Appendix 11.1

SCHEDULE OF MITIGATION AND ENHANCEMENT

Table 11.1a: HWSFAC Schedule of Embedded Mitigation

Embedded Mitigation Measures	Securing Mechanism
Biodiversity	
Construction	
Principles for the timing of the construction works have been developed to avoid the most sensitive period for the nationally important birds associated with the open water of Broadwater Lake and part of the Mid Colne Valley SSSI (as set out in Table 7.17). Works within the lake will occur during September only, this month is after the breeding season. During construction, the detailed CEMP must be adhered to by Contractors since it will form part of Employers Requirements. The Outline CEMP includes measures which are deemed 'mitigation' to reduce the level of impact that is unavoidable, some of the key measures include: ▪ Industry good-practice pollution prevention methods and emergency spill response plans. ▪ Control of working hours 07:00 – 18:00 hours weekdays, 07:00 – 13:00 hours Saturday and no working on Sundays or Bank Holidays. Construction work which gives rise to noise that is audible at the construction area boundary will be restricted to 08:00 – 18:00 hours weekdays and 08:00 – 13:00 hours Saturday. ▪ Restriction of lighting to dusk and dawn in late autumn – winter. The use of temporary lighting will be minimised wherever practical and as required for health and safety, security or other reasons. Light fittings will be directional so as to minimise light spill on to retained habitat of value to biodiversity (i.e. Site boundary hedgerows, woodland and individual mature trees). ▪ Works (including surveys and monitoring visits) will be undertaken in accordance with a biosecurity risk assessment and safe system of work. The risk assessment and safe system of work will take into account species-specific guidelines for management and control of INNS produced by the Non-Native Species Secretariat (NNSS) and Natural England. ▪ Use of best practicable means to control noise, vibration and dust. ▪ Fencing, which acts as physical and acoustic barriers will be installed at the start of enabling works at the boundary of wet woodland on the peninsula to protect the habitat from accidental damage and minimise noise disturbance during construction.	Outline CEMP & Outline MEMP/ Application Drawings

Embedded Mitigation Measures	Securing Mechanism
▪ Where works in close proximity to retained trees will be undertaken in accordance with current best practice, defined in British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations (Ref 10) and National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. All necessary protective fencing will be installed prior to the commencement of any site clearance or construction works. ▪ Protected species checks prior to commencement of works and mitigation measures and licensing to ensure compliance with legislation as appropriate. As part of the construction and operation of the Proposed Development, the potential for visual stimuli on Broadwater Lake (from existing and proposed uses) has been considered and appropriately mitigated to reduce the potential impacts as far as possible. This includes the following mitigation measures included in the Outline MEMP: ▪ Floating reedbeds and new willow tree planting in submerged planters carefully placed across Broadwater Lake to reduce visual stimuli; ▪ Increasing amount of standing open water due to remodelling of Islands #2 and #6 and removal of Island #7; ▪ Creating a 'Bird Refuge Area' in the southern part of the lake, by removing the certain disturbance from the south banks from fishers and decreasing the area over which sailing is allowed. Overall, there will be an increased disturbance-free area from 3.4ha to 14.7ha in the Bird Refuge; ▪ Installation of a green wall and fencing around the camping area in the south of the Peninsula. This will also stop egress into the woodland area by humans but allow movement of animals (mammal access points will be installed); and ▪ Increase area of woodland on Peninsula by removing the trackway to the north of the Peninsula and planting of native broadleaf and fruiting trees.	
Completed Development	
An Outline OMP (Appendix 5.1) provide detailed measures in how the HWFASC will be operated to reduce impacts (disturbance particularly) on the biodiversity of the Site. The OMP will also include pollution prevention measures and emergency spill responses as relevant to the existing and proposed operational activities.	Outline OMP

