussion over two central issues: first, the extent to which models will be shared throughout the project – for example, whether the design team will be sharing models with the owner and the construction team, or whether those design team models will be used solely within the design team to facilitate design work – and, second, whether a particular Model Version will be enumerated as a Contract Document. Once a general understanding of these issues is reached, the Project Participants use one of the following BIM exhibits: E201–2022, E202-2022, E401-2022, or E402-2022 to document the agreed-upon expectations regarding scope and anticipated Authorized Uses of Digital Data and BIM.

When models will be shared project-wide through the use of the E201-2022 or the E202-2022, the expectation is that there will be a single version of the BIM exhibit negotiated for a project and that version will be included as an exhibit to each contract on the project. Accordingly, the title pages for both the E201-2022 and E202-2022 do not reference a specific agreement. The agreements to which the BIM exhibit is made an exhibit will include a reference to the dated version of the incorporated BIM exhibit. For example, in B101–2017, the Owner and Architect would list and incorporate the BIM exhibit in Article 13. Through this process, the various Project Participants begin the Project with a common understanding of how Digital Data and BIM will, generally, be utilized on the project. To the extent Project Participants are utilizing AIA agreements that reference E203-2013, it will be necessary to delete or otherwise modify those references.

When models will only be shared amongst members of a specific team (for example, the design team or the construction team) and will not be shared project-wide, then the E401-2022 or the E402-2022 should be used. In these situations, models are intended to be used to facilitate other work between team members, and have little or no reliance value beyond this use. Accordingly, the design team would complete and execute an E401-2022 describing the uses and reliance expectations they will place on the design models and, similarly, the construction team would complete and execute an E402-2022 describing the uses and reliance expectations they will place on the construction models. Notably, models are not intended to be shared between the design and construction teams in this framework.

BRIEF OVERVIEW OF NEW DIGITAL PRACTICE DOCUMENTS



E201-2022 BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May be Enumerated as a Contract Document

The E201-2022 is intended to be used when Models will be shared among all Project Participants, and some Model Versions will be enumerated as a Contract Document. With the evolving nature of the construction industry, it is reasonable to assume that Models, or – to be more precise, Model Versions – will be increasingly used in the same way that traditional 2D drawings are now: as Contract Documents. However, the decision of whether to permit a Model Version to be enumerated as a Contract Document is significant and has many consequences. Therefore, the new E201-2022 gives Project Participants the ability to explicitly permit or prohibit certain Model Versions to be enumerated as Contract Documents. As

a result, since the same E201-2022 is attached to all of the contracts throughout the Project, all Project Participants are aligned in their understanding as to the extent of reliance on particular Model Versions. This unified understanding allows Model Authors to structure their modeling services and fees accordingly.

BIM as a Contract Document

E201-2022 is the only document in the AIA's BIM exhibit library that permits model versions to be enumerated as a Contract Document. Accordingly, this complex and important topic will be discussed at length in this section.

Currently, the common practice is for design teams to use models internally to meet their contractual obligation to generate 2-D drawings. Models might be shared with other project participants, such as the contractor, but the models are usually accompanied by a disclaimer stating that the model cannot be relied upon. As a result, contractors and others may have to generate their own model if they want to use BIM during the construction or post construction phases. This process is arguably inefficient. Proponents of allowing a model to be enumerated as a Contract Document have argued that it will help to unlock the full potential of modeling and streamline the design and construction process. Opponents of allowing a model to be enumerated as a Contract Document, on the other hand, have argued that permitting reliance on a model could have far reaching and unknown risk implications, especially if the model is used for a purpose unknown to the model author.

The owner and contractor typically enumerate the documents that will be considered "Contract Documents" in their agreement. In the AIA Contract Document family, this enumeration occurs, for example, in Articles 1 and 9 of A101-2017 and is reinforced in Section 1.1.1 of A201-2017. The decision to enumerate a particular document as a Contract Document is a significant one and carries with it many implications. Even though it may seem more efficient and unlock more of the benefits of modeling, the decision to enumerate a model as a Contract Document should be made only after thorough consideration of all the consequences.

By way of illustrative example, consider the following. A201-2017 states that the "Contract Documents form the Contract for Construction." (Section 1.1.2). Therefore, if a model is enumerated as a Contract Document, it becomes part of the Contract for Construction. In that same section of the A201, the parties agree that the "Contract may be amended or modified only by a Modification." Modifications are, by definition, (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect." (Section 1.1.1). The implication is that every time the model is changed, a formal Contract Modification would need to occur. With the hundreds or thousands of changes made to a model each day, it would be impractical to issue a Contract Modification each time. As discussed below, the E201-2022 corrects for this issue.

As another example, consider the contractor's obligation to "perform the Work in accordance with the Contract Documents." (A201-2017 Section 3.1.2). The implication of this requirement is, of course, that a contractor is in breach of its contract if it fails to perform the "Work" in accordance with the Contract

Documents. The construction industry has developed to allow the contractor to reference a static set of drawings when performing their "Work" and, thereby, perform their Work in accordance therewith. However, arguably, a contractor cannot reasonably be expected to perform their Work if their reference document (the model) is constantly changing. Again, as discussed below, the E201-2022 corrects for this issue.

The examples above are just two out of potentially dozens of implications that enumerating a model as a Contract Document has. The E201-2022 is structured with many features to account for these implications and provide predictability and clarity.

The first feature, which is found in all the 2022 BIM exhibits, is the addition of the terms "Model Version" and "Model Portion." Model Version is defined as "a specific edition of a Model or Model Portion that is sufficiently identifiable as unique and unchanged as of the time it is saved by its Author" and Model Portion is defined as "a subset of a Model [which may be designated] by discipline, trade, area, location, phase, or other mutually agreeable distinction." Model Versions are, in essence, a model in a single point in time, whereas Model Portions are a subset of a model. Each model author selects the "Tier" into which their model portion will fall. If they select Tier Three, then their model portion may be enumerated as a contract document. Only E201-2022 contains Tier Three. In E201-2022, parties may agree that "only a single Version of a Tier Three Model Portion may be enumerated as a Contract Document." In this way, E201-2022 eliminates some of the problems described above because the "model portion" that is enumerated as a "Contract Document" is static – only a single version of that portion is a Contract Document. The parties then agree that "A Model Version enumerated as a Contract Document shall only be changed or replaced through the modification process set forth in the agreement between the owner and contractor for the construction of the Project," but the need to engage in that modification process is not triggered each time a change is made within the model – rather, formal modifications are only needed when a new version is being issued as a Contract Document from which the contractor will perform its "Work."

The second feature is a limitation on the types of reliance placed upon models. As stated above, one of the primary concerns surrounding model sharing and, in particular, enumerating models as a Contract Document is that the model will be relied upon in an unintended manner. The language in Section 2.5.1 is designed to protect against this risk. Specifically, in Section 2.2 the parties identify particular uses for which models will be developed. Then, Section 2.5.1 states that "[t]he Parties agree that the extent of their reliance on any Model Version shall be limited to the uses identified in Section 2.2 and in accordance with the BIM Execution Plan..." In this way, all project participants understand the specific uses that can, and cannot, be applied to all of the project's model portions. This shared understanding helps to increase clarity and, thereby, decrease risk.

As stated above, enumerating a model – or, more accurately, a model version – as a Contract Document has many implications. For those who wish to enumerate their model portions as a Contract Document, they now have the option of choosing the E201-2022 as their BIM exhibit and, therein, clarifying which

model portions are eligible for enumeration, the extent of reliance that can be placed upon those model portion, and how and when those Contract Document model portions will be modified.

E202-2022 BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May Not be Enumerated as a Contract Document

The E202-2022 is intended to be used when Models will be shared among all Project Participants, but E202-2022 does not permit Model Versions to be enumerated as a Contract Document. Many of the other terms of E202-2022 are similar to E201-2022.

E401-2022 BIM Exhibit for Sharing Model Solely Within the Design Team

Unlike E201-2022 and E202-2022, E401-2022 is intended to be used when Models will be shared solely within the Design Team, which is defined as "the Architect, its Consultants, Subconsultants, and Sub-subconsultants, at any tier." In this regard, E401-2022 anticipates a more "siloed" approach to Modeling, where the Design Team creates and distributes Models within the Design Team only, and those Models are not intended to be shared with the Owner or any member of the Construction Team.

E402-2022 BIM Exhibit for Sharing Model Solely Within the Construction Team

Similar to the E401-2022, the E402-2022 anticipates a more "siloed" approach to Modeling. Specifically, the E402-2022 is intended to be used when Models will be shared solely within the Construction Team, which is defined as "the Contractor, its Subcontractors, and Sub-subcontractors, including fabricators, at any tier." When using the E402-2022, the Construction Team can share Models within the Construction Team only, and those Models are not intended to be shared with the Owner or any member of the Design Team.

G203-2022 BIM Execution Plan

BIM execution plans are, by their very nature, Project Specific. G203-2022 is intended to serve as a framework from which the Project Participants can create a Project-specific BIM Execution Plan. In this regard, G203-2022 contains multiple fill points and is intended to stimulate conversations and document decisions surrounding how the Project Participants will utilize BIM on their Project. All of the BIM exhibits contain language requiring the Parties to adhere to BIM Execution Plan. Acting in a similar manner to a Project schedule, although the BIM Execution Plan is not intended to be a contract exhibit, Parties are contractually obligated to adhere to its terms.

G204-2022 Model Element Table

One of the foundational elements of BIM is the concept of Levels of Development, or LODs. Using LOD designations, Model Authors can convey the specificity and exactness of their Model Elements and, in turn, other Project Participants with access to the Model can determine an appropriate amount of reliance on

those elements. In this regard, G204-2022 provides Project Participants with a table in which they can designate LODs for various Model Elements at different Project milestones.

G205-2022 Abbreviated Model Element Table

G205-2022 is one of the more unique and consequential documents in the current suite of Digital Practice Documents. The AIA Contract Documents Program received valuable feedback related to its 2013 documents that, while the Model Element Table contained therein was critical, it was occasionally burdensome to complete and sometimes created a hurdle to proper completion of the entire document set. As a result, the AIA Contract Documents Program created G205-2022, a Model Element Table that is abbreviated. The G205-2022 can facilitate the use of a Model Element Table by Project Participants who might otherwise not be familiar with Model Element Tables.

C106-2022 Digital Data Licensing Agreement

C106-2022 is similar to C106-2013, with some minor modifications.

Revisions to this Guide

This Guide not only allows the AIA to provide guidance on how to use the existing documents, it also provides the ability to address new topics as they develop. This Guide will be updated as necessary to reflect changing industry standards. The revision date of this document is included in the lower right-hand corner of the document. Please check back periodically to confirm that you have the latest version of this Guide.

HOW TO USE THIS GUIDE

Different Digital Documents Referenced in this Guide

This Guide is meant to be used for all the AIA's 2022 Digital Documents. So, where applicable, this Guide will discuss sections that appear in all these documents. But, where a section only appears in a single document (for example, the definition of "Design Team" in E401-2022), this Guide will denote to which document(s) the analysis applies.

Customizing the Agreements

Most design and construction firms that regularly use the AIA documents develop standard sets of edits to the documents they use most. These edits are applied to the base AIA templates to create templates specific to their firms. Negotiations for a project usually begin with these firm-specific templates, and then the firm either develops the project agreement by customizing their template, or endeavors to insert the principles of their standard edits into a project agreement initiated by another party.

This section focuses on the fill points, providing guidance on what to insert and in some cases sample language for both firm templates and project-specific documents. The section is intentionally brief in order

to facilitate efficient customization of the documents. Links are provided to articles in the Commentary section which provide more detail.

This Guide also provides in-depth discussions of the concepts behind the guidance given in the Customizing section. The agreements are discussed article-by-article, addressing both fill points and sections the user may wish to edit.

Quoted Language

In this Guide, when clauses or parts of clauses are quoted, they will be indented, set off by highlighting in gray, and also will use the font in the exhibit. An example of this framework is below:

> **§ 1.2.1 Agreement.** Agreement is the agreement to which this Exhibit is incorporated.

