

# Appendix 7: RACI scope checklist

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# Introduction

The ability for organisations, made up of many stakeholders, to exchange information through structured means is a critical element of digital engineering.

Best practice information management relies upon the exchange of structured information. The exchange information requirements (EIR) enables Appointing Parties to communicate their requirements across asset lifecycle stages. A key element of the EIR is this Responsible, Accountable, Consulted and Informed (RACI) scope checklist.

# Purpose

This document has been designed to supplement the EIR by assisting Appointing Parties and lead Appointed Parties throughout the seven stages of the VDAS lifecycle. with:

- clear roles and responsibilities;
- an articulation of information detail; and
- any IP or license considerations.

This document should be tailored to the needs of the Appointed Parties.

It has been designed for organisations at different maturity levels.

Appointing Parties with limited digital engineering maturity are encouraged to use the low-maturity RACI scope checklist. Accordingly, Appointing Parties with greater digital engineering maturity are encouraged to use the high maturity RACI scope checklist.

The key difference between these two tables is the level or depth of Uniclass 2015 classification.

## Audience

The audience for this document is the DE Project Champion as part of the EIR development in stages 2 and 3.

## Conditions of using the template

Each project, asset, department and organisation is different and every project responds to a unique organisational need. There is no single template that will be equally applicable in all these circumstances.

It remains the responsibility of the document author to interpret and validate what the project, asset, department and organisation is seeking to achieve and compose a document that responds to that need accordingly. This template is a tool that can assist with that process.

The document should be read in conjunction with other VDAS documents addressing the digital engineering process.

## Model element responsibilities and detail schedule

The following colours are to be applied to the federated model for ease of identifying the relevant discipline.

The table below should be modified according to the type of project. For example, civil may be further broken into tunnels, geotech, etc.

Architectural	ARC
Civil	CIV
Structural consultant	STR
Mechanical consultant	MEC
Electrical consultant	ELE
Plumbing and drainage	PLU
Fire consultant	FIR
Traffic consultant	TRF
Information communication and technology	ICT
Landscape architect	LAN
Structural contractor	SPC-C
Steel fabrication	STF-C
Mechanical contractor	MEC-C

Electrical contractor	ELE-C
Plumbing and drainage	PLU-C
Fire contractor	FIR-C
Acoustic	ACO
Other/Head contractor	OTH

The ownership of model elements and detail should be defined for each project stage to an appropriate level for the owner's needs. It is up to the owner/client to decide how the project should be broken down in terms of information management.

Provided in the following pages are two example tables – basic and advanced.

The basic table outlines NBS UniClass2015 Systems (Ss) down to level 1. For UniClass2015 systems that are not in use, delete them. If more granularity and detail is required from the contractor, then use level 2 tables (see advanced table). This table is aimed at smaller/less complex projects.

The advanced table outlines a MEA and detail schedule through a NBS UniClass2015 System (Ss) down to level 2. Not all UniClass2015 Ss level 2 items are provided in the table. For UniClass2015 systems that are not in use, delete them. If more granularity and detail is required from the contractor, then use level 2 tables (see advanced). This table is aimed at larger/more complex projects.

Note 1: UniClass2015 'Systems' are best thought of as 'collections of products'. That is, a system for a timber pitched roof includes timber structural members, boards, fastenings, etc. A signal system for a railway is made up of signals, detection and warning equipment, posts, cables, etc. UniClass2015 is free to use.

Note 2: It is important to seek alignment between the project's CBS, its WBS and the asset classification employed by the organisation. Another asset classification system can be used; however, it should be mapped back to UniClass2015.

Note 3: Both tables outline level of development (LOD) as a measure of design maturity. LOD is not an exhaustive design manual – instead, it provides a platform for discussion between the contractor and the owner. Requesting LOD 500 requires considerable effort that can be costly to design. This cost must be met with a need from the owner. More information about LOD can be found in the NBS toolkit: <https://toolkit.thenbs.com/Uniclass/Ss>.

Note 4: The table also allows the owner to provide notes where applicable. For example, if the owner was to bring their own IP or objects, or modelling expertise, then this could be highlighted in the section below.