Embedded Mitigation Measures	Securing Mechanism
A lighting scheme for Proposed Development has been designed to avoid impacts to foraging bats by reducing lux levels falling from external lighting onto vegetation to a maximum of 0.4 lux which is lower than best practice guidance. In the majority of locations onsite light levels falling onto adjacent vegetation are reduced to zero by bespoke mitigation comprising 4m wide panels behind the lighting columns. The panels provide a further vertical enhancement opportunity for providing climbing plants, bird boxes and invertebrate enhancements. A Lighting Impact Assessment and External Lighting Design accompanies the planning application and it is expected that details would be secured by planning condition. Internal lighting spill from buildings with windows facing onto natural habitats will be controlled by design and also through management measures include in the Outline OMP. Measures include layout of internal lighting and choice of luminaires, to prevent lights pointing directly out of windows. The OMP includes suitable window treatments that must be closed at night, and electronic controls on lighting to ensure lights are not switched on at night if windows are unshielded.	
Water Resources and Flood Risk	
Construction	
Surface Water / Groundwater: ▪ Adherence to the measures included in the Outline CEMP and all guidance from statutory consultees, appropriate training for all workforces including specialised toolbox talks where necessary, ongoing monitoring and management from suitably experienced Environmental Clerk of Works; ▪ Use of self-bunded refuelling facilities (or sufficient secondary containment with impermeable base and sides), provision of spill kits, well maintained/certificated plant and equipment, use of biodiesel only; ▪ Self-bunded facility for the storage of and chemicals/potentially contaminative materials being used during construction, including paints, lubricants, solvents etc. No on-site mixing of concrete, no vehicle washing on-site (apart from self-contained wheel washes if required). No discharge of construction runoff into the lake or groundwater (e.g., via soakaways); ▪ Cut-off ditches and/or geotextile silt-fences will be installed around excavations, exposed ground and stockpiles to prevent the uncontrolled release of sediments from the Site; ▪ Advanced provision of suitable operational SuDS measures that will also serve to treat suitable runoff during the construction period (that will include an agreed form of hydrocarbon interception, sediment detention and therefore	Outline CEMP

Embedded Mitigation Measures	Securing Mechanism
phosphate capture, and wetland vegetation suitable for managing nitrogen nutrients (e.g. through the very shallow scraping of clean surface material (without disturbing any underlying potential/known waste), lining with impermeable clay layer, clean cover layer and pre-planted native wetland plant coir blankets (vegetation from a local provenance source and agreed with Natural England) to create shallow wetland features (that will be maintained); ▪ Sediment traps on all surface water drains in the surrounding region; ▪ Silty water abstracted during excavations will be discharged to settlement tanks or siltbusters as appropriate. Only clean run-off will be permitted to discharge to ground or to the lake via the pre-installed SuDS features. A temporary discharge consent will be agreed with EA prior to the commencement of works, if necessary; ▪ Provision of suitable facility to contain/remove and potential contaminated liquids, storage of materials and equipment at least 10m from the lake margin and 50m from any boreholes and in Flood Zone 1 and away from highlighted groundwater flood risk areas, protect any stockpiles so that materials are not blown or washed away, no use of herbicides or pesticides; ▪ The CEMP will set out specific measures in relation to spillage prevention and response. This will be disseminated to relevant site employees and associated training and equipment provided. On-site provisions will be made to contain a serious spill or leak using spill kits, booms, bunding and absorbent material, alongside appropriate monitoring; ▪ Contaminated soil will be identified by ground investigation prior to construction and either treated on-site and reused or removed and disposed of off-site by a licensed waste disposal operator at a correctly licensed waste depot. Contaminated water will be removed from the Site by tanker and disposed of at a suitably licensed location; ▪ Implementation in accordance with all legal and permitting requirements including Environmental Permit, Flood Risk Activity Permit, and SSSI Assent; ▪ No excavation of any areas associated with former regulated or potential unregulated waste activities. No removal of any concrete cover over these locations. Provision of a suitably designed/specified impermeable barrier over these areas (e.g., clay) and appropriate overlying clean cover to prevent new pathways to terrestrial areas including connected groundwater; ▪ Advanced construction and use of SuDS features to support the management of construction surface water runoff and discharge of this to Broadwater Lake only when at an acceptable water quality standard;	

