BIM KNOWLEDGE AND SKILLS FRAMEWORK

| CONCEPT | | DESCRIPTION | STAKEHOLDER GROUPS | | |

	2.111	**BIM Maturity Level** Additional Information: 2.121 Project Performance Requirements - BIM 2.122 Project Roles and Responsibilities - Contractual Hierarchy 2.321 Statement of Requirements (SOR), SOW, SOD and PAR 2.411 BIM Dimensions 2.455 BIM Uses	Specifying BIM Maturity Level by identifying the capacity, capacity, experience and technical maturity required and/or applicable to the industry, organisation, project or other identified stakeholders.	Identify, define and specify the required BIM Maturity level as part of evaluation criteria and the associated BIM Uses and deliverables. *E.g. Australia's BIM Maturity Level 3R requires 2 way collaboration*	Plan the BIM Maturity testing methodology based on demonstrated capability, capacity, experience and technical maturity. Refer Capacity Information: 2.125 Project Performance Requirements - BIM 2.126 Project Roles and Responsibilities Definition 2.321 Statement of Requirements 2.455 BIM Uses	Plan the technical BIM Maturity testing methodology based on demonstrated capability, capacity, experience and technical maturity. Refer Capacity Information: 2.125 Project Performance Requirements - BIM 2.126 Project Roles and Responsibilities - Definition 2.321 Statement of Requirements 2.455 BIM Uses	3	3	3	3	4	Define and review the BIM Maturity of your business to understand if they meet the criteria required to compete for work in the BIM Industry. BIM Maturity defined and tested from DIP, BIM Uses and PxP Contractor Selection. Key the client	Define and review your business on a management level to understand if it meets teh criteria required to compete for work according to the specified BIM Maturity. *E.g. Have your managers managed a BIM project before, do they have a BIM education or do you coordinate with data and other stakeholders?*	Define and review your business on a technical level to understand if it meets teh criteria required to compete for work according to the specified BIM Maturity. *E.g. Have your documentation information or BIM Tactics and delivered the data and graphical representation required and coordinate with other stakeholders?*	1	3	2	5	2	Define and review the BIM Maturity of your business to understand if they meet the criteria required to compete for work in the BIM Industry. BIM Maturity defined and tested from DIP, BIM Uses and PxP Contractor Selection. **Sub-Consultant – Sub-Contractor Engagement** Define the criteria required for Sub-Consultants and Sub-Contractors to ensure all criteria defined in the organisational	Define and review the BIM Maturity of your business on a managerial level to understand if they meet the criteria required to complete the project in BIM. BIM Maturity will be derived from the DIP, BIM Uses and BIMP established by the client. Small teams have any skill shortage and deadlines for these issues are required.	Define and review the BIM Maturity of your business on a technical level to understand if they meet the criteria required to complete the project in BIM. BIM Maturity will be derived from the DIP, BIM Uses and BIMP established by the client. Communicate a technical training plan and skill set early will help shortage.	2	3	3	1	3	1	1
2.200 SOLICITATION PLANNING **Preparing Tender documentation - EOI, RFP or RFT**																																			
	2.201	**Statement of Requirements (SOR)** Additional Information: **Statement of Work (SOW) Model** may also be developed as part of the Statement of Work (SOW) *Performance Work Statement (PWS)*. **Additional Information:** 2.121 Project Performance Requirements - BIM Uses 2.122 Project Roles and Responsibilities - Contractual Hierarchy 2.123 Project Collaboration Requirements 2.126 Employers Information Requirements 2.230 BIM Management Plan (BMP) 2.250 BIM Dimensions 2.455 BIM Uses	Develop and define the Statement of Work (SOW) or Statement of Work (SOW) describing the BIM deliverables, assessment requirements, and specifications. The SOW or SOW should be in line with requirements in the Project Brief (owner-employer) Input for the Project and Asset Handover (operation and maintenance) Plan, and should include major milestones and stages, depending on the project or stage gates.	Develop, define and align the overall BIM Uses, deliverables, requirements, and specifications within the SOW or SOW. *E.g. Align the BIM Uses handover with stage gate Uses to showing BIM Uses proof of analysis.*	Develop, align and plan the overall BIM Uses, deliverables, requirements, and specifications within the SOW or SOW. *E.g. Align the BIM Uses handover with stage gate Uses to showing BIM Uses proof of analysis.*	Map, align and plan the overall BIM Uses, deliverables, requirements, and specifications within the SOW or SOW. *E.g. Align the BIM Uses handover with stage gate Uses to showing BIM Uses proof of analysis.*	3	4	3	3	3	Review the SOW or SOW to ensure the technical requirements are fully understood by the Sub-Consultants that may need specialist Sub-Consultants or Sub-Contractors. *E.g. Specialist roofers to be delivered to establish organisation, roof plan and areas or separate of actually roofer.*	Review the SOW or SOW to ensure the management requirements are fully understood by the Sub-Consultants that may need specialist Sub-Consultants or Sub-Contractors. *E.g. Lawyer to review contracts.* **Sub-Consultant Engagement** Designers seeking to contract Sub-Consultant will indicate the Services or Discipline and deliverables for the responsibilities.	Review the SOW or SOW to ensure the technical requirements are fully understood by the Sub-Consultants that may need specialist Sub-Contractors or Suppliers. *E.g. Specialist roofers to be delivered to establish organisation, roof plan and areas or separate of actually roofer.* **Sub-Consultant Engagement** Designers seeking to contract Sub-Consultant will indicate the Services or Discipline and deliverables for the responsibilities.	N.A.	1	3	4	4	2	Review the Statement of Works (Statement of Work) or Statement of Work (SOW) to ensure the technical requirements are capable of delivering the BIM Deliverables. Understanding the technical capability of the Sub-Consultants that may need specialist sub-contractors to deliver. **Sub-Consultant – Sub-Contractor Engagement** Define the SOW or SOW refer to the overall contract establishing the exact Sub-Consultant and Sub-Contractor delivering the Sub-Consultant / Contractor.	Review the Statement of Works (Statement of Work) or Statement of Work (SOW) to ensure the management team is capable of delivering the technical requirements. **Sub-Consultant – Sub-Contractor Engagement** Define the SOW or SOW refer to the overall contract establishing the exact Sub-Consultant and Sub-Contractor to be delivering the Sub-Consultant / Contractor.	Review the of the Statement of Works (Statement of Work) or Statement of Work (SOW) to ensure the contractor team is capable of delivering the technical requirements. **Sub-Consultant – Sub-Contractor Engagement** Define the SOW or SOW refer to the overall contract establishing the exact Sub-Consultant and Sub-Contractor to be delivering the Sub-Consultant / Contractor.	3	4	4	2	4	2	2
Specification Areas	2.202	**Detailed Scope - Services by Stage (Phase)** Additional Information: 2.121 Project Performance Requirements - BIM Uses 2.122 Project Roles and Responsibilities - Contractual Hierarchy 2.123 Project Collaboration Requirements 2.126 BIM Dimensions 2.455 BIM Uses	Specify detail of the Services, Project Scopes and Sub-Consultant Scopes and Sub-Contractor Scopes. A breakdown of project Scopes to include BIM Deliverables for each stage, such as the BIM Deliverables for the Project Brief, Concept Cost estimations form the models etc.	Define and establish Services by each stage (Phase) and Sub-Consultant Scopes and Sub-Contractor Scopes. Ensure BIM Deliverables for each stage, such as the BIM Deliverables for the Project Brief, Concept Cost estimations form the models etc. Refer to 2.126 Planning for the details within each area. *E.g. Sub-Consultant specialist planning defined at the end Concept stage.*	Define and establish Services by each stage (Phase) and Sub-Consultant Scopes and Sub-Contractor Scopes. Ensure BIM Deliverables for each stage, such as the BIM Deliverables for the Project Brief, Concept Cost estimations form the models etc. Refer to 2.126 Planning for the details within each area.	Define and establish Services by each stage (Phase) and Sub-Consultant Scopes and Sub-Contractor Scopes. Ensure BIM Deliverables for each stage, such as the BIM Deliverables for the Project Brief, Concept Cost estimations form the models etc. Refer to 2.126 Planning for the details within each area.	3	4	3	3	3	2	Review the Services by Phase and Sub-Consultant Scopes and Sub-Contractor Scopes. Ensure BIM Deliverables based on areas such as model breakdown, specification breakdown etc. **Sub-Consultant Engagement** Designers seeking to contract Sub-Consultant will indicate the Services or Discipline and deliverables for the responsibilities.

	2.405	**Commercial Requirements** Additional Information 2.101 Project Performance Requirements: BIM Uses 2.108 Employers Information Requirements - EIR 2.105 Delivery Model (Contract)	Commercial requirements and details of the Delivery Model (Contract) or agreement and how they influence a BIM deliverable. • Data drops and project deliverables • Project Sponsor (employer / client) Strategic Purpose • Defined BIM / Project Deliverables • BIM-specific competence assessment	Determine, define and endorse assessment criteria based on the commercial requirements BIM contributes to or enables. *E.g. FM enabled data growth through the progression of data drops. The expected use or performance of the model etc.*	Assist in the perusal and assessment of the endorsed BIM deliverables, requirements and, project deliverables.	Assist in the perusal and assessment of the endorsed technical commercial requirements, BIM deliverables and requirements, and project deliverables.	3	4	4	4	4	Review of the relationship and possible conflicts between BIM requirements (BIM Uses, deliverables, etc.) and other details of the project contract. *E.g. The commercial use being for maintenance and repair whilst the Legal Use of the model is not for Reuse.*	When responding to an RFP, review the commercial requirements as stated in the project contract and identify any conflicts against the BIM requirements (BIM Uses, deliverables, etc.)	Review of the project technical BIM requirements (BIM Uses, deliverables, etc.) against the commercial aspects of the project contract.	1	3	3	4	2	Review of the relationship and possible conflicts between BIM requirements (BIM Uses, deliverables, etc.) and other details of the project contract such as timing. Particularly: • Clients Strategic Purpose • BIM-specific competence assessment **Sub-Consultants or Sub-Contractors Engagement** Establish with the Sub-Consultants and Contractors if they can meet the overall project Commercial BIM requirements.	Review of BIM outputs and their timing to adequately manage the consultant and sub-contractor team, such as: • Data drops and project deliverables • Defined BIM / Project Deliverables Understand the commerical impacts of LOD gates and risks in non compliance. *E.g. Design team do not reach expected LOD300 gate and trades expecting a LOD300 model for progression. Claims made by trades.*	Review BIM deliverables and ability to determine if technical workflows may prevent or hinder these submissions.	2	1	4	1	4	1	3
	2.406	**Managerial Requirements** Additional Information 2.108 Employers Information Requirements - EIR	Managerial processes to be adopted and how they may influence the project fluency. • Project and Contract Management Standards to be applied • Roles and Responsibilities • Planning the Work and Data Segregation • Security • Coordination and Clash Detection Process • Collaboration Process • Quality, Environment and Health and Safety and Construction Design Management • Systems Performance • Compliance and Certification Plan • Delivery Strategy for Asset Information	Determine and define assessment criteria for each of the Managerial Requirements.	Review, determine and assist in the perusal and assessment of the Managerial Requirements.	Review, determine and assist in the perusal and assessment of the Technical areas within the Managerial Requirements.	3	4	4	4	4	Review the managerial requirements outlined in the EIR to ensure the response complies with the project needs and the standards or certification requirements requested of your team.	Review and define the company's capability against managerial requirements specified by the EIR / BMP. *E.g. Collaboration Process, delivery strategies etc.* **Sub-Consultant Engagement** Assess applications against the required managerial requirements specified by the EIR / BMP and Sub-Consultant Agreement to ensure project fluency.	Review and define to the requirements of demonstrating capability to achieve managerial requirements specified by the project EIR / BMP and Sub-Consultant Agreement. *E.g. Coordination and clash detection methodologies or processes.*	2	3	3	4	1	Review and define the BIM processes that will be adopted outlined in the EIR and how they align and assist the project. *E.g. The project management plan, construction management plan, design management plan etc.*	Define and respond to the company's capability against managerial requirements specified by the EIR / BMP.	Review and respond to the requirements of demonstrating capability to achieve managerial requirements specified by the project EIR / BMP.	3	4	4	1	4	1	2
	2.407	**BIM Scope Creep** Additional Information 2.103 Project Collaboration Requirements 2.105 Contract 2.106 BIM Protocols 2.108 Employers Information Requirements 2.204 Evaluation Criteria - BIM	Identify, agree and or mitigate areas of BIM scope creep. *E.g. procurement models, technologies and project planning.*	Define the assessment criteria for areas that may result in BIM scope creep. *E.g. Requests for involvement of other stakeholders earlier than procurement allows, technologies that do not comply with the open BIM need and defining a workflow that doesn't suit the deliverable timeline expected.*	Assist in the perusal and definition of scope creep areas. *E.g. Project Planning*	Assist in the perusal and definition of scope creep areas. *E.g. Technologies expected to be utilised.*	3	4	4	4	4	Review the key areas where scope creep have been noticed in the past. *E.g. Being obligated to provide un-scoped work for another stakeholder to enable the BIM performance to be achieved.*	Review the BIM Uses and other requirements of the EIR / BMP to ensure additional work (such as providing model and attached data outside of normal design services) is identified and costed. **Sub-Consultant Engagement** Review applications against the BIM Uses and other requirements of the EIR / BMP and Sub-Consultant Agreement to ensure they are accounted for in their scope of services.	Review design consultant's and other stakeholder's BIM Uses and the requirements of the EIR / BMP to identify gaps, overlaps or possible scope impacts, particularly in use of BIM technology. *E.g. Consultants using software applications in an adhoc nature with no formal coordinate system or interoperability. Causing the scope to creep as extra effort needs to go into making their models work effectively.*	2	4	3	4	1	Co-ordinate with the Manager and Technical Manager the areas where scope creep have been noticed in the past. Documenting minimising procedures in the BMP to reduce this from occurring again. *E.g. Being expected to deliver an As-Built model of site conditions when there was no scope for laser scanning of such a large site. Including clarification on how site deflection and settlement will be dealt with within the BIM deliverable.*	Review the BIM Uses and other requirements of the EIR / BMP to ensure additional work (such as providing model and attached data outside of normal construction services) is identified and costed. **Sub-Consultant or Sub-Contractor Engagement** Review applications against the BIM Uses and other requirements of the EIR / BMP and Sub-Contracts Agreement to ensure they are accounted for in their scope of services.	Review construction Sub-Contractors and other stakeholder's BIM Uses and the requirements of the EIR / BMP to identify gaps, overlaps or possible scope impacts, particularly in use of BIM technology.	2	2	4	1	4	1	2
