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BA (Hons) Leadership and Management Skills in the Workplace

Module: LCLM5003 – Project Management

A PROJECT PORTFOLIO

**Reopening the A449 Highway Corridor:
West Midlands Flood Recovery Project**

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Part A: Project Proposal Poster

The following poster was presented to the module tutor and peers during Week 6 pitch session. It outlines the proposed project for reopening the A449 Highway Corridor following the July 2025 West Midlands flooding and forms the foundation upon which the reflection (Part B) and the detailed Project Management Plan (Part C) are based.



Figure 1: Part A Poster – Reopening the A449 Highway Corridor, West Midlands Flood Recovery

Part B: Reflection on Feedback

The poster presentation of the A449 Highway Corridor Flood Recovery project, delivered during the Week 6 pitch session, provided a structured opportunity to communicate the proposed project management plan to both peers and the module tutor. The feedback received from this session has been constructive and has directly informed the development of the final Project Management Plan presented in Part C. This reflection examines the key strengths acknowledged during the session, the areas identified for improvement, and how those improvements have been incorporated into the final plan.

Strengths Identified

Several aspects of the poster were recognized positively by both the tutor and peers. The clarity of the project's scope and purpose was highlighted as a particular strength. The framing of the A449 corridor as a critical transport artery linking Worcester and Kidderminster provided clear justification for the project's urgency, and the rationale for selecting this specific route was considered well-argued, grounding the proposal firmly in the consequences of the July 2025 flooding scenario.

The stakeholder analysis matrix was commended for its comprehensiveness. Mapping stakeholders across the interest-influence grid — positioning Worcestershire County Council and the Project Delivery Team in the 'Manage Closely' quadrant and the Environment Agency in 'Keep Satisfied' — was seen as a sound application of stakeholder theory (Maylor, 2022). The RACI matrix was praised for clearly delineating roles and responsibilities across the project team, providing an immediately accessible governance overview.

The risk assessment was considered thorough and contextually relevant. Identifying risks such as adverse weather, material shortages, budget overrun, and hidden structural damage — all plausible in a post-flood infrastructure recovery context — demonstrated an ability to apply risk management principles in a realistic scenario (Kerzner, 2022). The inclusion of a 10% contingency budget within the £2.4 million total was particularly noted as good practice (PMI, 2021). The Work Breakdown Structure and Gantt Chart were acknowledged as logically structured, reflecting a standard project lifecycle approach (Lock, 2020).

Areas for Improvement

Despite these strengths, several areas for development were identified. The tutor observed that while the Gantt Chart presented a high-level timeline across the four phases, it lacked task-level granularity. Individual tasks within each phase needed to be broken down further, with specific durations and dependencies explicitly indicated. In the final plan, the Gantt schedule has been expanded to include all WBS sub-tasks across the 12-week timeline, improving its utility as an operational planning instrument.

Peers noted that the budget breakdown, while clearly presented, lacked justification for the figures given. The distinction between Labour and equipment costs (£1,500,000) and materials (£600,000) were visible on the poster but without explanation of how these were derived. In the final plan, a more detailed cost estimation section has been included, referencing industry procurement assumptions, and identifying the specific resource categories within each cost line.

The tutor suggested that the theoretical underpinning of the chosen project management methodology could be strengthened. The poster implied a traditional, phased waterfall approach but did not explicitly justify this choice over alternatives such as PRINCE2 or Agile. In the final report, the rationale for adopting a traditional methodology is critically evaluated with reference to the nature of infrastructure recovery projects and their inherent constraints around scope stability and task linearity (Turner, 2021).

Finally, it was recommended that sustainability considerations be addressed more explicitly, particularly in relation to the upgraded drainage infrastructure. This recommendation has been incorporated throughout the final plan, specifically within the project description, scope, and conclusion sections, where the long-term flood resilience benefits of the project are addressed.

Summary

Overall, this reflection confirms that the foundational elements of the project management plan were sound and well-received. The improvements identified — greater task-level detail in the Gantt Chart, more rigorous budget justification, a clearer methodological rationale, and a stronger sustainability focus — have been systematically addressed in the Project Management Plan presented in Part C. The feedback process has been genuinely valuable in strengthening both the analytical rigor and the practical utility of the final submission.

Part C: Project Management Plan

1. Introduction

In July 2025, the West Midlands region of England experienced catastrophic flooding following several weeks of sustained heavy rainfall driven by an anomalous Atlantic weather system. The River Severn, already at critical capacity, breached its flood defences across multiple locations, inundating streets, homes, and businesses in Worcester, Shrewsbury, and Kidderminster. The Environment Agency issued Severe Flood Warnings — Danger to Life — and emergency services were rapidly overwhelmed. Among the most significant consequences was the widespread damage to critical road infrastructure, rendering key transport corridors impassable and severely disrupting emergency response operations, supply chains, and community mobility.

