



EXPRO National Manual for Projects Management

Volume 6, chapter 7

List of Civil Deliverables



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List of Civil Deliverables

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List of Civil Deliverables

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List of Civil Deliverables

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List of Civil Deliverables

SN	Deliverable	Tool	Deliverable Contents	Developed During*	Deliverable/ Data required for				Comments
					Procurement	Construction	Start-Up & Commissioning	Project Controls	
1.0 GENERAL									
1	BIM / 3D Model	SiteOps/ InRoads, InfraWorks/ Civil3D, NavisWork, Bentley Navigator	The 3D model shall show realistic depictions and contain relevant design data for all physical disciplines in sufficient detail to produce the design deliverables. Model reviews shall be conducted for functional checks and collision checks. The BIM / 3D model shall be setup to support 4D and 5D delivery. Model collaboration methods will be run to ensure all stakeholders are referencing the latest BIM / 3D model and collaborating most effectively. Interference checking is performed on all models; interference management processes are used as part of the design and quality control process and prior to extracting IFC deliverables.	B&D		Y		Y	
2	Specifications	eSpec / MS Word	Engineering specifications define the technical and Quality Management System requirements, including applicable codes. Refer to EPM-KEC-RG-000001for the contents of SOW and Specification	B&D	Y	Y	Y		
3	Bulk Quantity Takeoff / BOQ	MS Excel / MS Access	Provide Bulk Quantity Takeoffs (QTOs) for tracking engineering-released quantities at 30%, 60%, & 90% Milestones to support construction installation including method of measurement and/or standard code or measurement principles.	B&D	Y	Y	Y	Y	
4	Tagged Material Tracking / BOQ	MS Excel / MS Access	Equipment and Specialty Items (EA): Includes tags, sizes, description, quantity, physical dimensions, weight, capacity, datasheet (fit / function) type information.	D		Y	Y	Y	
5	Permitting submittals	PDF	Include documents and drawings required for applicable construction and environmental permitting activities for the project. Specific documents vary by scope and permit type as well as responsible discipline.	B&D	Y	Y			
6	Interface Management Plan	MS Office	Establish the Interface Management Plan per discipline to ensure all stakeholders receive the information they require in a timely manner.	B&D	Y	Y			
7	Standard Details and Notes	2D	Select details needed and show them on a set of standard project drawings. These details include those items that do not need to be uniquely designed for a specific set of loads or job conditions. They include but are not limited to: •Survey monuments •Supporting road details (guardrails, curbs, etc.) •Chain link fence detail •Parking Lot details •Temporary Sediment and erosion control structure details (storm basins,	B&D	Y	Y			



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					Procurement	Construction	Start-Up & Commissioning	Project Controls	
			riprap details, etc.) •Storm Drainage details (ditches, head walls, man-holes, catch basins, storm inlets, chamber/manhole cover, pipe bedding, rocker pipe detail, pipe stub end cap, pavement subbase drainage etc.) •Traffic (sign detail, pavement marking, guide sign mounting detail etc.) •Traffic Control System (typical intersection, traffic signal details etc.)						
8	Project Details and Notes	2D	Project unique general notes and detail drawings, including: •General Notes •Standard curve data •Fence details •Thrust block detail	B&D	Y	Y			
2.0 SURVEY WORKS									
9	Survey and Control Plan	InRoads / Civil 3D	Drawings shall show site boundary. Template of survey requirement is included as NPM-KEC-TP-000012	B&D		Y			
10	Existing Site Topography Plan	InRoads / Civil 3D	Drawings shall show existing topography plan. Template of survey requirement is included as NPM-KEC-TP-000012	B&D		Y			
3.0 EARTHWORK									
11	Advanced Earthwork Plan	InRoads / Civil 3D	Drawings shall show rough/advanced grading, slope stabilization and erosion control measures. Used for mass excavation and fill for earthworks and grading. Refer to checklist template NPM-KEC-TP-000001	B&D		Y			
12	Advanced Grading Section at Interval	InRoads / Civil 3D	Drawings shall show grading cross-section at intervals. Used for mass excavation and fill for earthworks and grading. Refer to checklist template NPM-KEC-TP-000003	B&D		Y			
4.0 ROAD WORKS									
13	Road Layout and Profile Drawings	InRoads / Civil 3D	Drawings shall show detailed road layout and plan. Refer to checklist template NPM-KEC-TP-000002	B&D		Y			
14	Setting-out Drawings	InRoads / Civil 3D	Drawings shall show road or storm water channel setting out detail. Refer to checklist template NPM-KEC-TP-000004	B&D		Y			
15	Road Cross Section at Interval Drawings	InRoads / Civil 3D	Drawings should include road cross section at intervals. Refer to checklist template NPM-KEC-TP-000005	B&D		Y			
16	Road Typical Cross Section Drawings	InRoads / Civil 3D	Show typical cross sections of all types of roads. Refer to guideline NPM-KEC-GL-000001	B&D		Y			



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					Procurement	Construction	Start-Up & Commissioning	Project Controls	
17	Road Typical Curb and Pavement Details Drawings	InRoads / Civil 3D	Show typical curb and pavement details. Refer to guideline NPM-KEC-GL-000001	B&D		Y			
18	Road Signage and Marking Drawings	InRoads / Civil 3D	Drawings shall include detailed road signage and marking layout. Refer to checklist template NPM-KEC-TP-000006	B&D		Y			
19	Mass Haul Diagram	InRoads / Civil 3D	Used for mass excavation for earthworks and grading.	B&D		Y			
20	At-Grade Junctions/Roundabout Drawings	InRoads / Civil 3D	Drawings include details for At-Grade Junctions. Refer to guideline NPM-KEC-GL-000001	B&D		Y			
21	Grade Separated Interchanges Drawings	InRoads / Civil 3D	Drawings include details for Grade Separated Intersections. Refer to guideline NPM-KEC-GL-000001	B&D		Y			
22	Signalized Junction Phase Sequence Diagram	InRoads / Civil 3D	Drawings show phasing plan of signalized junctions. Refer to guideline NPM-KEC-GL-000001	B&D		Y			
5.0 UTILITIES									
23	Utility Layout Drawings	Civil 3D	Drawings shall show layout plan of utilities in detail. Refer to checklist template NPM-KEC-TP-000007	B&D		Y			
24	Utility Profile Drawings	Civil 3D	Drawings shall show profile of utilities in detail. Refer to checklist template NPM-KEC-TP-000008	B&D		Y			
25	Utility Structures Schedule Drawings	Civil 3D	Drawings shall show schedule of utility structures including pipe, manhole, chambers, thrust block, bends etc. Refer to checklist template NPM-KEC-TP-000009	B&D		Y			
26	Utility Chamber Typical Drawings	Civil 3D	Drawings shall show details of utility chambers. Refer to checklist template NPM-KEC-TP-000010	B&D		Y			
27	Combined Utilities Drawings	Civil 3D	Drawings shall show all proposed and existing utilities. Refer to template NPM-KEC-TP-000020	B&D		Y			
6.0 UTILITY CORRIDOR									
28	Utility Corridor Layout Drawings	Civil 3D	Drawings shall show utility corridor layout of all utilities. Refer to checklist template NPM-KEC-TP-000011	B&D		Y			
29	Utility Corridor Typical Cross Section Drawings	Civil 3D	Drawings shall show utility corridor cross sections. Refer to template NPM-KEC-TP-000020	B&D		Y			

* B- Basic Design phase, D - Detail Design Phase