	2.408	**Legal Use Negotiation** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model	Definition of uses of the model. Based on Project Sponsor (employer/client) BIM requirements and if it aligns with company / organisation policy, insurances and responsibilities.	Identify, define and clarify the assessment criteria on the Model Uses and determine what alterations or changes may require legal to review.	N/A **Strategic Responsibility**	N/A **Strategic Responsibility**	3	4	2	2	3	Review the agreement to deliver BIM Uses and other requirements of the EIR / BMP as the request may conflict with company insurances. *E.g. Being asked to deliver a higher accuracy of detail for 'Reuse' when your company has no checking mechanisms in place to assure that accuracy.*	Review the BIM Uses and other requirements and consult with a legal team to ensure insurance coverage. *E.g. Models at developed design stage that are normally issued for 'Information' being requested to issue for 'Reuse'.* **Sub-Consultant Engagement** Review applications against the BIM Uses and other requirements of the EIR / BMP and Sub-Consultant Agreement to ensure they are appropriately covered by their business insurance.	Review the project BIM Uses and other requirements of the BMP to identify possible issues with company insurances from a technical perspective. *E.g. Providing models for fabrication when this responsibility should be with another stakeholder.*	2	4	3	4	1	Co-ordinate with the Manager and Technical Manager the defined uses of the model and ensure there are no uses that may cause issues or conflicts. Add main contractor specific uses, prior to contractor & sub-contractor engagement. **Sub-Consultant or Sub-Contractor Engagement** Review and define the Legal Use of the models to the sub contracts, noting that there may be a variation to the overall project need due to the construction team needs. *E.g. The construction team may require a Sub-Consultants model to be issued for 'reuse' at an earlier stage that the overall project requirement.*	Review the defined uses of the model and align consultant and trade scopes and permitted uses accordingly.	Review the project BIM Uses and other requirements of the BMP to identify possible issues with company insurances from a technical perspective.	2	2	4	1	4	1	2
	2.409	**BIM LOD** Additional Information 2.106 BIM Protocols 2.206 BIM Detail / Development Levels	BIM elements within the model and their graphical, information and connected data.	Define the assessment criteria on the definition of LOD for the project and the detail you are expecting for future use.	Assist in the perusal and definition of BIM LOD for the Project and the future technical requirements.	Assist in the perusal and definition of BIM LOD for the Project and the future technical requirements.	2	4	2	3	4	Review and define the contractual agreement that may include a matrix defining BIM model: LOD - Level of Development, LOI - Level of Information and MEA - Model Element Authors by stages. This may also be delivered via a Model Production and Delivery Table. *E.g. Most BIM Protocols include a minimum compliance to the detail they are expecting from your team at particular stages.*	Review the BIM Element matrix (LOD, LOI and MEA) to ensure it is aligned with typical expectations for an design role (including your specific discipline) and also aligns to the BIM Uses. **Sub-Consultant Engagement** Define a preliminary BIM Element matrix (LOD, LOI and MEA) for the Sub-Consultant to respond to.	Review the BIM Elements matrix (LOD, LOI and MEA) for design services.	1	3	3	5	1	Co-ordinate with the Manager and Technical Manager to review and define the BIM LOD contractual agreement. *E.g. Define what BIM LOD the construction team will require or need during the construction phase.*	Review and ensure consultant team are aware of LOD deliverables and their scope and contracts are aligned. This includes model element authors and who is responsible for differing elements. What, By Who and by When?	Review the LOD requirements and determine the required workflows to achieve the modelling deliverables. *E.g. Duplicate structure models, Architects (outline) and structural (depth and size)*	3	3	4	1	4	1	2
Construction Tendering (After Design or at 50% novation)	2.410	**Design Model Estimations** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.101 Project Performance Requirements - BIM 2.204 BIM Dimensions 2.205 BIM Uses	Identify and determine projections of costing and or estimations of the Project Sponsor (employer / client) BIM Deliverables (Design) and how they compare or affect the selected Delivery Model (contract) / tender budget estimates / sub contracts.	Assess, define, clarify and endorse the BIM Deliverables and Design requirements to enable model estimations for future stakeholder incorporation into the contract.	Assess, clarify and plan the BIM deliverable requirements for construction to enable efficiency in tendering. *E.g. Request a Work Breakdown Structure for tendering and delivering models and supportive data.*	Assess, clarify and plan the technical BIM deliverable requirements for construction to enable efficiency in tendering. *E.g. Request a Work Breakdown Structure for tendering and delivering models and supportive data.*	3	3	3	2	4	Review and define or agree to the data and information requirements that are requested to inform later project stages of the costs to construction, handover, operation and maintenance.	Review and define the work-breakdown structure that will comply with the needs to estimate from the model in the later stages. *E.g. Spatial data requirements, materiality etc.*	Review and define the work-breakdown structure and if it is easily achieved with the technology platform.	1	3	4	5	1	Co-ordinate with the Manager and Technical Manager to utilise and review the Design model to determine or clarify cost estimations. **Advising Project Sponsor** If advising a Project Sponsor (employer / client) define the BIM needs a construction team has to deliver the project. *E.g. Models to be delivered in a particular way to a particular breakdown structure.*	Review the model detail / development to determine future scopes with consultants and trades, based on the final BIM deliverable. *E.g. knowing the detail / development level to understand what it will take to reach a LOD 500 deliverable by all major trades to model.*	Review and determine the LOD level of design models to advise on the required input of consultants and trades to meet the defined BIM deliverable. *E.g. design Model at LOD 200, with a BIM deliverable of LOD 400, therefore trades to be engaged for s LOD 300 and LOD 400 scope.*	2	2	4	3	4	1	2
	2.411	**Design Model Review** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.101 Project Performance Requirements - BIM 2.204 BIM Dimensions 2.205 BIM Uses	The review process of the Design intent models and how to compare against the Project Sponsor (employer / client) requirements.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	**If taking over a project from another design consultant after Schematic or Design Development stage.** Review the existing models against the new agreement to understand the effort required to achieve the project requirements.	**If taking over a project from another design consultant after Schematic or Design Development stage.** Review the existing models against the new agreement to understand the management effort required to achieve the project requirements.	**If taking over a project from another design consultant after Schematic or Design Development stage.** Review the existing models against the new agreement to understand the technology effort required to achieve the project requirements.	1	2	3	4	5	**If involved in a traditional contract,** Co-ordinate with the Manager and Technical Manager to utilise and review the Design BIM against the Project Sponsors requirements. Including what level the model has progressed and any gaps in the anticipated design consultant deliverable that may result in the contractor delivering.	Review the existing models against the new agreement to understand the management effort required to achieve the project requirements.	Review the existing models for brief validation using model compare tools that will assist with design brief analysis	1	2	4	3	4	2	3
	2.412	**Design Model Estimations - Constructability** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.101 Project Performance Requirements - BIM 2.204 BIM Dimensions 2.205 BIM Uses	Interpret and interrogate a design model for constructability purposes.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Management and Construction Roles**	**When working with the developer / builder** Seek feedback on the detail of the model meeting the expectations of the Construction team to communicate design intent. *E.g. Can the Construction team interrogate the design well.*	**When working with the developer / builder** Seek feedback on the detail of the model meeting the technical expectations of the Construction team to understand constructability. *E.g. Has the exported models and data been delivered into categories, systems of schemas that have enabled ease of use for review, such as breakdowns of structural members, weights of mechanical services etc.*	1	3	3	4	4	Co-ordinate with the Manager and Technical Manager to utilise and review the Design BIM against constructability. *E.g. Use the model to review if the site, facility or asset can be built as designed based on the construction expertise you have available.*	Define utilisation of the model at parodic points to review access, site logistic locations, material choice and safety concerns. This includes the creation of scenario based animations to determine the best construction approach.	Define a model viewer to navigate, data mine, section, colour code, clash detect and attach / create construction programs in BIM for constructability analysis.	1	3	4	2	3	3	3
	2.413	**Design Model Interpretation** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.101 Project Performance Requirements - BIM 2.204 BIM Dimensions 2.205 BIM Uses	Utilise the design model to issue expected materials and construction methodologies for trade tendering / pricing.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Management and Construction Roles**	**When working with the developer / builder** Seek feedback on the detail of the model and if it enabled the use for trade tendering / pricing. *E.g. Were the construction team able to breakdown the model and data to better understand estimations and forecasting of work.*	**When working with the developer / builder** Seek feedback on the detail of the model meeting technical expectations. *E.g. Were the trades grouped as they expected through the data schemas.*	1	1	2	4	3	Co-ordinate with the Manager and Technical Manager to utilise and review the Design BIM to issue expected materials. Including the construction methodologies as mentioned in 2.412 Design Model Estimations - Constructability	Define how the model can / will be utilised or broken up to better communicate the tender package	Define, manage and clearly communicate trade packages with data or colour in the model.	1	2	3	5	4	3	3
	2.414	**Design / Trade Model Material Quantification** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.101 Project Performance Requirements - BIM 2.204 BIM Dimensions 2.205 BIM Uses	Validate the trade tendering based on combined information from the model and databases.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**						Co-ordinate with the Manager and Technical Manager to utilise and review the Design BIM to validate trade tendering estimations. *E.g. Confirming the need for amounts of materials through to access and safety requirements / contingencies.*	Manage definition of the trade packages that can be taken off the model and decide on strategy of supplying this as BOQ to trades. Noting that all model qunatities need to be intergated before utilising, this is based on the differing was in which the models are created.	Define the extraction of quantities from the model and a understand the differing software that will allows this.	1	3	4	4	3	3	2
	2.415	**Trade Model Price Change Effects**	Validate the model changes or differences that effect pricing based on combining information from the model and the attached databases.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**						N/A **Management Level Responsibility** Seek and communicate how the model can assist with determining the change effects.	Review and compare models to determine the change in scope and how this can be applied to claim assessment workflows.	Review and compare models from differing submissions and determine the difference in both geometry and data. Noting the differing software that can do this for you.	1	1	4	3	3	2	1
2.500 SOURCE SELECTION Decision Criteria	2.501	**Evaluation and assessment of BIM deliverables, requirements, expectations and weighting**	Evaluation of tender for the project BIM deliverables, requirements and expectations. Such as how stakeholders plan to create, what their workflow definition is, and how they communicate etc. This is based on the EIR, Asset Information Requirements and Performance Criteria.	Analysis of selected proposals including clarification and or endorsement of recommendation based on each area of the 2.400 Source Selection Assessment	Provide assistance by perusal and recommendation for the assessment. 2.400 Source Selection Assessment	Provide assistance by perusal and recommendation for the assessment. 2.400 Source Selection Assessment	4	5	3	3	4	Review how the weighting criteria works and the overall affect that this weighting will have on the success of winning the project.	Review the processes of proposal weighting criteria, flagging any that maybe of concern. **Sub-consultant Engagement** Define weighting analysis based on each area of the Capability Assessment 2.400 Source Selection Assessment	Review the processes of proposal weighting criteria, flagging any that maybe of concern from a technical perspective.	3	3	2	2	1	Review how the weighting criteria works and the overall affect that this weighting will have on the successful or winning the project.	Define and review the weighting criteria and provide a strategy that includes process and resources to deliver the BIM requirements. Review consultant & trade workflows to ensure they also align.	Review the technical requirements in the weightings and flag any that maybe of concern. Review consultant and trades technical ability to ensure compliant to RFP.	3	2	4	1	4	2	3