Embedded Mitigation Measures	Securing Mechanism
▪ Adoption of suitable established working method for dredging/re-use of sediment in SSSIs (e.g., use of long-reach excavators on pontoons and use of barges to extract/move and deposit dredged sediment from donor to pre-established receptor sites) will minimise the amount of lake-bed disturbance, water quality deterioration and duration of works (see the CEMP for more details on methods); ▪ GPS and CAD controlled dredging and land forming activities. This will prevent over-deepening/unnecessary excavation and therefore prevent any new pathways between lakebed dredging and groundwater from forming (also as this is believed to be already in hydrological continuity); ▪ Use of turbidity curtains or bubble curtains around each area of lake dredging/in-lake works to prevent dispersion of turbid water into adjacent parts of the lake. Turbidity within and outside of these features would be continuously monitored. They would only be removed when turbidity returns to levels (e.g., baseline turbidity) agreed with the EA and Natural England; ▪ Piling Method Statement - CFA piling methods are likely to be appropriate for use during the piling of building foundations to limit the potential for the mobilisation of shallow contamination within made ground soils into underlying natural strata and the groundwater. Shallow foundations are considered unsuitable for settlement sensitive structures due to unacceptable total and differential settlements under applied foundations loadings. Shallow reinforced raft foundations may be considered for small, low-bearing structures where a small amount of settlement can be tolerated, while keeping differential settlement to a minimum. For the implementation of shallow foundations (where feasible) the identified construction measures set out in Appendix 9.3 are to be followed. Piling method statements will be provided at detailed design stage; ▪ HDD - Based on industry experience, detailed design and skilled execution by a suitably qualified and competent HDD contractor, the risks from HDD drilling will be minimised. A Breakout Management Plan will be put in place by the appointed HDD contractor to assess the risks posed by potential breakout of drilling fluid (bentonite). The Breakout Management Plan will incorporate drilling suspension protocols, breakout containment strategies, fluid removal and clean-up procedures, and incident recording and reporting. No refuelling of plant machinery associated with the HDD process will occur within the vicinity of any watercourse, including the Grand Union Canal or the Eastern Channel. These measures are secured through the Outline CEMP; and ▪ Monitoring and reporting of the success of these measures and interactive feedback to management regime. Implementation in accordance with all legal and permitting requirements.	

Embedded Mitigation Measures	Securing Mechanism
Flood Risk: ▪ The contractors will consult with the LLFA and EA and sign up to the EA's Floodline warning service for works within areas at risk of flooding; ▪ A suitable flood safe egress route will be agreed in advance and flood evacuation plan will be implemented in good time; ▪ Relocation of vehicle fuel and other materials that may cause water contamination from lower lying parts of the Site or off-Site, in the event of an appropriate flood warning; ▪ No compounds/excavated/dredged material or vehicles or materials will be stored in Flood Zones 2 or 3; ▪ No works will occur within 8m of the River Colne unless authorised under a Flood Risk Activity Permit. This is limited to the demolition of the existing Sailing Club House and habitat enhancements in this northern area of the lake shore; and ▪ No disturbance/modification to any bank levels / fluvial defences associated with the River Colne.	
Completed Development	
Surface Water / Groundwater: ▪ Implementation in accordance with all legal requirements such as SSSI Assents; ▪ Surface runoff from buildings, car parks and all other operational areas (including green infrastructure) will be directed through suitable SuDS features that will include hydrocarbon separators, sediment forebays, and suitable vegetated and permanently wet basins managed to attenuate runoff and maintain the growth of suitable plants that will be inspected and maintained to remove nutrients and other potential contaminants prior to discharge back to Broadwater Lake; ▪ The introduction of suitably designed/specified impermeable barrier over (e.g., clay) and appropriate overlying clean cover (located where future detailed Site Investigation indicates this is required) will prevent percolation of rainwater and surface runoff into underlying areas of regulated and potentially unregulated waste, thereby reducing residual contaminant mobilisation and transport to groundwater and surface water providing the opportunity for water quality betterment;	Outline OMP/ Application Drawings

