

Great Yarmouth Third River Crossing Order 202[*]

Document NCC/GY3RC/EX/073: Update to Outline Code of Construction Practice

Planning Act 2008

Infrastructure Planning

The Infrastructure Planning (Examination Procedure) Rules 2010

Planning Inspectorate Reference Number: TR010043

Author: Norfolk County Council

Document Reference: NCC/GY3RC/EX/074

Date: 11 February 2020

Foreword

This document accompanies an application (“the Application”) submitted by Norfolk County Council (“the Applicant”) to the Secretary of State for a Development Consent Order (‘DCO’) under the Planning Act 2008¹.

If made by the Secretary of State, the DCO would grant development consent for construction, operation and maintenance of a new bascule bridge highway crossing of the River Yare in Great Yarmouth, and which is referred to in the Application as the Great Yarmouth Third River Crossing (or ‘the Scheme’).

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) require that an application for a DCO be accompanied by the documents specified at Regulation 5(2)(a) to (r). This is one of those documents and is specified at Regulation 5(2)(q).

¹ References to legislation in this document are to that legislation as amended at the date of this document.

CONTENTS	PAGE No.
Foreword.....	i
Glossary of Abbreviations and Defined Terms	v
Defined Terms.....	v
Acronyms	vi
1 Introduction.....	1
1.1 Description of the Scheme.....	1
1.2 Purpose of the Document	3
2 General Construction Information.....	5
2.1 Programme	5
2.2 Construction Activities.....	5
2.3 Construction Hours	5
2.4 Construction Compounds	5
2.5 Construction Lighting	6
2.6 Communications	6
2.7 Works over the Water	7
2.8 Access for Businesses and Residences	7
2.9 Vehicle Movements	7
2.10 Emergency Planning.....	8
2.11 Staff and Personnel	9
2.12 Below-Ground Archaeological Remains	9
2.13 Climate Change	9
3 Air Quality.....	11
3.1 Introduction	11
3.2 Mitigation	11
3.3 Monitoring	15
4 Noise and Vibration	17
4.1 Introduction	17

4.2	Mitigation	17
4.3	Monitoring	19
5	Nature Conservation.....	20
5.1	Proposed Mitigation	20
5.2	Ecological Clerk of Works	20
5.3	Species and Groups of Note	20
5.4	Benthic and Fish Ecology	25
5.5	Invasive Non-Native Species (INNS)	26
5.6	Landscape and Visual.....	27
6	Road Drainage and the Water Environment	28
6.1	Introduction	28
6.2	Mitigation	28
7	Flood Risk	31
7.1	Introduction	31
7.2	Mitigation	31
7.3	Preparation	32
7.4	Construction.....	33
8	Materials	35
8.1	Introduction	35
8.2	Contaminated Arisings and Hazardous Waste	35
8.3	Non-Hazardous Waste.....	35
8.4	Material Supply	36
9	People and Communities	38
9.1	Introduction	38
9.2	Mitigation	38
9.3	Monitoring	39
10	Geology, Soils and Contamination.....	41

10.1 Introduction	41
10.2 Piling	41
10.3 Mitigation	42
11 Traffic and Transport.....	44
11.1 Introduction	44
11.2 Framework CTMP	44
11.3 Framework Workforce Travel Plan	44
12 References	46

Glossary of Abbreviations and Defined Terms

Defined Terms

Term	Definition
The Applicant	Norfolk County Council (in its capacity as Highway Authority and promoter of the Scheme).
Application Site	The land bounded by the Order Limits, as shown by a red line on the Land Plans (Document Reference NCC/GY3RC/EX/004, Planning Inspectorate Reference AS-007) and the Works Plans (Document Reference 2.6, Planning Inspectorate Reference APP-011) and being land within which the authorised development may be carried out.
The APFP Regulations	The Infrastructure Planning (Applications - Prescribed Forms and Procedure) Regulations 2009 (SI 2009/2264).
Crossing	The combined double leaf bascule bridge and the Southtown Road bridge structure (i.e. from its junction with the new roundabout on William Adams Way to the new junction on South Denes Road).
Double Leaf Bascule Bridge	Opening span and mechanism needed to operate the bridge.
The EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
MIND Centre and Grounds	Land located to the south of Queen Anne's Road, comprised within Plot Nos. 1-27, 2-03, 2-05, 2-06 and 2-07 on the Land Plans (Document Reference NCC/GY3RC/EX/004, Planning Inspectorate Reference AS-007), which is currently leased to Great Yarmouth and Waveney Mind for the purposes of its charitable aims and objectives.
NCC	Norfolk County Council (other than in its Highway Authority role as promoter of the Scheme).
NPS	National Policy Statement.
NPS NN	National Policy Statement for National Networks.
Order Limits	Limits of land within which the authorised development may be carried out, as shown on the Land Plans (Document Reference NCC/GY3RC/EX/004, Planning Inspectorate Reference AS-007) and the Works Plans (Document Reference 2.6, Planning Inspectorate Reference APP-011).

Term	Definition
The Planning Act	The Planning Act 2008.
Principal Application Site	The land comprised in the Application Site but excluding the Satellite Application Sites.
Satellite Application Sites	The parts of the Application Site within which Work Number 13 may be carried out, as shown on the Works Plans (Document Reference 2.6, Planning Inspectorate Reference APP-011) and described in Schedule 1 to the draft DCO (Document Reference NCC/GY3RC/EX/023, Planning Inspectorate Reference REP2-009).
Scheme	The Great Yarmouth Third River Crossing project for which the Applicant seeks development consent.
Statutory Designated Sites	Sites which have been designated under UK and in some cases European or international legislation which protects areas identified as being of special nature conservation importance.
Study Area	The boundary/extents of a specific assessment.
Underpass	The underpass beneath the Crossing, located on the east side of the River Yare, to be constructed to provide a new private means of access for the benefit of owners and occupiers of adjoining land.
Vessel Waiting Facilities	Provision of vessel waiting facilities to the north and south of the Crossing, either as floating pontoons or additional fendering to the existing berths, including any dredging and quay strengthening works that may be required.

Acronyms

Abbreviation	Definition
BPM	Best Practicable Means
CDM	Construction Design and Management Regulations
CMS	Construction Method Statements
CoCP	Code of Construction Practice
CoPA	Control of Pollution Act 1974
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
ECoW	Ecological Clerk of Works

Abbreviation	Definition
EA	Environment Agency
eDNA	Environmental DNA
EMS	Environmental Management System
EqIA	Equalities Impact Assessment
ES	Environmental Statement
FRA	Flood Risk Assessment
GI	Geotechnical Site Investigations
GYBC	Great Yarmouth Borough Council
HDV	Heavy Duty Vehicle
HSI	Habitat Suitability Index
IAQM	Institute of Air Quality Management
IDB	Waveney, Lower Yare and Lothingland Internal Drainage Board
INNS	Invasive Non-Native Species
JNCC	Joint Nature Conservation Committee
LoNI	Letter of No Impediment
MMO	Marine Management Organisation
MMP	Materials Management Plan
NCC	Norfolk County Council
NRMM	Non Road Moveable Machinery
NMU	Non-Motorised User
NSR	Noise Sensitive Receptors
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guideline
PCLO	Port and Community Liaison Officer
QA/QC	Quality Assurance/Quality Control
RPE	Respiratory Protective Equipment
SWMP	Site Waste Management Plan

Abbreviation	Definition
VMS	Variable Message Signs

1 Introduction

1.1 Description of the Scheme

1.1.1 Chapter 2 of Volume I of the Environmental Statement (ES) (document reference 6.1) provides a full description of the Scheme and is accompanied by the General Arrangement Plan (Document Reference 2.2, Planning Inspectorate Reference APP-007). Both documents should be read alongside the Outline Code of Construction Practice (Outline CoCP), as a detailed project description is not provided in this document to prevent unnecessary duplication.

1.1.2 The Scheme involves the construction, operation and maintenance of a new crossing of the River Yare in Great Yarmouth. The Scheme consists of a new dual carriageway road, including a road bridge across the river, linking the A47 at Harfrey's Roundabout on the western side of the river to the A1243 South Denes Road on the eastern side. The Scheme would feature an opening span double leaf bascule (lifting) bridge across the river, involving the construction of two new 'knuckles' extending the quay wall into the river to support the bridge. The Scheme would include a bridge span over the existing Southtown Road on the western side of the river, and a bridge span on the eastern side of the river to provide an underpass for existing businesses, enabling the new dual carriageway road to rise westwards towards the crest of the new crossing.