3.000 INITIATION																													
3.100 INTEGRATION Develop Project Charter	3.101	**Market Demand** Additional Information 1.102 Industry Scope (definition and application) 1.104 BIM Requirements and Market Value	The Project / Sponsor (employer / client) to communicate the BIM for your specific market and what the governing bodies are expecting as a minimum.	Define BIM requirements that are in accordance with specific market advice from industry or governing bodies. *E.g. Treasury of a particular State may require BIM to be delivered for a reason or with a motive i.e. to reduce waste, enable smart integration etc.*	Communicate the BIM requirements that are in accordance with specific market advice from industry or governing bodies.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the Market demand of BIM and why it is being utilised within the project, the particular sector and the benefits the client and the business are expecting.	Define or communicate the Project Charter view on the Market demand for BIM and why it is being utilised within the project, the particular sector and the benefits the client and the business are expecting.	Define or communicate the Project Charter view on the Technical Market demand for BIM and why it is being utilised within the project. *E.g. Focus on construction accuracy and build-ability.*	4	3	2	2	1	Define or communicate the Project Charter view on the Market demand of BIM and why it is being utilised within the project, the particular sector and the benefits the client and the business are expecting.	Define or communicate the Project Charter view on the Market demand for BIM and why it is being utilised within the project, the particular sector and the benefits the client and the business are expecting.	Define or communicate the Project Charter view on the Technical Market demand for BIM and why it is being utilised within the project.	4	1	3	1	3	1	1
	3.102	**Business Need** Additional Information 2.108 Employers Information Requirements	The Project Sponsor (employer / client) business need for BIM. Knowing the exact benefits beyond a standard market endorsement.	Define the business drivers and expectations of BIM performance for the project. *E.g. The Project Sponsor may be looking for efficiencies in managing their estates.*	Communicate the business drivers of BIM for this project to all of the stakeholders.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the business drivers and expectations of BIM performance for the project. *E.g. If creating the Project Charter for a design business they may be looking for an increase in productivity.*	Define or communicate the Project Charter view on the business drivers and expectation of BIM performance for this project.	Define or communicate the Project Charter view on the technical business drivers for the project. *E.g. If increasing productivity the technical BIM aspects may revolve around quality assurance or standards checking.*	4	3	2	3	1	Define or communicate the Project Charter view on the business drivers and expectations of BIM performance for the project. *E.g. Owner / operator may require asset management model whilst a developer may not deliver a model to that level of detail / development.*	Define or communicate the Project Charter view on the business drivers and expectation of BIM performance for this project.	Define or communicate the Project Charter view on the technical business drivers for the project.	4	2	4	1	4	2	2
	3.103	**Technological Advancement**	Technological advancements the Project Sponsor (employer / client) is aiming to achieve with BIM.	Define the advancements in technology the project is aiming to achieve. *E.g. Augmented reality to view seat locations in a stadium or drive along a road before it is built.*	Communicate the advancements in technology the project is aiming to achieve.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the advancements in technology the project is aiming to achieve and what you have agreed to deliver in the contract.	Define or communicate the Project Charter view on the advancements in technology the project is aiming to achieve.	Define or communicate the Project Charter view on the technology advancements specific to the technical influences BIM shall bring. *E.g. The Project Sponsor may want to utilise the model for virtual scope of view for stadium seating or virtually driving down an unfinished road.*	2	3	2	4	1	Define or communicate the Project Charter view on the advancements / integration in technology the project is aiming to achieve and what you have agreed to deliver in the contract. *E.g. FM asset management tablet solution.*	Define or communicate the Project Charter view on the advancements in technology the project is aiming to achieve.	Define or communicate the Project Charter view on the technology advancements specific to the technical influences BIM shall bring.	4	2	4	1	5	2	2
	3.104	**Legal Requirement** Additional Information 2.106 BIM Protocols 2.107 BIM Legal Use of Model 2.408 Legal Use Negotiation	Legal binding requirements of BIM such as guidelines, policy and systems.	Define the Legal requirements of the BIM deliverable.	Communicate the Legal requirements of the BIM deliverable.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the legal binding requirements BIM is aiming to achieve and what you have agreed to deliver in the contract.	Define or communicate the Project Charter view on the legal binding requirements BIM is aiming to achieve on the project.	Define or communicate the Project Charter view on the legal binding technical requirements BIM is aiming to achieve on the project. *E.g. The legal use of the model at each stage and what that means to the modellers.*	4	4	2	3	1	Define or communicate the Project Charter view on the legal binding requirements BIM is aiming to achieve and what you have agreed to deliver in the contract.	Define or communicate the Project Charter view on the legal binding requirements BIM is aiming to achieve on the project.	Define or communicate the Project Charter view on the legal binding technical requirements BIM is aiming to achieve on the project.	4	2	4	1	4	1	1
	3.105	**Social Need**	The use of BIM may be to educate during the delivery of the project.	Define the social need of BIM to the selected stakeholders. *E.g. To improve capability within the state or a certain market.*	Communicate the use of BIM to the selected stakeholders.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the social needs BIM is aiming to achieve and what you have agreed to deliver in the contract. *E.g. There may be an agreement to share the learnings of the BIM process for future projects being carried out by that Project Sponsor (client / employer).*	Define or communicate the Project Charter view on the social needs / requirements BIM is aiming to achieve on the project.	Define or communicate the Project Charter view on the technical social needs / requirements BIM is aiming to achieve on the project. *E.g. Delivering technical workflows for the Project Sponsors future projects, and the importance to voice fluency issues.*	3	4	2	3	1	Define or communicate the Project Charter view on the social needs BIM is aiming to achieve. Such as the level of understanding of the project team have and put in place measures to upskill and provide support as required. Includes a wider understanding of why it has been chosen. *E.g. Government choice to upskill entire industry at multiple levels, client through to trades and using the project to build the training.*	Define or communicate the Project Charter view on the social needs / requirements BIM is aiming to achieve on the project.	Define or communicate the Project Charter view on the technical social needs / requirements BIM is aiming to achieve on the project.	3	1	3	1	3	1	1
	3.106	**Commercial or Managerial Requirement** Additional Information 2.108 Employers Information Requirements	BIM Uses may be required for commercial or managerial requirements whilst running the facility or asset.	Define the BIM Uses that are for business operations based around commercial and managerial requirements.	Communicate how the BIM Uses will be used for operations.	N/A **Strategic and Managerial Responsibility**	3	4	3	2	2	Define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses it is aiming to achieve and what you have agreed to deliver in the contract. *E.g. Time and Cost sequencing or virtual building rehearsal for safety compliance.*	Define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses it is aiming to achieve on the project.	Define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses (in a technical sense) it is aiming to achieve on the project. *E.g. Indicate the importance of technical efficiency to deliver those requirements, such as elemental data and category management.*	2	4	2	4	1	Further to 3.102 Business Need either define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses it is aiming to achieve and what you have agreed to deliver in the contract. *E.g. Delivering a model that can be utilised for spectator analysis of their views from stadium seat locations or viewpoints from differing high rise development floors for marketing reasons.*	Define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses it is aiming to achieve on the project.	Define or communicate the Project Charter view on the Commercial and Business requirements / BIM Uses (in a technical sense) it is aiming to achieve on the project.	4	1	4	1	4	1	1
3.200 COMMUNICATION Project Communication	3.201	**BIM Roles and Responsibilities** Additional Information 2.207 BIM Roles and Responsibilities 2.109 BIM Management Plan (BMP) 2.2056 BIM Detail / Development Levels	Role definition based on project requirements and BIM Uses. *E.g. Denote communication responsibilities from areas such as but not limited to: • Model Element Matrix • Project Change Communications (maybe a RASCI) • Project Quality Communications*	Define project roles, responsibilities and communication plans required by the Project Sponsor (employee / client) for the project.	Confirm project roles, responsibilities and communication plans.	N/A **Strategic and Managerial Responsibility**	3	4	3	3	2	Define or review a communication plan with key project roles and responsibilities based on the contractual requirements.	Define and review the communication plans beyond those that have been requested within the contractual agreement, for the project level areas. *E.g. Project Discipline Communications, Project Design Communications, Project Change Communications etc.*	Define and review technical communication plans ranging from IT help desk through to software workflows and model checking.	2	5	2	2	1	Definep or review a communication plan with key project roles and responsibilities based on contractual requirements. *E.g. Roles and Responsibilities change throughout the project, denote who is responsible for tasks during the design to construction and the construction phase.*	Define and review the communication plans beyond those that have been requested within the contractual agreement, for the project level areas.	Define and review technical communication plans ranging from IT help desk through to software workflows and model checking.	3	3	3	1	4	1	1
4.000 PLANNING																													
4.100 INTEGRATION Project Management Plan Development	4.101	**BIM Agreement** Additional Information 2.109 BIM Management Plan (BMP)	The Post Contract BIM Management Plan is linked to the Delivery Model (Contract), note responsibilities and agreements to tasks by all stakeholders under the contract.	Define and communicate the BIM Agreement and contractual requirements.	Confirm the BIM Management Plan (and updates of the plan) to the agreement and contractual requirements.	Confirm the technical requirements are embedded into the BIM Management Plan.	1	4	2	2	3	Review the Post Contract BMP is in compliance with the Pre Contract BMP and meets the requirements within the contract. Confirm with Management teams any changes that are required to the company's structures to fulfil the obligations. *E.g. Roles and positions, procedures such as project planning, quality assurance and staff capabilities etc.*	Review and finalise the detail of the Post Contract BMP. Ensure that design teams Project Management Plan (PMP) has accounted for all relevant items agreed to in the BMP and that all stakeholders are in agreeance. The PMP may replace / interpret the BMP for the project team, or refer to the BMP. Specifically, BIM Uses will have been defined that need to be accounted for in the project methodologies and planning.	Review and further develop the technical standards, workflows and schemas to deliver the BIM requirements. Reviewing the document as necessary with a minimum review to occur every project phase. *E.g. BMP is a live document often connected to the appendix of the contract. If the technology workflows change from each stage in the timing and expectations of models it needs to be amended in this document and agreed by all stakeholders.*	2	5	2	3	1	Further to 2.109 BIM Management Plan (BMP) review the Post Contract BMP is in compliance with the Pre Contract BMP and meets the requirements within the contract. Confirm with management teams any changes that are required to the company's structures to fulfil the obligations. *E.g. Roles and positions, procedures such as project planning, quality assurance and staff capabilities etc.*	Further to 2.109 BIM Management Plan (BMP) review the Post Contract BMP is in compliance with the Pre Contract BMP and meets the requirements within the contract. Confirm with stakeholders any changes that are required to fulfil the obligations.	Further to 2.109 BIM Management Plan (BMP) review the Post Contract BMP from a technical modelling perspective and that it meets the requirements within the contract. Confirm with stakeholders any changes that are required to fulfil the obligations.	3	3	3	1	4	1	1