Embedded Mitigation Measures	Securing Mechanism
▪ All potential contaminants will be adequately stored and monitored with minimised use and on-site storage of chemicals. All operational staff will be made aware of pollution responsibilities and be adequately trained. Continued monitoring will be used to demonstrate that groundwater is unaffected by the Proposed Development and to provide early warning of potential pollution; ▪ All foul waste to be directed to Thames Water sewage system and waste water treatment works for treatment to acceptable and permitted quality standards (including for nutrients) prior to discharge to the receiving watercourse. Implementation in accordance with all legal and permitting requirements; and ▪ No surface or groundwater abstraction is required as part of these proposals. Consequently, there is no reduction in groundwater quantity available for recharge from the lake for abstraction due to ongoing discharge of clean surface water runoff to lake. Flood Risk: ▪ The ground level of the extension to the peninsula should be set at a minimum of 37.89 m AOD. This is the peak modelled in-channel water level during a (defended) 1 in 100 AEP event +20% climate change; ▪ The finished floor level of all proposed buildings should be set at a minimum of 38.19 m AOD, i.e., 300 mm above the peak modelled in-channel water level during a (defended) 1 in 100 AEP event +20% climate change, and at least 0.15 m above adjacent ground levels following any reprofiling of the Site, with ground levels sloping down from the buildings; and ▪ The buildings should have designed in resilience to flooding up to a minimum level of 38.23 m AOD e.g., raised power sockets, non-return valves on ground floor drainage, in line with government guidance. This is the peak modelled in-channel water level during a (defended) 1 in 1,000 AEP event. ▪ Surface water drainage from buildings and areas of hard standing will be directed to a series of SuDS features designed to provide hydrocarbon separation, sediment interception and water quality treatment through managed and vegetated wet basins before discharging back into Broadwater Lake. ▪ An introduced impermeable barrier (e.g., clay) and a suitable depth of clean cover will be placed over the existing surface where regulated and potentially unregulated waste exists. This will ensure that the pathway between rainfall and surface runoff does not continue to mobilise any contaminants into the lake or groundwater. Rain falling	

Embedded Mitigation Measures	Securing Mechanism
on these areas will be intercepted by vegetation and percolate into the clean cover before draining to Broadwater Lake. Foul Water: ▪ All foul waste will be directed via the public sewer to a suitable Thames Water waste water treatment works. ▪ Given the sensitivity of the Site, domestic foul water from the WC's and washbasins, and runoff from the 2 no. disinfection and washdown areas will be pumped off-site via a separate foul water drainage system to a point of connection to the public sewerage network approximately 100 m east of the Site. The foul drainage system will include dual redundancy (2 no. foul pumps) to minimise the impact of pump failure. In addition, emergency storage, designed in accordance with Part H of the Building Regulations, will be provided to store foul water for a period of up to 24 hours in the event of a site-wide power outage.	
Ground Conditions and Contamination	
Construction	
Pre-demolition asbestos survey – asbestos surveys of remnant site buildings and structures will be undertaken on any structures that are to be removed as part of the Proposed Development to identify Asbestos Containing Materials (ACM) requiring regulated removal off-Site by specialist licensed contractors. This is required for compliance with relevant legislative regimes. Environmental Permits - Permits will be required to cover the works associated with the Proposed Development and are likely to include, Waste Framework Directive (EPR Schedule 9 – Waste operations and materials facilities), the Landfill Directive (EPR Schedule 10 – Landfill), Mining Waste Directive (EPR Schedule 20 – Mining waste operations) and Groundwater activities (EPR Schedule 22 – Groundwater activities). Following discussion and receipt of comments from the EA, Parallel Tracking of both the permit applications and the planning application will be progressed, so as to avoid any delays during the construction phases of the Proposed Development. Outline CEMP – The Outline CEMP (Appendix 6.1) includes the following measures which would be implemented to mitigate the potential risks posed to human health, groundwater, surface water, built environment and ecology:	Outline CEMP

Embedded Mitigation Measures	Securing Mechanism
▪ General good construction working practices would be implemented such as dust suppression, including potentially contaminated dusts, (damping down), perimeter fencing around excavations, covering stockpiled materials; ▪ Appropriate stockpile segregation, locations and containment measures would be implemented to minimise the exposure of surface water and groundwater from potentially impacted runoff; ▪ A discovery strategy for managing and dealing with unexpected / unforeseen contamination that may be encountered during construction phase works. This may require additional site investigation, sampling risk assessment and remediation to ensure the protection of the identified receptors; ▪ All construction workers would be required to wear PPE such as gloves, goggles and face mask (where appropriate) to prevent dermal contact, inhalation or ingestion. Appropriate site hygiene facilities will be put in place and the presence of contaminants, and the associated risks will be explained to ground workers before they begin work; ▪ Fuel storage on-Site would be carried out under best practice i.e., integrally bunded containers. Plant refuelling would be carried out using best practice techniques and any spills to be controlled with spill kit. Fuel storage should, where possible, be located sufficiently away from any surface water features, ditches and drains which may provide a preferential pathway for migration of leaks / spills; ▪ Management of water that collects on Site or within excavations would be implemented; ▪ Appropriate management plan for polluting substances that are being brought on Site and used as part of the construction process would be implemented. This is to include any site won materials (i.e. Broadwater Lake sediment / BSC demolition materials) that are proposed to be re-used in land reclamation; ▪ Appropriate management plan for sediments in surface water runoff generated in construction area and laydowns would be implemented; ▪ Appropriate management plan of accidental leakage and / or spillage incidents of oils / hazardous substances would be implemented; ▪ Incorporation of hydrocarbon interceptors into the Site drainage system at high risk areas, such as parking, unloading and refuelling areas, to remove hydrocarbons and oils from surface water prior to discharge would be implemented; and	