1.1.3 If constructed, the Scheme would comprise the following principal elements:

- A new dual carriageway road, crossing the River Yare in an east-west orientation, comprising:
 - A new double-leaf bascule bridge providing an opening span to facilitate vessel movement within the river. This would include structures to support and accommodate the operational requirements of the bridge-opening mechanism, including counterweights below the level of the bridge deck. The bridge would be supported on driven piles;
 - New substructures, supported by driven piles, to support the double leaf bascule bridge within the existing quays either side of the river and within the river itself, requiring new permanent "knuckle" walls, creating cofferdams in the waterway to accommodate their construction;
 - A new five-arm roundabout connecting the new dual carriageway road with Suffolk Road, William Adams Way and the western end of Queen

Anne's Road. Sections of the new five arm roundabout would be supported on driven piles where deep soft ground is encountered;

- A single-span bridge over Southtown Road, with reinforced earth embankments joining that bridge to the new roundabout at William Adams Way. Southtown Road bridge and the reinforced earth embankments would be supported on driven piles;
 - A single-span bridge to provide an underpass on the eastern side of the river, with reinforced earth embankments joining that single span bridge to South Denes Road. The underpass and reinforced earth embankments would be supported on driven piles; and
 - A new signalised junction connecting the new road with A1243 South Denes Road.
- The closure of Queen Anne's Road, at its junction with Suffolk Road, and the opening of a new junction onto Southtown Road providing vehicular and pedestrian access to residential properties and the MIND Centre and Grounds at the eastern end of Queen Anne's Road;
 - Revised access arrangements for existing businesses onto the local highway network;
 - Dedicated provision for cyclists and pedestrians which ties into existing networks;
 - Implementation of part of a flood defence scheme along Bollard Quay that is proposed to be promoted by the Environment Agency, and works to integrate with the remainder of the flood defence scheme;
 - A control tower structure located immediately south of the crossing on the western side of the river. The control tower would facilitate the 24/7 operation of the opening span of the new double-leaf bascule bridge;
 - A plant room located on the eastern side of the river for the operation of the opening span of the new double-leaf bascule bridge;
 - The demolition of an existing footbridge on William Adams Way;
 - Associated changes, modifications and/or improvements to the existing local highway network;
 - Additional signage, including Variable Message Signs (VMS) at discrete locations, to assist the movement of traffic in response to network conditions and the openings / closings of the double-leaf bascule bridge;

- The relocation of existing allotments to compensate for an area to be lost as a result of the Scheme and other works, including those at the MIND Centre and Grounds; and
- New public realm, landscape, ecology and sustainable drainage measures.

1.1.4 The Scheme also includes works to facilitate the construction, operation and maintenance of the above elements including:

- Creation of temporary construction sites and accesses from the public highway;
- Provision of new utilities and services and the diversion of existing utilities;
- Provision of drainage infrastructure, lighting and landscaping;
- Demolition of a number of existing residential and commercial / business properties; and
- Provision of vessel waiting facilities to the north and south of the new crossing, either as floating pontoons or additional fendering to the existing berths, including any dredging and quay strengthening works that may be required.

1.2 Purpose of the Document

1.2.1 This Outline Code of Construction Practice (Outline CoCP) has been prepared in support of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096). The Outline CoCP includes:

- The context and underlying principles of environmental management for the Scheme that the Contractor will be required to develop into a full CoCP, as required by the Development Consent Order (DCO);
- The guidelines to be used during construction and how they will be mandated and applied; and
- The details of, or references to, the construction phase mitigation measures for each relevant environmental topic assessed in the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) – and for which the CoCP will be the principal delivery mechanism.

1.2.2 The Applicant has appointed a Main Works Contractor ('the Contractor') to construct the Scheme. The Contractor would be responsible for constructing the Scheme in accordance with the parameters of the DCO and the commitments within this Outline CoCP.

-
- 1.2.3 The Contractor will be required to prepare a full CoCP. The full CoCP will be submitted to Norfolk County Council (NCC), in its role as county planning authority. NCC would consult with Great Yarmouth Borough Council (GYBC), the lead local flood authority, the Waveney, Lower Yare and Lothingland Internal Drainage Board (IDB) and the Environment Agency, following submission. The full COCP would provide greater detail on the mitigation measures that cannot be finalised at this stage.
- 1.2.4 The Outline CoCP acts as an Environmental Management System (EMS) framework, under which the construction of the Scheme should be undertaken to reduce possible impacts upon the environment. It sets out the high-level obligations with which the Contractor should abide by and it is also the mechanism by which the construction-related mitigation identified in the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) is secured.
- 1.2.5 The full CoCP should set out the Contractor's roles and responsibilities as well as methods of environmental controls that would be employed, including:
- Training and briefing;
 - Risk assessments and mitigation;
 - Stakeholder engagement; and
 - Monitoring, to be undertaken during the construction of the Scheme.
- 1.2.6 The full CoCP would apply to all works authorised by the DCO and undertaken by the Contractor and should be in compliance with the terms of this Outline CoCP. Compliance with the full CoCP is a legal requirement of the DCO and any non-compliance would be in breach of the terms of the DCO.
- 1.2.7 Nothing in this Outline CoCP precludes the full CoCP being amended by the Contractor, following approval by the county planning authority, to reflect any changes to construction methodology. However, any submission for such an amendment should include evidence, including details of further mitigation, where necessary, to demonstrate that the construction method would not give rise to materially new or materially different environmental effects to those reported in the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096).

2 General Construction Information

2.1 Programme

- 2.1.1 Subject to development consent being granted by the Secretary of State, it is anticipated that construction of the Scheme would commence in late 2020 and that the Scheme would open in early 2023.

2.2 Construction Activities

- 2.2.1 A draft, outline programme that shows the main construction activities from mobilisation through to Scheme opening is described in Section 2.6, in Chapter 2 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096). Further information on the construction programme is set out in the Framework Construction Traffic Management Plan (Framework CTMP) presented in Appendix A.

2.3 Construction Hours

- 2.3.1 The core working hours for construction operations will be programmed between 07:00 and 19:00, Monday to Friday, and between 07:00 and 13:00 on Saturdays.
- 2.3.2 The Contractor should endeavour to undertake all noisy activities that are likely to lead to disturbance within the core working hours. The activities detailed in Appendix 7C (Document Reference 6.2, Planning Inspectorate Reference APP-110) of the ES must be carried out within such core working hours.
- 2.3.3 Deviations to the core working hours may be required for some activities and these must be agreed pursuant to an application for prior consent from GYBC under Section 61 of the Control of Pollution Act (CoPA) 1974 (Ref. 1).

2.4 Construction Compounds

- 2.4.1 There will be two construction compounds located within the Order Limits as shown on Figure 1.2 of the ES (presented in Document Reference 6.3, Planning Inspectorate Reference APP-161).
- 2.4.2 The main compound will be located at the eastern approach to the site on the east side of the River Yare. A further area on the western approach adjacent to the Kingsgate Community Church will be used as a satellite compound.
- 2.4.3 A secure hoarding will be erected around the perimeter of the compounds and signage, including details of the Considerate Contractor Scheme, will be

erected on the hoarding. Security and site access measures are to be outlined in the full CoCP.

2.4.4 To prevent track-out of construction mud and dust onto the highway network the relevant mitigation measures for a high-risk construction site contained within the Institute of Air Quality Management Guidance (IAQM) on the assessment of dust from demolition and construction (Ref. 2) are to be applied.

2.4.5 To minimise the risk of construction-related dust impacts on surrounding properties the measures for high-risk construction sites and activities listed within the aforementioned guidance are to be applied where practical to all relevant construction, demolition, storage and processing activities within the construction compounds and wider construction areas.

2.4.6 The layout of the compounds will need to meet the following requirements:

- At all times, the Contractor must be required to keep all the compounds safe and secure; and
- The orientation and layout of the compound activities should be, as far as reasonably practicable, arranged to reduce environmental effects on adjacent land users.

2.5 Construction Lighting

2.5.1 Task lighting will be employed to minimise lighting impacts on the overall site. Where reasonably practicable, task lighting will face away from nearby properties. The type of task lighting employed for different activities will vary depending on the nature of those activities and be commensurate with the works being undertaken.

2.5.2 Whilst providing a work environment to meet the illuminance levels, the below measures would be employed by the Contractor to minimise the effect on the surrounding area and wildlife:

- Only the immediate area of works shall be illuminated by using as sharp an angle of lighting as possible and avoiding light being directed at, or close to adjacent vegetation; and
- Shields or hoods shall be used to control or restrict the area to be lit to minimise light spill and sky glow.

2.6 Communications

2.6.1 The Contractor will operate a 24-hour telephone line which would provide the public and any stakeholders with a number to call if they have any complaints

to make about the Contractor's performance or if they wish to raise a concern. The Contractor's Port and Community Liaison Officer (PCLO) would be responsible for dealing with any complaints received. On receipt of any complaint, the PCLO would liaise with the contract delivery team and agree an approach to dealing with the complaint, including any changes to planned operations or procedures. Once all necessary measures have been put in place the PCLO would formally respond confirming what measures have been put in place to avoid any potential reoccurrence of an issue. Details of complaints, including the close out rate and timescales would be formally recorded.

- 2.6.2** At least two weeks prior to noisy or dusty works being carried out, the Contractor will distribute community notification letters to properties within 100m of the site, identifying the construction activities to be carried out, detailing expected disruptions and the measures being taken to minimise or mitigate adverse effects. The letter will also include the 24-hour telephone line number.

2.7 Works over the Water

- 2.7.1** The Contractor should maintain the navigation channel at all times, except when possession of the entire channel or a restriction on navigation is required to facilitate construction (such as narrowing the vessel size that can pass through the area).
- 2.7.2** Where possession of the entire channel is required, the PCLO will liaise with Suffolk County Council's Lead Officer for the Lake Lothing Third River Crossing Project to, where practicable, minimise simultaneous possessions of the navigation channel at Lake Lothing and on the River Yare.

2.8 Access for Businesses and Residences

- 2.8.1** The Contractor should allow access from the public highway to Kingsgate Community Centre, MIND Centre and Grounds, Haven Veterinary Surgeons, other affected businesses, affected residences, and roads such as Suffolk Road, during the construction of the Scheme and, except in exceptional circumstances, affected parties should be notified in advance of any need to limit access.