This Project Management Plan (PMP) addresses one of the most pressing recovery challenges arising from this disaster: the reopening of the A449 highway corridor, the principal arterial road connecting Worcester and Kidderminster. The A449 represents a critical transport link for both cities, as well as for emergency services, commercial freight operators, and the wider West Midlands road network. Its closure has had immediate and cascading economic, social, and operational consequences for the communities it serves.

This plan applies established project management principles and frameworks — including Work Breakdown Structure (WBS), Gantt Chart scheduling, stakeholder analysis, risk management, and resource allocation — to deliver a structured, costed, and time-bound recovery program (PMI, 2021; Kerzner, 2022). The plan is presented to relevant stakeholders, including Worcestershire County Council, Highways England, and the Environment Agency, with the objective of restoring the A449 to full operational capacity within a 12-week period and within a total approved budget of £2.4 million.

Project Description

The project concerns the full restoration of the A449 highway corridor to safe, operational status following severe flood damage sustained in July 2025. The A449 is a major A-road running through the heart of the West Midlands, serving as the primary route for passenger vehicles and heavy goods vehicles travelling between Worcester and Kidderminster and onward to the wider motorway network. The road's closure following the flooding has severed this critical artery and caused widespread disruption to communities, businesses, and emergency services.

Flood damage to the A449 encompasses surface deterioration and erosion of the road pavement, undermining of sub-base and foundation layers, damage to drainage infrastructure — including culverts, gullies, and drainage channels — contamination and debris deposition across the carriageway, and structural weakening of kerbing, verges, and associated highway furniture. Secondary damage to adjacent utility infrastructure may also be present and will require investigation during the survey phase.

The project will be delivered in four sequential phases — Initiation, Planning, Execution, and Closure — consistent with the traditional waterfall project lifecycle (Lock, 2020). This methodology has been selected because infrastructure restoration projects of this type involve well-defined, linear task dependencies with low tolerance for iterative change mid-execution, characteristics that are incompatible with more flexible Agile-based approaches (Turner, 2021). A phased approach also facilitates clear governance checkpoints and phase-gate approvals, which are essential in public sector infrastructure projects operating under financial scrutiny.

The project is proposed to run from July to October 2025, with a planned duration of 12 weeks. The total approved budget is £2.4 million, inclusive of a 10% contingency allowance. Upon successful completion, the A449 will be restored to modern road safety standards with upgraded drainage infrastructure designed to reduce the corridor's vulnerability to future flood events, thereby delivering a long-term community resilience benefit beyond the immediate recovery objective.

2. Scope

In Scope: The project scope encompasses all activities necessary to restore the A449 highway corridor to full operational capacity. This includes: a comprehensive structural and damage survey of the full corridor; clearance of flood debris, contaminated material, and unstable surface layers; repair and upgrading of drainage infrastructure, including culverts and gullies; full resurfacing of damaged road sections in compliance with the Highways England Design Manual for Roads and Bridges (Highways England, 2023); reinstatement of road markings, signage, and highway furniture; environmental assessment and regulatory sign-off by the Environment Agency; and formal project closure, handover to the highway authority, and submission of the post-project completion report.

Out of Scope: The following activities fall outside the defined project scope: repairs to privately owned or adopted roads adjoining the A449; repair of utility infrastructure beneath the carriageway, which remains the responsibility of relevant utility providers; long-term flood defense construction along the River Severn corridor; any works required to roads other than the A449 itself; and permanent acquisition of any land or property.

Assumptions: It is assumed that planning permissions and all necessary permits for highway works will be secured during the planning phase; that specialist contractors can be procured and mobilized within the project timeline; that no further significant flooding events occur during the 12-week delivery period; and that Highways England design standards remain applicable and unchanged throughout the project.

Constraints: The project is subject to a fixed budget of £2.4 million and a 12-week delivery deadline. All works must comply with the Highways England Design Manual for Roads and Bridges (Highways England, 2023), relevant Health and Safety at Work legislation, and applicable environmental regulations enforced by the Environment Agency.

3. Work Breakdown Structure

The Work Breakdown Structure (WBS) decomposes the total scope of the project into manageable, deliverable-oriented components, enabling clear assignment of responsibilities and systematic progress tracking (PMI, 2021). The WBS for the A449 Flood Recovery Project is organized into four top-level phases, each containing defined sub-tasks, as presented in Table 1.