Embedded Mitigation Measures	Securing Mechanism
▪ Dredging works will be progressed within a turbidity curtain to restrict the potential for wider scale migration of sediments, turbidity and suspended solids across other parts of Broadwater Lake.	
Completed Development	
Clean cover systems – These will be installed to a minimum 600mm thickness in the camping area on the Peninsula and may be reduced to a minimum of 400mm in less sensitive areas based upon proposed land use with details to be agreed with LBH. The clean cover system will comprise verified clean material which is suitable for the proposed use and could include on-site derived tested verified materials or imported material. Sampling numbers based on material types are to be confirmed at detailed design stage once the finalised materials volumes are known. **'No dig or hard to dig' layers** – These are to be incorporated where made ground materials have been determined safe for retention and re-use at depth within public open space areas. These layers may consist of a colour geotextile membrane, or a hard to dig compacted stone layer to minimise the likelihood of future disturbance or risk of accidental exposure through digging of soil. **Surface water drainage control** – Hard surfaces such as car parking, access roads and building roofs which will incorporate drainage control measures and further restrict the infiltration of rainwater and surface water directly to ground. These measures are secured through the Drainage Strategy set out in Appendix 8.2.	Application Drawings
Landscape and Visual	
Construction	
During the construction phase, contractors will be required to apply good practice site measures in compliance with the Outline CEMP (Appendix 6.1). The Outline CEMP includes standard construction methods and that housekeeping will be maintained to keep a tidy site and minimise visual clutter during construction works and that the tree protection measures specified in the ArbIA will be implemented in line with BS 5837, 2012 Trees in Relation to Design, Demolition and Construction. Tree management operations such as coppicing, pollarding and removal of unwanted vegetation would commence during the construction period. The timing of construction operations and works to existing trees will be developed in liaison with the ecologist so as avoid potential harm to wildlife.	Outline CEMP

Embedded Mitigation Measures	Securing Mechanism
From a visual perspective, any external scaffolding, protective sheets and temporary lights (if required and permissible ecologically) around buildings under construction would be designed with context in mind. Visually, hoarding on the north facing elevations of the Main Building and around working areas of the Site should be a recessive green or camouflage so as not to draw attention from visual receptors on raised ground to the northeast of the Site. Designed temporary construction lighting would avoid visual intrusion for adjacent residential properties and recreational users, with input from ecologist. Management and maintenance of new planting during the construction period would be incorporated and defined by planning condition.	
Completed Development	
The extent of dredging was been restricted to the Eastern Channel with excavated material used to form the adjacent made land that has been shaped to align with the broadly north to south geometries of the Site and setting. The design incorporates the following avoidance measures to minimise the impact of the Main Building on landscape character and in views: ▪ Siting on existing hardstanding surface surrounded by existing trees, woodland and tree groups; ▪ Iterative testing of building location and height with visual barriers study from VP 03 and 15 of 'dummy AVRs' with barriers of varying heights and locations on remnant concrete to establish the locations of minimal visibility for the location, orientation and height of the Main and supporting buildings. The height of the tallest part of the Main Building has been reduced from 49.63m AOD to 49.23m AOD and relocated so that all is comfortably below the adjacent tree line and to reduce wider outward visibility; and ▪ Retention of key landscape features and visual screening components such as woodland group G25 which plays a vital screening role. Material choices for building roof and elevations have been selected so as to be recessive, natural and visually fit into the semi-natural landscape.	Application Drawings/ Landscape Strategy

Embedded Mitigation Measures	Securing Mechanism
Use of a green appearing grass and wildflower sown surface to the boat storage and rigging area to help to absorb the proposal into the vista. Lighting will be designed in consultation ecologists, generally low level to reduce potential wider visual effects and generally not required due to the operating hours and seasons of the facility. Boundary treatments have been designed as a combination of mild steel fences, traditionally laid hedges and dry hedges depending on light levels and tree roots.	