2.9 Vehicle Movements

- 2.9.1** As identified in Chapter 2 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096), Heavy Duty Vehicle (HDV) movements associated with the construction of the Scheme are expected to peak at 72 one-way movements per day, assuming a five-day week, with these vehicles split across both compounds.

2.9.2 The assessment of potential air quality, noise and traffic and transport impacts within the ES have all concluded that construction traffic (HDVs and construction worker vehicles) would have a negligible impact, however a Framework CTMP, presented in Appendix A, has been produced to minimise any adverse effects. This is discussed further in Section 11.

2.9.3 As part of the full CoCP, the Contractor will develop a full CTMP for the construction phase which will be agreed by Norfolk County Councils Network management team.

2.10 Emergency Planning

2.10.1 The Contractor should prepare and submit to the county planning authority, as part of the full CoCP, details of the emergency procedures and processes to be followed based upon the anticipated hazards and their construction operations. These emergency processes should include as a minimum:

- Notification procedures for the emergency services and relevant stakeholders such as Peel Ports;
- Emergency measures in the event of flood;
- Procedures for dealing with fire hazards drawn up in consultation with the Norfolk Fire and Rescue Service; and
- Spill response procedures drawn up in consultation with the Environment Agency and Peel Ports.

2.10.2 The Applicant will consult with the operators of the two COMAH sites (ASCO Fuels and Lubricants and Transco Gas Holders) in order to understand the activities undertaken and any potential interactions with the Scheme, and agree measures to mitigate any identified risks during the construction phase.

2.10.3 The Contractor should include as part of the full CoCP emergency measures in the event of:

- Severe weather including storms, gales, wave surges and extreme temperatures;
- Industrial and urban accidents such as fires, explosions and the subsequent release of contaminants;
- Targeted violence, vandalism and/or arson as a result of public disorder;
- The discovery and/or disturbance of unexploded ordnance for both marine and terrestrial works;

- Malicious attacks/terrorism, including a terrorism response plan and contact and agreement with the local police for procedures in the event of such targeted violence.

2.11 Staff and Personnel

Training

- 2.11.1 The Contractor should include within the full CoCP proposals for site inductions for all staff. It should also include details of further training required for staff, as appropriate.
- 2.11.2 The Applicant would work proactively with the Contractor and suppliers to provide employment opportunities and to enable access to training. The process used to recruit and manage employees working to build the Scheme would be demonstrably fair and offer equal opportunities to all.

2.12 Below-Ground Archaeological Remains

- 2.12.1 There is potential for currently unknown below ground heritage assets within the Principle Application Site. Due to the constraints of the site a programme of archaeological evaluation will take place following DCO consent. The aim of the evaluation will be to determine the importance, extent, date, level of survival of the assets, and to inform a mitigation strategy which would be implemented either prior to or during the construction phase.
- 2.12.2 The scope of the evaluation is presented in a WSI (Document Reference 6.9, Planning Inspectorate Reference APP-180). This is secured in the draft DCO (Document Reference NCC/GY3RC/EX/023, Planning Inspectorate Reference REP2-009) by Requirement 13 which ensures that construction work must be carried out in accordance with the WSI.

2.13 Climate Change

- 2.13.1 As part of detailed design, a range of adaptation measures have been identified to reduce the vulnerability of the Scheme to identified climate and weather-related risks:
- Re-use site-won arisings where practicable, to minimise transportation and manufacture of raw materials;
 - Maximise local sourcing of materials, suppliers and waste management facilities where practicable;
 - Where appropriate, use reinforced soils in embankments to accommodate for changes in precipitation, runoff and soil stability;

-
- The equipment for the double-leaf bascule bridge is mounted above mean high water level and covered to protect from precipitation, where appropriate;
 - The design of structure(s) and surfacing, and the specification of equipment, where applicable, includes all allowances for changes in climate conditions (i.e. thermal cracking);
 - The structure(s) associated with the bridge are designed to account for differential settlement;
 - Where appropriate, soil specifications will reduce susceptibility to changes in soil moisture;
 - Where applicable, ensure the Scheme design is designed in accordance with the appropriate Eurocodes (European standards specifying how structural design should be carried out within the EU) associated with temperature range and wind speeds;
 - The design incorporates snow loading measures as well as the potential for snow falling or sliding off the lifting bascule leaves; and
 - Lightning protection measures are included in the design.

3 Air Quality

3.1 Introduction

3.1.1 The commitments relating to air quality within this Outline CoCP have been drawn from the assessment of significant effects upon air quality, which is included in Chapter 6 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096), with additional details in Figures 6.1 to 6.20 (Document Reference 6.3, Planning Inspectorate Reference APP-163) and Appendices 6A to 6G (Document Reference 6.2, Planning Inspectorate Reference APP-101 to 107). Full details of the Contractor's mitigation measures for dealing with air quality impacts should be included in the full CoCP.

3.2 Mitigation

3.2.1 A number of mitigation measures are proposed; with reference to the IAQM guidance (Ref. 2), that are commensurate to the scale and nature of the construction activities.

3.2.2 The mitigation measures focus on controlling fugitive releases of construction-phase dust and should be implemented by the Contractor through the full CoCP. Such measures should include, but are not limited to:

- Dust-generating activities (e.g. cutting, grinding and sawing) to be minimised and weather conditions considered prior to conducting potentially dust-emitting activities. Cutting, grinding or sawing equipment will be fitted or used in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems where practicable.
- Fine material will not be stockpiled to an excessive height in order to prevent exposure to wind or dust nuisance;
- Fine material will not be stockpiled to an excessive height in order to prevent exposure to wind and dust nuisance;
- Scabbling (roughening of concrete surfaces) will be avoided if possible;
- Sand and other aggregates will be stored in bunded areas and not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;

- Bulk cement and other fine powder materials are to be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery;
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust;
- Roads and accesses to be kept clean;
- Where practicable, plant to be located away from site boundaries that are close to residential areas;
- Water will be used as a dust suppressant, where applicable;
- Drop heights from excavators to crushing plant to be kept to a minimum;
- Distances from crushing plant to stockpiles to be kept to the minimum practicable to control dust generation associated with the fall of materials. Use enclosed chutes and conveyors and covered skips. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods;
- Skips will be securely covered;
- Soiling, seeding, planting or sealing of completed earthworks to be completed as soon as reasonably practicable, following completion of earthworks;
- Dust suppression and the maintenance of the surface of access routes to be appropriate to avoid dust as far as practicable, taking into account the intended level of trafficking;
- Wheel wash facilities to minimise trackout of dust;
- Material will not be burnt on site;
- Engines to be switched off when not in operation; and
- All Non Road Moveable Machinery (NRMM), will be operated in accordance with the Regulation (EU) 2016/1628 which imposes gaseous and particulate emission limits on exhaust emissions, as referenced in the IAQM guidance on the assessment of dust from demolition and construction (Ref. 2).

3.2.3 Further measures to focus on controlling fugitive releases of demolition dust are to be incorporated in the full CoCP. Such measures should include:

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where practicable, to provide a screen against dust).
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.

3.2.4 Further measures to focus on controlling fugitive releases from dust due to trackout are to be incorporated in the full CoCP. Such measures should include:

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul routes and any subsequent action in a site log book;
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsters and regularly cleaned;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits; and

- Access gates to be located at least 10m from receptors where practicable.
- 3.2.5 The following measures regarding preparing and maintaining the site should be included in the full CoCP:
- The site layout will be optimized so that machinery and dust causing activities are located away from receptors, as far as is possible;
 - Solid screens or barriers will be erected around dusty activities or the site boundary that are at least as high as any stockpiles on site;
 - Where applicable for specific operations where there is a high potential for dust production and the site is active for an extensive period full enclosure may be required;
 - Measures will be taken to avoid site runoff of water or mud;
 - Site fencing, barriers and scaffolding will be kept clean using wet methods;
 - Materials that have a potential to produce dust will be removed from site as soon as possible, unless being re-used on site; and
 - Stockpiles will be covered to prevent wind whipping.
- 3.2.6 Further measures to focus on controlling fugitive releases of dust due to earthworks are to be incorporated in the full CoCP. Such measures should include:
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
 - Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
 - Only remove the cover in small areas during work and not all at once.
- 3.2.7 In submitting the full CoCP, the Contractor should stipulate the following to ensure the aforementioned mitigation is implemented effectively, continually monitored and updated accordingly:
- Identification of a responsible environmental manager; and
 - Method statements for the control of dust in such locations.
- 3.2.8 The full CoCP should stipulate that the Contractor should ensure that the Environment Agency's Pollution Prevention Guidelines (PPGs) are followed and that all sub-contractors are aware of control measures.

3.2.9 Site management arrangements will:

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book;
- Hold regular liaison meetings with other high-risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised; and
- Ensure that where an issue with construction dust is identified in accordance with Section 3.3 remedial steps are undertaken to review the effectiveness of the mitigation measures in place, and to update the mitigation in accordance with the current activity on site.

3.3 Monitoring

3.3.1 Given the proximity of receptors considered sensitive to construction dust and the medium to high risk rating with respect to potential dust impacts, monitoring of dust and PM₁₀ should be incorporated into the full CoCP, focusing on particularly sensitive locations adjacent to likely construction activity areas.