THE DIGITAL DOCUMENTS

Introduction and General Overview

As stated above, the exhibits within the new 2022 suite of Digital Documents include the following documents: E201-2022, E202-2022, E401-2022, and E402-2022. The remaining documents include G203-2022, G204-2022, G205-2022, and C106-2022. Below is a table that contains, in the first column, a list of the common features found in most or all of the BIM exhibits and, in the top row, a list of the four exhibits in the new suite of BIM documents.

The following comparison chart highlights the major differences between the new BIM exhibits:

Feature	E201	E202	E401	E402
Model Version May be a Contract Document	Yes	No	No	No
Models May be shared amongst all Project Participants	Yes	Yes	No	No
Models May be Shared Only Amongst the Design Team	N/A	N/A	Yes	N/A
Models May be Shared Only Amongst the Construction Team	N/A	N/A	N/A	Yes
Parties May use a full G204-2022 Model Element Table	Yes	Yes	Yes	Yes
Parties May use an abbreviated G205-2022 Model Element Table	No	No	Yes	Yes
Parties Required to use a BIM Execution Plan	Yes	Yes	Yes	Yes

[1] *While C106–2013 was updated as part of the AIA's 2022 revisions to its Digital Practice documents, there were not many substantive changes to the document. Therefore, C106–2022 is not discussed in detail in this Guide.*

The following section contains a clause-by-clause analysis of the E201-2022. Many of the sections in E201-2022 are also found in the other BIM exhibits, including E202-2022, E401-2022, and E402-2022, so a clause-by-clause analysis for those documents is not included in this Guide. However, when there is a significant difference between the various BIM exhibits within a particular clause, or if a clause exists in one exhibit but not others, it is discussed.

E201-2022 BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May be Enumerated as a Contract Document

ARTICLE 1—GENERAL PROVISIONS

Article 1 of E201-2022 and E202-2022 begin by explaining the general purpose of the document. Specifically, Section 1.1 establishes the intent and purpose of the exhibit.

§1.2 Definitions

Defined terms are capitalized throughout the document. The defined terms are coordinated for use with standard AIA Contract Documents. To the extent the BIM exhibits are used in conjunction with non-AIA agreements, the definitions may need to be modified to coordinate with the terms used in such documents.

A primary purpose of these Digital Practice documents is to encourage the useful sharing of Digital Data, by providing the Project Participants a way to establish the framework and expectations regarding the creation, sharing and use of Digital Data on the Project. Digital Data is defined in the exhibits to include Building Information Models. To be effective, the subsequently agreed upon protocols and standards must be recognized by all the Project Participants that will create and use the Digital Data. Accordingly, the Parties agree that they will incorporate the Exhibit into all other agreements on the Project. In general, the BIM exhibits require the Parties (in all instances the term "Parties" refers to the parties to the underlying Agreement to which the exhibit is attached) to incorporate the exhibit into each of the Party's other agreements for the Project. For example, if an owner and architect negotiate and attach an E201–2022 to AIA Document B101™–2017, Standard Form Agreement between Owner and Architect, the architect would be required to incorporate the same E201–2022 into each of its consultant agreements. Similarly, the Owner would be required to incorporate E201–2022 into its agreement with the Contractor, who would in turn be required to incorporate E201–2022 into its Subcontractor agreements. Through this flow-down process, E201–2022 permeates the entire Project. The intent is that E201–2022 will be incorporated into the underlying Agreement when the Agreement is executed. In B101–2017, E201–2022 can be incorporated by referencing it in Section 13.2.2 of Article 13, Scope of the Agreement. Currently, B101–2017 includes a reference to E203–2013. The 2022 versions of the BIM exhibits are intended to replace the 2013 versions; accordingly, the existing language can be deleted and replaced with language referencing the current exhibit by name and date. An example of such language would be as follows: § 13.2.2 AIA Document E201™–2022 BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May

be Enumerated as a Contract Document, dated [insert date]. The process for incorporating any of the current versions of the AIA's BIM exhibits into AIA Contract Documents standard form Owner/Contractor agreements would be similar.

In AIA Document A101™–2017, Standard Form Agreement between Owner and Contractor where the basis of payment is a Stipulate Sum, E201–2022 can be incorporated by reference in Section 9.1.4. As is the case in B101–2017, the current reference to E203–2013 should be replaced with language referencing E201–2022 by name and date. The suggested language above for B101–2017 would be sufficient in A101–2017 as well. It is also possible that the Parties would need to incorporate E201–2022 after the initial execution of the Agreement. In that case, the Parties would execute an amendment to the Agreement. For amendments to Owner/Architect agreements, the AIA publishes AIA Document G802™–2017, Amendment to the Professional Services Agreement. In the space provided in G802–2017 below the words "as follows," the Parties can insert language indicating that the Agreement is being amended to incorporate E201–2022. An example of such language would be as follows: The Agreement is amended to incorporate AIA Document E201™–2022, BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May be Enumerated as a Contract Document, dated [insert date]. If the incorporation of E201–2022 will result in an adjustment to compensation or contract time, G802– 2017 allows the Parties to indicate any adjustments. For amendments to consultant agreements, the AIA publishes G803™–2017, Amendment to the Consultant Services Agreement. G803–2017 is set up similarly to G802–2017 and the suggestions above, and example language, would apply to G803–2017 as well. If the Parties need to amend an Owner/Contractor agreement, the Parties can use AIA Document G701– 2017, Change Order. In the space provided below the phrase "The Contract is changed as follows:" the Parties can insert language indicating that the Contract is being amended to incorporate E201–2022. An example of such language would be as follows: The Contract is amended to incorporate AIA Document E201™–2022, BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May be Enumerated as a Contract Document, dated [*insert date*]. Similarly, if the incorporation of E201–2022 will result in an adjustment to compensation or contract time, G701–2017 allows the Parties to indicate any adjustments. It should be noted that the general flow-down provisions of some of the AIA Contract Documents, including the AIA Architect/Consultant Agreement (C401–2017) and the Contractor/Subcontractor Agreement (A401–2017) may arguably already pass along the obligations of the E201–2022 if the exhibit is incorporated into the relevant Prime Agreement prior to the time the sub-agreements are executed. Relying on such a flow down, however, is possibly ambiguous. However, including language in the Agreement explicitly incorporating E201–2022 is likely the clearest way to assure that the document is incorporated in downstream agreements. Given the various nuances presented on a project-by-project basis, users should consult with an attorney to determine the best way to incorporate any of the BIM exhibits into their agreements.

The following terms are used throughout the BIM Exhibits. If a particular term is only used in select exhibits, that information is noted in the definition's discussion.

§ 1.2.1 Agreement. Agreement is the agreement to which this Exhibit is incorporated.

The term "Agreement" is defined as the agreement into which the Exhibit is incorporated. By way of example, if the Owner and Architect attach the E201-2022 to their Owner/Architect Agreement, then that Owner/Architect Agreement is the "Agreement." However, the E201-2022 (and all of the BIM Exhibits, to a certain extent) also place upon the Parties the obligation to incorporate the Exhibit into other agreements on the Project with other Project Participants in Section 1.3. So, the term "Agreement" in the same E201-2022, once incorporated into another agreement, takes on a new meaning. For example, if the Exhibit is attached to the Owner/Architect Agreement, then the term "Agreement" means the Owner/Architect Agreement, but if the same Exhibit is attached to the Owner/Contractor Agreement, the term "Agreement" means the Owner/Contractor Agreement.

§ 1.2.2 BIM Execution Plan. A BIM Execution Plan is a written plan detailing the development of, use of, and protocols related to Project Models and setting forth each of the Project Participants' responsibilities related thereto.

The use of BIM Execution Plans is becoming more common in the industry. In recognition of this trend, the AIA Contract Documents Program included this new term in 2022. In the BIM Exhibit (E201-2022, E202-2022, E401-2022, or E402-2022), the Parties are required to prepare, and adhere to, a BIM Execution Plan. The Parties can either use the AIA's new BIM Execution Plan (G203-2022) or their own. If the Parties use their own BIM Execution Plan, then the BIM Exhibit sets forth the minimal required topics to be covered.

§ 1.2.3 Building Information Model, BIM, or Model. A Building Information Model, BIM, or Model is a digital representation of the Project or a subset of the Project. A Model is a collection of one or more Model Portions, each of which is an assemblage of Model Elements.

§ 1.2.3.1 Model Portion or Portion. A Model Portion, or Portion, is a subset of a Model as designated in Table 2.4 of this Exhibit. The Parties may designate a Model Portion by discipline, trade, area, location, phase, or other mutually agreeable distinction.

The term Model Portion is one of several newly defined terms introduced in 2022. The concept of a Model Portion, along with a Model Version, is a critical aspect of the 2022 BIM document versions, because these terms facilitate the ability to designate a Model Version as a Contract Document. For example, in E201-2022, the Parties can permit the Owner and Contractor to designate certain Model Portions as a Contract Document in the Owner/Contractor Agreement using Model Sharing Tier Table in Section 2.4. Parties can designate their Model Portion(s) in whichever manner makes sense for their Project, such as by discipline, trade, area, location, phase, or some other mutually agreeable distinction. So, by way of example, all of the Project Participants might decide that they will use traditional "paper" Contract Documents for the entire Project except for the MEP consultant's work. In such a case, the Model Portions can be distinguished by

trade, and the MEP Model Portion can be designated as "Tier Three" sharing, which, as explained below, permits that Model Portion to be designated as a Contract Document.

> **§ 1.2.3.2 Model Author or Author**. A Model Author, or Author, is the Project Participant responsible for developing a Model Portion.

The Model Author is recognized in the BIM Exhibit as the party that will authorize their Model Portion for use at the time it is issued as a Model Version, issued to meet either a planned, Designated Milestone Deliverable, or as an unplanned, Interim Deliverable. This authority is no different from the paper world, where the architect or engineer issues their documents and labels them for the use they allow (such as "For Construction," or "For Permit," or "For Pricing"), and when the time calls for it, adds their professional seal and signature. The BIM Exhibit maintains this authority in the hands where it belongs, in the hands of the Model Author.

> **§ 1.2.3.3 Model Version or Version**. A Model Version, or Version, is a specific edition of a Model or Model Portion that is sufficiently identifiable as unique and unchanged as of the time it is saved by its Author.

Like "Model Portion," the new term "Model Version" is critically important to facilitate the ability to designate a Model Version as a Contract Document. A Model Version is a specific edition of a Model (or a Model Portion) that is sufficiently identifiable as unique and unchanged as of the time it is saved by its Author. This term is important because it allows a Model, or a Portion thereof, to be designated as a Contract Document. Under the AIA Contract Document framework, the Contract Documents generally define the Contractor's scope of work because, among other requirements, the Contractor must "perform the Work in accordance with the Contract Documents," pursuant to A201–2017 Section 3.1.2. If a Model—rather than a Model Version—were designated as a Contract Document, then the Contractor would constantly be performing the Work in accordance with a moving target. Now, through the use of the term "Model Version," all Project Participants can be precise as to which specific version of a Model, or Portion thereof, the Contractor must follow when performing the Work. Models are most useful when they are constantly refined through a collaborative process. Therefore, if the Parties simply designated a Model as a Contract Document, the risk exists that the Contractor could perform the Work in accordance with the Model one day, only to have the Model—and thus the Contract Document's requirements—change the next. The uncertainty and lack of clarity that would ensue during a disagreement could become very complicated and expensive. Therefore, this concept acts as a project-wide risk management tool because it provides clarity in the event there is a dispute between the Project Participants as to what was required in the Contract Documents and what was constructed. As they do with paper Contract Documents, the Project Participants need only consult the specific Model Version (a version that was frozen in time) to determine what the requirements were and if those requirements were met.

§ 1.2.3.4 Model Element. A Model Element is a digital representation of a component, system, object, or assembly within the Project.

A Model Element is the most granular piece of any Model defined by the Project Participants. The BIM Exhibit, by reference to a BIM Execution Plan, establishes the framework by which the Project Participants will be able to communicate to each other the agreed Level of Development of each of the component parts of any given Model, which will then inform them also as to the agreed level of reliance on it.

§ 1.2.3.5 Modeling. Modeling is the process used to create a Model.

§ 1.2.3.6 Non-Graphic Information. Non-Graphic Information is any information other than the physical geometry associated with, or attached to, a Model Element. Examples of Non-Graphic Information include manufacturer, maintenance schedule, cost per square foot, tonnage of HVAC, etc.