Table 11.2b: HWSFAC Schedule of Additional Mitigation and Monitoring

Additional Mitigation Measures	Securing Mechanism
Biodiversity	
Monitoring has been formulated to cover both the construction and operational phases of the Proposed Development and presented in the Outline MEMP. The finalised MEMP and overarching monitoring strategy (and how it is regulated) will be developed further in consultation with stakeholders. Monitoring will be required to assess for disturbance impacts once HS2 commences pre-operational testing, likely in the early 2030s. Disturbance surveys (as part of the proposed monitoring) should take place during the breeding and winter seasons to determine effects to the different receptors. HS2 will undertake this monitoring; they undertake a consultation process with stakeholders (Colne Valley Regional Park group) to ensure that consultee considerations are taken into consideration.	Outline MEMP/ Planning Condition
Water Resources and Flood Risk	
Flood Risk Monitoring A suitable flood risk monitoring programme covering the construction phase will be developed and implemented as a planning condition. This will involve (as a minimum) the following components:	Planning Condition

Additional Mitigation Measures	Securing Mechanism
▪ **Rainfall and Water Level Monitoring:** Either install a rain gauge at site or use a suitable Met Office station that is local to Broadwater Lake. Additionally, install water level monitoring stations in nearby rivers, streams, or other water bodies to monitor changes in water levels during rainfall events; ▪ **Water level Measurement**: Regularly measure and record water level in Broadwater Lake. This includes monitoring both pre-development and post-development levels to assess any changes caused by altered drainage patterns or increased runoff; ▪ **Real-Time Monitoring:** Implement a real-time monitoring system that provides continuous data on rainfall and water levels. This system should be equipped with automated sensors and telemetry to allow for timely flood risk assessment; ▪ Warning Systems: Establish flood warning systems that utilise the real-time monitoring data, including signing up to the EA's Floodline service, to provide timely alerts and notifications to relevant stakeholders, including residents, emergency services, and local authorities. These systems should have clear protocols for issuing warnings and instructions for appropriate actions; and ▪ Drainage Infrastructure Monitoring: Monitor the performance of drainage infrastructure within the development, including SuDS. Regular inspections and maintenance should be conducted to ensure these systems are functioning effectively and not contributing to increased flood risk. Water Quality (accidental pollution and contamination of surface water from land-based construction activities) A suitable surface water monitoring programme covering the construction phase will be developed and implemented as a planning condition. This could include the following components: ▪ **Accidental Spill and Runoff Monitoring:** Implement measures to monitor and prevent spills, leaks, or accidental releases of pollutants from construction sites. Regularly inspect erosion control measures, sedimentation ponds, and containment systems to ensure their effectiveness in preventing runoff contamination; ▪ Reporting and Mitigation: Document and report the monitoring data collected throughout the construction project. Analyse the results to identify any trends or deviations from the baseline conditions. If adverse impacts are detected (e.g., reduced dissolved oxygen or raised turbidity for a longer period than anticipated post-dredging), implement appropriate mitigation measures (e.g., localised aeration, flocculation) to minimise further harm to surface water resources; and	