3.3.2 Dust and PM₁₀ monitoring for medium-to-high-risk sites, as defined by IAQM, should include:

- Regular onsite and offsite inspection where receptors are nearby and accessible, to monitor dust, record inspection results, and make the log available to the local authority when requested;
- Increasing the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;
- Agreeing dust deposition or real-time continuous PM₁₀ monitoring locations with the county planning authority in consultation with GYBC, with baseline monitoring taking place at least three months before construction work commences; and
- Monitoring to provide an alert system to the site management with regard to increased emissions of dust through adoption of a trigger threshold in accordance with the Institute for Air Quality Management

Guidance on Monitoring in the Vicinity of Demolition and Construction Sites. The trigger threshold applied for the need for corrective action will be $190 \mu\text{g}/\text{m}^3$ PM_{10} averaged over a 1-hour period in accordance with Paragraph 4.40 of the aforementioned IAQM guidance.

4 Noise and Vibration

4.1 Introduction

- 4.1.1 The Contractor should, as far as reasonably practicable, seek to control and limit unacceptable noise and vibration when undertaking construction and demolition activities. Full details will be included in the full CoCP.
- 4.1.2 The commitments relating to noise and vibration within this Outline CoCP have been drawn from the assessment of significant effects upon noise and vibration, which is included in Chapter 7 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096), with additional detail within Figures 7.1 to 7.5 (Document Reference 6.3, Planning Inspectorate Reference APP-164) and Appendices 7A to 7C (Document Reference 6.2, Planning Inspectorate Reference APP-108 to 110).

4.2 Mitigation

- 4.2.1 The Contractor shall comply with the following construction noise and vibration mitigation measures, including implementation of Best Practicable Means (BPM) (as defined within the CoPA1974 (Ref. 1)), as well as the content of the relevant sections of BS 5228-1:2009+A1:2014 (Ref. 3), in particular, Sections 4 to 8 inclusive, where relevant, together with the specific requirements of this Outline CoCP.
- 4.2.2 Based on the principles of BPM, appropriate noise and vibration mitigation measures will be implemented, including:
- Maintaining good public relations with residents that may be affected by noise from the construction works. Effective means communication would be established, keeping residents informed of the type and timing of works involved by following the processes noted in section 2.6 above;
 - Careful planning of construction activities and selection of appropriate plant to reduce noise emissions;
 - Whenever possible noisy activities should be undertaken during normal working hours;
 - Where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven;
 - Whenever reasonably practicable, fabrication would be undertaken off site;
 - Noisy plant would be kept as far away as possible from sensitive areas (and may need localised acoustic and visual screening);

- As far as reasonably practicable the noise from reversing alarms would be controlled or limited. This would be undertaken through following a hierarchy of techniques:
 - (a) The site layout would be designed to minimise reversing.
 - (b) Banksmen would be utilised to avoid so far as reasonably practicable the use of reversing alarms.
 - (c) Reversing alarms would incorporate, where reasonably practicable, features such as broadband signals to reduce the level of noise.
- All plant, equipment and noise control measures applied to plant and equipment will be maintained in good working order and operated such that noise emissions are minimised as far as reasonably practicable. Every effort would be made to plant, equipment or items fitted with noise control equipment found to be defective, not to be operated until repaired;
- Shutting down equipment when not in use;
- A Toolbox Talk and information leaflet would be provided to operatives when working outside of normal working hours to brief them on the requirements to be considerate to local residents and any specific control measures required with each specific task being undertaken;
- Use of construction hoardings around the noise generating activity up to a height appropriate to ensure the attenuation of noise is achieved;
- Where reasonably practicable, use of temporary barriers to screen noisy activities;
- Using silenced equipment where possible, in particular, silenced power generators if night-time power generation is required for site security or lighting;
- Ensuring that vehicles do not park or queue for long periods outside Noise Sensitive Receptors (NSRs) with engines running unnecessarily;
- Generators and water pumps required for 24-hour operation would be silenced and/or screened, as appropriate;
- Where reasonably practicable, soft start procedures for terrestrial piling would be used; and
- Where reasonably practicable, avoid noise and vibration generating works outside core hours.

4.2.3 For outside core hour working, where reasonably practicable, silenced equipment and plant will be used, and/or temporary barriers will be installed to reduce noise at NSRs to below BS 5228-1:2009+A1:2014 (Ref. 3) threshold values where practicable.

4.2.4 During construction works, the mitigation measures to control and reduce noise and vibration emissions to ecological receptors will include the adoption of the measures set out in the Joint Nature Conservation Committee (JNCC) document entitled 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (2010) (Ref. 5).

4.3 Monitoring

4.3.1 The Contractor will complete a programme of noise and vibration monitoring for the following reasons:

- To measure the performance of noise and vibration control measures;
- To ascertain noise and vibration from items of plant; and
- To provide confirmation that noise and vibration thresholds are not exceeded.

4.3.2 A proposed programme of monitoring must be set out in the full CoCP.

5 Nature Conservation

5.1 Proposed Mitigation

- 5.1.1** The commitments relating to nature conservation within this Outline CoCP have been drawn from the assessment of significant effects upon ecological resources, which is included in Chapter 8 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096), with additional detail within Figures 8.1 to 8.7 (Document Reference 6.3, Planning Inspectorate Reference APP-165) and Appendices 8A to 8I (Document Reference 6.2, Planning Inspectorate Reference APP-114 to 122).
- 5.1.2** The following mitigation measures should be undertaken for protected species likely to be affected by the Scheme and included in the full CoCP.

5.2 Ecological Clerk of Works

- 5.2.1** An Ecological Clerk of Works is a specialist ecologist, or similarly competent person (referred to as an ECoW in this section), who should be appointed by the Contractor to be responsible for overseeing on-site ecological mitigation and ensuring that measures in the full CoCP are implemented, including those set out below.
- 5.2.2** The ECoW would report to both the Contractor and the Applicant.

5.3 Species and Groups of Note

Water Voles

- 5.3.1** Prior to commencement of construction works, surveys for water voles will need to be undertaken within the Scheme and adjacent watercourses between April and October. Particular focus should be given to watercourses 1, 2 and 4 where water voles have been confirmed to be currently present (for location of these watercourses see Appendix 8F of the ES (Document Reference 6.2, Planning Inspectorate Reference APP-119) and Figure 8.4 of the ES (Document Reference 6.3, Planning Inspectorate Reference APP-165)). The surveys will confirm precise conditions prior to construction starting on site.
- 5.3.2** Work that directly impacts upon protected species, including water voles, would be subject to a mitigation or conservation licence(s) from Natural England to avoid an offence under the Wildlife and Countryside Act 1981 (as amended) (Ref. 4). These licences will be in place prior to the commencement of work, and work would be undertaken in line with the mitigation requirements and conditions of the licence(s).

5.3.3 The Applicant is in ongoing consultation with Natural England in order to secure a Letter of No Impediment (LONI) regarding water voles – with a view to confirming with Natural England that there is no impediment to the application for a DCO being approved.

5.3.4 As detailed in the General Arrangement Plan for the Scheme (Document Reference 2.2, Planning Inspectorate Reference APP-007), realignment of the eastern and northern sections of watercourse 1 is proposed in addition to a replacement of the culvert that connects watercourse 1 and watercourse 4. The northern section of watercourse 1 supported water voles as detailed in Figure 8.7 of the ES (Document Reference 6.3, Planning Inspectorate Reference APP-165) as did the northern extent of watercourse 4. The following measures should therefore be implemented by the Contractor in the full CoCP:

- Pre-commencement surveys for water vole are to be undertaken between April and October 2020 on watercourses within the Application Site, with particular focus on WC1, WC2 and WC4 where water vole presence has previously been confirmed;
- Habitat occupied by water vole would be retained, wherever possible, within the Scheme design and areas of retained habitat should remain connected to other habitat areas, within or beyond the Application Site;
- Retained habitat would be appropriately buffered through a width of 3 – 5 m in order to protect such areas through construction;
- Where habitat cannot be retained alternative habitat will be enhanced appropriately in advance of the commencement of construction;
- Habitat enhancement will include the planting of native wetland plants, reeds, grasses, rushes and sedges along new channels and the removal of areas of dense woody vegetation from existing watercourses to allow increased light;
- To mitigate for the realignment of Watercourse 1 and the replacement watercourse crossing points at Watercourse 4, enhanced habitat in Watercourse 2 will be provided. This will either be provided in early autumn 2020 with the displacement of water voles from Watercourse 1 and Watercourse 4 carried out between 15th February and 15th April 2021; or in spring 2021, with the displacement of water voles carried out in autumn 2021 (as close as possible to 15 September to take advantage of the better weather and to give displaced animals plenty of time to build up winter food stores);
- Water vole resistant fencing will be installed at the southern end of the north section of Watercourse 1 to ensure that during displacement water voles do not move into the western section of Watercourse 1. Following

successful displacement additional fencing will be installed immediately north of Queen Anne's Road, to ensure that water voles do not return to WC1 while construction works are ongoing, and the initial fencing will be removed to enable construction works to take place. Fencing is to be installed under watching brief by the ECoW;

- Watercourse 2 will be subject to desilting works which are not expected to disturb water voles if they are undertaken with appropriate timing (i.e. when they are least active over winter months). Desilting works can be undertaken in parallel with enhancement mitigation;
- Further enhancement of habitats for water voles will be provided in Watercourse 5 which is connected to Watercourse 4;
- Watercourse crossing points associated with the Scheme would be designed to maximise permeability to water voles, with a preference for bridges rather than pipes or small culverts. The height of the structure above the water will be maximised and preferably an area of watercourse bank should also run through the structure;
- Following trapping out of all water voles from the construction footprint, and before realignment works begin a destructive search of the construction footprint should be carried out under the supervision of a suitably qualified ecologist. During the destructive search suitable habitat (vegetation and burrows) should be progressively removed to capture any remaining water voles; and
- The water vole populations within retained or newly created habitat would be monitored following construction of the Scheme to confirm if the relocation of the population has been a success. This would enable remedial measures to be implemented where necessary.