Planning BIM Tools	4.102	**Information Mapping - Communication Framework** Additional Information 4.101 BIM Agreement 5.105 Model Coordination - Common Data Environment	Establish the information framework required to assist communication and collaboration from Design - Construction - Operation for asset handover. *E.g. Communication tree for disciplines*	Review information framework to ensure Project Sponsor (employer / client) requirements are being met.	N/A **Strategic and Technical Responsibility**	Provide assistance for the review of technical information mapping required.	1	4	2	2	3	N/A **Management Level Responsibility** Seek and communicate with management the influence information mapping for communication has to the team delivery.	Define and manage communication for a Common Data Environment (CDE) to enable the centralised access for all appropriate stakeholders. Plan and develop communication methods and protocols required to meet the BMP and that relevant aspects are present in the PMP. *E.g. Some aspects of the communication beyond normal discourse might be frameworks for LOD, LOI, MEA, COBie, change registry, WIP and published models and data, and others.*	Review and define the information or data mapping requirements outlined in the BMP. *E.g. Establish how to enable the Common Data Environment (CDE) for the variety of stakeholders to communicate such as: developing technical workflows of imports and export needs.*	1	3	1	5	2	NA **Management Level Responsibility** Seek and communicate with management the influence information mapping for communication has to the team delivery. *E.g. The need to align the consultant and trade BIM deliverables to the defined project stages.*	Define and manage communication for a Common Data Environment (CDE) to enable the centralised access for all appropriate stakeholders. Define and manage communication methods and protocols required to meet the BMP.	Review and define the information or data mapping requirements outlined in the BMP to enable the Common Data Environment (CDE) for the construction phase. *E.g. Establish a framework for aspects from LOD through to COBie data drops and define how this is communicated across the project through the CDE.*	1	1	3	1	4	1	1
	4.103	**Information Mapping - Coordination** Additional Information 4.101 BIM Agreement 4.102 Information Mapping - Communication Framework	Establish the coordination framework required from Design - Construction - Operation by using data inputs and model structure to organise modelling elements efficiently. *E.g. WBS for construction virtual rehearsal.*	Review coordination mapping to ensure Project Sponsor (employer/ client) requirements are being met.	N/A **Strategic and Technical Responsibility**	Provide assistance for the review of technical coordination mapping required for operation.	1	4	2	2	3	N/A **Management Level Responsibility** Seek and communicate with management the influence the information coordination has placed on the project team.	Define and manage communication for the methods used in the organisation of model components, using their attached data and / or unique identifiers to achieve BIM Uses for the project. *E.g. Some BIM Uses will be controlled by other parties (e.g. Cost Analysis, Energy Analysis) in which case methodologies will be adopted or adapted to suit internal workflows and software constraints.*	Review and define the technical procedures by which to model, manage attached data and query / schedule / sort etc. modelled elements according to their attached data. *E.g. Establish with management which teams are responsible for the information requirements and design best practice workflows to enable project fluency.*	1	3	1	5	2	N/A **Management Level Responsibility** Seek and communicate with management the influence the information coordination has placed on the project team.	Design and manage communication for the methods used in the organisation of model components, using their attached data and / or unique identifiers to achieve BIM Uses for the project. *E.g. Some BIM Uses will be controlled by other parties (e.g. Cost Analysis, Energy Analysis) in which case methodologies will be adopted or adapted to suit internal workflows and software constraints.*	Review and define the technical procedures by which to model, manage attached data and query / schedule / sort etc. modelled elements according to their attached data. *E.g. Establish with management which teams are responsible for the information requirements and design best practice workflows to enable project fluency.*	2	2	4	3	4	1	3

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	Schedule Control	4.007	**Delivery Management - Performance** Additional Information: 4.007 Delivery Management - Activities	Management of the time performance of staff in BIM. BIM projects MAY lie more decisive requires efficient calculations that need to continue to suit the clients Needs or review rather than needs - drawings.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management the planning requirements needed as the project progresses from conceptual design and deliverables in different ways, compared to traditional drafting and design, and the impact of this on measuring team performance.	Define and manage methods by which project performance can be measured according to the model, attached data, and the BIM Execution Plan and/or the PIAP / BIMP rather than only by progress of 2D / PDF deliverables.	2	5	3	4	1	N.A. **Management Level Responsibility** Seek and communicate with management the planning requirements needed as the project progresses from conceptual design and deliverables in different ways, compared to traditional drafting and design, and the impact of this on measuring team performance.	Define and manage methods by which project performance can be measured according to the model, attached data, and the BIM Execution Plan and/or requirements of the BIMP.	4	2	4	2	4	3	2	2
4.000 COST	Cost Estimating / Budgeting	4.001	**Delivery Management - Tasks** Additional Information: 4.001 Delivery Management - Costs 4.001 Delivery Management - Activities 4.001 Delivery Management - Model Resourcing	BIM project tasks will require a different breakdown than those of Traditional Finance and Management staffing. *E.g. Digital managerial tasks may be required with the traditional tasks by the project team as a whole.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management the needs for leadership roles to manage BIM across projects and the impact of this on measuring than traditional CAD manager roles.	Review or manage the planning of project tasks and resources, and assigning technical production and supporting management resources, providing the tools, approaches and project needs.	3	4	2	5	1	N.A. **Management Level Responsibility** Seek and communicate with management the needs for leadership roles to manage BIM across projects and the impact of this on measuring than traditional CAD manager roles. *E.g. Digital managerial tasks may be required with the traditional tasks by the project team as a whole.*	Review the allowance for BIM staff and resources, and the ability of the team and projects to offer members and/or other resources to relieve tools based on the demands of the defined project BIM uses.	3	3	3	3	5	2	3
	Cost Control	4.002	**Delivery Management - Resourcing** Additional Information: 4.007 Delivery Management - Performance	BIM projects current value requires calculations have a less bespoken structure that is difficult to traditional projects. Systems should call the model and/or attached data to provide the needed remaining human and non-human completion and features.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate the cost control and review mechanisms in place for project financials.	Further to 4.007 Delivery Management - Performance define a model checking mechanism with the BIM Execution Plan and/or PIAP / BIMP to report on the completeness of a model. Ensure that: - *Having a schedule of accomplishment check the model to see which events have been created and/or which have met the required system attributes.*	Further to 4.007 Delivery Management - Performance define a model checking mechanism with the BIM Execution Plan and/or PIAP / BIMP to report on the completeness of a model. Ensure that: - *Model manager requirements of a model project check which sections have been modelled, what has been completed, and what other sections in their define the level of completeness.*	4	3	2	5	3	N.A. **Management Level Responsibility** Seek and communicate the cost control and review mechanisms in place for project financials.	Further to 4.007 Delivery Management - Performance establish a model checking mechanism with the BIM Execution Plan and/or PIAP / BIMP to report on the completeness of a model prior to construction. *E.g. Ensure that sections of values Elbow assigned to model elements or indicate items that have been completed, ready for construction. This indicates the need a check cost time to reveal against the forecast.*	3	2	3	1	5	1	5
	Costing from BIM	4.003	**Formal Cost Plans - Preparation** Additional Information: 4.003 Information Mapping - Cost 4.003 Delivery Management - Activities 4.003 Delivery Management - Models	Requirements of each formal cost plan to interpret the BIM and/or information requirements at each stage. *E.g. Establishing when the models are to be checked, and what information requirements will a cost element and what are the requirements within each element at each data step.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management the cost data and models for formal cost plans as well requested data step of the model.	Further to 4.003 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define what data and modelling requirements are to be checked for the cost estimation process. Ensure that: - *Ask the BIM Execution Plan and/or PIAP / BIMP for responsibilities and requirements for the modelling of the forthcoming of these deliverables.*	Further to 4.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define level of information and modelling requirements with the BIM Execution Plan and/or PIAP / BIMP. Ensure that: - *Ask the BIM Execution Plan and/or PIAP / BIMP how and when to deliver the requirements.*	3	4	3	5	2	N.A. **Management Level Responsibility** Further to 4.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define what data and modelling requirements are to be checked for the cost estimation process. Ensure that: - *Ask the BIM Execution Plan and/or PIAP / BIMP for responsibilities and requirements for the modelling of these deliverables.*	Further to 4.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define level of information and modelling requirements with the BIM Execution Plan and/or PIAP / BIMP. Ensure that: - *Ask the BIM Execution Plan and/or PIAP / BIMP how and when to deliver the requirements.*	3	2	3	5	4	1	1
		4.004	**Formal Cost Plans - Measurement Rules** Additional Information: 4.004 Information Mapping - Cost	Measurement rules apply to all stakeholders within the project to ensure cost control is maintained. *E.g. Measurement of elements vary in a still unit, quantities (M/m), issues need to define models understanding time their data and geometry / graphics are going to be used and analysed.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management the cost data to generate area, volume and quantity schedules within certain limitations.	Define and manage methods that provide for validation of areas, volumes and quantities based on the needs for auditing and /or to achieve certain limitations. *E.g. Document in the PIAP / BIMP:* - *Methods required to be used in the measurement.* - *The specific industry measurement guidelines that might apply etc.*	Define and map the processes involved providing schedules and aspects from BIM models according to specific measurement criteria. *E.g. Define the BIM Execution plan/s process that creates each data step to prepare to the required level for the formal cost plans.*	2	4	5	5	2	N.A. **Management Level Responsibility** Seek and communicate with management the cost data to generate area, volume and quantity schedules within certain limitations. Ensure that the requirements of Revit Limitations.	Define the measurement rules for the project and establishing the requirements with the technical manager. *E.g. Ensure that the cost to a level instead of treatment to suit to align to ZONING Element and Sub Elemental Costs.*	3	1	3	5	4	1	2
		4.005	**Cost Plan - Technology** Additional Information: 4.005 Information Mapping - Cost 4.100 Technology - Software Interoperability	Impact technology has on cost planning when mining models. *E.g. Systems may compute areas differently than others.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility**	Further to 4.005 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define with the technical manager and communicate through the PIAP / BIMP the impact of the technology used with the different systems and the impact they will have on estimating and modelling.	Further to 4.005 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define a plan of assembly/processes and application types to achieve saved estimations. *E.g. Create a map and/or selection of expenses that best suit to the requirements of the project and working in. Then establish what software uses what expense and document this in the BIMP with the manager.*	1	2	3	4	2	N.A. **Management Level Responsibility** Seek and communicate the efficiency of the cost data available to take quantities, and the ability of the team to provide a preferred tool job for impacts on the consultant and make BIM Execution Plans. *E.g. What does the software needs to land and File type? Data?*	Further to 4.005 Information Mapping - Cost, and 4.100 Technology - Software Interoperability define the cost estimation requirements with the technical manager and define the requirements of the consultants and/or clients to provide the required models.	1	2	3	5	4	1	2
		4.006	**Formal Cost Plans - Technology Integration**	Technology utilised to complement and assist in the quality checking of model information and interpret with existing one planners data schemes or ERP systems.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Refer to Cost Analysis - Construction Estimation Roles**	N.A. **Refer to Cost Analysis - Construction Estimation Roles**	N.A. **Refer to Cost Analysis - Construction Estimation Roles**						N.A. **Management Level Responsibility** Seek and communicate with management the current technological solutions, one planners may use and the ability of the team to provide or cost plans are established. *E.g. Ensure that the cost estimation data is defined by the Design Construction team that others.*	3	4	3	5	1	2	2
		4.007	**Cost Forecasting - 5D simulation**	Importance of cost control and the benefits of linking modelling data to validate trade / construction costs.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Refer to Cost Analysis - Construction Estimation Roles** Designers may be involved in as-built or record modelling. Refer to 3.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability.	N.A. **Refer to Cost Analysis - Construction Estimation Roles** Designers may be involved in as-built or record modelling. Refer to 3.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability.	N.A. **Refer to Cost Analysis - Construction Estimation Roles** Designers may be involved in as-built or record modelling. Refer to 3.100 Information Mapping - Cost, and 4.100 Technology - Software Interoperability.						N.A. **Management Level Responsibility** Awareness that BIM can be utilised for cost estimation and establish the requirements for cost to be developed in models for clients assessment.	Define and Manage the data in the model for clients assessment. *E.g. Ensure that the information is in a model data, spreadsheets and / or other formats, so that the cost to adjustments, the BIM data to the clients.*	1	3	3	4	5	1	2