Additional Mitigation Measures	Securing Mechanism
▪ Compliance and Regulatory Requirements: Ensure compliance with local and national environmental regulations and policy related to surface water protection. Remain updated on any permit requirements or guidelines set by regulatory bodies and incorporate them into the monitoring program. Deterioration in lake water quality associated with dredging works to re-distribute lake sediment for island creation and land reclamation **Water Quality Monitoring Adjacent to Dredging/Reclamation Area:** Measure and record various water quality parameters pre and post works, including temperature, pH, turbidity, dissolved oxygen, total suspended solids, and nutrient levels. Conduct turbidity measurements using data loggers (e.g., 15-minute intervals) adjacent to dredged areas (outside turbidity curtains) throughout dredging/reclamation to track any changes over time and trigger intervention (such as further/modified turbidity barriers, water column aeriation and temporary cessation of works) if needed. Reduction in groundwater quality arising from construction A comprehensive suite of environmental monitoring will be implemented, before and during construction of the Proposed Development to ensure the measures are effective and that they can be reviewed and modified (in agreement with the EA, Natural England, the LPA and the LLFA) should this be necessary, and to demonstrate the effectiveness of the embedded measures and no significant residual effects. The suite of monitoring is outlined below: ▪ **Installation of Monitoring Wells:** Depending on the site conditions, it may be necessary to install monitoring wells strategically around the construction area (nb. it may be possible to use existing boreholes). These wells would be properly designed, constructed, and equipped with appropriate instruments to measure groundwater levels and quality accurately; ▪ **Baseline Monitoring:** Baseline monitoring involves collecting data on groundwater levels, water quality, and flow rates in the vicinity of the construction site before any work begins. This information could potentially be collected from existing boreholes/wells or new ones and would provide a reference point for comparison during and after construction; ▪ **Continuous Monitoring:** During construction, continuous monitoring of groundwater conditions will be undertaken. This typically involves installing automatic monitoring equipment that provides real-time data on	

Additional Mitigation Measures	Securing Mechanism
groundwater levels, flow rates, and water quality. Automated alarms can be set up to alert project personnel if any predetermined thresholds are exceeded; ▪ **Regular Sampling and Analysis:** Periodic sampling of groundwater would be conducted at designated intervals to assess changes in water quality throughout the construction process. The samples will be analysed in a laboratory to detect any potential contamination or changes in groundwater chemistry; ▪ **Construction Activity Tracking:** It is important to document construction activities that may have a potential impact on groundwater, such as excavation, dewatering, or underground utility installation. Keeping a detailed record of these activities will help correlate any changes in groundwater conditions with specific construction actions; ▪ **Response and Mitigation Measures:** If the monitoring program detects any adverse impacts on groundwater, appropriate response and mitigation measures will be implemented promptly. These will include adjusting construction techniques, altering dewatering methods, or implementing additional pollution control measures (including the cessation of related activities until resolved, if required); and ▪ **Documentation and Reporting:** A comprehensive record of the monitoring program, including data collected, analysis reports, and any mitigation measures taken, will be maintained. This documentation is critical for regulatory compliance, future reference, and potential legal requirements.	
Ground Contamination	
▪ Additional Intrusive Site Investigation as required to support the Proposed Development prior to enabling and construction phases (SI to inform these works phases); ▪ Site Monitoring – Including Groundwater, Surface Water and ground gas during construction and operational phases; ▪ Quantitative Risk Assessment to determine suitable for reuse targets for site soils generated during cut enabling works activities; ▪ Piling Risk Assessment; ▪ Remediation Strategy; ▪ Materials Management Plan; ▪ A Breakout Management Plan for HDD drilling;	Planning Condition

Additional Mitigation Measures	Securing Mechanism
▪ Remediation Verification Watching Brief; and ▪ Remediation Verification Report.	

Table 11.3c: HWSFAC Schedule of Enhancements

Enhancement Measures	Securing Mechanism
Biodiversity	
The enhancement measures are geographically spread throughout the Proposed Development. On the northern shore of the lake is the existing BSC club house and associated facilities. This will be removed since BSC will operate from the Peninsula and area will be restored for nature. Breeding ground nesting 'seabirds' such as gulls and terns will benefit from the vegetation clearance on Islands #3 and #4, alongside new tern rafts and floating jetties (disused from BSC) to increase the number of breeding pairs. Small numbers use the already in-situ jetties, but these are at capacity. Appropriate management measures will be in place for woodland on the Peninsula (and other areas within the red line boundary) which is currently unmanaged to increase the biodiversity of the Site as a whole. Other enhancements proposed include shallow submerged gravel beaches in the Eastern Channel for invertebrates, a bird hide to increase the public's understanding of this nationally important area, bird boxes throughout woodland, duck nesting tunnels / tubes, increased habitat within the water with macrophyte planting, additional wet features within the camping area (pond dipping etc.) and planting of native fruit trees which are currently absent. Overall, there will be an increase in the biodiversity of the Site as a whole with the multiple enhancements proposed.	Outline MEMP