Table 1: Work Breakdown Structure – A449 Flood Recovery Project

WBS ID	Phase	Work Package / Task
1.0	Initiation	Project initiation and mobilization
1.1		Define project scope, objectives, and governance structure
1.2		Commission and execute full structural and damage survey of A449 corridor
1.3		Stakeholder identification and communication plan preparation
2.0	Planning	Detailed design and procurement
2.1		Prepare detailed engineering design and drainage upgrade specifications
2.2		Tender, evaluate, and award specialist contractor contracts
2.3		Secure planning permits, approvals, and environmental consents
2.4		Procure materials and mobilize equipment to site
3.0	Execution	Physical works and construction
3.1		Debris clearance, removal of contaminated material, and road closure management
3.2		Drainage repair and upgrade: culverts, gullies, and drainage channels
3.3		Sub-base and foundation layer reinstatement
3.4		Full carriageway resurfacing to Highways England design standards
3.5		Reinstatement of road markings, signage, and highway furniture
4.0	Closure	Inspection, handover, and reporting
4.1		Independent final safety and quality inspection
4.2		Formal project handover to Worcestershire County Council
4.3		Post-project completion report and lessons learned

The WBS ensures that every element of the project scope is accounted for and assigned to a specific phase. This hierarchical decomposition supports the preparation of the Gantt schedule, the allocation of resources, and the assignment of accountabilities within the RACI framework (Maylor, 2022).

4. Quad Chart

The Quad Chart provides a concise, single-page summary of the project's key parameters across four dimensions: purpose and objectives, desired end results, customers and stakeholders, and measures of success. This tool is widely used in government and infrastructure projects to communicate project fundamentals to senior decision-makers efficiently and accessibly (Kerzner, 2022). Table 2 presents the Quad Chart for the A449 Flood Recovery Project.

Table 2: Quad Chart – A449 Highway Corridor Flood Recovery Project

Purpose (Aims & Objectives)	Desired End Results
To restore the A449 highway corridor to full operational capacity following catastrophic flood damage in July 2025, enabling the safe movement of people, goods, and emergency services between Worcester and Kidderminster.	A449 highway reopened within 12 weeks (July–October 2025), within the approved £2.4 million budget, to modern safety standards, and with upgraded drainage infrastructure to reduce future flood vulnerability.
Customers (Stakeholders)	Measures of Success
Worcestershire County Council, Project Delivery Team, Highways England, Environment Agency, Local Residents, Local Businesses, Emergency Services, Environmental NGOs, and General Public.	On-time delivery within 12 weeks. Final cost at or below £2.4 million. Full compliance with Highways England safety and environmental standards. High stakeholder satisfaction ratings. Zero reportable safety incidents during construction.

5. Gantt Chart

The Gantt Chart provides a visual representation of the project timeline, illustrating the planned schedule for each phase and individual task across the 12-week project duration (Lock, 2020). Tasks have been sequenced to reflect their logical dependencies: initiation activities are front-loaded in Weeks 1–2 to ensure early issue identification; planning and procurement activities overlap slightly with initiation in Weeks 2–4 to compress the overall timeline without introducing unacceptable risk; execution activities — which form the critical path — dominate Weeks 5–10; and closure activities are scheduled for Weeks 11–12. Table 3 presents the project Gantt schedule.

Table 3: Gantt Chart – A449 Flood Recovery Project (12 Weeks, July–October 2025)

Task / Week	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
1.0 Initiation												
1.1 Scope & objectives												
1.2 Damage survey												
1.3 Stakeholder plan												
2.0 Planning												
2.1 Detailed design												
2.2 Procurement												
2.3 Permits & consents												
2.4 Materials & mobilisation												
3.0 Execution												
3.1 Debris clearance												
3.2 Drainage repair												
3.3 Sub-base reinstatement												
3.4 Resurfacing												
3.5 Road markings & furniture												
4.0 Closure												
4.1 Final inspection												
4.2 Handover												

This phased sequencing reflects best practice in infrastructure project scheduling and ensures that specialist resources — particularly construction plant and engineering contractors — are mobilized only for the phases in which they are required, thereby minimizing idle time and supporting cost control (APM, 2019).

6. Stakeholders' Involvement

Effective stakeholder management is a critical determinant of project success in infrastructure recovery contexts (Turner, 2021). For this project, stakeholders have been mapped against an Interest-Influence matrix — a widely recognized tool for prioritizing engagement strategies — and assigned to one of four quadrants: Manage Closely, Keep Satisfied, Keep Informed, or Monitor (Maylor, 2022). Table 4 presents the project stakeholder register and associated engagement strategy.