The term Non-Graphic Information was added in 2022 to reflect the growing industry trend to embed non-graphic information into Models for uses such as facilities maintenance. As set forth in the definition, examples of Non-Graphic Information include the manufacturer of a piece of equipment, the maintenance schedule of a piece of equipment, the cost per square foot of a certain area of the Model/Project, and the tonnage of a particular piece of HVAC equipment, to name a few. Non-Graphic Information can assist all Project Participants, but especially Owners, in performing maintenance on the Project in the future.

As set forth in Section 4.1.1 of each Exhibit, Non-Graphic Information is optional, regardless of the LOD specified in the Model Element Table. However, if an Owner is requiring that a Model be developed and used in the future for post-construction maintenance, then the parties should discuss how much Non-Graphic Information is to be included in the Models, as this issue may affect scope and fee. In Section 2.2 of the Exhibits, the Parties determine the Model Uses. Although this Section varies somewhat from Exhibit to Exhibit, it is in this Section where the Parties can agree upon the current and future uses of their Models, which can include Post-Construction building maintenance. Therefore, if the Models will be used in ways that would require or benefit from the inclusion of Non-Graphic Information, then the Parties should consider what types of, and the extent to which, Non-Graphic Information will be included in the Models.

§ 1.2.4 Confidential Digital Data. Unless otherwise stated in the Agreement, Confidential Digital Data is Digital Data containing confidential or business proprietary information that the transmitting party designates as "confidential."

§ 1.2.5 Contract Document. The term Contract Document shall have the same definition as set forth in the agreement between the owner and contractor for the construction of the Project.

The term "Contract Document," though not a new term to the AIA Contract Document library, is new to the 2022 BIM Exhibit framework because the 2022 versions of the BIM Exhibits the E201-2022 allow the

Parties to select which Model Portions, if any, may be enumerated as a Contract Document. Under the AIA Contract Document framework, the "Contract Documents" are enumerated in the agreement between the Owner and the Contractor and generally define the Contractor's scope of work. Therefore, it is critical for all Project Participants to understand and agree which Model Portions, if any, will be enumerated as Contract Documents in the Owner/Contractor Agreement. If all Project Participants agree upon which Model Portions can be enumerated as Contract Documents, then the Model Authors for those Portions can adjust the scope of work associated with creating those Model Portions accordingly and will know, at the onset, that their Model Portions may be relied upon by the Contractor and others in the performance of the Work.

§ 1.2.6 Digital Data. Digital Data is information created or stored for the Project in digital form.

§ 1.2.7 Level of Development or LOD. The Level of Development, or LOD, establishes the minimum dimensional, spatial, quantitative, and qualitative aspects of a Model Element, and the degree to which Project Participants may rely upon such Element. The Levels of Development are described in Article 4.

§ 1.2.8 Party and Parties. Party and Parties are the signing parties to the Agreement.

The term "Party" or "Parties" includes the Parties to the Agreement into which the Exhibit is incorporated. For example, if the Exhibit is attached to the Owner/Architect Agreement, then the term "Parties" means the Owner and Architect, but in the same Exhibit attached to the Owner/Contractor Agreement, the term "Parties" means the Owner and Contractor.

§ 1.2.9 Project Participant. A Project Participant is the owner of, and any entity or individual providing services or work on, the Project.

The term Project Participant includes the Project's Owner, and any entity or individual providing services or work on the Project. Even though the term is used throughout the various BIM Exhibits, the term is of particular importance in Section 1.3, as explained below. Project Participant could include, for example, a consultant hired directly by the Owner outside of the architect's or contractor's chain of contractual privity. In this scenario, the Owner and consultant could attach the BIM exhibit to their agreement, requiring the consultant to adhere to the terms agreed upon in the BIM exhibit and, by extension, the BIM Execution Plan.

If, on the other hand, the Owner hires a consultant for a very limited scope (perhaps to just view the model as a reference for marketing material), or late in the project or after substantial completion, then the Owner could request that the model author and the consultant execute a C106–2022 Digital Data Licensing Agreement, whereby the model author transmits the model to the consultant directly and limits the model's use and reliance.

§ 1.2.6 Design Team. The Design Team is the Architect, its Consultants, Subconsultants, and Sub-subconsultants, at any tier.

The term Design Team only appears in E401-2022. Unlike E201-2022 and E202-2022, E401-2022 is intended to be used when Models will be shared solely within the Design Team, which is defined as "the Architect, its Consultants, Subconsultants, and Sub-subconsultants, at any tier." In this regard, E401-2022 anticipates a more "siloed" approach to Modeling, where the Design Team creates and distributes Models within the Design Team only, and those Models are not intended to be shared with the Owner or any member of the Construction Team.

§ 1.2.5 Construction Team. The Construction Team is the Contractor, its Subcontractors, and Sub-subcontractors, including fabricators, at any tier.

The term Construction Team only applies in E402-2022. Similar to the E401-2022, the E402-2022 anticipates a more "siloed" approach to Modeling. Specifically, the E402-2022 is intended to be used when Models will be shared solely within the Construction Team, which is defined as "the Contractor, its Subcontractors, and Sub-subcontractors, including fabricators, at any tier." When using the E402-2022, the Construction Team can share Models within the Construction Team only, and those Models are not intended to be shared with the Owner or any member of the Design Team.

§ 1.3 The Parties agree to incorporate this Exhibit, executed as of the day and year first written above, into their agreements with any other Project Participants that may develop or use Digital Data on the Project. A Party may require any Project Participant to confirm that it has incorporated this Exhibit into its agreement for the Project.

§ 1.3.1 The Parties agree that each Project Participant utilizing Digital Data on the Project is an intended third-party beneficiary of the Section 1.3 obligation to incorporate this Exhibit into agreements with other Project Participants and therefore is entitled to assert any rights and defenses associated with that obligation. This Exhibit shall not be construed to create a contractual relationship of any kind between Project Participants who are not otherwise in contractual privity, nor does it create any third-party beneficiary rights other than those expressly identified in this Section 1.3.1.

It is important for every project participant that will utilize BIM on the project to incorporate a BIM exhibit such as the E201–2022 into their agreements because it establishes their contractual obligations and limitations relative to its use, sharing, and reliance. If a model is shared with a Project Participant that has not incorporated E201–2022 into its agreement, these obligations and protections are lost to the potential harm of all Project Participants. This section is intended to protect the Parties in situations where some Project Participants, with whom the Parties do not have a direct contractual relationship, fail to incorporate the exhibit into their agreements with consultants or contractors (please see the discussion above related to Sections 1.2.8 and 1.2.9 for a discussion of the difference in definitions for the terms "Parties" and "Project

Participants"). As noted above, it is the applicable BIM Exhibit that creates the contractual obligations to follow the agreed upon BIM protocols. Therefore, it is necessary that the terms of the selected BIM Exhibit be applicable to all the relevant Project Participants throughout the network of agreements on the Project. If a Party fails to incorporate the Exhibit, as required in Section 1.3, into any agreement with any other Project Participants that may develop or use Digital Data on the Project, that Project Participant may not be obligated to comply with developed protocols. Therefore, the protections that the protocols provide upstream (restrictions on Authorized Uses, restrictions on designated a Model Version as a Contract Document, etc.) may be lost.

To illustrate the concern that is being addressed, consider the following example. If the Owner and Architect incorporate E201–2022 into their Agreement, via Section 1.3, they both agree to incorporate the E201–2022 into their downstream agreements with other Project Participants. If the Owner, however, fails to incorporate E201–2022 into its agreement with the Contractor, the Owner has breached a contractual duty to the Architect and would be responsible to the Architect for resulting damages. So, for example, if the contractor, unaware of restrictions contained in the protocols, used some portion of the Digital Data supplied by the Architect for a purpose not otherwise sanctioned in the protocols, and subsequently brought a claim against the Architect for damages arising from reliance on the Digital Data the Architect provided, the Architect would have a claim against the Owner for its failure to incorporate E201–2022. Accordingly, the Architect receives some level of protection to the extent it can show some damage as a result of the Owner's breach of this provision. Alternatively, consider a scenario where the Owner satisfies its obligations and incorporates E201–2022 into its Agreement with the Contractor but the Contractor fails to incorporate E201–2022 into its agreements with its sub-contractors and consultants. Thereafter, one of those consultants or subcontractors relies on the Digital Data in a manner that is inconsistent with the protocols, resulting in some injury to a third party. The third party then brings a claim against the Architect. In this instance, in the absence of Section 1.3.1, the Architect would likely have no recourse against the Contractor based on the Contractor's failure to satisfy the Section 1.3 obligation to incorporate E201–2022 downstream, because the Architect has no contractual relationship with the Contractor. The Architect's contractual relationship is with the Owner, who satisfied its obligation by incorporating E201–2022 into its Agreement with the Contractor. However, Section 1.3.1 was created to give all the Project Participants the ability to enforce the obligations under Section 1.3 against all the other Project Participants. In the example above, the Architect, as a third-party beneficiary, would therefore have the same protection against the Contractor, for contractual breach of Section 1.3, as it does against the Owner. The Architect might then bring a claim for breach of contract against the Contractor and seek to recover any amounts paid on the third-party claim as damages arising from the Contractor's breach.

Another option to protect against failure of downstream incorporation of E201–2022 would be to utilize some kind of a broad indemnification language. An example of such language would be as follows:

§ 1.3.1 If a Party fails to incorporate this Exhibit into its agreements with any other Project Participants that may develop or make use of Digital Data for this Project, that Party agrees to indemnify and hold harmless the other Project Participants and their contractors, consultants, agents and employees, to the fullest extent permitted by law, from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from such Project Participants' use of Digital Data inconsistent with the terms of this Exhibit.

Any indemnification language included, however, should be reviewed closely with legal and insurance counsel as indemnification provisions are notoriously difficult to enforce, and, in some circumstances, may create an uninsurable obligation. In many jurisdictions, anti-indemnification statutes limit the validity and enforceability of indemnification provisions in contracts. The suggested language contains an indemnification under which the indemnitor's obligation covers the indemnitee's losses to the extent caused by the use of Digital Data, inconsistent with the terms of the exhibit, by any of the indemnitor's consultants or contractors that do not have the E201–2022 attached to their agreement. As such, the indemnitee's obligations may be triggered by an act that does not otherwise constitute negligence on their part. Accordingly, it is unclear what effect, if any, anti-indemnifications statues may have on the enforceability of such an indemnity. Moreover, many Project Participants have a general aversion to broad indemnification provisions and seek to have them stricken as a matter of routine.

ARTICLE 2—MODEL USES, SHARING, AND RELIANCE

§ 2.1 General.

Articles 2 and 3 together establish and limit the extent to which Project Participants may share, use, and rely upon a Model or Model Portion. The Parties should also take note of the potential relationship between the Model uses that are identified in this section and the permissions or licenses given to the Owner in the Agreement for uses of the intellectual property (e.g. B101-2017, Article 7), particularly post-construction uses; the Agreement text may have to be modified to allow for the uses identified here.

§ 2.2 Model Uses.

This section records the anticipated authorized uses for the Models for the life of the Project. Here is where the Parties to the Agreement establish their expectations as to how they will authorize Project Participants to use and rely upon the Models. Each of the various uses that they identify will necessarily impact the Level of Development that must be incorporated into the various Models when they are developed. Accordingly, uses must be agreed at the time of execution, since the effort necessary to create Models to a Level of Development suitable for each use will factor into determining compensation. A later change in authorized use that necessarily requires a greater Level of Development in the Models should bring about negotiation of an appropriate Additional Service. A clear understanding of the anticipated authorized uses for the Model

at the time of execution will prevent later complications.

In Section 2.2.1, the Parties to the Agreement identify how Project Participants will be authorized to rely upon Models on the Project to accomplish the uses, including five basic use categories:

.1 Planning

This is the traditional realm of the Architect and its consultants providing professional services. Example uses include programming, site analysis, energy analysis, scheduling, cost and quantity estimating, and documentation of existing conditions.

.2 Design

This is the traditional realm of the Architect and its consultants providing professional services. Examples uses include design authoring, design review, 3D coordination, structural analysis, lighting analysis, energy analysis, site utilization, engineering analyses, and preparation of construction documents.