Bats

- 5.3.5 Pre-construction surveys should be undertaken on any building that is suitable to support roosting bats and which would be likely to be disturbed during construction including identifying species that may be present, numbers, and the location of any roosts. Surveys would seek to confirm that bats have not taken occupation in these structures since the surveys that informed the ES.
- 5.3.6 Furthermore, pre-construction Ground Level Tree Assessment of trees / tree groups G26 and T22 (as numbered in the Detailed Arboricultural Report (Document Reference 6.2, Planning Inspectorate Reference APP-121) should be undertaken to confirm that they do not have bat roost potential.
- 5.3.7 A pre-construction survey of tree G25, which is deemed to have moderate potential to support bats, should be undertaken. This survey will include either of the following options to rule out the potential for bat roosts:

- Two separate pre-construction night time surveys, comprising at least one dusk emergence survey and a separate dawn re-entry survey. The pre-construction surveys should be at least two weeks apart, and should take place during the period May to September (with at least one pre-construction survey within the period May to August); or
- An aerial inspection by an ECoW with a 'Survey or Research Licence' (Level 2) (CL18) for bats from Natural England. The ECoW will assess the tree using an endoscope.

5.3.8 Following these pre-construction surveys the EcoW would advise as to the most appropriate course of action to ensure legislative compliance.

5.3.9 As detailed in Appendix 8G of the ES (Document Reference 6.2, Planning Inspectorate Reference APP-120), pre-construction emergence / re-entry survey for bats of 22 properties due for demolition are required where the potential for a roost has not unequivocally been ruled out.

5.3.10 To minimise the risk of effects on foraging and commuting bats, the use of artificial lighting during construction should be kept to a minimum. Where temporary artificial lighting is used, only the immediate area of works shall be illuminated by using as sharp an angle of lighting as possible and avoiding light being directed at, or close to, adjacent vegetation. Shields or hoods shall be used to control or restrict the area to be lit. The ECoW shall advise on all temporary lighting proposals prior to installation.

Breeding Birds

5.3.11 To minimise the risk of disturbing breeding birds, the removal of suitable nesting material as part of site clearance activities would normally be undertaken outside of the typical bird breeding season (March to September inclusive). If tree and vegetation removal is needed during this period, the vegetation shall be checked prior to removal for the presence of nests by the ECoW. If nests that are in use are present, it may be necessary to delay work in immediate proximity of the nest until the young have fledged.

5.3.12 A watching brief for the presence of black redstart should be maintained, as appropriate, during the construction period by the ECoW. Should black redstart be present and be disturbed by the construction of the Scheme, the ECoW would advise appropriate action in the interests of its protection.

5.3.13 To ensure legal compliance is maintained pertaining to black redstart, de-vegetation and demolition activities should avoid disturbing these species during the breeding season. If construction overlaps with the breeding season and the actual nest sites would be identified before work commences and a suitable sized exclusion zone established around the nesting area.

Reptiles

5.3.14 The Principal Application Site was considered to have an overall low suitability for reptiles. The existing allotments did have some suitability for reptiles such as slow worm but this area is small and isolated and enclosed by roads on two sides making the likelihood of a population being present unlikely. However, adopting precautionary methods of working in this area is considered appropriate in order to avoid killing or injury in the event that reptiles are present.

5.3.15 The precautionary methods of works will precede vegetation clearance and earthworks. Such working methods may include, but are not limited to the following:

- Two stage vegetation clearance of grass habitat (if present at the allotments) whereby areas of suitable reptile habitat are cut down to a height of 200 mm;
- Removal of natural refugia by hand where safe to do so, otherwise undertaken methodically using plant under ecological supervision;
- Plant and machinery to be kept to defined access routes which would be unsuitable for reptiles, until suitable habitats in the works areas has been removed; and
- Open excavations will be fitted with mammal ladders (planks of wood at either end) to allow animals to climb out if they fall in, and prevent the trapping of animals including reptiles.

Great Crested Newts

5.3.16 Through Habitat Suitability Index (HSI) surveys, watercourse 1 which is subject to realignment was determined to be of low suitability to support great crested newts. Watercourse 4 which is subject to culvert replacement at its northern edge was assessed to be of average suitability. Due to these results combined with the isolation of the watercourses and lack of regional records of great crested newts, it was considered that the species was very unlikely to be present.

5.3.17 To confirm these findings, environmental DNA (eDNA) surveys will take place prior to construction works.

5.3.18 eDNA surveys require a single visit to each watercourse to collect water samples which are then sent to a laboratory for analysis to confirm the presence or absence of great crested newt DNA. Samples should be collected by experienced ecologists within the recommended time of year for testing, mid-April to end of June. The sampling methodology will be compliant with the specifications defined by the Department for Environment, Food and Rural Affairs who developed the technique.

5.3.19 Should the eDNA surveys identify the potential presence of great crested newt DNA a hand search will take place no earlier than 24 hours prior to works commencing and will concentrate on all suitable terrestrial vegetation within the works area (including potential access route(s)). All vehicles, plant and equipment on site will use predetermined access routes and must not encroach onto any habitats or areas which have not been hand searched prior to works taking place. If a great crested newt is encountered during the proposed works, all activities in the area will cease immediately. If not present on site at the time, the ECoW will be contacted to assess the situation and to determine whether a European Protected Species licence will be required before work in that area proceeds. If considered necessary, guidance will be sought from Natural England. Works will not recommence until the ECoW has confirmed that it is appropriate to do so, or a European Protected Species licence has been obtained, as appropriate.

5.4 Benthic and Fish Ecology

5.4.1 For information, the following mitigation measures are proposed in respect of fish which have the potential to be present within the River Yare and which are secured through the conditions of the Scheme's deemed marine licence and therefore not required to be approved as part of the full CoCP :

- The undertaking of all in-river piling that are likely to lead to disturbance within core working hours (07:00 and 19:00), thereby avoiding undertaking works between dusk and dawn when species such as the European eel *Anguilla Anguilla* commonly move, unless the Marine Management Organisation has confirmed in writing its satisfaction that to do so would not lead to significant adverse effects;
- The undertaking of all in-river piling operations outside of the sensitive spawning season of smelt *Osmerus eperlanus* (1st February to 30th April inclusive) unless the Marine Management Organisation has confirmed in writing its satisfaction that such piling activity within that period would not lead to significant adverse effects to the spawning of smelt;
- A soft start to in-river piling operations to ensure incremental increase in pile power over a period of not less than 20 minutes, until full operational piling power is achieved, enabling low impact noise to be generated before impulsive noise to deter fish from the immediate area. Should piling cease for a period longer than 10 minutes, the soft-start procedure must be repeated;
- Sufficient break periods in piling activities (with a minimum of one break per day, lasting at least one hour in duration) to allow fish to pass through the affected area;

5.4.2 The full Code of Construction Practice should include procedures ensuring that any dead or visibly injured fish are immediately reported to the Environment Agency .

5.4.3 Should any part of the River Yare need to be impounded during construction then a fish translocation should be carried out to remove fish from the impoundment and return them back to the estuary. The following measures should be in place:

- The translocation of fish should be carried out by suitable trained fisheries scientists/aquatic ecologists;
- Any such operation would need careful co-ordination with the operation to set-up and drain the impoundment;
- Once the water within the impoundment has been lowered to a suitable level (approx. 0.5 m) fish should be translocated by netting;
- During the netting process the water level should be gradually and continuously reduced; and
- The intake of the pump/s used to lower the water levels within the impoundment, prior to the translocation of fish, should be covered with mesh to prevent the entrainment of fish.

5.5 Invasive Non-Native Species (INNS)

5.5.1 Surveys identified several non-native and cryptogenic animals in the area. The non-native species are most likely to have been introduced to the area through shipping in some form and it is not possible to be certain which species have spread from within British waters or when they arrived. Care should be taken to ensure that no biological material is spread from the area to other parts of Britain or Europe. A biosecurity risk assessment should be undertaken as part of the planning for the Scheme and a management plan put in place to avoid potentially facilitating the spread of non-native species during construction. This plan should particularly cover risks of material removed from the inlet during construction being transported beyond the harbour, without an assessment of the recipient area. It may also consider aspects of the vessels and equipment used in the process and their subsequent use in other areas.

5.5.2 It is illegal to plant or otherwise cause to grow in the wild any plant listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (Ref. 4). The full CoCP should include measures to ensure construction activities do not result in the spread of any INNS that may be present within the Scheme area.

5.6 Landscape and Visual

- 5.6.1 Landscaping works would be undertaken as soon as practicable upon completion of the earthworks.
- 5.6.2 No works would take place within the root protection zone of any retained trees and all trees would be protected according to measures to be set out in an Arboricultural Method Statement which shall form part of the full CoCP.
- 5.6.3 The Arboricultural Method Statement shall provide for the provision of information relating to the protection of retained trees within future tree planting areas.
- 5.6.4 The Arboricultural Method Statement to be provided as part of the full CoCP must be in accordance with the Outline Arboricultural Method Statement included within Annex A of Appendix 8H of the ES (presented in Document Reference 6.2, Planning Inspectorate Reference APP-121).