Table 4: Stakeholder Register and Engagement Strategy

Stakeholder	Interest	Influence	Strategy	Engagement Actions
Worcestershire County Council	High	High	Manage Closely	Weekly progress meetings; formal phase-gate sign-off
Project Delivery Team	High	High	Manage Closely	Daily site briefings; real-time project dashboard reporting
Highways England	High	High	Keep Satisfied	Regular design review meetings; compliance and standards reporting
Environment Agency	High	Medium	Keep Satisfied	Environmental impact updates; regulatory consultation and approvals
Local Residents	High	Low	Keep Informed	Community newsletters, public notices, and diversion signage
Local Businesses	High	Low	Keep Informed	Business impact briefings; regular reopening timeline updates
Environmental NGOs	Low	Medium	Monitor	Environmental assessment sharing; consultation as required
General Public	Low	Low	Monitor	Public-facing website updates and press releases

Stakeholder communication will be governed by a formal Communication Plan maintained by the Project Manager. Worcestershire County Council, as the project sponsor and highway authority, will be engaged through weekly progress meetings and formal phase-gate sign-offs. Highways England will be consulted on all design and compliance matters throughout the planning and execution phases. Local

residents and businesses will be kept informed through regular community newsletters, public notices, and clearly signed traffic diversion routes.

The principle of early and transparent stakeholder engagement is applied throughout, consistent with the guidance of Portny (2022), who emphasizes that unmanaged stakeholder expectations represent one of the most common causes of project failure. The Project Manager retains overall responsibility for the execution of the Communication Plan and for escalating stakeholder concerns to the Project Sponsor.

7. Allocation of Resources

Resource planning for the A449 project encompasses human resources, plant and equipment, materials, and financial resources. Effective resource allocation is essential to ensure that the right capabilities are available at the right time throughout the project lifecycle, without creating resource conflicts or unnecessary cost (Kerzner, 2022). Table 5 presents the project budget allocation, and Table 6 outlines the human resource and equipment plan.

Table 5: Project Budget Allocation

Cost Category	Amount (£)	% of Total
Survey & Design (engineering consultants, ground investigation)	£150,000	6.25%
Labour & Equipment (contractor costs, plant hire, site management)	£1,500,000	62.50%
Materials (aggregates, asphalt, drainage components, road furniture)	£600,000	25.00%
Contingency Reserve (10%)	£150,000	6.25%
TOTAL BUDGET	£2,400,000	100%

The largest cost component is labour and equipment at £1,500,000 (62.5%), reflecting the intensive use of specialist construction plant — road planers, paving machines, compaction rollers, and drainage excavators — and the engagement of experienced civil engineering contractors. Material costs of £600,000 cover the supply of high-specification asphalt, aggregate sub-base materials, precast drainage units, and road markings and signage. The Survey and Design allocation of £150,000 covers engineering consultancy fees and the cost of a specialist ground investigation, including Ground Penetrating Radar survey, to identify any hidden sub-base damage.

The 10% contingency of £150,000 is held in reserve to address unforeseen conditions, consistent with recommended practice for post-disaster infrastructure projects (APM, 2019).

Table 6: Human Resource and Equipment Plan

Role / Resource	Qty	Phase(s)	Key Responsibility
Project Manager	1	All Phases	Overall delivery, stakeholder management, reporting
Site Engineer	2	Phases 2–4	Technical supervision and quality assurance on site
Civil Engineering Contractor	1 firm	Phase 3	Road clearance, drainage works, and full resurfacing
Surveying & Design Consultant	1 firm	Phases 1–2	Structural survey, engineering design, drainage specification
Health & Safety Officer	1	Phases 2–4	Daily site safety inspections and compliance monitoring
Road Planers & Pavers (plant)	2 sets	Wks 5–10	Carriageway milling and asphalt laying
Excavators & Dump Trucks	3 / 4	Wks 5–7	Drainage excavation and debris/waste removal

Resource scheduling has been aligned directly with the Gantt Chart to ensure that specialist equipment and personnel are mobilised only during the phases in which they are required. The Project Manager will monitor resource utilisation on a weekly basis using a resource tracking log, with any significant variances reported to the Project Sponsor at Worcestershire County Council. This approach to resource management reflects the guidance of Meredith and Mantel (2019), who emphasise that resource tracking and early variance detection are essential to maintaining project schedule and budget performance.