.3 Construction Management

This is the traditional realm of the Contractor and Construction Manager as limited to providing design and "pre-construction" activities to support the design team—this form is not developed for their activities during construction. Use examples include scheduling, cost estimating, value engineering, and constructability. If the Parties intend to expand the Model's use to include the construction phase, they must take into account the substantial impact that ongoing Model use will have on the traditional divide of responsibility and liability between the parties providing design services and those responsible for construction. Before authorizing use during construction, the Parties should seek legal and insurance counsel to develop appropriate changes to this form document.

.4 Post Construction

This is the traditional realm of facilities management and operations. Example uses include building system maintenance, building system analysis, asset management, space management & tracking, disaster planning, and record modeling. While a post-construction Model may be a subset of or be based upon an earlier design or construction Model, the graphical format, data format, and specific scope of effort varies greatly from the earlier Project Models. Currently, there are no well-established standards for post-construction uses and each Owner or software interface will have a unique scope of how the Model data would be developed and utilized. Accordingly, to clarify expectations, the Parties should provide as much detail as possible in describing the anticipated services necessary to develop a Model for post-construction use. If, at the time of execution, the Parties cannot fully flesh out the details that will be required of a post-construction Model, they might delay including this use until a time when the specifics can be mutually understood and the compensation appropriate to its development can be determined.

.5 Other

Here, the Parties may enter any other authorized use they require.

§ 2.3 Model Sharing.

This section defines the sharing tiers, which establish the basic sharing limitations that will be applied to each Model Portion identified in Table 2.4 (below). The concept of sharing tiers recognizes the differing modeling capabilities of the various project participants: entry level, experienced, and advanced. In addition to capability, the levels also indicate the degree of risk that each project participant is willing to bear, ascribing to each model author how much reliance they are willing to grant to the other project participants coordinating the balance of the project with their portion of the model.

§ 2.3.1 Tier One – Limited Authorized Sharing: A Model Portion designated as Tier One may be shared by its Author with other Project Participants. However, unless otherwise authorized in writing by the Model Author, any Project Participant's use of, or reliance upon, a Model Portion designated as Tier One shall be at the Project Participant's sole risk. The Parties agree that no Version of a Model Portion designated as Tier One shall be enumerated as a Contract Document.

Tier One sharing presumes that the two-dimensional documents prepared by the model author will supersede any model that they issue. It is worth noting here that only the owner and contractor—the parties to the contract for construction—have the authority to enumerate or include any document or model version as a Contract Document. The parties agree that a Tier One model is not permitted to be enumerated as a Contract Document; this prohibition binds the owner, should this exhibit be attached to an owner-architect agreement.

§ 2.3.2 Tier Two – Prescriptive Sharing with All Project Participants: Subject to the reliance and authorization provisions of Section 2.5, the Parties agree that a Model Portion designated as Tier Two may be shared among all Project Participants. The Parties agree that no Version of a Model Portion designated as Tier Two shall be enumerated as a Contract Document.

A model portion designated as Tier Two may be shared among all project participants and, subject to the provisions of the approved BIM Execution Plan referenced in Section 2.5, may be relied upon by the Project Participants for coordination of their respective Portions of the Project. A Tier Two model portion, however, may not be enumerated as a Contract Document.

§ 2.3.3 Tier Three – Prescriptive Sharing with All Project Participants and Enumeration as a Contract Document: Subject to the reliance and authorization provisions of Section 2.5, the Parties agree that Model Portions designated as Tier Three may be shared among all Project Participants. The Parties agree that a Version of a Model Portion designated as Tier Three may be enumerated as a Contract Document.

A Model Portion designated as Tier Three may be shared among all project participants and, subject to the provisions of the approved BIM Execution Plan referenced in Section 2.5, may be relied upon by the project

participants for coordination of their respective portions of the project. The parties further agree that a Tier Three model version may be enumerated as a Contract Document; this authorization permits the owner to enumerate a Tier Three model version as a Contract Document, which traditionally occurs in the owner-contractor agreement. The decision as to whether to permit enumeration of a model version as a Contract Document is a significant one, as explained in more detail in this Guide.

Notably, Tier Three sharing is not available in E202-2022, E401-2022, or E402-2022, as those exhibits are all intended to be used in situations where all project participants agree that models should not be enumerated as Contract Documents.

§ 2.4 Model Sharing Tier Table.

The Table identifies each Project Participant serving as a model author, their respective model portion(s), and their indication whether such portion(s) will be designated as Tier One sharing, Tier Two sharing, or Tier Three sharing (if E201-2022 is used). If it is the architect preparing this exhibit to be attached to their agreement with the owner, then they must poll of all project participants to include a comprehensive listing of model authors, model portions, and sharing tiers to complete the table. Model portions and authors not known at the time of execution may be added by amendment executed by the parties, an update of the exhibit.

§ 2.4.1 Default Sharing Protocols

§ 2.4.1.1 The Parties agree that any portion of a Model not included in Table 2.4, or any Model Portion that is not designated with a Sharing Tier, shall be Tier One.

§ 2.4.1.2 The Parties agree that there shall be no reliance on a Portion until a Version is issued pursuant to Section 2.5. The Parties further agree that, prior to the development of a BIM Execution Plan, the Sharing Tier for any Model Portion shall be Tier One.

By default, the parties agree that any portion of the model not included in Table 2.4, or any model portion that is not designated with a sharing tier, shall be Tier One. As a further default, the parties agree that, prior to the development of a BIM Execution Plan, the Sharing Tier for any model portion shall be Tier One. This provision recognizes that the timing for preparation of a BIM Execution Plan is independent of, and follows after, the finalization of the exhibit.

§ 2.4.2 Changing or Replacing a Model Version.

§ 2.4.2.1 Versions of Tier One, Two, and Three Model Portions Not Enumerated as Contract Documents. Only a single Version of a Model Portion may be authorized for reliance. Model Authors may update their Model Portions by issuing an updated Version pursuant to Section 2.5.

§ 2.4.2.2 Versions of Tier Three Model Portions That May be Enumerated as Contract Documents. Only a single Version of a Tier Three Model Portion may be enumerated as a Contract Document. The Project Participants shall determine in the BIM Execution Plan how a Model Version enumerated as a Contract Document will be identified. A Model Version enumerated as a Contract Document shall only be changed or replaced through the modification process set forth in the agreement between the owner and contractor for the construction of the Project.

These provisions recognize that models are subject to updates and that later authorized versions must necessarily supersede reliance that had been granted to an earlier version. Reliance on superseded versions must sunset. At any given time, only a single version of any given portion is valid for sharing. At any given time, only a single version of any given portion is valid for enumeration as a Contract Document. The provisions for changing the enumeration of any document or model as a Contract Document are set forth in the contract for construction.

§ 2.5 Model Reliance

§ 2.5.1 A Project Participant may only rely on Models, Model Portions, and Model Elements as indicated in this Section 2.5. The Parties agree that the extent of their reliance on any Model Version shall be limited to the uses identified in Section 2.2 and in accordance with the BIM Execution Plan, which shall identify authorized reliance on Model Elements. Any reliance on a Model Version not in accordance with this Exhibit and the BIM Execution Plan shall be at the Project Participant's sole risk.

Here the Parties agree that the extent of reliance on any model version is limited to the uses identified in Section 2.2 (above) and, as further elaborated in the BIM Execution Plan, for the model elements; the BIM Execution Plan will be developed later pursuant to the provisions of Article 3. Any reliance in excess of these limitations shall be at the project participant's sole risk.

§ 2.5.2 Issuing Model Versions. The Project Participants shall establish in the BIM Execution Plan the form or method that the Author(s) shall use to identify a Version of its Portion at the time of issuance, whether issued at a Designated Delivery Milestone as set forth in Section 2.5.3 or as an Interim Deliverable as set forth in Section 2.5.4.

This section states that the "form or method" for issuance of model versions will be established by the Project Participants in the BIM Execution Plan. The "form or method" language allows the project participants to decide the most appropriate techniques, based on software and project protocols, to issue and identify model versions at the time they are shared. Model versions may be identified as (1) those issued at a designated delivery milestones or (2) those issued as a less formal interim deliverable. The parties will agree in writing if an unplanned, interim model version is necessary to facilitate model coordination.

> **§ 2.5.3 Reliance on Model Versions at Designated Delivery Milestones.** The Project Participants shall set forth Designated Delivery Milestones in the BIM Execution Plan for Model Versions, either through a Model Element Table or another method. For each Designated Delivery Milestone the Project Participants will indicate the authorized reliance for each Model Element at that Designated Delivery Milestone, through the use of LOD designations or some other method. Each Author shall identify the Designated Delivery Milestone for which their Version is being issued. Project Participants shall rely on a Model Version issued at a Designated Delivery Milestone only to the extent of the authorized reliance identified in the BIM Execution Plan for that Designated Delivery Milestone.

When project participants develop the BIM Execution Plan, they will identify the designated delivery milestones; they will also identify the authorized permissible reliance on the model elements by assigning a Level of Development (LOD) to each (see Article 4 for LOD descriptions). The method used in the BIM Execution Plan to identify the LOD of the model elements may be completing a model element table (such as AIA G204-2022 or G205-2022), or by some other method as agreed upon by the project participants. Then, when a model author issues a planned deliverable, they will label it as being issued for the designated milestone, so that users will be able to see from the BIM Execution Plan which LOD pertains to each of the model elements. In this way, the project participants will have a written record of the model authors' authorized degree of reliance. Any reliance on model versions at designated milestones beyond that which is recorded in the BIM Execution Plan shall be at the project participant's sole risk.

> **§ 2.5.4 Reliance on Model Versions at Interim Deliverables.** The Parties may agree in writing to permit Interim Deliverables not identified in the BIM Execution Plan for Model Versions. Each Author shall describe the extent of authorized reliance on its Interim Deliverable. Project Participants shall rely on a Model Version issued as an Interim Deliverable only to the extent authorized by the Model Author.

This section acknowledges that interim deliverables—deliverables that are not identified in the BIM Execution Plan—may be required to facilitate coordination. Here, the model author is given the sole authority to determine and describe the extent of reliance they wish to authorize in their interim deliverable. A model author may indicate that only part of their model portion is suitable for the requested coordination effort. Any reliance beyond that which is described by the model author is at the project participant's sole risk.

> **§ 2.6 Model Coordination.** If Project Participants discover or become aware of any discrepancies, inconsistencies, errors, or omissions in any Model Version, they shall promptly report the discrepancy, inconsistency, error, or omission in writing to the Author and the Architect.

The obligation placed upon all project participants in Section 2.6 to report any known discrepancies is similar to the obligation to do so if standard 2D drawings are used. (See, for example, A201-2017 Section 3.2.2)

ARTICLE 3—BIM EXECUTION PLAN

§ 3.1 BIM Execution Plan

A BIM Execution Plan (BEP) is an important step in getting all parties to agree and understand the expectations set out for the BIM project. These plans are sometimes abbreviated as BEP or BxP. It is likely that some project members will not have previously been exposed to these concepts, so documenting expectations becomes highly important. The BEP should be flexible to address the intended method of project delivery including Design-Build, Integrated Project Delivery, Construction Management, and Design/Bid/Build. The amount of information and detail will vary depending on what tier of sharing is to be provided on the project (Tier One, Two, or Three), but the broad concepts will remain the same. Since the Architect is typically the initial generator of the design model, it makes sense and is typical that they would lead this effort. The BEP should be developed, at least in "draft-form," early in the design phases to allow all parties, including the design team, to understand and agree upon the tier of sharing. As different Project Participants are added to the project, they should be provided time to review and comment on the latest version of the BEP (Section 3.3 of E201-2022, for example, describes and accounts for this procedure).

§ 3.2 The following BIM Execution Plan shall be used for the Project

(select one):

[<< >>] AIA G203-2022 BIM Execution Plan, with G204™–2022 Model Element Table

As explained in more detail below, the G204-2022 is a complete model element table and is intended to be used by those who need more detail or want more specific control of each and every model element entry, and who desire additional project milestones. This is the full version of categories and options.