6 Road Drainage and the Water Environment

6.1 Introduction

6.1.1 The commitments relating to the water environment within this Outline CoCP have been drawn from the assessment of significant effects upon the water environment which is included in Chapter 11 and Chapter 16 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) with additional detail within Figure 11.1 to 11.3 (Document Reference 6.3, Planning Inspectorate Reference APP-168) and Appendices 11A to 11F (Document Reference 6.2, Planning Inspectorate Reference APP-128 to 133).

6.2 Mitigation

- 6.2.1** The Contractor will implement, and include within the full CoCP, standard good practice pollution prevention measures in construction to protect the surrounding water environment. These include:
- A temporary surface water drainage strategy to be prepared for the construction stage to ensure that surface run-off would not directly enter existing watercourses and temporary drainage arrangements to be constructed ahead of the construction works commencing to ensure that surface runoff will not directly enter existing water courses;
 - Temporary drainage arrangements will be employed to ensure existing IDB drainage routes are maintained during construction;
 - The use of soft start piling techniques to minimise the disturbance and subsequently mobilisation of contaminated sediment within the River Yare and ordinary watercourses during construction of the bridge substructures;
 - Temporary cut-off drains would be used uphill and downhill of the working areas to prevent clean runoff entering and dirty water leaving the working area without appropriate treatment;
 - All drains within the Principal Application Site would be identified and labelled and measures implemented to prevent polluting substances from entering them;
 - Areas with a greater risk of spillage (e.g. vehicle maintenance and storage areas for hazardous materials) would be carefully sited (e.g. away from drains or areas where surface waters may pond);
 - Emergency response plans would be developed and spill kits made available on site;

- Measures to be put in place to prevent pollution from construction plant, vehicles and machinery including refuelling and lubricating in designated areas, on an impermeable surface, with appropriate cut-off drainage located away from watercourses; plant to be maintained in a good condition with wheel washing in place, all refuelling would be supervised and carried out in a designated area. In the event of plant breakdown drip trays would be used during any emergency maintenance and spill kits would be available on site;
- Fuels and potentially hazardous construction materials would be stored in bunds that have areas with external cut-off drainage; fuel would be stored in double skinned tanks with 110% capacity;
- Construction plant would be checked regularly for oil and fuel leaks, particularly when construction works are undertaken in or near the existing site waterbodies;
- Waste fuels and other fluid contaminants would be collected in leak-proof containers prior to removal from construction site to an approved recycling processing facility;
- Oil absorbent booms would be made available on site and deployed in the event of a significant spillage;
- Procedures to control dust and contain debris associated with demolition works;
- Control and treatment measures will be regularly inspected to ensure they are working effectively;
- Concrete wash out would only take place at designated concrete washout areas;
- Avoid pumping or similar processes of concrete over or adjacent to open water where possible and close observation to swiftly shut off any pumps if a spillage occurs;
- Surface water run-off and excavation dewatering will either be discharged to surface water, sewer, disposed off-site or a combination of these three methods. The permitting process (if applicable) will be completed by the Contractor. Further details on the permitting process (if applicable) is provided in Paragraph 6.2.5;
- The use of cofferdams to exclude work areas from the main River Yare waterbody, thus reducing the risk of increased sediment loads or hazardous substances entering the main water flow. Cofferdams to be integrated into the permanent structure;

- The use of silt fences, silt traps, filter bunds, settlement ponds and/or proprietary units such as a 'siltbuster' to treat sediment laden water generated on site before discharge; and
 - Sewage generated from site welfare facilities would be disposed of appropriately. This may be by discharge to the foul sewer or by collection in septic tank for disposal off site.
- 6.2.2 The proposed intrusive works design and requirements for groundwater dewatering will be completed by the designer. The management of this water and potential permits required to manage this water would be completed by the Contractor.
- 6.2.3 A programme of water quality monitoring may also be required to satisfy potential discharge consent conditions. If licences are required, it would be agreed with the relevant stakeholders prior to the regulated activity commencing, and works would be carried out under the licence conditions.
- 6.2.4 The full CoCP should insure that prior to construction the contractor will:
- Follow the Environment Agency's Approach to groundwater protection guidance (Ref. 6) to avoid saline water spread in the aquifers and risks to the groundwater abstractors. Cofferdam groundwater dewatering rates and saline intrusion spread are intrinsically linked; the greater the dewatering rate the larger spread of potential saline intrusion(s); and
 - Ensure that dewatering rates will be such that the spread of saline intrusion will not infringe upon the licensed abstractor zone of influence for both the construction and post construction (6 months post construction) phases.
- 6.2.5 The construction dewatering method of discharge has yet to be determined. The groundwater collected will either be discharged to surface water, sewer, disposed off-site or a combination of these three methods. If the water is to be discharged to sewer or a surface waterbody then a discharge consent(s) may be required. The permitting process will be completed by the Contractor once a dewatering and discharge management methodology has been agreed upon. The Contractor will be responsible for acquiring the relevant consents and adhering to the conditions of said consents.

7 Flood Risk

7.1 Introduction

- 7.1.1** The commitments relating to flood risk within this Outline CoCP have been drawn from the assessment of significant effects upon flood risk, which is included in Chapter 12 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) with additional detail within Figures 12.1 to 12.15 (Document Reference 6.3, Planning Inspectorate Reference APP-169), Appendices 12A to 12C which include the Flood Risk Assessment (FRA) (Appendix 12B (Document Reference 6.2, Planning Inspectorate Reference APP-135)). Compliance with the Drainage Strategy (Appendix 12C (Document Reference 6.2, Planning Inspectorate Reference APP-136)) is secured via a separate requirement to the draft DCO (Document Reference NCC/GY3RC/EX/023, Planning Inspectorate Reference REP2-009).
- 7.1.2** The construction phase does not have a different footprint in the River Yare channel or on the floodplain to the operational phase of the Scheme as cofferdams are to be constructed the same size as the knuckles in the channel and back filled to create the knuckles. Therefore, it has not been necessary to model a during-construction scenario. However, as the FRA (Appendix 12B of the ES (Document Reference 6.2, Planning Inspectorate Reference APP-135)) has found that there is a risk of flooding to the Scheme, there would also be a risk of flooding to the Principal Application Site during construction.

7.2 Mitigation

- 7.2.1** The Contractor should prepare a flood management plan to form part of the full CoCP, that should include:
- A list of important contacts, including Floodline (or an equivalent system which provides real-time flooding information and preparation advice), Flood Risk Management Authorities, building services, suppliers and evacuation contacts for staff;
 - A description or map showing locations of key property, protective materials and service shut-off points;
 - Basic strategies for protecting property, preventing business disruption and assisting recovery; and
 - Checklists of procedures that can be quickly accessed by staff during a flood.

- 7.2.2 The full CoCP should include measures to minimise flood damage during large tidal return period events.
- 7.2.3 It is expected that there would be sufficient advance warning of flooding events from all potential sources (i.e. from tide level predictions and meteorological forecasts) to implement the measures outlined in the full CoCP. This includes time for removal of plant and equipment from the site to higher ground upon receiving a flood or appropriate weather warning. This would limit damage and ensure that any hazardous materials with the potential to float would be moved.
- 7.2.4 Given the low likelihood of a significant flood event occurring during the construction phase, the implementation of a flood management plan is sufficient mitigation and would be provided within the full CoCP.
- 7.2.5 There is a potential risk of groundwater flooding during construction, any residual groundwater flooding risk during construction should be managed using the flood management plan and anyone working on site should be made aware that there is potential for groundwater flooding to the Principal Application Site.

7.3 Preparation

- 7.3.1 The FRA has identified the main flood risks to the site and potential consequences of flooding. The Contractor's site management team should ensure they are familiar with the contents of the FRA and understand the potential flooding that may occur. This information should also be used, as appropriate, to ensure all site personnel are aware of the risks associated with flooding through site notices, inductions and subsequent toolbox talks. Lone working or night staff, in particular, would be made aware of the risks.
- 7.3.2 The Contractor will consider suitable locations for plant and materials and suitable protection measures that would be employed to protect against flooding.
- 7.3.3 A detailed review of buildings and equipment on site should be completed by the Contractor to ascertain what may cause a hazard in the event of flooding. Care will be taken with any equipment that could potentially contaminate the flood water such as fuel or chemicals. In developing the flood management plan consideration will be given to the following:
- Plant, vehicles and equipment that can be removed from the site in the event of a flood warning being received;
 - Potential for any equipment to be raised above the tidal level or anchored down to prevent floating (noting some element of risk remains); and

- Other measures that lower floating probability, opening doors in cabins to allow flood water in for example.

7.3.4 These measures and any other measures in the flood management plan should be implemented in advance and all personnel on site would be made aware of them. Where appropriate site personnel would be registered with Floodline (or equivalent system) to receive flood warnings and would have access to the appropriate contacts at the Flood Risk Management Authorities. Tidal forecasts would also be monitored for advance warning of high tidal events. The site management team should ensure sufficient numbers of people are signed up to receive warnings to allow for rapid dissemination to all staff. The team would familiarise themselves with the flood warning types, what they mean and appropriate advice to follow.

