



Unit Title	Management principles and application for water industry construction projects (H/506/1621)	
Level	4	
Credit Value	12	
Learning Outcomes – the learner will be able to:	Assessment Criteria – the learner can:	
1. Understand the evolution of management principles and their application to the water industry	1.1	explain the principles of management used in water industry construction projects.
	1.2	define management processes used in water industry construction projects.
	1.3	explain the impact of human resources management on the performance of individuals and teams.
2. Understand the water industry in terms of organisational structures and activities	2.1	describe the structure and activities of water industry construction projects.
	2.2	evaluate the organisational structures and approaches used in water industry construction projects.
	2.3	discuss how the scale and size of contracts influence business practices and organisational management in water industry construction projects.
3. Understand management techniques used in the water industry	3.1	explain the use of planning in the management of construction projects.
	3.2	explain how procurement scheduling and control are managed.
	3.3	explain how quality control and risk management are managed.
4. Understand the methods of procurement and contracting used in the water industry	4.1	evaluate the procurement methods used in water industry construction projects.
	4.2	explain the use of contracts to manage water industry construction projects
	4.3	evaluate the impact of procurement practices on the organisation and operation of water companies.

Additional information about the unit	
Unit purpose and aims	<p>This unit provides learners with an opportunity to understand management principles and their application in the water industry.</p> <p>On completion of the unit the learner will:</p> <ul style="list-style-type: none"> • understand the evolution of management principles and their application to the water industry construction projects • understand water industry construction projects in terms of structures and activities • understand management techniques used in water industry construction projects • understand the procurement methods and contracting used



	in water industry construction projects.
Unit expiry date	31/03/2019
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>In the assessment of this unit, the learner must ensure that the evidence that they produce covers the following:</p> <ol style="list-style-type: none">1. The learner's description of the principles of management must include:<ol style="list-style-type: none">(a) management pioneers and thinkers, e.g McGregor, Maslow, Herzberg and Drucker.2. Management processes must include:<ol style="list-style-type: none">(a) forecasting(b) planning(c) organising(d) motivating(e) controlling(f) co-ordinating(g) communicating.3. The learner's description of the impact of human resources management must include reference to:<ol style="list-style-type: none">(a) behaviour(b) motivation(c) leadership.4. The learner's description of the structure and activities of water industry construction projects must include the nature of the services provided by each of the following operational areas, and the general and specific roles and responsibilities within each of:<ol style="list-style-type: none">(a) water treatment(b) water distribution(c) waste water treatment(d) waste water network.5. The organisational structures and approaches used in water industry construction projects must cover:<ol style="list-style-type: none">(a) direct line management(b) lateral management(c) functional and staff relationships(d) chain of command(e) span of control(f) concepts of responsibility – duty; authority and accountability; delegation(g) corporate theories – mission and strategy; planning; policies, objectives and values; centralised and



	<p>decentralised organisations; project-based organisations; risks; security; insurance requirements</p> <p>6. Business practices must include:</p> <ul style="list-style-type: none">(a) project and contract procurement(b) contractual methods. <p>7. The impact on organisational management must include:</p> <ul style="list-style-type: none">(a) role of designer(b) main contractor(c) sub-contractor(d) supplier. <p>8. The learner's explanation of the use of planning must include:</p> <ul style="list-style-type: none">(a) project organisation – including layout and accommodation plans; method statements, plans of work and safety plans(b) co-ordination, monitoring and control – including Gantt charts; critical path analysis; arrow diagrams; precedence diagrams; line of balance; manual and computer-based techniques. <p>9. The learner's explanation of procurement scheduling and control must include:</p> <ul style="list-style-type: none">(a) materials and plant(b) supply chain management(c) Just In Time(d) recycling and safe disposal of demolished materials(e) waste management(f) scheduling(g) resourcing and utilisation of sub-contracted and direct labour(h) budget and cost control – including estimated cost; planned performance cost; actual cost; cash flow. <p>10. The learner's explanation of quality control must include:</p> <ul style="list-style-type: none">(a) audit(b) inspection(c) statutory liaison. <p>11. The learner's explanation of risk management must include:</p> <ul style="list-style-type: none">(a) risk assessment(b) liabilities(c) risks(d) security
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	<p>(e) insurance requirements.</p> <p>12. The evaluation of procurement methods must include:</p> <ul style="list-style-type: none">(a) traditional methods of tendering(b) other methods – including partnering; public private partnerships; private finance initiative (PFI); client and project objectives. <p>13. The learner’s explanation of the use of contracts must include reference to:</p> <ul style="list-style-type: none">(a) legal definitions in relation to contracts(b) forms of a contract(c) stages within a contract(d) contractual obligations of performance – including time; cost; quality; insurance; warranty. <p>14. The evaluation of the impact of procurement practices must include evaluation of their impact on:</p> <ul style="list-style-type: none">(a) construction teams, including multi-disciplinary and integrated teams(b) partnering(c) government initiatives, including Latham and Egan Reports(d) benchmarking(e) key performance indicators (KPIs)(f) sustainability and environmental management issues(g) legislation(h) corporate values(i) professional standards. <p>The assessment of this unit will be via a combination of centre-devised assignments and tests, and will be conducted in supervised conditions. The assessment strategy for the unit has been agreed with industry stakeholders.</p>
Location of the unit within the subject/sector classification system	4.1 Engineering
Name of the organisation submitting the unit	CABWI Awarding Body
Availability for use	Shared
Unit guided learning hours	48