The E401-2022 and E402-2022 also contain the option for project participants to select the G205-2022 Abbreviated Model Element Table, which is intended to be a simpler choice for those unfamiliar with the information contained within the full G204-2022 Model Element Table or those whose projects do not require that level of granularity. The E201-2022 and E202-2022 do not include the G205-2022 Abbreviated Model Element Table as a default option in the list contained in Section 3.2 because the E201-2022 and E202-2022 contemplate project-wide sharing and, as a result, a full model element table is likely a more appropriate choice in those instances. In E401-2022 and E402-2022, however, another option will be listed where parties can select the G205-2022 Abbreviated Model Element Table.

[<< >>] AIA G203-2022 BIM Execution Plan, with a custom model element table

This option allows the advanced user to use the AIA's BIM Execution Plan G203-2022 in conjunction with

a custom model element table, which could be arranged around other categories or method of organization, but which conveys the same information about the project participants' modeling expectations.

[<< >>] Other, in accordance with Section 3.2.1 below (identify and describe the BIM Execution Plan and model element table, if applicable, to be used):

To assist with adoption, the AIA has provided a template BIM Execution Plan, G203-2022, for use on smaller projects or those newer to the BEP process. The Model Element Table is critical in understanding and clarifying the modeling requirements among the various BIM users, such as who will be providing what information and at what level of development (LOD), and at each milestone defined for that project.

§ 3.2.1. If the Parties select Other in Section 3.2, then, at a minimum, the BIM Execution Plan shall contain the information set forth in this Section 3.2.1:

Section 3.2.1 contains a list of information that shall be included in the parties' BIM Execution Plan if the parties elect not to use the AIA's G203-2022. For more advanced teams, they might select the "Other" option in Section 3.2. If this option is chosen, the list in Section 3.2.1 identifies minimum information that the parties will need to define or describe in their BIM Execution Plan. Notably, the list in Section 3.2.1 corresponds to the Articles and Sections in the G203-2022 BIM Execution Plan.

§ 3.3. The Project Participant identified in Section 3.1 as responsible for preparing the BIM Execution Plan shall prepare and submit the BIM Execution Plan to the other Project Participants as soon as practicable after the date of this Exhibit and when new Project Participants are added to the Project.

Section 3.3. sets forth the requirements placed upon the party responsible for preparing the BEP. Whomever prepares the BEP needs to develop it early and share it with the entire project team. Section 3.3 also requires them to share the BEP with additional parties as they are added to the project. In this sense, the BEP document should be viewed as a "living document," capable of being updated and revised as the project develops.

§ 3.4. Upon receipt of the BIM Execution Plan, all Project Participants shall promptly review the BIM Execution Plan for the purpose of (1) providing notice of any objections thereto to the Project Participant responsible for preparing the BIM Execution Plan and (2) providing notice as set forth in Section 3.6.

Per Section 3.4, all project participants utilizing or contributing to the model need to be able to review and comment on the BEP. If there are objections, then they need to be raised and discussed so that all project participants have a clear understanding of modeling expectations.

§ 3.5 If a Party believes that protocols established in the BIM Execution Plan will result in a change in the Party's scope of work or services warranting an adjustment in compensation, contract sum, schedule, or contract time, the Party shall notify the other Party. Failure to provide

notice as required in Section 3.6 shall result in a Party's waiver of any claims for adjustments in compensation, contract sum, schedule, or contract time as a result of the established protocols.

§ 3.5.1 Upon such notice, the Parties shall discuss and negotiate revisions to the protocols or discuss and negotiate any adjustment in compensation, contract sum, schedule, or contract time in accordance with the terms of the Agreement.

§ 3.6 Notice required under Sections 3.4 and 3.5 shall be provided within thirty days of receipt of the BIM Execution Plan, unless otherwise indicated below:
(If the Parties require a notice period other than thirty days from receipt of the BIM Execution Plan, indicate the notice period below.)

[<< >>]

Sections 3.5, 3.5.1, and 3.6 set forth the parties' notification obligations in the event they believe that the protocols in the BEP result in a change in the their scope of work or services warranting an adjustment in compensation, contract sum, schedule, or contract time.

§ 3.7 The Project Participants may agree to update the BIM Execution Plan as appropriate, including when new Project Participants are added to the Project. Updates shall be prepared in accordance with the process outlined in this Article 3.

Pursuant to Section 3.7, all parties agree that the BEP may be updated, and that these updates will be shared with all parties.

§ 3.8 The Parties agree that Model Element Levels of Development set forth in the BIM Execution Plan for Project Milestone Deliverables shall be consistent with the Model Uses identified in Section 2.2.

All parties agree that the Model Element LOD's and Milestones noted are consistent with the intended model uses identified for the project. There are many sources available online that discuss the topic of BIM Execution Plans in much broader and detailed scope. Some additional useful links include:

1. BIM Forum LOD Specification Parts I and II
2. US General Services BIM Execution Plan
3. Penn State University BIM Planning

ARTICLE 4—LEVELS OF DEVELOPMENT

§ 4.1 Level of Development Descriptions. The LOD descriptions included in Section 4.2 through Section 4.6 below shall be used in the BIM Execution Plan to identify the minimum required characteristics for each Model Element at progressively developed levels. Other Project Participants

may only rely on a Model Element consistent with the minimum required characteristics for the designated LOD.

§ 4.1.1 Non-Graphic Information. Non-Graphic Information may be attached to a Model Element. If Non-Graphic Information has a different degree of reliance than the Model Element to which it is attached, then the Model Author shall indicate the difference in the Model Element Table or elsewhere in the BIM Execution Plan.

The Level of Development of a model element specifies the degree to which the element can be relied upon. The acronym LOD is sometimes mistakenly used to refer to "level of detail," but the two concepts are quite different. Level of *detail* is a measure of the *quantity* of detail in a model element, while Level of *Development* is a measure of the *reliability* of the detail. In all AIA contracts, LOD always means Level of Development. The Level of Development schema is the means by which a model author can concisely and precisely specify which elements in their model can be relied on and to what degree.

The rationale for including LODs can be somewhat confusing at first. However, consider the following explanation. The quantity of detail in a model element is often misleading due to several reasons:

- Models can have the look of high precision, often even very early in the design process when most elements are conceptual or approximate.
- Model authors often use highly detailed elements from libraries or other projects as placeholders in a developing model. These placeholders can often show many details that have not yet been decided upon but are, rather, temporary placeholders in the model development process even though they can look quite "final."
- Model elements often contain information that is not visible unless the element is specifically queried – manufacturer/model number, thermal or acoustical characteristics, etc. In this regard, it is possible for a Model Element to appear, on its face, *less* developed than it is.

For these reasons, model authors have been reluctant to release their models to anyone with whom they are not in contractual privity. For example, architects commonly share their models with their consultants but have been reluctant to share those same models with contractors. When design professionals have released their models to construction teams, they have usually transmitted their model with a disclaimer stating that the model is for reference only and cannot be relied upon.

Model authors typically use a disclaimer because there is some information in the model that may not be reliable, so the model author disclaims the entire model. This disclaimer approach, though, is counter-productive to the essence of BIM, which is enhanced collaboration. Since this approach drastically reduces the usefulness of models as communication and collaboration tools, the AIA developed a "specified use" approach. Through a combination of an LOD selection, a sharing Tier selection, and transmission and authorization protocols, the specified use approach in the 2022 BIM exhibits (E201-2022, E202-2022, E401-2022, and E402-2022) allow Model Author to determine which parts of their model are reliable, and

to what extent. This approach takes all unintended information and appearance of precision off the table and enhances the value of BIM.

Level of Development Definitions

The Level of Development definitions were initially created by the AIA for the **E202-2013** and updated for the **G202-2013**. In **2011** the AIA executed an agreement by which the BIMForum, an interdisciplinary organization (at the time a subsidiary of the AGC and supported by the AIA) would build on the AIA's definitions to create its *LOD Specification* (see below). In this effort the BIMForum working group saw a need for a level between 300 and 400, and so created LOD 350. In the leadup to the release of the AIA's 2022 BIM documents, a broad industry group was convened to re-examine and refine the definitions to reap the benefit of almost a decade of practical use. The definitions shown here are the results of that effort. One significant change is that—due to its increased industry utilization and popularity—the AIA BIM documents now include LOD 350.

The basic concept behind the LOD definitions is that while various building systems progress through the design process from concept to operating facility at different rates (for example, the design of the structure is almost always well ahead of the design of interior casework), they all tend to hit common milestones. These milestones are represented by the Levels of Development.

> **§ 4.2 LOD 100.** The Model Element may be graphically represented in the Model with a symbol or other generic representation but does not satisfy the requirements for LOD 200. Information related to the Model Element (e.g., cost per square foot, tonnage of HVAC, etc.) can be derived from other Model Elements.

LOD 100 elements are not necessarily geometric representations. Examples are information attached to other model elements or symbols showing the existence of, or a space reservation volume for, a component but not necessarily its shape, size, or precise location.

> **§ 4.3 LOD 200.** The Model Element is generically and graphically represented within the Model with approximate quantity, size, shape, location, and orientation.

At LOD 200, elements are generic placeholders recognizable as the components they represent. Any information derived from LOD 200 elements must be considered approximate.

> **§ 4.4 LOD 300.** The Model Element, as designed, is graphically represented within the Model such that its quantity, size, shape, location, and orientation can be measured.

The quantity, size, shape, location, and orientation of an LOD 300 element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.

> **§ 4.4.1 LOD 350**. The Model Element, as designed, is graphically represented within the Model such that its quantity, size, shape, location, orientation, and interfaces with adjacent or dependent Model Elements can be measured.

At LOD 350, parts necessary for coordination of the element with nearby or attached elements are modeled. These parts will include such items as supports and connections. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.

> **§ 4.5 LOD 400.** The Model Element is graphically represented within the Model with detail sufficient for fabrication, assembly, and installation.

An LOD 400 element is modeled at sufficient detail and accuracy for fabrication of the represented component. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.

> **§ 4.6 LOD 500.** The Model Element is a graphic representation of an existing or as-constructed condition developed through a combination of observation, field verification, or interpolation. The level of accuracy shall be noted or attached to the Model Element.

In the 2013 version of the AIA's Digital Practice Documents, the LOD definitions included an LOD 500 to indicate a field-verified element. However, it was found that this definition hindered accurate specification of record and operations models, such as digital twins. These models often include requirements for field verification of building components that may be modeled at any LOD, so the LOD number is needed to indicate the geometric precision of the Model Element. Field verification requirements can be indicated by notes.

Digital Twins

A current industry trend is to develop and use "digital twins," which are generally understood to be digital replicas of projects. Though they have many potential uses, digital twins are typically used for facilities management, whereby a project owner can track and update the information associated with various model elements, such as serial numbers, maintenance or replacement dates, component parts information, precise size and location, warranty information, etc. In this regard, LOD 500 is intended to facilitate digital twin modeling because an LOD 500 Model Element represents an "existing or as-constructed condition."

LOD 500 Model Elements can be used as a foundation to create a digital twin for facilities management or other purposes through the structure of the AIA's LOD framework. Specifically, there are three primary parts of the LOD framework that combine to permit LOD 500 model elements to create a digital twin. First, LOD 500 model elements have, by definition, been field verified. Therefore, they convey, in this sense, an "as-built" element or condition within the model. Second, as set forth in Section 4.1.1 of E201-2022, for example, model authors can attach Non-Graphic Information to an LOD 500 Model Element, which contains information such as serial numbers, maintenance or replacement dates, component parts information, precise size and location, warranty information, etc. Third, an LOD 500 model element—because it is an "existing or as-constructed condition"—must be accompanied by a note clarifying its level of accuracy, which can be accomplished by using the "notes" column within the Model Element Table or

attaching the level of accuracy information to the model element. When describing the model element's level of accuracy, the model author could use a standardized system such as the USIBD Standard for Level of Accuracy, or their own custom system. When these three facets of an LOD 500 model element are combined, a digital twin model can become a very useful tool.

LOD Standards

Parties may wish to include references to an industry-recognized BIM standard interpreting, explaining, or analyzing LODs, such as the BIMForum Level of Development (LOD) Specification, in their exhibit or in their BIM Execution Plan. Adding a reference to an industry-recognized BIM standard gives the parties a common reference point for issues if issues should arise as to how to interpret LODs beyond the exhibit's definitions. Parties can reference a BIM standard by adding language in Article 8 of their BIM exhibit or within—or attached to—their BIM Execution Plan.