5.000 QUALITY	Quality Planning	5.001	**BIM Quality Plan**	BIM quality standards will affect the delivery of the project. *E.g. Information Framework and changes to the structure.*	N.A. **Refer to Design and Construction Roles**	Review the managerial aspects to quality planning in accordance with the BIMP.	Review the technical aspects to quality planning in accordance with the BIMP.		N.A. **Management Level Responsibility**	Define, manage and co-ordinate with the technical manager the levels of quality, and the quality assurance and qualities BIM across the project. *E.g. Ensure that the quality is in the PIAP / BIMP with verification and compliance integrated into business and beauty requirements / expectations.*	Define and implement with the manager, the quality assurance and qualities BIM across the project from a technical perspective. *E.g. Ensure that the quality is in the PIAP / BIMP with verification and compliance integrated into business and beauty requirements / expectations.*	1	2	3	4	1	N.A. **Management Level Responsibility** Seek and communicate with management the levels of quality, and the ability of the team to deliver a quality assured project. *E.g. What are the steps to achieve quality assurance from design to modelling and quality?*	Define and implement with the manager, the quality assurance and qualities BIM across the project from a technical perspective. *E.g. Ensure that the quality is in the BIM Execution plan/s and/or PIAP / BIMP with verification and compliance integrated into business and beauty requirements / expectations.*	1	2	3	4	2	2	2
	BIM Quality Planning	5.002	**Quality Checking - Standards**	Importance of model / CAD standards checking for Project Teamwork, projects / clients and stakeholder requirements. *E.g. Technical needs in the EIR.*	N.A. **Refer to Design and Construction Roles**	Review the managerial aspects to quality planning in accordance with the BIMP and EIR.	Review the technical aspects to quality planning in accordance with the BIMP and EIR.		N.A. **Management Level Responsibility** Seek and communicate with management the needs for automated checking or models.	Review the model and CAD standards that may exist in the BIMP or EIR, and the ability to verify and incorporate into PIAP.	Define and implement with the manager, the tools and techniques to automate the checking of models against the EIR and CAD standards against BIM Uses protocols.						N.A. **Management Level Responsibility** Seek and communicate with management the ability of the team to automate the checking of models. Ensuring that the engaged consultant and trade contractors have developed models to standards.	Review the consultant and trade modelling teams standards to ensure that they are in place and that they produce the Technical BIM Manager needs during the construction phase.	Review and comment on consultant and trade modelling team standards to ensure they alignment with the project needs. *E.g. Review or mapping and/or Technical Manager - on-site or data rich logs.*	1	3	3	1	5	1	1
		5.003	**Licensing / Regulatory**	Maintain licensing, regulatory, certification and sign off of construction methods and techniques. *E.g. Using BIM field solutions and scan-and-check workflow.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Refer to Construction Roles**	N.A. **Refer to Construction Roles**	N.A. **Refer to Construction Roles**						N.A. **Management Level Responsibility** Seek and communicate with management the field solutions utilised to achieve regulatory, certification and sign off ability using BIM technologies. *E.g. Work with the technical manager to ensure that the field solutions utilised do sign off with their adjoining charrettes.*	Manage the field solutions utilised to achieve regulatory, certification and sign off ability using BIM technologies. *E.g. Work with the technical manager to ensure that the field solutions utilised do sign off with their adjoining charrettes.*	1	2	3	1	5	2	1
		5.004	**Quality Checking - Design** Additional Information: 4.002 Quality Checking - Standards	Quality checking procedures for design standards and compliance within BIM.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management that some tools exist for automated checking of models to standards to design compliance.	Define, manage and co-ordinate with the technical manager, the tools and techniques to automate the checking of models against, based on design or engineering standards or other criteria.	Define and implement with the manager, the tools and techniques to automate the checking of models against, based on design or engineering standards or other criteria to models. *E.g. Ensure that compliance simulation that checks that the accessibility Standards are modelled in.*	1	2	3	4	1	N.A. **Management Level Responsibility** Seek and communicate with management that some tools exist for automated checking of models to standards to design compliance. *E.g. Disability access code*	Manage with the building surveyor and / or designers to demonstrate to the Health Design consultants has been achieved.	1	2	3	5	2	2	2
		5.005	**Quality Checking - Construction**	Quality checking procedures for construction standards and compliance including safety and the model.	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Refer to Construction Roles**	N.A. **Refer to Construction Roles**	N.A. **Refer to Construction Roles**						N.A. **Management Level Responsibility** Seek and communicate with management how the model will be utilised for construction standards and compliance checking.	Define and manage processes on how the model will be used for construction notes such as: step by step, and/or, and/or, and/or, and/or construction sequence, and/or working at heights resolution.	1	3	3	5	2	2	2
6.000 RISK	Risk Planning	6.001	**BIM Risk Management Plan**	Risks that BIM brings, bring a new shift in project delivery. *E.g. Technology affects on Time, Cost etc.*	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**	N.A. **Refer to Design and Construction Roles**		N.A. **Management Level Responsibility** Seek and communicate with management how BIM brings risk to the project and the impact between stakeholders.	Manage and define areas of risk to the project coming on time, with budget and resources, and changing when management needs and keeping steps and/or, and/or, and/or, and/or, and/or identify any issues, and be able to engage with stakeholders to resolve issues. *E.g. Ensure that the model is a limitation to modelers causing Elements in modelled and work to be completed in a way that all disciplines to take advantage to*	Define and map areas of risk to technology for the project. Develop a plan to manage the risks associated with the teams that faces will be mentioned in the BIMP. *E.g. Communicate with the manager the risks that modelling techniques can bring and how they will be managed.*	1	3	2	5	1	N.A. **Management Level Responsibility** Seek and communicate with management how BIM brings risk to the project and the impact between stakeholders and/or and/or, and/or, and/or, and/or,

	4.610	**Construction Coordination - Clash Simulation** Additional Information 4.103 Information Mapping - Coordination	Impact a work breakdown structure has on the clash coordination and segregation checking for build-ability.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility** Seek and communicate with management the risks related to not co-ordinating efficiently with stakeholders models.	Define, manage and co-ordinate with the technical manager the methods to combine stakeholder models for clash analysis. Establishing the procedures to reduce risk in time and cost blow-out. *E.g. Define and document the clash process procedures including tiers of importance and key responsibilities to disciplines.*	Define and manage the clash co-ordination process by defining the responsibility of each model and containment model (i.e. Architecture model contains Interior model). To then define the responsibilities of each discipline and how they run clash checks. To then define the entire project clash process with tiers of importance to each element and it's system. Documenting this in the BMP.	1	3	4	5	1	N/A **Management Level Responsibility** Seek and communicate with management the risks related to not co-ordinating efficiently with stakeholders models. *E.g. If not modelled appropriately segregation of services may be difficult to confirm.*	Further to 4.103 Information Mapping - Coordination manage the with the technical manager the methods to reduce project risks related to using clash simulation on projects. *E.g.* • Clash Simulation for Design clashes - determine the timing of the clash simulation including the clash tiers • Clash Simulation Segregation - determine the services and elements that require the segregation simulation.	Further to 4.103 Information Mapping - Coordination manage the with the manager the methods to reduce project risks related to using clash simulation on projects. *E.g.* *• Clash Simulation for design clashes - determine the clash tier levels to reduce blow-out in project costs from teams over resolving models before required.* *• Clash Simulation Segregation - determine the modelling standards to ensure the segregation simulation is accurate or within compliance checking.*	3	3	3	3	5	3	3
	4.611	**Construction Coordination - Site Logistics** Additional Information 4.610 Construction Coordination - Clash Simulation	Impact of virtually building the facility or asset and managing logistics from cranage to deliveries and storage.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles** **Construction Phase Engagement** Design teams may be brought in to assist the contractors and work site simulations with for-construction models according to a WBS, staging, temporary works, cranage and other factors.	N/A **Refer to Construction Roles**						N/A **Management Level Responsibility** Seek and communicate with management the risk associated with not modelling the site logistics. *E.g. Modelling and simulating items from cranage to site scaffold and site delivery and storage process'.*	Manage the risks related to using BIM for site logistics simulations. Further benefits can be achieved when combined with a construction status model to determine site logistics movements, exclusion zones. etc. *E.g. Plan and communicate with the Technical BIM Manager, the equipment and construction methodologies to be modelled for analysis.*	Manage the creation of the site logistic equipment and placement into the federated models for analysis. *E.g. Ensure model elements are built to a level that represents the physical sizes and geo-referenced to the locations that are being tested or simulated.*	3	4	3	2	5	3	2
	4.612	**Site Safety**	Importance of site safety and how reporting and real-time modelling can assist.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**						N/A **Management Level Responsibility** Seek and communicate with management how the changes out on site can be made in the model and utilised either real-time or on a daily to weekly basis for safety toolbox sessions.	Manage the risks related to using BIM for safety inductions by establishing model quality checking mechanisms. If being utilised during the project for 'toolbox' meetings place a site 'red lining' or mark-up procedure in place for on-site contractors to adhere to.	Manage the creation of the visual model for safety inductions. *E.g. Ensure the model is created to represent the real life experience on site particularly safety zones and operating zones of large equipment. If being utilised during the project for 'toolbox' meetings ensure the modelling of changes onsite is recorded and checked.*	3	3	4	2	4	3	2
5.000 EXECUTION / OPERATION																													
5.100 INTEGRATION																													
Project Plan Execution	5.101	**BIM Management Plan - Post Contract** Additional Information 2.109 BIM Management Plan (BMP) - Pre Contract 4.101 BIM Agreement	The BIM Management Plan is to be completed and agreed to by every stakeholder prior to each phase beginning. Responsible parties are to all agree and sign off at each stage / phase.	Review the commercial portions of the BIM Management Plan is in accordance with Project Sponsor (employer / client) expectations.	Review the managerial portions of the BIM Management Plan is in accordance with Project Sponsor (employer / client) expectations.	Review the technical portions of the BIM Management Plan is in accordance with Project Sponsor (employer / client) expectations.	3	3	3	3	3	N/A **Management Level Responsibility**	During the initiation stage all stakeholders will have defined their BIM Use requirements and workflows 4.101 BIM Agreement Manage and check this complies with 2.109 BIM Management Plan (BMP) Pre Contract manage final agreement on the latest 5.101 BIM Management Plan - Post Contract prior to starting the delivery.	During the initiation stage all stakeholders will have defined their technical BIM Use requirements and workflows 4.101 BIM Agreement check this complies with the technical requirements 2.109 BIM Management Plan (BMP) Pre Contract assist and inform management on the final agreement on the latest 5.101 BIM Management Plan - Post Contract prior to starting the delivery.	0	2	3	4	1	N/A **Management Level Responsibility**	During the initiation stage all stakeholders will have defined their BIM Use requirements and workflows 4.101 BIM Agreement Manage and check this complies with 2.109 BIM Management Plan (BMP) Pre Contract manage final agreement on the latest 5.101 BIM Management Plan - Post Contract prior to starting and if applicable during the delivery. *E.g. The BMP is influential in understanding the procedures stakeholders have taken in the use of models. Should issues arise it will give a good indication on how to avoid such issues in the future.*	During the initiation stage all stakeholders will have defined their technical BIM Use requirements and workflows 4.101 BIM Agreement check this complies with the technical requirements 2.109 BIM Management Plan (BMP) Pre Contract assist and inform management on the final agreement on the latest 5.101 BIM Management Plan - Post Contract prior to starting the delivery.	1	1	4	2	4	3	2