8. Risk Analysis

Risk management is a fundamental discipline within project management, requiring systematic identification, assessment, and mitigation of threats that could compromise project objectives (PMI, 2021). For the A449 Flood Recovery Project, risks are assessed using a probability-impact scoring approach, in which a risk score is calculated as the product of likelihood (rated 1–5) and impact (rated 1–5). Risks scoring 8 or above are classified as High priority and require active mitigation strategies and named risk owners within the project team. Table 7 presents the project risk register.

Table 7: Risk Register – A449 Flood Recovery Project

Risk	Likelihood	Impact	Score	Mitigation Strategy
Adverse weather during construction	Medium (3)	High (4)	12	Incorporate a 1-week schedule buffer in the Gantt plan. Monitor Met Office forecasts daily. Prepare a rain contingency works plan for permissible indoor tasks.
Material shortages (asphalt, aggregates)	High (4)	Medium (3)	12	Pre-order all materials during the planning phase. Identify two approved alternative suppliers. Maintain a minimum two-week on-site material buffer stock.
Budget overrun	Medium (3)	High (4)	12	Maintain a 10% contingency reserve of £150,000. Implement weekly cost reporting against budget baseline. Require Project Sponsor approval for all variation orders exceeding £10,000.
Hidden structural damage below carriageway	Medium (3)	High (4)	12	Commission a comprehensive ground investigation survey (including Ground Penetrating Radar) in the initiation phase. Allocate contingency budget specifically for unforeseen sub-base repairs.
Safety incidents during construction	Low (2)	High (4)	8	Enforce a detailed Construction Phase Health and Safety Plan. Conduct daily toolbox talks. Ensure all personnel hold valid CSCS cards and relevant site qualifications.

Contractor performance failure	Low (2)	High (4)	8	Include performance milestones and liquidated damages clauses within contracts. Conduct pre-qualification checks during procurement. Maintain approved alternative contractor list.
Environmental damage during works	Low (2)	Medium (3)	6	Prepare an Environmental Management Plan with the Environment Agency. Use silt traps

Risk	Likelihood	Impact	Score	Mitigation Strategy
				and pollution prevention measures throughout. Conduct regular environmental monitoring.

The four highest-scoring risks — adverse weather, material shortages, budget overrun, and hidden structural damage, each scoring 12 — reflect the inherent uncertainties of post-disaster infrastructure recovery in an environment of ongoing climatic instability. The mitigation strategy for each incorporates both preventive actions (reducing the likelihood of occurrence) and contingency actions (reducing the impact if the risk materializes), consistent with the dual-response approach advocated by the Association for Project Management (APM, 2019).

Risk ownership will be formally assigned to named individuals within the Project Delivery Team, and the risk register will be reviewed and updated at every weekly project meeting throughout the project lifecycle. The Project Manager retains overall responsibility for escalating high-priority risks to the Project Sponsor and for initiating the use of contingency budget where required. This iterative approach to risk management ensures that the plan remains responsive to changing conditions on site and within the broader project environment (Kerzner, 2022).

9. Conclusion

This Project Management Plan presents a comprehensive, evidence-based framework for the restoration of the A449 Highway Corridor following the catastrophic July 2025 flooding across the West Midlands. The plan demonstrates the systematic application of established project management methodologies — including WBS, Gantt scheduling, stakeholder analysis, resource planning, and risk management — to a complex, real-world infrastructure recovery scenario, and is presented to relevant stakeholders as the authoritative planning document for project delivery.

The project has been scoped and planned to deliver the full reopening of the A449 within 12 weeks and within a budget of £2.4 million. In doing so, the project will restore critical transport connectivity to communities across the Worcester-Kidderminster corridor, re-enable emergency service access, and support the broader economic and social recovery of the flood-affected region. Beyond the immediate recovery objective, the project will deliver a long-term community resilience benefit through upgraded

drainage infrastructure, designed to reduce the A449's vulnerability to future flood events — a consideration of growing importance in the context of increasing climate-related weather extremes (Defra, 2022).

The phased, traditional waterfall methodology adopted is appropriate for this project given the linear task dependencies and low tolerance for scope change inherent in highway engineering works. The stakeholder engagement framework ensures that high-priority stakeholders are actively managed throughout delivery, while community stakeholders are kept informed through transparent communication. The risk management approach has been structured to address the most critical project risks proactively, with specific, costed mitigation strategies and formal risk ownership.

It is recommended that the Project Sponsor formally authorize project initiation and confirm the resource and budget allocations presented in this plan at the earliest opportunity, in order to meet the 12-week delivery target and restore this critical highway corridor to the communities that depend upon it.

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