ARTICLE 5—NON-BIM DIGITAL DATA

§ 5.1 For the creation, storage, management, archiving, and sharing of Digital Data other than Models, the Project Participants will each use their own protocols, except as noted below or as set forth in Article 6:

(If the Parties intend to follow joint protocols for the creation, storage, management, archiving, and sharing of Digital Data other than Models, then describe those joint protocols below.)

Article 5 governs the protocols related to Digital Data other than Models (or "Non-BIM Digital Data"). Non-BIM Digital Data can include many different types of data, but can include things like emails, text messages, project documents, etc. The standard language within the AIA BIM exhibits assumes that project participants will use their own protocols for the creation, storage, management, archiving, and sharing of this type of data. As a result, the standard language within the AIA BIM exhibits and the BIM Execution Plan (G203-2022) does not contain protocols related to this type of information, and the parties are, therefore, able to determine their own methods for how to handle this type of data within their separate firms. If, however, the project participants decide to use joint protocols for this type of data—for example, if they decide to use a common program to store all project-related email correspondence or project documents—then they can describe those joint protocols in the fill point in Section 5.1. Section 5.1.1 clarifies that the project participant who is tasked with model management responsibilities has additional responsibilities if the parties use joint protocols for Non-BIM Digital Data.

ARTICLE 6—OWNERSHIP, SHARING, AND SECURITY OF DIGITAL DATA

In exchanging digital data, the receiving party must trust that they are free to receive and use the information provided. Accordingly, Section 6.2 states that, by transmitting the data, the transmitting party warrants that they are either the copyright holder of the information being transferred or has permission

from the copyright holder to transmit the information for use on the Project. It should be noted that E201–2022 does not directly address ownership of a BIM. It is assumed that E201 will be used in conjunction with an underlying agreement, such as the AIA Contract Documents standard form agreements, which generally provide that copyright ownership of the Instruments of Service (which would include any portion or version of a model) resides with the individual or entity that created them. AIA Contract Documents also generally require the copyright holders of the Instruments of Service to grant the owner a license to use the Instruments of Service for the project. Accordingly, the digital practice documents are silent on ownership because it is assumed the topic is addressed in the agreement and any language on this topic in the BIM exhibit could create a conflict in legal terms between the agreement and the exhibit.

In recent years, and certainly with the proliferation of BIM, it has become common for owners to include language in their design services agreements whereby they may take ownership of the architect's Instruments of Service and may be given copyright to the intellectual property associated with the Instruments of Service. architects and owners should consult with legal counsel to assess the risks and liabilities associated with such requirements. One of the considerations that model authors should discuss with legal counsel is any impact that such requirements could have on pre-existing intellectual property, including BIM content that has been developed for their internal use.

> **§ 6.3.1** The receiving Party may disclose Confidential Digital Data after seven (7) days' notice to the transmitting Party, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The receiving Party may also disclose Confidential Digital Data to its employees, consultants, sureties, subcontractors, and their employees, sub-subcontractors and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

"Confidential Digital Data" is defined in E201-2022 Section 1.2.4 as "Digital Data containing confidential or business proprietary information that the transmitting party designates as 'confidential.'" It is imperative that both the party transmitting and the party receiving confidential digital data understand their responsibilities in this regard. Section 6.3 establishes the parties' rights in transmitting confidential digital data and obligations in maintaining its confidentiality. Section 6.3.1, however, establishes certain reasonable exceptions to the requirement that confidential digital data be kept strictly confidential. Sharing files concerns many professionals because they fear losing control over, ownership of, and/or copyright in those files. Because the value of many digital documents, specifically models, is increased with file sharing and collaboration, it is no longer feasible to withhold access. To both encourage sharing and protect the digital data's owner's rights, it is critical that the receiving party understands and agrees to the limits of its use.

E201–2022 is intended to be incorporated as an exhibit into the agreement between the parties. Many such agreements may already contain language regarding the transmission of copyrighted materials and

the use of confidential information. In a shift from the language of the previous digital data exhibits, the AIA has established in Section 6.1 that the terms of the agreement take precedence over terms set forth in the exhibit. It should be understood, however, that the terms of Article 6 apply only to digital data and that the terms set forth in the agreement may not have considered the existence of digital data. Therefore, the exhibit and the agreement should be reviewed and coordinated so that the parties' rights are protected and coordinated with the unique exigencies raised by the sharing of digital data. Regardless of this statement, however, the existence of two specific requirements or terms pertaining to the same issues, one in the main body of the agreement and the other in the attached E201–2022, would create confusion and ambiguity. Accordingly, the language of Section 6.1 establishes the primacy of the agreement.

The various methods by which digital data may be transmitted are continuously changing and have become ubiquitous in their use. The new E201-2022 does not establish any specific methodology for transmitting digital data in general, and delegates the methodology for transmitting, sharing, and otherwise securing models to the BIM Execution Plan. Similarly, the definition of confidential digital data requires that the transmitting party "designate" the digital data as confidential—the specific method of designating the digital data as confidential is left up to the transmitting party.

> **§ 6.5** The Project Participant responsible for Model management shall compile an archive of all Models at the end of each Designated Delivery Milestone and shall preserve them without alteration. Each Project Participant shall be provided with an archive of all common BIM Project data to which they had access during the Project at the conclusion of the Project or when they are no longer performing work or services related to the Project, whichever is earlier.

Section 6.5 delegates the responsibility for archiving BIM project data and sets the requirement for giving copies of or granting access to that archive.

> **§ 6.6** Data Security. The Parties agree to the following data security measures:
> *(Identify data security measures appropriate for the Project.)*

Data Security is a rapidly evolving topic. The standard language does not specify any means or methods of achieving data security on the project because the types and appropriate levels of data security can change drastically from project to project. Therefore, Section 6.6 contains a fill point wherein the parties can identify their project's data security measures.

ARTICLE 7—INSURANCE FOR BIM AND DIGITAL DATA RISKS

§ 7.1 In addition to those insurance requirements set forth in the Agreement, all Project Participants developing or using Models or Digital Data shall purchase and maintain the following insurance coverages:
(List below any insurance coverage to be provided by all, or certain, Project Participants developing or using Models or Digital Data.)

Coverage **Limits**

In Article 7, the parties can include any BIM or digital data specific insurance coverage – and related limits – that apply to their project.

ARTICLE 8—OTHER TERMS AND CONDITIONS

§ 8.1 Other terms and conditions that modify this Exhibit, if any, are as follows:

[<< >>]

Article 8 provides a space for the Parties to provide any additional terms and conditions relevant to Digital Data.

§ 8.2 This Exhibit is comprised of the following documents:

.1 E201-2022 BIM Exhibit for Sharing Models with Project Participants, Where Model Versions May be Enumerated as a Contract Document;

.2 Other documents, if any, listed below:

If the parties wish to incorporate other documents into their BIM exhibit, then Section 8.2 provides a space for them to list any such documents.

G203-2022 BIM Execution Plan

BIM execution plans are, by their very nature, project Specific. G203-2022 is intended to serve as a framework from which the project participants can create a project-specific BIM Execution Plan. In this regard, G203-2022 contains multiple fill points and is intended to stimulate conversations and document decisions surrounding how the project participants will utilize BIM on their project. All of the BIM exhibits contain language requiring the Parties to adhere to BIM Execution Plan. Acting in a similar manner to a project schedule or building codes, although the BIM Execution Plan is not intended to be a contract exhibit, parties are contractually obligated to adhere to its terms.

ARTICLE 1—PROJECT INFORMATION

Table 1.1, when completed, provides a complete listing of the project participants that are developing or using models on the project. It is incumbent on the project participants to keep this table updated and to issue revisions as each new project participant is added. The following is an example of how this table may be filled out:

Project Participant (Firm or company name)	Discipline or Trade	Contact Name (Insert individual name and Project role or title)	Contact Information (Insert phone number, email address, and other contact information)
Smith Associates	Architecture	Bill Jones, Project Architect	Email: bill@smithassociates.com Phone: (###) ###-####

§ 1.2 Project Schedule.

The project schedule attached to the BEP should be coordinated and consistent with the schedule(s) listed in the project participants' respective agreements. However, the schedule in the BEP should also include detail relative to the development of BIM for the project, including model portion designated delivery milestones for collaboration and coordination, and final delivery dates for each project milestone. Parties may use any format to develop project schedules that clearly memorialize the key dates related to the development of all model portions for the project. The schedule should be updated to reflect changes in the overall project schedule and to incorporate input from new project participants as they are added to the table in Section 1.1. Each revision to the referenced schedule should be published in an updated BEP with a new version number and date.

§ 1.3 Existing Data

The BIM Execution Plan should clearly reference all pre-existing digital files that are to be incorporated into or used to develop the project models. These existing files may include surveys, digital scans, photographs, and drawing files completed as part of pre-design services for the project. They may also include standards

developed by project participants that are to be incorporated into the project models. Each file should include the following information, in addition to any other information the parties deem appropriate:

- File name;
- Description;
- Location (including a link or information necessary to retrieve file for use); and
- Author or provider of file (including contact information).

§ 2.1 Designated Model Portion Delivery Milestones

As set forth above, the BIM exhibit sets forth requirements related to designated model portion delivery milestones. Section 2.1 of the BEP is where parties can insert or make reference to an attached delivery schedule for the project, which will identify designated model version delivery milestones. Alternatively, a Model Element Table can accomplish this task, in which case reference should be made here to Article 7 (Levels of Development). Milestones can be as simple as scheduled deliverables by project phase, such as "Schematic Design," "Design Development," and "Construction Documents." Other possible milestone examples may include partial phase deliverables, such as "50% Design Development," or specific packages for "GMP pricing," "Building Permit," or anything the team might require as a pre-planned deliverable. The project participants should review their respective agreements, consider the overall project schedule, and consult with one another to determine the reasonable number of specific, planned deliverables. It is worth noting that interim deliverables may also be used on the project; however, the rules for authorizing reliance on any interim deliverable are different, as set forth in the BIM Exhibit (See, e.g., E201-2022 Section 2.5.4).

ARTICLE 3—SOFTWARE AND FILE EXCHANGE PROTOCOL

§ 3.1 Modeling Software.

Software is often not compatible with other software, and sometimes is not compatible with other versions of the same software. Therefore, it is important to define the software that will be used at the beginning of the project. Typically, the architect will define the primary modeling software and version that would be utilized ("Revit 2020," for example). Then, other design team members can be aware of this software requirement prior to beginning work and can confirm they have this release or ability for compatibility, or can upgrade as needed.

§ 3.1.1 Modeling Software Updates.

Since different versions of the same software may not be compatible, all parties should agree to update software releases and confirm that there are no issues in the models prior to updating. Typically, the architect or model manager will discuss this concept during the design process, and the parties' agreement on how to obtain uniformity in software updating is set forth in the BEP.

§ 3.2 Other Software Tools.

These might include tools like solar, energy, structural, clash modeling tools, or other coordination tools that might be required during the design/construction process. Examples could include: Bluebeam, Comcheck, Navisworks, Revitzo, PlanGrid, Procore, Box, DropBox, etc.

§ 3.3 File Exchange Protocols.

How project team intends to share models is an important issue to define early. Various options are provided but the rules, file naming, and frequencies surrounding file exchanges are critical.

§ 3.3.1.1 Cloud-Based Collaboration.

If cloud-based tools are to be utilized on the project, then all project participants should understand and acknowledge this structure ahead of time. The project participants should discuss and agree upon which of them will be responsible for the cost of licensing the software. In addition to licensing fees, the project participants should also discuss and agree upon who will host the project models, who will manage user access, how folders will be structured, and what information beyond models is to be hosted.

§ 3.3.1.2 Separate Model Collaboration.

The method of separate model collaboration could describe an older FTP Site, Newforma Shared Folder, or DropBox storage site, where individual files or models are uploaded and downloaded by the various project participants. User access and privileges can also be defined and controlled, depending on who is hosting these sites.

§ 3.3.1.3 Other.

For many project teams, there could be multiple cloud-based collaboration tools, which could include one location for the models and other locations or tools for various project related documents (emails, the project program, meeting minutes, memos, action items, submittals, request for information, issued packages, change orders, etc.). If the parties are using this type of structure, then selecting 3.3.1.3 could be appropriate.