7.4 Construction

7.4.1 During the construction phase of the Scheme, the Contractor would ensure that the mitigation measures identified in the FRA are adhered to, or adopt, an alternative solution which achieves the equivalent requirements for a negligible net loss of storage within Great Yarmouth during a flood event.

7.4.2 The Contractor's designers would assess the impact of construction works and construction sequence on flood defences on all the work sites, ensuring flood defences are maintained.

7.4.3 This is most pertinent when constructing the two bascule pits. Below is how flood defence could be managed:

- **East Bascule Pit:** during the construction of the bascule pit the flood defence wall be removed to facilitate pile installation. This would not be undertaken without close monitoring of the tidal state, if a flood event is predicted then the flood defence would not be removed. Upon removal of the flood wall and the installation of the bascule pit piles, the flood wall would be tied back to the new piles to maintain flood defence until the concrete coping works are undertaken.
- **West Bascule Pit:** Bollard Quay is susceptible to flood events and the current flood wall is the quay wall, however there is a flood defence scheme along Bollard Quay that is proposed to be promoted by the Environment Agency. If Environment Agency scheme goes ahead a retired line flood wall would be created. On the assumption that the retired line is installed, the Contractor would undertake an assessment of the quay wall to ensure its structural capability for a 350mm timber extension laid on a neoprene rubber and bolted to the wall. On completion of the timber extension, to enable vehicular access in to Bollard Quay from Southtown Road, the Contractor would remove the setback flood wall at the Southern end of Bollard Quay to provide ramp access to the quay level. At the extent of the raised Quay wall in the

event of a flood temporary Vertical Concrete Barriers would be installed from the raised floodwall back to the retired flood wall.

- 7.4.4 Upon removal of the quay wall (with the extension) for the installation of the bascule pit piles, the flood wall would be tied back to the new piles to maintain flood defence until the concrete coping works are undertaken. As per the Eastern Bascule pit.

8 Materials

8.1 Introduction

8.1.1 The commitments relating to materials within this Outline CoCP have been drawn from the assessment of significant effects, included in Chapter 15 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) and additional detail in Appendices 15A to 15C (Document Reference 6.2, Planning Inspectorate Reference APP-145 to 147).

8.1.2 The Government removed the statutory requirement of implementing Site Waste Management Plans (SWMP) in October 2013. However, the use of a SWMP is still considered good practice to ensure that demolition and construction wastes are dealt with in an appropriate manner and in accordance with the 'waste hierarchy' and the Contractor would prepare a SWMP as part of the full CoCP. The SWMP would monitor aspects relating to:

- Responsibility for resource management;
- The types and volumes of waste generated;
- The management of waste – the reduction, reuse and recycling.;
- The use of Contractors to ensure waste is correctly recycled or disposed of responsibly and legally;
- The measurement and monitoring of the quantity of waste generated by the project; and
- The use of a reporting and recoding tool.

8.2 Contaminated Arisings and Hazardous Waste

8.2.1 In preparing the full CoCP, the Contractor should implement measures within the SWMP to ensure all hazardous wastes are collected, transported, stored and disposed of in a manner that protects the environment. Noting that region capacity is currently zero.

8.3 Non-Hazardous Waste

8.3.1 In preparing the full CoCP, the Contractor should implement a SWMP to encourage the reduction of waste, reuse of waste and recycling of waste. Measures would include:

- Reduction of materials wastage through good storage and handling;

- Use of modern methods of construction and logistics, encouraging waste reduction and improved materials resource efficiency;
- Entering into agreements with waste contractors to maximise the recovery of segregated site wastes (e.g. timber, brick, plasterboard, metal);
- Ensuring that all suppliers of materials provide returnable or practicably recyclable packaging;
- Providing waste minimisation inductions and tool box talks throughout the construction phase; and
- Ensuring adequate storage facilities are provided for raw materials and waste streams.

8.4 Material Supply

8.4.1 A Materials Management Plan (MMP) (or equivalent) will be prepared by the Contractor, and implemented in the full CoCP to enable the reuse of natural soils and arisings including made-ground (contaminated or otherwise) on the development site. The MMP (or equivalent) will require answers to a series of questions regarding excavated materials on:

- The parties involved;
- Suitability for use criteria;
- Certainty of use;
- Quantity of use;
- Contingency arrangements;
- Tracking and document control; and
- Verification plan.

8.4.2 When preparing the full CoCP, the Contractor should ensure that design measures to reduce material consumption are implemented. These include:

- Committing to the use of off-site manufacture and prefabrication of materials and products, for example bascule leaves–sections as road transportable sections;
- Ensuring reuse of all suitable uncontaminated excavated materials. Where material requires improvement to allow its use, this will be undertaken; and

- Excavated materials taken off-site may be restricted to earthworks, topsoil (made ground), organic peats and contaminated materials which cannot be stabilised.

9 People and Communities

9.1 Introduction

- 9.1.1** The commitments relating to people and communities within this Outline CoCP have been drawn from the assessment of significant effects, included in Chapter 14 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096), Figure 14.1 to 14.4 (Document Reference 6.3, Planning Inspectorate Reference APP-170), Appendices 14A to 14E (Document Reference 6.2, Planning Inspectorate Reference APP-140 to 144), and the Equalities Impact Assessment (EqIA) (Document Reference 6.15, Planning Inspectorate Reference APP-186). This section also refers to measures included within the Framework CTMP (Appendix A).
- 9.1.2** The following mitigation measures should be implemented in the full CoCP by the Contractor to reduce potential effects to sensitive receptors including travellers (non-motorised users (NMUs) and motorised users), communities, and people. Additionally, these measures would minimise effects on the equalities groups identified within the EqIA.

9.2 Mitigation

- 9.2.1** A Framework CTMP has been prepared and is located in Appendix A. As part of the full CoCP the Contractor should produce a full CTMP for the construction phase which would be agreed by NCC's Network management team. It should provide greater detail and clarification on those matters relating to the working methodology (and the mitigation measures that would, therefore, apply to this methodology) and should be finalised before works commence.
- 9.2.2** The proposed construction methodology will be developed in accordance with relevant Acts and Regulations in order to ensure the safety of the general public, road users and construction staff during the construction phase.
- 9.2.3** The public and businesses will be informed of the nature, timing and duration of particular construction activities and the duration of the construction works through distribution of letters.
- 9.2.4** Works which may have an adverse impact on local residents and road users during the construction phase would be advised to the PCLO who would be the liaison between the Contractor and residents. The distributed letters would have a 24-hour helpline number on it to ensure there is someone available at all times to deal with communications and public relation.
- 9.2.5** Where tenants of commercial properties are subject to compulsory acquisition of their premises they will be assisted in finding alternative premises by use of local agents.

- 9.2.6 Construction plant that is not in use would be separated from public access points. Where practicable, NMU movements would be separated from construction activity and vehicle/machinery movements.

Diversions

- 9.2.7 The provision of appropriate and quality diversions which are established prior to construction and clear directions for any alternative routes and appropriate alternative diversions would be clearly publicised by the Contractor to maintain public access.
- 9.2.8 Public notices would be issued in advance so to inform local residents and businesses of dates and durations of road and rights of way closures. The Contractor would ensure provision and maintenance of suitable and sufficient signs and barriers indicating temporary and permanent closures to public accesses and rights of way.
- 9.2.9 When diversions are in place the Contractor should ensure that the following measures are implemented:
- Advance notice of any road or footpath closures and/or diversions to be communicated to the local community;
 - Footpaths (including diversions) would be maintained for pedestrians and cyclists affected by the Scheme, including reasonable adjustments to maintain or achieve inclusive access;
 - Inclusive access (including for people with reduced mobility) would be maintained to community facilities where they have been temporarily disrupted during construction. If additional measures or reasonable adjustments are identified through the community liaison process to ensure accessibility by persons with a disability or reduced mobility, routes and/or diversions should be reviewed;
 - Where the usual means of access must be diverted or blocked off, alternative safe routes for persons with reduced mobility would be identified, considering existing hazards and obstructions such as pavement kerbs; and
 - Any changes or amendments to public transport services because of the Scheme construction would be clearly communicated in advance to the local community.

9.3 Monitoring

- 9.3.1 As a live document, the full CTMP would be updated by the Contractor regularly. The Traffic Coordinator would be responsible for the monitoring and review of the full CTMP, such monitoring and review to occur within each



sub-phase and depending upon construction activity and transport requirement at any particular time.

10 Geology, Soils and Contamination

10.1 Introduction

10.1.1 The commitments relating to the land contamination within this Outline CoCP have been drawn from the assessment of significant effects upon geology, soils and contamination, which is included in Chapter 16 of the ES (Document Reference 6.1, Planning Inspectorate Reference APP-096) with additional detail within Figure 16.1 to 16.2 (Document Reference 6.3, Planning Inspectorate Reference APP-171) and Appendix 16A to 16D (Document Reference 6.2, Planning Inspectorate Reference APP-148 to 154).

10.2 Piling

10.2.1 The design team have identified that the following piling techniques would be adopted for the Scheme:

- Combi piles comprising driven open toe steel tube and interconnecting driven steel sheet piles to form the bridge abutment cofferdam. These would transfer the bridge load through the made ground and superficial deposits into the underlying Crag Formation; and
- Pre-cast concrete driven piles for the highway embankment approaches to the bascule bridge. These would transfer the embankment load through the made ground into the underlying superficial deposits.