Coordination	5.102	**Model Coordination - Programme** Additional Information 4.301 Delivery Management - Activities 4.302 Delivery Management - Model	BIM forces a clearer definition of tasks which leads to a higher level of granularity and frequency in model sharing for Work in Progress WIP stakeholders. Mapping the frozen and WIP deliveries needs to align itself with the deliverable expectations to ensure programme is achievable.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts 4.301 Delivery Management - Activities Manage and co-ordinate with the technical manager and stakeholders that all disciplines are delivering their models when they are required. *E.g. If one discipline delivers later it throws the entire project deliverables out.*	Further to planning concepts 4.301 Delivery Management - Activities Manage and co-ordinate with the manager and other discipline and technical managers that models are being delivered so that design iterations are managed. *E.g. If one discipline delivers but later changes their model and re-issues to the stakeholders this creates inefficiencies in meeting the deadlines forecasted.*	0	2	4	5	1	N/A **Management Level Responsibility**	Further to planning concepts 4.301 Delivery Management - Activities Manage and co-ordinate with the technical manager and stakeholders that all consultants and trades are delivering their models when they are required.	Further to planning concepts 4.301 Delivery Management - Activities Manage and co-ordinate with the manager and other stakeholders that models are being delivered so that design and construction iterations are managed.	2	1	4	1	4	3	1
	5.103	**Model Coordination - Clash Simulation** Additional Information 4.102 Information Mapping - Communication Framework 4.103 Information Mapping - Coordination 4.610 Construction Coordination - Clash Simulation	Mapping is required for model federation in aggregation tools for clash simulations including tolerances, segregation requirements, installation space requirements and maintenance space requirements. A federation map should be designed to understand model aggregation processes and techniques within the BIM Management Plan.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts: 4.610 Construction Coordination - Clash Simulation Manage and co-ordinate with stakeholders that the clash co-ordination responsibilities - simulations, reports and changes are being carried out. *E.g. Clash issues can often be left until closer to the deliverable to change. If the level of clash simulation i.e. the tolerance levels match the project stage stakeholders will be more likely to stay on top of change requirements.*	Further to planning concepts: 4.610 Construction Coordination - Clash Simulation Manage and co-ordinate with stakeholders the clash reporting sequences and confirm changes are being made. *E.g. Delivering clash report to the manager to show which disciplines have been keeping up with clash rectifications.*	0	2	4	5	2	N/A **Management Level Responsibility**	Further to planning concepts: 4.610 Construction Coordination - Clash Simulation Manage and co-ordinate with stakeholders that the clash co-ordination responsibilities - simulations, reports and changes are being carried out and checked by the construction team and trades. *E.g. Confirm stakeholders responsible for fixing or amending design to rectify clashes.*	Further to planning concepts: 4.610 Construction Coordination - Clash Simulation Manage and co-ordinate with stakeholders the clash reporting sequences and confirm changes are being made. *E.g. Delivering clash report to the manager to show which disciplines have been keeping up with clash rectifications.*	2	1	4	1	4	3	2
	5.104	**Model Coordination - Availability** Additional Information 4.102 Information Mapping - Communication Framework 4.115 Project Interactions - Model Aggregation 4.303 Project Interactions - Model Use	BIM projects change quickly and Work in Progress - WIP, models need to be available for stakeholders on a consistent basis. *E.g. Availability may need to be twice a week, daily etc. and should be mapped out in the BIM Management Plan with stakeholders agreeing on the need.*	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts 4.115 Project Interactions - Model Aggregation Manage and co-ordinate with the technical manager that teams are sharing their WIP models as expected. *E.g. If models aren't being shared they can create issues with disciplines being behind and constantly chasing the deadline.*	Further to planning concepts 4.115 Project Interactions - Model Aggregation Manage and co-ordinate with the manager that teams are sharing their WIP models as expected. *E.g. If models aren't being shared consistently changes can be missed and result in further issues later in the project.*	0	2	4	3	2	N/A **Management Level Responsibility**	Further to planning concepts 4.115 Project Interactions - Model Aggregation Manage and co-ordinate with the technical manager that teams are sharing their WIP models as expected. *E.g. During the construction phase, if models are not meeting the sharing deadlines they may miss quality checking procedures and amount to issues on-site.*	Further to planning concepts 4.115 Project Interactions - Model Aggregation Manage and co-ordinate with the manager that teams are sharing their WIP models as expected. *E.g. Establish processes should teams not be meeting the model delivery needs, to ensure safety and validation process are still occurring on late models. Placing a stop gate methodology in place should it become out of control.*	2	1	4	1	4	3	1
	5.105	**Model Coordination - Common Data Environment** Additional Information 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure	The Common Data Environment - CDE, is the single source of information for the project, used to collect, manage and disseminate documentation, graphical models and non-graphical data for the whole project team. Certain vendor specific solutions may add burdens to workflows and should be documented in the BIM Management Plan for all stakeholders.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts: 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and co-ordinate with the technical manager that teams are following the CDE usage and mapping. *E.g. If a process is made difficult for a team due to the CDE they may stop using it.*	Further to planning concepts: 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and co-ordinate with the manager that teams are following the CDE usage and mapping. *E.g. If team is using the environment live when their software doesn't work in that environment as a live model. Causing all users access to CDE to slow down and at times corrupt.*	0	2	4	4	1	N/A **Management Level Responsibility**	Further to planning concepts: 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and co-ordinate with the technical manager that teams are following the CDE usage and mapping. *E.g. If the CDE is not being utilised efficiently, teams could be referring to old or invalid data causing design and on-site issues.*	Further to planning concepts: 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and co-ordinate with the manager that teams are following the CDE usage and mapping. *E.g. If the procedures are not being followed appropriately such as exporting with the correct tools for other stakeholders, this can cause complications not only in the accuracy of the models but also in the safety of the design.*	1	1	4	1	4	3	1
Collaboration	5.106	**Collaborative Workflows - Native Applications** Additional Information 4.115 Project Interactions - Model Aggregation	Native BIM projects (using the same software) require micro solutions for collaboration workflows. Such as managing how one disciplines model needs to work with another discipline.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the technical manager if the aggregation of models is working and if teams are delivering as they were planned to. *E.g. Civil surface models may not be modelling terrain detail that was a requirement for the services models.*	Further to planning concepts: 4.109 Technology - Software Interoperability Manage and co-ordinate with the manager that disciplines are modelling to the best practices documented to ensure project fluency between disciplines. *E.g. A discipline may have chosen not to model elements as their proper category with creates issues with other disciplines that need to use those elements.*	0	2	4	5	1	N/A **Management Level Responsibility**	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the technical manager if the aggregation of models is working and if teams are delivering as they were planned to. *E.g. Different software applications might be utilised and adding complications to the collaborative workflows.*	Further to planning concepts: 4.109 Technology - Software Interoperability Manage and co-ordinate with the manager that teams are modelling to the best practices documented to ensure project fluency between consultants and trades.	1	1	4	1	4	3	1
	5.107	**Collaborative Workflows - Non-Native Applications** Additional Information 4.109 Technology - Software Interoperability 4.115 Project Interactions - Model Aggregation	Open BIM projects (using more than one vendor software) requires higher co-ordination mapping and analysis. An inputs and outputs map should be established for project fluency of collaboration. Testing should be carried out prior to documenting workflows in the BIM Management Plan.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the technical manager if the workflows are meeting the demands of the project team. *E.g. Certain disciplines may not be delivering in the formats required for all stakeholders and causing the project to slow down.*	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the manager how disciplines are working with sharing models for work in progress (WIP) and aggregation models. *E.g. A discipline may not know how to establish co-ordinates which is causing every stakeholder extra time as they relocate that particular model.*	0	2	4	5	1	N/A **Management Level Responsibility**	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the technical manager if the workflows are meeting the demands of the project team. *E.g. Certain teams may not be exporting with the correct exporting tools causing the models to slow down or give wrong mapping data.*	Further to planning concepts 4.109 Technology - Software Interoperability Manage and co-ordinate with the manager how teams are working with sharing models for work in progress (WIP) and aggregation models. *E.g. A consultant or trade models IFC mappings may not be sufficient and not delivering the required data .*	1	1	4	1	4	3	1
	5.108	**Technology - IT Infrastructure** Additional Information 4.110 Technology - Infrastructure	IT infrastructure will have positive and negative impacts on teams. Infrastructure from servers to WAN, LAN and switches including solutions like Virtual Desktop Infrastructure - VDI need to mapped out and analysed. Teams will need to understand locations of staff, latency and understand the IT burdens or efficiencies that can be achieved to understand the impacts to project performance.	If services are provided by the Project Sponsor (employer/client), technical BIM Managers requirement to review the requirements and ensure requests are justified.	N/A	If services are provided by the Project Sponsor (employer/client), technical BIM Managers requirement to review the requirements and ensure requests are justified.	1	3	1	2	3	N/A **Management Level Responsibility**	Further to planning concepts 4.110 Technology - Infrastructure Manage the expectations of the project team on the IT infrastructure and communicate issues that may arise to IT (internal or external).	Refer to planning concepts: 4.110 Technology - Infrastructure Manage the utilisation of technology in accordance with best practices to reduce IT infrastructure stress. *E.g. If a team decides to save items differently in a common data environment (CDE) because it is quicker for them it might become slower for all of the other stakeholders and place further stress on areas such as latency etc.*	0	2	4	4	1	N/A **Management Level Responsibility**	Further to planning concepts 4.110 Technology - Infrastructure Manage the expectations of the project team on the IT infrastructure and communicate issues that may arise to IT (internal or external).	Refer to planning concepts: 4.110 Technology - Infrastructure Manage the utilisation of technology in accordance with best practices to reduce IT infrastructure stress. *E.g. If a team decides to save items differently in a common data environment (CDE) because it is quicker for them it might become slower for all of the other stakeholders and place further stress on areas such as latency etc.*	1	1	4	1	4	3	1
	5.109	**Work stream Definition**	Real-time projects (all working in models and databases together at the same time), requires greater understanding of Work streams and responsibilities. Documentation on what teams are responsible for elements and when is important for project fluency and recall. Prominent more so in Level 2 and Level 3 BIM Maturity.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.206 BIM Detail / Development Levels 4.111 Technology - Data Repository Manage and check the documentation of work streams to understand model element authors (MEA). This is important for Level 2 and Level 3 BIM Maturity projects as solicitors will need to understand which team was responsible for model elements should a project problem or legal issue arise. *E.g. Further definition of data responsibilities is required when multiple parties utilise database software for data entry.*	Further to start up and planning concepts: 2.206 BIM Detail / Development Levels 4.111 Technology - Data Repository Manage and deliver via validation tools that model element authors (MEA) and their ownership is documented within the model database. *E.g. Develop a report from the model database that shows model element authors (MEA).*	0	2	4	4	1	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.206 BIM Detail / Development Levels 4.111 Technology - Data Repository Manage and check responsible parties for data entry, those who are best placed to input the data and those responsible for it (not always the same). Understanding that further definition of data responsibilities is required when multiple parties utilise database software for data entry, such as applications like dRofus.	Further to start up and planning concepts: 2.206 BIM Detail / Development Levels 4.111 Technology - Data Repository Manage and deliver via validation tools that model element authors (MEA) and their ownership is documented within the model database. *E.g. Set up systems and utilise software to create privileges and security of data in put and out put.*	1	1	4	1	4	3	1
5.200 PROJECT COMMUNICATION																													