ARTICLE 4—DATA SECURITY MEASURES

Although the AIA's BIM exhibits contain a fill-point for data security, if the parties wish to provide additional granularity with respect to their project's data security measures, then they can include those measures in the fill point in Article 4 of the BEP.

ARTICLE 5—MODELING PROTOCOLS

Article 5 is where the project participants will indicate the details and specifics as to how they will develop their Models. The different topics that comprise this list of protocols are set forth below.

§ 5.2 Model Data Subdivisions.

Models may be subdivided to manage the size of the data groups, or to divide the effort amongst different team members. The more a model is divided, the greater will be the effort will be to bring them together to coordinate the project. Here, the project participants agree to reasonably minimize the subdivision of their model portion(s). Any changes to subdivided model portions must be communicated to all project participants to inform them they must make a change as to how they would overlay newly subdivided portions with the entire model.

§ 5.3 Parameters.

In Section 5.3, project participants indicate software and object parameters that are intended to be shared for sheet indices and model coordination.

§ 5.4 Phasing.

Some projects may be designed and developed in phases, with some areas of the overall model advancing ahead of others. If the project includes phases, then the project participants would indicate the phases in Section 5.4 so that consistency can be maintained amongst all the project participants. If additional phases, or modifications to phases, are required at a later time, then all project participants should agree in advance to use the new or modified phases.

§ 5.5 Sheets.

Assuming the project model will be used to develop traditional two-dimensional output(s), the project participants should list in Section 5.5. any requirements they may have, such as sheet sizes for the project, title block format, and requirements regarding how to name, number, and identify each deliverable.

§ 5.6 Design Options.

Some modeling software allows for developing design options within a single model. Alternatively, some team members may prefer to develop design options in a separate file. Whether the project participants use internal modeling options or external, separate models, some effort will be required to manage the necessary coordination between the project participants. Therefore, in Section 5.6 the project participants should indicate their preference (or lack of preference) and the protocols for addressing or exploring design options.

§ 5.7 File Naming Conventions.

Many files will be exchanged and overlayed over the life of the project, so file naming should be consistent and unchanged. In Section 5.7, project participants should indicate the protocols for naming each type of file for each separate software used.

§ 5.8 Standards.

If there will be specific modeling standards that apply to all project participants, these should be indicated in Section 5.8., either by completing the fill point in the BEP or referencing by a separate document that can be attached. If the Owner has modeling standards, those should be included.

ARTICLE 6—MODEL MANAGEMENT PROTOCOLS

§ 6.1 Responsibility.

In Section 6.1, the project participants define individual roles and responsibilities for model management. The following is a list of model management responsibilities that should be considered:

- Overall BIM management
- Archiving
- Design-level system coordination
- Construction-level system coordination
- Model quality control
- Model element table compliance
- Model element table updating

Which person or entity is assigned these responsibilities depends on a number of factors, such as the project delivery model and the skill and capacity of the various project participants. Often, these assignments can change as the project progresses; for example, overall BIM management responsibility may be with the prime architect at project inception and pass to the prime contractor at start of construction.

§ 6.2 BIM Planning Meetings

An example as to how to complete Table 6.2 is below:

Meeting Type	Project Stages or Phases	Frequency
BIM Requirements Kick-off	Phase 1	Weekly, as needed
BIM Execution Plan Distribution	Phase 1	Weekly, as needed

Design Coordination	Phase 2	Weekly
Construction Coordination	Phase 3	Weekly
Construction Progress Reviews	Phase 3	Bi-Weekly

§ 6.3 Quality Control and Model Health.

Section 6.3 outlines the various responsibilities and agreements related to quality control for the model, and model health. Section 6.3.1 generally states that "Each Project Participant is responsible for producing quality Model Portions that can be used and opened effectively by all other Project Participants." The project participants are also required, pursuant to Section 6.3.1, to perform the various model checks listed in Section 6.3.1.1, including visual checks, interference checks, modeling protocols checks, model integrity checks, and any others that the parties add.

ARTICLE 7—LEVELS OF DEVELOPMENT

§ 7.1 Level of Development Definitions.

As explained above, Section 7.1 reiterates that the LOD definitions are set forth in the BIM exhibit.

ARTICLE 8—RELIANCE AUTHORIZATION PROTOCOLS

Throughout a project, one project participant may need to obtain another project participant's model portion for some reason. These instances of model sharing are known as "interim deliverables." Section 2.5.4 of E201-2022 sets forth the parties' agreement with respect to reliance on model versions at interim deliverables. For *designated* delivery milestones, the E201-2022 provides in Section 2.5.3 that the Parties can use a "Model Element Table or another method" to determine reliance. *Interim* deliverables, however, are more sporadic and *ad-hoc* as compared to designated delivery milestones and, therefore, the amount of reliance placed upon a model portion shared as an interim deliverable will need to vary with the circumstances of that instance. As a result, sharing deadlines and levels of reliance cannot be anticipated and set forth in a Model Element Table such as the G204-2022 or G205-2022. Section 2.5.4 of E201-2022 requires that model authors "describe the extent of authorized reliance on its Interim Deliverable."

Article 8 of G203-2022 is the place where model authors determine how they will "describe the extent of authorized reliance..." Specifically, the fill point in Article 8 instructs parties to "[d]efine the means of authorization, whether described within the Model Version or in a separate document, or both. If appropriate, attach the authorization text or form as an exhibit." In this space, parties can describe how they will authorize reliance on their model portions when issued as interim deliverables. For example, parties can choose to embed the authorization information within the model portion, or send or attach a document with authorization text to the other project participant(s) when the model portion is transmitted.

ARTICLE 9—IDENTIFICATION OF A MODEL OR MODEL PORTIONS

Once a Model becomes a deliverable that can be relied upon, or may be enumerated as a Contract Document, it is critical that there be a way to identify it—so that the user knows what it is. This is an essential tenet of document control; no different from the obvious need to name, number, date, and otherwise identify a two-dimensional drawing. There are any number of ways to name/number/date/identify a model, either through the digital data external to the file, or within the model once it has been opened. The AIA BIM exhibits set forth reliance provisions for models and model elements that vary depending upon whether the model version in question is a designated milestone deliverable or an interim deliverable. If the model version has been identified or labelled as designated deliverable, and labelled or named as such, then the project participants may rely on the model elements as set forth in Article 7 of this BIM Execution Plan. If a model version has been identified or labelled an interim deliverable, however, then it falls upon the model author to indicate the extent to which they are authorizing reliance on their version. In either case, it is incumbent on the model author to identify or label what their model version is at the time it is being issued, and in the case of an interim deliverable to further specify the reliance provisions that they are permitting related to how it can be used.

The fill point in Article 9 is where the project participants will state how they will identify or label a model or model portion at the time it is issued, whether internal to the model, or in the form of a separate document, such as a transmittal. Knowing that models can be separated from transmittals, the user of this BEP would be well advised to develop an identification process that travels with, and cannot be separated from, the model version upon which they are allowing others to use and rely. For example, the parties could choose to use a form that either accompanies or is used internal to a model, which should indicate key document control information, such as:

- Project Name;
- Model Author;
- Model Version Name;
- Deliverable name (Milestone or Interim); and
- For Interim Only: the extent of permitted reliance.

Other information may be provided, such as date/time, though this might be best left to the file data, which is automatically generated when the file is saved. The project participants may also wish to include any specific rules or limits for reliance here, or make reference to other coordinated documents, such as the BIM exhibit, this BIM Execution Plan, or even the agreement, which may contain pertinent provisions for model ownership or licensed/permitted use—information that might travel with the model wherever it goes, and into whoever's hands it may fall.

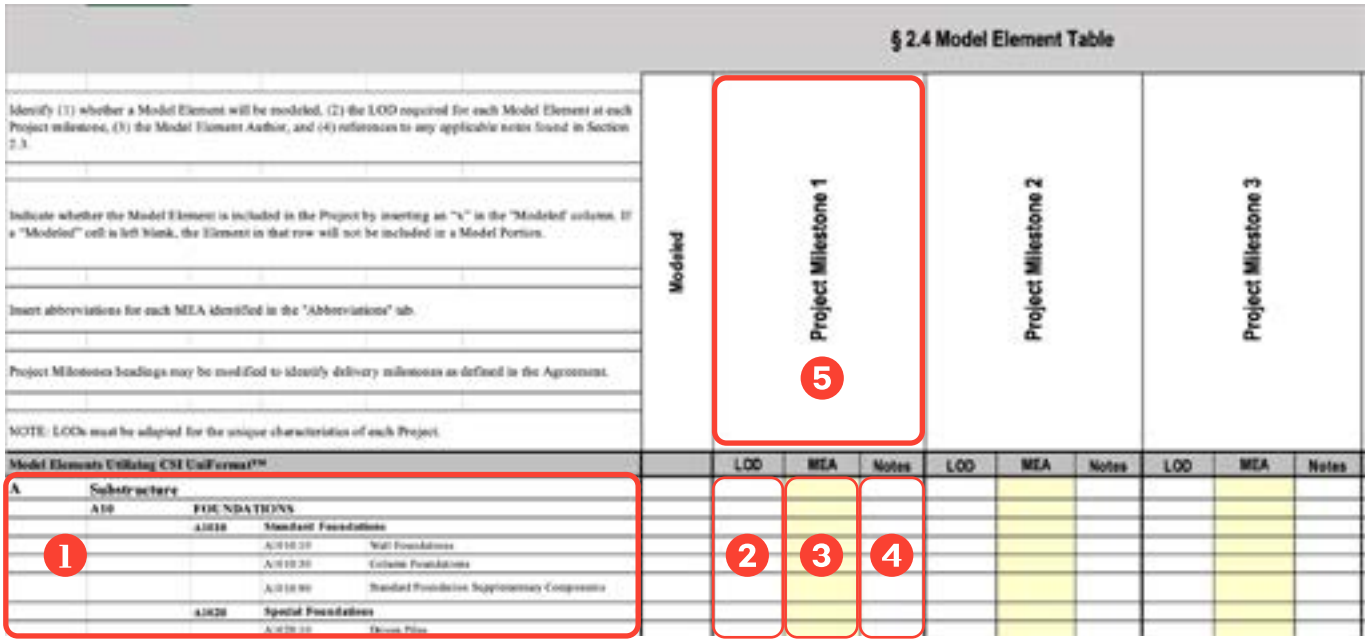
ARTICLE 10—OTHER BIM OR MODELING PROVISIONS

The AIA's BIM Execution Plan G203-2022 is intended to be a standardized form to cover the BIM needs

for the majority of projects. However, there may be other provisions that are appropriate to add according to the unique circumstances of a project. In this event, parties can insert other provisions related to BIM or modeling within the fill point in Article 10.

ARTICLE 11—EXHIBITS AND ATTACHMENTS

If parties wish to add exhibits or attachments to their BIM Execution Plan, they can do so in Article 11. For example, if the parties have developed a form to use to describe authorized reliance on model portions at interim deliverables, or if the parties wish to reference the BIMForum Level of Development (LOD) Specification, they can list it in Article 11.



G204-2022 and G205-2022 Model Element Tables

One of the biggest changes to the AIA's Digital Documents family in 2022 is the addition G204-2022 and G205-2022 Model Element Tables. Specifically, AIA Contract Documents now offers two, independent model element tables, which are suited to two different levels of BIM implementation and familiarity. Additionally, both model element tables are now offered as excel documents, rather than word tables.

Although the information set forth immediately below is under the heading of G204-2022, it largely applies with equal import to the G205-2022. Accordingly, the discussion below related to G205-2022 will highlight only the differences between the G205-2022 and G204-2022.