## Low maturity RACI scope checklist

Uniclass system code (SS) - level 2	CBS/WBS	Project phase	Stage 1			Stage 2			Stage 3			Stage 4			Stage 5			Stage 6			Stage 7		
		Description	Brief			Concept			Definition			Design			Build and commission			Handover and closeout			Operations and maintenance		
		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss 15		Earthworks, remediation and temporary systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 20		Structural systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 25		Wall and barrier systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 30		Roof, floor and paving systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 32		Damp proofing, waterproofing and plaster finishing systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 35		Stair and ramp systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 37		Tunnel, shaft, vessel and tower systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				

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		Description	Brief			Concept			Definition			Design			Build and commission			Handover and closeout			Operations and maintenance		
		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss 40		Signage, fittings, furnishings and equipment (FF&E) and general finishing systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 45		Flora and fauna systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 50		Disposal systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 55		Piped supply systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 60		Heating, cooling and refrigeration systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 65		Ventilation and air conditioning systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				



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		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss 70		Electrical systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 75		Communications, security, safety, control and protection systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 80		Transport systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				
Ss 85		Process engineering systems	N/A			N/A	N/A	N/A	ARC	200		OTH	200		OTH	300		OTH	300				
Ss 90		Soft facility management systems	N/A			ARC	100		ARC	200		OTH	200		OTH	300		OTH	300				

## High maturity RACI scope checklist

Uniclass system code (SS) - level 2	CBS/WBS	Project phase	Stage 1			Stage 2			Stage 3			Stage 4			Stage 5			Stage 6			Stage 7		
		Description	Brief			Concept			Definition			Design			Build and commission			Handover and closeout			Operations and maintenance		
		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_15_10		Groundworks and earthworks systems	N/A			ARC	100		CIV	100		CIV	200		CIV	300		CIV	400				
Ss_15_30		Remediation, repair and renovation systems	N/A			ARC	100		CIV	100		CIV	200		CIV	300		CIV	400				
Ss_15_95		Temporary works systems	N/A			ARC	100		CIV	100		CIV	200		CIV	300		CIV	400				
Ss_20_05		Substructure systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_10		Structural frame systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_20		Structural beams	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				

Uniclass system code (SS) - level 2	CBS/WBS	Project phase	Stage 1			Stage 2			Stage 3			Stage 4			Stage 5			Stage 6			Stage 7		
		Description	Brief			Concept			Definition			Design			Build and commission			Handover and closeout			Operations and maintenance		
		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_20_30		Structural columns	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_40		Structural sheet and cable systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_50		Bridge abutment and pier systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_60		Retaining wall systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_70		Structure covering and finishing systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_20_80		Structure accessory systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				

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		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_20_95		Temporary structural systems	N/A			ARC	100		STR	100		STR	200		STR	300		SPC-C	400				
Ss_25_10		Framed wall systems	N/A			ARC	100		ARC	100		ARC	200		MEC	300		MEC	400				
Ss_25_11		Monolithic wall structure systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Ss_25_12		Panel wall structure systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Ss_25_13		Unit wall structure systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Ss_25_14		Fence systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

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		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_25_15		Fixed pedestrian barrier systems	N/A			N/A	N/A	N/A	LAN	100													
Ss_25_16		Fixed traffic and protective barrier systems	N/A			N/A	N/A	N/A	LAN	100													
Ss_25_17		Dam and levee structure systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Ss_25_20		Wall cladding systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300				
Ss_25_25		Wall lining systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300				

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		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_25_30	Door and window systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300					
Ss_25_32	Gate access systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	ELE	100		ELE	300		ELE	300					
Ss_25_34	Operable pedestrian barrier systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	MEC	200		MEC	300		MEC	300					
Ss_25_36	Operable traffic barrier systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	MEC	200		MEC	300		MEC	300					
Ss_25_38	Wall and barrier opening hardware systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

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		Author and design level	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes	MEA	LOD	Notes
		Description																					
Ss_25_45		Wall covering and finish systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300				
Ss_25_50		Wall mounted canopy and screen systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300				
Ss_25_60		Wall and barrier accessory systems	N/A			ARC	100		ARC	100		ARC	200		ARC	300		ARC	300				
Ss_25_95		Temporary wall and barrier systems	N/A			N/A	N/A	N/A	N/A	N/A	N/A	CIV	100		CIV	100		N/A	N/A	N/A			

Authorised by the Victorian Government  
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Accessibility

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