Manage Stakeholder Expectations	5.201	**Expectations of BIM** Additional Information 2.107 BIM Legal Use of Model 2.109 BIM Management Plan (BMP) 2.106 BIM Protocols 4.101 BIM Agreement 4.202 Scope Management and Control 4.601 Risk Management Plan	BIM deliverables that are in the contract may change during the process of the project. The BIM Management Plan is utilised to manage the changes whilst the Change Registry is to confirm whether it is a corrective change or scope creep.	Review the commercial portions of the BIM Management Plan is in accordance with Project Sponsor (employer/client) expectations.	Review the managerial portions of the BIM Management Plan is in accordance with Project Sponsor (employer/client) expectations.	Review the technical portions of the BIM Management Plan is in accordance with Project Sponsor (employer/client) expectations.	3	3	3	3	3	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.106 BIM Protocols 4.202 Scope Management and Control 4.601 Risk Management Plan Manage and check that when changes have been made to the Post Contract BIM Management Plan it is in compliance with the project requirements. Checking it is not a scope creep item for stakeholders and that it is added to the documents change registry to reduce confusion after or during delivery.	Further to start up and planning concepts: 2.106 BIM Protocols 4.202 Scope Management and Control 4.601 Risk Management Plan Manage and communicate with the manager whether the technology changes are in compliance with normal project changes or require further scope definition due to effort not known or understood. *E.g. The client requesting to deliver to an additional technology that will require large re-work or effort.*	0	3	4	3	1	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.106 BIM Protocols 4.202 Scope Management and Control 4.601 Risk Management Plan Manage and check that when changes have been made to the Post Contract BIM Management Plan it is in compliance with the project requirements. Checking it is not a scope creep item for stakeholders and that it is added to the documents change registry to reduce confusion after or during delivery.	Further to start up and planning concepts: 2.106 BIM Protocols 4.202 Scope Management and Control 4.601 Risk Management Plan Manage and communicate with the manager whether the technology changes are in compliance with normal project changes or require further scope definition due to effort not known or understood by stakeholders. *E.g. The client requesting to deliver to an additional technology that will require large re-work or effort.*	2	2	4	2	3	4	2
Information Distribution	5.202	**Information Distribution** Additional Information 2.109 BIM Management Plan (BMP) 4.101 BIM Agreement 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure 5.105 Model Coordination - Common Data Environment	Information distribution will cross both technical and managerial roles. Decisions and distribution of this information are mapped out for project stakeholders within the BIM Management Plan.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.109 BIM Management Plan (BMP) 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and check that those responsible for information distribution are meeting the demands. *E.g. If on a large road project you may need to divide up the information responsibilities in further detail to alleviate the burden on individuals.*	Further to start up and planning concepts: 2.109 BIM Management Plan (BMP) 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and check that the technology and the workflows are working and are not a hindrance to the delivery. *E.g. Waiting on information from one discipline to another may need to be re-mapped to reduce time being lost on the project.*	0	3	4	3	1	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.109 BIM Management Plan (BMP) 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and check that those responsible for information distribution are meeting the demands.	Further to start up and planning concepts: 2.109 BIM Management Plan (BMP) 4.102 Information Mapping - Communication Framework 4.110 Technology - Infrastructure Manage and check that the technology and the workflows are working and are not a hindrance to the delivery. *E.g. Waiting on information from one discipline to another may need to be re-mapped to reduce time being lost on the project.*	2	2	4	2	3	4	2
5.300 QUALITY																													
Quality Control	5.301	**Change Process - Design Model Change Registry** Additional Information 4.102 Information Mapping - Communication Framework 4.202 Scope Management and Control 5.102 Model Coordination - Programme 5.201 Expectations of BIM	Design changes occur quickly within a BIM project and add higher complexity when stakeholders are all in different software platforms. A change process registry will assist along with allocating frozen design expectations.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to planning concepts: 4.109 Technology - Software Interoperability 4.601 Risk Management Plan Manage and check the change process is being followed and is adequate for the project. *E.g. Check if changes are being missed due to late delivery of models to each discipline etc.*	Further to planning concepts: 4.109 Technology - Software Interoperability 4.601 Risk Management Plan Manage and automate where possible a checking procedure that shows the differences in models from one deliverable to another. *E.g. Deliver PDF change highlights or compare models and show the differences in varied colours.*	0	3	4	3	1	N/A **Management Level Responsibility**	If involved in contracts where the Construction team are leading the Design team. Further to planning concepts: 4.109 Technology - Software Interoperability 4.601 Risk Management Plan Manage and check the change process is being followed and is adequate for the project fluency. *E.g. Check if changes are being monitored and delivered as documented in the BMP.*	If involved in contracts where the Construction team are leading the Design team. Further to planning concepts: 4.109 Technology - Software Interoperability 4.601 Risk Management Plan Manage and automate where possible a checking procedure that shows the differences in models from one deliverable to another. *E.g. Ensure the best practices documented in the BMP are being followed, such as not deleting or replacing elements when they need to be moved.*	2	2	4	2	3	4	2
	5.302	**Change Process - Construction / Site** Additional Information 4.108 Stakeholder BIM Uses 4.605 Layout Validation 4.606 As Built Validation	Site changes require a definition table during construction for when field verified models - LOD 500 are part of the contract. This will contain levels of importance such as the tolerance of construction elements before it is altered in the model and who is responsible for updating the model/s. This should form part of or be documented in the BIM Management Plan for clarification to stakeholders.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	Further to planning concepts: 4.606 As Built Validation Manage and check changes on the site are being recognised to the tolerance level agreed and updated by the responsible parties as agreed necessary for the As-Built or Record models.	Refer to planning concepts: 4.606 As Built Validation Manage and check model compliance is maintained during the As-Built or Record model change process. *E.g. Checking the model still meets the requirements of the deliverable.*	0	3	4	3	2	N/A **Management Level Responsibility**	Further to planning concepts: 4.606 As Built Validation Manage and check changes on the site are being recognised to the tolerance level agreed and updated by the responsible parties as agreed necessary for the As-Built or Record models. *E.g. Managing the approval process of site changes and determining who will undertake the required model update actions, this includes the creation of a strategy of design consultant models handed over to the main contractor that require updates with no engaged modelling team.*	Refer to planning concepts: 4.606 As Built Validation Manage and check model compliance is maintained during the As-Built or Record model change process. *E.g. Ensure model sharing, model element author responsibilities and the review processes are achievable. This may include a model register of who owns or check out a model for update when shared between organisations.*	2	4	3	2	3	3	2
	5.303	**Change Process - Construction / Cost Model**	How and what changes to define during construction for cost change justification.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**						N/A **Management Level Responsibility**	Cost validation and approval of site changes should be tied into the approval process as listed in 5.303 Change Process - Construction / Site	Cost validation and approval of site changes should be tied in to the approval process as listed in 5.303 Change Process - Construction / Site	2	4	3	2	3	3	2
5.400 PROJECT HR																													
Staff Acquisition	5.401	**Roles and Responsibilities - Additional Staff**	Familiarisation training or on-boarding is generally required for complex BIM projects. Technical setup of this should be documented in the BIM Management Plan for reference. *E.g. Model divisions, container files, datum files etc.*	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to the planning concepts: 4.101 BIM Agreement 4.110 Technology - Infrastructure 4.113 Delivery Management Manage the requirements of additional staff to the project. *E.g. Noting the downtime in familiarisation etc. that may be required not only of the new staff but the existing staff in delivering the familiarisation or keeping up with documenting of the familiarisation.*	Further to the planning concepts: 4.101 BIM Agreement 4.110 Technology - Infrastructure 4.113 Delivery Management and the integration concepts: 5.101 BIM Management Plan Manage and deliver the technical onboarding documentation checking it is up-to-date for new staff on the project.	0	3	4	3	1	N/A **Management Level Responsibility**	Further to the planning concepts: 4.101 BIM Agreement 4.110 Technology - Infrastructure 4.113 Delivery Management Manage the requirements of additional staff to the project. *E.g. Noting the downtime in familiarisation etc. that may be required not only of the new staff but the existing staff in delivering the familiarisation or keeping up with documenting of the familiarisation.*	Further to the planning concepts: 4.101 BIM Agreement 4.110 Technology - Infrastructure 4.113 Delivery Management and the integration concepts: 5.101 BIM Management Plan Manage and deliver the technical onboarding documentation checking it is up-to-date for new staff on the project.	0	0	3	1	4	3	1
Team Development	5.402	**Roles and Responsibilities - Team Development** Additional Information 2.110 Specialist BIM Use 4.107 BIM Requirements 4.113 Delivery Management	Team development may be required as there are many ways to deliver BIM technically. Some methods will work better than others and are often based on the existing business systems of the Principal Consultant. Project specific solutions may need to be reached for some projects.	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.110 Specialist BIM Use 4.107 BIM Requirements 4.113 Delivery Management Manage and co-ordinate with the technical manager training and development requirements in the technology and BIM process' being utilised.	Further to start up and planning concepts: 2.110 Specialist BIM Use 4.107 BIM Requirements 4.113 Delivery Management Design and document the BIM methodologies being used on the project for further training and development purposes to those not skilled in this particular delivery.	0	3	4	3	1	N/A **Management Level Responsibility**	Further to start up and planning concepts: 2.110 Specialist BIM Use 4.107 BIM Requirements 4.113 Delivery Management Manage and co-ordinate with the technical manager training and development requirements in the technology and BIM process' being utilised.	Further to start up and planning concepts: 2.110 Specialist BIM Use 4.107 BIM Requirements 4.113 Delivery Management Design and document the BIM methodologies being used on the project for further training and development purposes to those not skilled in this particular delivery.	2	2	3	1	4	3	1

Manage Team		5.403	**Roles and Responsibilities - Management** Additional Information 2.102 Project Roles and Contractual Definition 2.207 BIM Roles and Responsibilities 4.101 BIM Agreement 4.401 Delivery Management - Tasks	BIM projects require varied levels of BIM Management from Project BIM Managers through to Discipline Specific BIM Managers. Each has defined responsibilities and they are documented in the BIM Management Plan.
6.000 MONITORING AND CONTROLLING				
6.100 PROJECT RISK				
	BIM Checking and Validation	6.101	**Testing and Validation**	Utilise the model and technologies to assist with value engineering testing and validation procedures.
		6.102	**Sustainability**	Utilise the technology to drive sustainability reporting and testing.
		6.103	**Analysis**	Utilise the technology to drive systems analysis for performance based solutions during soft-landings.
		6.104	**Construction Coordination - Clash Simulation**	Work breakdown structure has on the clash coordination and segregation checking for build-ability.
		6.105	**Construction Coordination - Site Logistics**	Virtually building the facility or asset and managing logistics from cranage to deliveries and storage.
6.200 COST				
		6.201	**Delivery Management - Resource Management** Additional Information 4.108 Stakeholder BIM Use 4.402 Delivery Management - Resourcing	BIM earned value calculations will give as accurate data as is placed into the model environment. Corrective actions will require discussions with technical and managerial leaders. Traditional methods of more staff will not work in BIM deliveries.
		6.202	**Delivery Management - Cost Mapping - 5D**	BIM and its cost technology has the ability to check the costs related to changes in design. This will include changes required in terms of designing and detailing, through to construction labour and materials. This will assist in the on-site changes during construction and understanding the full costs related to that change.
6.300 TIME				
		6.301	**Time / Programme Forecasting - 4D**	Time / Programme forecasting for construction gives visual reference or rehearsal to what may happen if changes occur during construction. Using the model to double check requirements understanding the flexibility the model data needs to have to make it work in this manner.
6.400 PROJECT COMMUNICATION				
		6.401	**Delivery Management - Model Coordination Performance**	BIM clash and sequence simulations indicate model progress and what teams are performing in terms of coordination. Clash reporting will show teams / disciplines that have more clash items and how often they are rectifying those noted issues.
7.000 CLOSEOUT / HANDOVER / COMMISSIONING				
7.100 PROJECT PROCUREMENT				
	Handover and Close-Out	7.101	**Connection and Commissioning**	Connecting the commissioning data to the model for handover.
		7.102	**Asset Management**	Linking asset data to the model for handover.
		7.103	**Model Handover** Additional Information 4.108 Stakeholder BIM Use 4.109 Technology - Software Interoperability	Handing over a common data environment for the operation and maintenance of the facility or asset.
		7.104	**Defects Tracking**	Manage defects including the change process, maintenance and replacement visibility.
		7.105	**Model Connections**	Linking the Model handover to other facility systems such as BAS, GIS, AM/FM
		7.106	**Systems Analysis**	Facility or asset performance checking to confirm it is working at optimal expectations and as designed.
		7.107	**Operation and Familiarisation**	Model is utilised to assist with operation training and familiarisation of site, facility or asset systems.