Below is a quick reference to the AIA's model element tables:

1. **Model Element list:** A list of model elements, usually ordered by an established element classification system, e.g., UniFormat™. The amount of detail required for a project can be adjusted by selecting the desired level of a classification system or pre-selecting a set of elements. Items not required to be modelled can be indicated by an abbreviation such as 'NM' (non-modelled) or 'NR' (not required) or 'NA' (not applicable).
2. **LOD value cells:** Cells for entering LOD values (100, 200, 300, etc..) for each model element are broken down based on the various project milestones.
3. **Model Element Authors (MEA) cells:** Cells for indicating the MEA responsible for developing each model element to the required LOD. Tables, like the AIA G204-2022 model element shown here, show the MEA for every model element at each LOD. On the basis that many model elements have the same MEA for most phases of a project, some tables consolidate this information in a single column. In this instance, if a model element is shared between more than one MEA, all are listed in the one cell. Where responsibility shifts from one MEA to another, the row for the element is duplicated and the MEA responsible for each LOD value entered against that value.
4. **Notes:** Cells for explanatory comments or qualifying remarks for an entire category or similar.
5. **Project milestones headings:** Cells for entering nominated project milestones. Cross-references the LOD for each model element to each nominated project milestone. These milestones could be based on the design phases, or progress reviews, or how the model is to be divided, phased construction, etc.

G204-2022 Model Element Table

As stated above, one of the foundational elements of BIM is the concept of Levels of Development, or LODs. Using LOD designations, model authors can convey the specificity and exactness of their model elements and, in turn, other project participants with access to the model can determine an appropriate amount of reliance on those elements. In this regard, G204-2022 provides project participants with a table in which they can designate LODs for various model elements at different project milestones.

Completing the G204-2022

Both the G204-2022 and G205-2022 contain four tabs in a single excel-based file: "Cover Page and legal clauses," "Model Element Table," "Abbreviations," and "Notes."

TAB 1—COVER PAGE AND LEGAL CLAUSES

This first tab of G204-2022 and G205-2022 looks similar to other documents within the AIA library and should be completed in a similar manner.

MODEL ELEMENT TABLE DATE

In this section, parties should insert the date of the most recent version of the model element table. In the next fill point, the parties should insert the name and location or address of the project.

BIM Execution Plan Name

In this section, parties should identify – by date and full title – the BIM Execution Plan into which the model element table is incorporated. In the next fill point, the parties should identify the version number or date of the most recent BIM Execution Plan, as that document may change throughout the project.

Exhibit Name

In this section, parties should identify – by date and full title – the BIM and digital data exhibit into which the BIM Execution Plan is incorporated. Since this exhibit is part of the agreement between the parties, it is not intended to change throughout the project without a contract modification, so no version identification is necessary.

Article 1 Levels Of Development

Article 1 provides that the LOD definitions are set forth in the exhibit. It is critical that all project participants have a uniform understanding and agreement as to the various LOD definitions. Accordingly, the LOD definitions are set forth in the exhibit, which is attached to the project agreements.

Article 2 Model Element Table

This section sets forth how the remaining tabs (explained below) are intended to be used together to form a cohesive model element table.

TAB 2—MODEL ELEMENT TABLE

The second tab of G204-2022 contains a complete model element table, using the CSI UniFormat™ nomenclature for categorization of model elements. Note that for all of the "project milestones" at the heading of the table the parties can modify the name of the milestone to fit their project needs and can add or delete project phases. For the purposes of this Guide, however, they will be referred to as indicated in the standard model element table language. For each model element row, parties should perform the following actions:

Step 1: (Column G) Indicate whether that particular model element will be modeled. Per the instructions in cell A5, if a modeled cell is left blank, the element in that row will not be included in a model portion.

Step 2: (Column H) Indicate the LOD to which the model element will be modeled for project milestone 1.

Step 3: (Column I) Using the abbreviations set forth in Tab 3, indicate the abbreviated name of the model author who will be tasked with modeling the model element for milestone 1. This selection is made by way of a "drop down," so the information contained in Tab 3 ("Abbreviations") must be completed first so that the drop down will include the necessary selection.

Step 4: (Column J) Using the notes set forth in Tab 4, indicate if any notes apply to that model element. This selection is made by way of a "drop down," so the information contained in Tab 4 ("Notes") must be completed first so that the drop down will include the necessary selection.

Step 5: Complete steps 2 through 4 for each project milestone.

TAB 3—ABBREVIATIONS

In the third tab of G204-2022, parties complete list of all model element authors and their corresponding abbreviations. For example, parties can abbreviate the architect as "A" and the contractor as "C" or the parties can abbreviate the various model authors using an abbreviation of their firm names, such as "JA" for Jones Architects, LLC and "SC" for Smitch Contractors, Inc. Once this table is completed, the abbreviations will appear in the "drop-down" list in Column I of the model element table (Tab 2).

TAB 4—NOTES

In the fourth tab of G204-2022, the parties can insert any notes applicable to their model elements. The numbers to be used for corresponding notes are pre-filled into the table (up to 50), and those numbers already appear in the "drop-down" list in Column J of the model element table (Tab 2).

G205-2022 ABBREVIATED MODEL ELEMENT TABLE

G205-2022 is one of the more unique and consequential documents in the current suite of Digital Practice Documents. The AIA Contract Documents Program received valuable feedback related to its 2013 documents that, while the Model Element Table contained therein was critical, it was occasionally burdensome to complete and sometimes created a hurdle to proper completion of the entire document set. As a result, the AIA Contract Documents Program created G205-2022, a Model Element Table that is

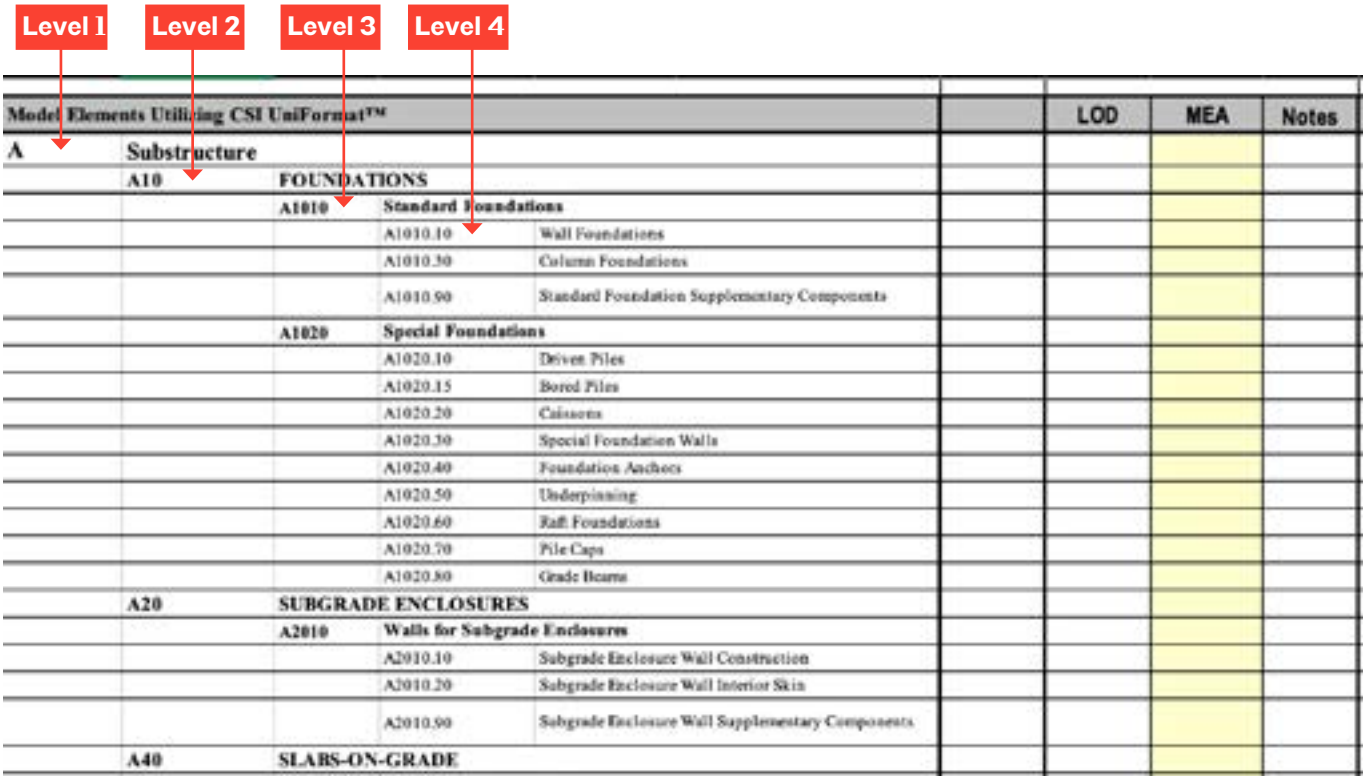
abbreviated. The G205-2022 can facilitate the use of a Model Element Table by Project Participants who might otherwise not be familiar with Model Element Tables. Completion of the G205-2022 follows the same basic structure as described above for G204-2022, with a few differences described below.

Project Phases

In G205-2022, the number of phases included in the standard table is reduced from six to three, and those phases are named, rather than just being listed as "project phase 1," etc. Specifically, the three phases included in the standard language are Schematic Design, Design Development, and Construction Documents.

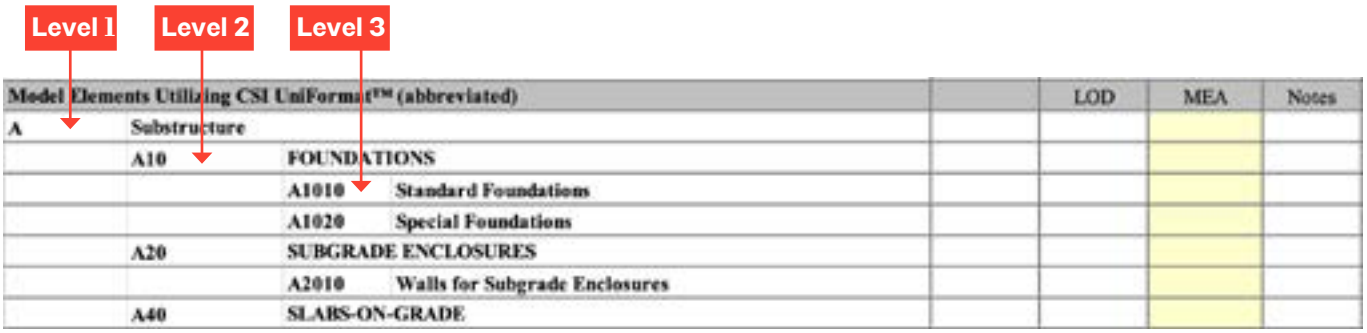
Second, the number of model elements included in the table (again using CSI UniFormat™ nomenclature) has been reduced. The method for reducing the number of model elements is explained below.

The G204-2022 incudes a full listing of every model element at all 4 "levels" of the CSI UniFormat™ nomenclature:



Model Elements Utilizing CSI UniFormat™					LOD	MEA	Notes
A	Substructure						
	A10	FOUNDATIONS					
		A1010	Standard Foundations				
			A1010.10	Wall Foundations			
			A1010.30	Column Foundations			
			A1010.90	Standard Foundation Supplementary Components			
		A1020	Special Foundations				
			A1020.10	Driven Piles			
			A1020.15	Bored Piles			
			A1020.20	Caissons			
			A1020.30	Special Foundation Walls			
			A1020.40	Foundation Anchors			
			A1020.50	Underpinning			
			A1020.60	Raft Foundations			
			A1020.70	Pile Caps			
			A1020.80	Grade Beams			
	A20	SUBGRADE ENCLOSURES					
		A2010	Walls for Subgrade Enclosures				
			A2010.10	Subgrade Enclosure Wall Construction			
			A2010.20	Subgrade Enclosure Wall Interior Skin			
			A2010.90	Subgrade Enclosure Wall Supplementary Components			
	A40	SLABS-ON-GRADE					

G205-2022, on the other hand, only includes the first 3 “levels” of the CSI UniFormat™ nomenclature:



Model Elements Utilizing CSI UniFormat™ (abbreviated)					LOD	MEA	Notes
A	Substructure						
	A10	FOUNDATIONS					
		A1010	Standard Foundations				
		A1020	Special Foundations				
	A20	SUBGRADE ENCLOSURES					
		A2010	Walls for Subgrade Enclosures				
	A40	SLABS-ON-GRADE					

This method for abbreviating the model element table is intended to make the table simpler to complete, but it may mean that parties have to select a single LOD for a “Level 3” model element category when, in reality, different model elements within that “Level 3” category may have different LODs. In this case, the parties can add rows to accommodate for this level of specificity.