5.403	N/A Refer to start up concepts **2.102 Project Roles and Responsibilities - Contractual Hierarchy** **2.205 BIM Roles and Responsibilities**	N/A Refer to start up concepts **2.102 Project Roles and Responsibilities - Contractual Hierarchy** **2.205 BIM Roles and Responsibilities**	N/A Refer to start up concepts **2.102 Project Roles and Responsibilities - Contractual Hierarchy** **2.205 BIM Roles and Responsibilities**	1	1	2	3	3
6.101	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.102	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.103	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.104	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.105	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.201	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.202	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	N/A **Refer to Design and Construction Roles**	-	-	-	-	-
6.301	N/A **Refer to Design and Construction Roles**	Review simulation of as programmed to as designed.	N/A **Refer to Design and Construction Roles**	1	3	1	3	3
6.401	N/A **Refer to Design and Construction Roles**	Review clash report progress.	N/A **Refer to Design and Construction Roles**	1	3	1	3	3
7.101	N/A **Refer to Construction Roles**	Review the data is what was defined in the EIR.	Review that the technical data requirements are being addressed.	1		1	3	3
7.102	N/A **Refer to Construction and Asset or Facility Manager Roles**			1		1	3	3
7.103	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	Review that the technical operation requirements are being addressed.	1		1	1	3
7.104	N/A **Refer to Construction Roles**	Collaborate in defects tracking through BIM technologies.	Collaborate in defects tracking through BIM technologies.	1	3	3	3	3
7.105	N/A **Refer to Construction and Asset or Facility Manager Roles**	Review the model handover with Technical BIM Manager.	Check model handover and technical links to facility systems are working.	1		1	1	3
7.106	N/A **Refer to Construction and Asset or Facility Manager Roles**	Review the systems to ensure the site, facility or asset are performing as initially designed.	Check systems performance and that the technology is calibrated to the systems analysis applications.	1	3	3	3	3
7.107	N/A **Refer to Construction and Asset or Facility Manager Roles**	N/A **Refer to Construction and Asset or Facility Manager Roles**	Review model familiarisation for technical operation and systems.	1	3	1	3	3

5.403	N/A **Management Level Responsibility**	Further to start up concepts **2.102 Project Roles and Contractual Definition** **2.207 BIM Roles and Responsibilities** Review and manage if there is a need to separate responsibilities further or the reverse to join responsibilities depending on the project performance. *E.g. The client may have requested a BIM Manager for all disciplines however, one for each discipline lead may be sufficient.*	Further to planning concepts **4.101 BIM Agreement** **4.401 Delivery Management - Tasks** Review and communicate with the manager if additional BIM roles are required. *E.g. The project may need a content creator or a BIM project controller.*	0	3	4	3	1
6.101	N/A **Management Level Responsibility**	Define and manage the validation checking of the model from structural engineering through to building services and fabrication. *E.g. Use the model simulation to validate its engineering performance.*	Define and manage the technology aspects are being met to ensure accurate simulations on the models performance can be checked. *E.g. Creating model elements with defined structural uses and analysis items so that simulations can occur and report as accurately as expected.*	0	2	3	4	2
6.102	N/A **Management Level Responsibility**	Further to planning concepts: **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Manage and co-ordinate that the sustainability analysis is including the expected items delivered from the design team. *E.g. Have model items been exported or detailed well enough to communicate the intention in the analysis of the model.*	Further to planning concepts: **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Manage and co-ordinate that stakeholders are delivering to the BIM Use requirements for sustainability analysis. *E.g. Have model items been exported through the right exporter to feed accurate detail to the energy analysis software.*	0	2	3	4	2
6.103	N/A **Management Level Responsibility**	Further to planning concepts **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Monitor that the BIM Uses are performing properly and meeting the expectations in terms of project performance. *E.g. Has the correct fall been modelled in services pipes to show if flow performance is being met.*	Further to planning concepts **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Monitor and report to the manager what elements are being modelled accurately and what are bringing concerns.	0	2	3	4	2
6.104	N/A **Management Level Responsibility**	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor and control with the technical manager that the simulation properties are valid to the requirement expected from the BIM Use.	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor for the manager that the simulation properties are valid to the requirement expected from the BIM Use. *E.g. Has the simulation run the segregation checks from the face or the centre point of the element.*	0	1	5	4	1
6.105	N/A **Management Level Responsibility**	Further to planning concepts: **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor and control the level of detailing model elements and that it isn't blowing out the budget. *E.g. The detail of construction requirements vary for temporary site works.*	Further to planning concepts: **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor and check elements are made correctly and in compliance with the standards of the BMP. *E.g. The BMP may ask for maximum structural weight to be transferred on temporary site elements. Check that the modeller is not delivering this and it is being completed by the structural discipline team.*	0	3	4	4	1
6.201	N/A **Management Level Responsibility**	Further to planning concepts **4.402 Deliver Management - Resourcing** Utilise the BIM to understand the earned value on the project. *E.g. Compare what was expected to be completed to what is.*	Further to planning concepts **4.402 Deliver Management - Resourcing** Monitor and control the BIM to deliver reports to the manager on completeness of the project. *E.g. Utilise reporting software to denote which areas of the model are complete.*	0	2	4	3	2
6.202	N/A **Management Level Responsibility**	Further to planning concepts **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Manage and control the changes to the model / design during the construction phase. Using technology to confirm the change is viable or will cost more in design than it is worth in the change. *E.g. Certain cost software can check the value of the re-design for the*	Further to planning concepts: **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Work with the manager and the technology to decide if changes to the design should occur.	0	2	4	3	2
6.301	N/A **Management Level Responsibility**	Further to planning concepts: **4.611 Construction Coordination - Site Logistics** Monitor and control that time forecasting from the model is being utilised as expected. *E.g. Control any changes to the modelling data that need to be made if the 4D aspects are not being met.*	Further to planning concepts: **4.611 Construction Coordination - Site Logistics** Monitor that model elements are meeting time forecasting BIM Use needs. *E.g. As the project gets busy some disciplines may reduce efforts to comply with all BIM Use needs.*	0	2	4	4	2
6.401	N/A **Management Level Responsibility**	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** Review Clash reports denoting team efforts and compliance to the BIM Management Plan.	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** Monitor the Clash reporting and that clash simulations are being managed prior to the entire project simulation.	0	2	4	4	2
7.101	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**					
7.102	N/A **Management Level Responsibility**	Manage the design deliverables for asset handover as established within the BMP. *E.g. The design team may be required to deliver asset handover information for projects in different sectors such as Health, Energy and Sea Ports.*	Manage the technical deliverables for asset handover as established in the BMP. Checking the compliance required to the clients information requirements and file format.	0	2	4	3	2
7.103	N/A **Management Level Responsibility**	Define and manage a process whereby an Asset Information Model (as a subset of an As-Built or Record BIM model) and the required attached data (may be in the form of COBie) is delivered for BIM Uses relating to BIM enabled Asset and Facilities Management.	Manage the technical procedures to author model content and attached data. Implementing checking mechanisms to query / schedule / sort etc. modelled elements according to their attached data in order to manage, audit and validate. Coordinate these activities to execute BIM Uses as described in BMP / PMP.	0	2	3	4	2
7.104	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**	N/A **Refer to Construction Roles**					
7.105	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**					
7.106	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**					
7.107	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**	N/A **Construction and Asset or Facility Manager Roles**					

5.403	N/A **Management Level Responsibility**	Further to start up concepts **2.102 Project Roles and Contractual Definition** **2.207 BIM Roles and Responsibilities** Review and manage if there is a need to separate responsibilities further or the reverse to join responsibilities depending on the project performance. *E.g. The client may have requested a BIM Manager for all disciplines however, one for each discipline lead may be sufficient.*	Further to planning concepts **4.101 BIM Agreement** **4.401 Delivery Management - Tasks** Review and communicate with the manager if additional BIM roles are required. *E.g. The project may need a content creator or a BIM project controller.*	3	3	3	1	3	2	1
6.101	N/A **Management Level Responsibility**	Define processes on how the model will be used for reviews such as; design reviews, shop drawing reviews, safety in design, construction scenario planning, working at heights resolution.	Define workflows utilising model viewers and reports to review construction processes. *E.g. shop drawing reviews in model viewer, raised comments, provided in PDF report to fabricators.*	1	3	4	1	4	3	1
6.102	N/A **Management Level Responsibility**	**If involved in contracts where the Construction team are leading the Design team.** Manage and co-ordinate that the sustainability analysis is including the expected items delivered from the design team. *E.g. Have model items been exported or detailed well enough to communicate the intention in the analysis of the model.*	**If involved in contracts where the Construction team are leading the Design team.** Manage and co-ordinate that stakeholders are delivering to the BIM Use requirements for sustainability analysis. *E.g. Have model items been exported through the right exporter to feed accurate detail to the energy analysis software.*	1	1	3	1	5	3	1
6.103	N/A **Management Level Responsibility**	**If involved in contracts where the Construction team are leading the Design team.** Monitor that BIM Uses are performing properly and meeting the expectations in terms of project performance.	**If involved in contracts where the Construction team are leading the Design team.** Monitor and report to the manager what elements are being modelled accurately and what are bringing concerns.	2	2	4	1	5	3	1
6.104	N/A **Management Level Responsibility**	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** Monitor and control with the technical manager that the simulation properties are valid to the requirement expected from the BIM Use.	Further to planning concepts **4.610 Construction Coordination - Clash Simulation** Monitor for the manager that the simulation properties are valid to the requirement expected from the BIM Use. *E.g. Has the simulation run the segregation checks from the face or the centre point of the element.*	1	1	4	1	4	3	1
6.105	N/A **Management Level Responsibility**	Further to planning concepts: **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor and control the level of detailing model elements and that it isn't blowing out the budget. *E.g. The detail of construction requirements vary for temporary site works.*	Further to planning concepts: **4.610 Construction Coordination - Clash Simulation** **Construction Phase Engagement** Monitor and check elements are made correctly and in compliance with the standards of the BMP. *E.g. The BMP may ask for maximum structural weight to be transferred on temporary site elements. Check that the modeller is not delivering this and it is being completed by the structural discipline team.*	1	1	4	1	4	3	1
6.201	N/A **Management Level Responsibility**	Further to planning concepts **4.402 Deliver Management - Resourcing** Utilise the BIM to understand the earned value on the project. *E.g. Compare what was expected to be completed to what is.*	Further to planning concepts **4.402 Deliver Management - Resourcing** Monitor and control the BIM to deliver reports to the manager on completeness of the project. *E.g. Utilise reporting software to denote which areas of the model are complete.*	1	1	4	1	4	3	1
6.202	N/A **Management Level Responsibility**	Further to planning concepts **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Manage and control the changes to the model / design during the construction phase. Using technology to confirm the change is viable or will cost more in design than it is worth in the change. *E.g. Certain cost software can check the value of the re-design for the*	Further to planning concepts: **4.103 Information Mapping - Coordination** **4.108 Stakeholder BIM Use** Work with the manager and the technical managers to decide if changes to the design should occur.	1	1	4	3	3	3	1
6.301	N/A **Management Level Responsibility**	Further to planning concepts: **4.611 Construction Coordination - Site Logistics** Monitor and control that time forecasting from the model is being utilised as expected. *E.g. Control any changes to the modelling data that need to be made if the 4D aspects are not being met.*	Further to planning concepts: **4.611 Construction Coordination - Site Logistics** Monitor that model elements are meeting time forecasting BIM Use needs. *E.g. As the project gets busy some disciplines may reduce efforts to comply with all BIM Use needs.*	1	1	4	3	4	3	1
6.401	N/A **Management Level Responsibility**	Review coordination reports and realign and advise consultants and trades on non conformance.	Take the routine clash detection reports and create performance reporting on each organisations performance.	1	2	4	1	3	4	1
7.101	N/A **Management Level Responsibility**	Review and manage the information required from the commissioning and defecting managers through to the various trades. Checking the data meets the requirements of the SOW, EIR and BMP including how it was entered and verified.	Review and check the attached commissioning data to the model, with the software and hardware requirements. Additionally ensure that report functionality can be provided to management for review. *E.g. Status of commission items, outstanding defects etc.*	1	2	4	1	3	4	1
7.102	N/A **Management Level Responsibility**	Review and manage the integration of asset data and documents with the clients CAFM or CMMS systems. *E.g. Work through the following checks with the client:* *1) Asset definition* *2) Project asset list* *3) Information to be attached to each asset type*	Review and check delivery of the asset data and documents attached to the model for handover. *E.g. Ensure the model is handed over in compliance with the EIR and the BMP*	1	2	4	1	4	3	1
7.103	N/A **Management Level Responsibility**	Review data validation process has been undertaken prior to the model handover to ensure the projects BIM deliverables have been met. Review and determine the platform for handover? *E.g. Server rack, cloud or hard drive?*	Review and interrogate files types such as IFC's for completeness and compliance with the projects BIM deliverables. Determine the types of files required by the client for handover. *E.g. IFC, native modelling files, dRofus database, BIM360 field database.*	1	1	4	2	4	3	2
7.104	N/A **Management Level Responsibility**	Collaborate in defects tracking through BIM technologies.	Collaborate in defects tracking through BIM technologies.	1	2	4	1	4	3	1
7.105	N/A **Management Level Responsibility**	Review the model handover with Technical BIM Manager.	Check model handover and technical links to facility systems are working.	1	1	4	1	4	4	1
7.106	N/A **Management Level Responsibility**	If engaged in 'Soft Landings' review the systems to ensure the site, facility or asset is performing as initially designed.	Check systems performance and compare to the analysis or simulation design expectations. Ensuring that systems are clibrated to levels they were designed for.	0	0	3	1	4	3	1
7.107	N/A **Management Level Responsibility**	If engaged in 'Soft Landings' walk through the use of the model for the Facility or asset Managers to use for operation training and familiarisation. *E.g. Show how the model can be utilised to show maintenance staff what safety precautions they need to take when maintaining an asset.*	Review and finalise the model for familiarisation for technical operation and systems.	0	0	3	1	4	3	1