10.2.2 On the basis of the piling works risk assessment, the following recommendations are made, and should be incorporated in the full CoCP:

- Use of appropriate pile materials to be resistant to the chemical composition of soil encountered on the Principal Application Site including the potential presence of saline water. Due to limited soil contamination (predominantly in the near surface soils and groundwater), appropriate dust suppression measures should be undertaken and site workers should wear suitable Personal Protective Equipment (PPE)/ Respiratory Protective Equipment (RPE).
- Quality Assurance and Quality Control (QA/QC) measures should be identified and adopted prior to piling works being undertaken. These are primarily for construction quality and structural performance. However, they are also equally relevant to mitigate environmental risk. The relevant measures should ensure that the foundation pile solution techniques are carried out correctly and in an appropriate manner so that the risk assessment and conclusions remain valid. Such QA/QC procedures would normally be agreed between the Contractor, Client, and relevant regulators.

10.3 Mitigation

General Mitigation During Construction

- 10.3.1** The Scheme would adhere to pollution prevention guidance and best practice during the construction phase which would be incorporated into and managed via the full CoCP.
- 10.3.2** The Contractor should have a watching brief during the works (excavation and piling in particular) to identify any unforeseen potential contamination. If encountered, the Local Authority Environmental Health Department (for soil contamination) and the Environment Agency (for water contamination) shall be contacted. Depending on the site operations occurring where the contamination is encountered, works may need to temporarily cease in that area and samples taken for chemical testing to inform a remediation strategy to deal with the issue. The remediation strategy shall be prepared by an appropriately qualified Environmental Consultant and agreed with the Regulator prior to implementation.
- 10.3.3** Earthworks to be completed in accordance with a MMP (or equivalent) to ensure re-used material does not present a risk to human health or the environment. This would ensure any contaminated materials are re-used suitably as part of the cut and fill earthworks associated with the Scheme.
- 10.3.4** Earthworks to be undertaken in accordance with a suitable Remediation Strategy, which is to include the provision for a 'clean' validated topsoil / subsoil to be placed in landscaping areas.
- 10.3.5** The Contractor should ensure that the full CoCP reflects good working practices and housekeeping during construction such as sealing or covering stockpiles of contaminated soils and treating water removed from excavations.
- 10.3.6** All temporary stockpiles will be sealed and/or covered if comprising contaminated soils so as not to give rise to a significant increase in sediment load to the drainage network or dust generation risk to human health.

Site Users and Adjacent Site Users including Construction Workers

- 10.3.7** The Contractor would develop method statements and risk assessments through CDM Regulations for the various construction activities to manage risks to human health. These documents should include provision for:
- Use of appropriate PPE for construction workers;
 - Good hygiene practice including wearing gloves and washing hands before eating, drinking or smoking following working with potentially contaminated soils or water; and

- Damping down stockpiles during periods of dry weather to reduce dust generation.

10.3.8 Due to the presence of contaminants, including asbestos, pH, benzo(a)pyrene and lead, in presenting its full CoCP for approval, the Contractor should set out if its construction methodology requires (or if it does not, why not):

- Further assessment of the locations where asbestos was recorded and if necessary excavation and off-site disposal of asbestos contaminated soils if the asbestos is at shallow depth and the areas are to be located in landscaping areas; or
- Placement of an inert subsoil and topsoil capping where necessary within landscaping areas to break the pathway between the contaminants and the receptors. If made ground is present below the inert capping, a geotextile membrane shall be used where necessary to delineate the change of strata and to minimise mixing of the soils.

Infrastructure

10.3.9 The Contractor should include in the full CoCP, where relevant, measures to mitigate potential impacts from ground conditions on the Scheme, such as the collapse of excavations, and the potential for methane and/or carbon dioxide to migrate into excavations posing a risk of explosion or asphyxiation. These could include:

- Temporary shoring to be used in excavations where there is a risk of collapse of excavations.
- Construction workers to check the atmospheric conditions within excavations or confined spaces and if necessary to wear appropriate PPE, monitoring equipment and RPE where required to mitigate the potential risk of exposure to hazardous gas / vapour and/or depleted oxygen levels.
- The concrete for all foundations will be designed to an appropriate concrete class for the sulphate and groundwater regimes.

11 Traffic and Transport

11.1 Introduction

11.1.1 The commitments relating to construction traffic within this Outline CoCP are contained within the Framework CTMP (Appendix A) and the Framework Workforce Travel Plan (Appendix B) which are summarised below.

11.2 Framework CTMP

11.2.1 The Framework CTMP sets out high level principles for the management and control strategy related to NMUs and vehicular movements during construction.

11.2.2 The objectives of the Framework CTMP are to:

- Reduce the number of vehicles traveling to the site;
- Minimise the impact of road construction traffic; and
- Minimise the number of private car trips to and from the site.

11.2.3 The Contractor would produce and submit a full CTMP to provide further detail and clarification on the working methodology and mitigation measures to be implemented prior to the works commencing. The full CTMP would be agreed by NCC's Network Management Team.

11.3 Framework Workforce Travel Plan

11.3.1 The Framework Workforce Travel Plan has been developed in liaison with the NCC Travel Plan team. The Contractor would produce a full Workforce Travel Plan prior to the works commencing. This would include measures to minimise the number of single occupancy car trips by promotion of other sustainable modes, and control of car parking.

11.3.2 The Full Workforce Travel Plan would include information regarding:

- Availability of live travel information online, and how to access it;
- Discount schemes available for public transport;
- Cycling initiatives such as adult cycling seminars and a cycle to work scheme;
- Liftshare scheme;

- Car Club; and
- Personalised journey planning;

11.3.3 A Travel Information Pack would be made available to all Staff, Contractors and Sub-Contractors and a copy provided within the site offices. The Travel Information Pack shall contain details of local travel and transport facilities and local interchange facilities.

11.3.4 All staff, Contractors, Sub-Contractors and site visitors would be made aware of the travel plan and its main points during their induction training/site visit briefing and advised on how to travel to the site sustainably, and where to obtain more information to support their choices.

12 References

Ref. 1: HM Government (1974), Control of Pollution Act 1974.

Ref. 2: Institute of Air Quality Management (IAQM) (2014), Guidance on the Assessment of Dust from Demolition and Construction.

Ref. 3: The British Standards Institution (2014), BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 1: Noise.

Ref. 4: Wildlife and Countryside Act 1981 (as amended).

Ref. 5: JNCC (2010), Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise.

Ref. 6: Environment Agency (2018), The Environment Agency's Approach to Groundwater Protection.

Great Yarmouth Third River Crossing

Application for Development Consent Order

Document NCC/GY3RC/EX/073: Outline Construction Code of Practice: Appendix A: Framework Construction Traffic Management Plan

Planning Act 2008

Infrastructure Planning

The Infrastructure Planning (Examination Procedure) Rules 2010

Planning Inspectorate Reference Number: TR010043

Author: Norfolk County Council

Document Reference: NCC/GY3RC/EX/073

Date: 11 February 2020

CONTENTS	PAGE No.
Tables.....	ii
1 Introduction.....	1
2 Overview of Preliminary Construction Programme.....	3
2.1 Construction Programme.....	3
2.2 Construction Compounds.....	3
2.3 Construction Staffing and Deliveries.....	4
2.4 Access Arrangements during Construction.....	4
2.5 Core Working Hours.....	4
3 Managing Highway Works.....	6
3.1 Works on Existing Highways.....	6
3.2 Temporary Closure / Diversion.....	8
4 Transport Management Plan.....	9
4.1 Waterborne Transport.....	9
4.2 Road Transport.....	9
4.3 Managing Vehicle Movements.....	9
4.4 Construction Logistics Control.....	10
5 Routing of Vehicles and NMUs.....	12
5.1 Public and off-Site Road Network.....	12
5.2 On-site Transport Networks.....	12
5.3 Pedestrians.....	13
5.4 Construction Vehicles (Deliveries and Waste).....	13
6 Liaison, Monitoring and Review.....	15
Supporting Figure.....	16



Tables

Table 2.1: Preliminary Construction Programme.....	3
Table 2.2: Summary of Core Working Hours.....	5

1 Introduction

- 1.1.1 This Framework Construction Traffic Management Plan (CTMP) has been prepared in support of the ES (document reference 6.1). It should be read alongside the Outline Code of Construction Practice (document reference 6.16) and the Framework Construction Worker Travel Plan (Appendix B to document reference 6.16).
- 1.1.2 This Framework CTMP sets out the high level principles of the management and control strategy related to pedestrians and vehicular movements during construction.
- 1.1.3 The objectives of the Framework CTMP are to:
- Reduce the number of vehicles travelling to the Site, with emphasis on single occupancy vehicles;
 - Minimise the impact of road construction traffic by identifying clear controls on routes for large goods vehicles, vehicle types, vehicle quantity and hours of site operation; and
 - Minimise the number of private car trips to and from the Site by encouraging alternative modes of transport and identifying control mechanisms for car use and parking.
- 1.1.4 The Applicant has appointed a main works contractor ('the Contractor') to construct the Scheme. The Contractor will be responsible for constructing the Scheme in accordance with the parameters of the draft Development Consent Order (DCO) (document reference 3.1) and the commitments within this Framework CTMP.
- 1.1.5 The Contractor must produce a full CTMP (under Requirement 5 of the draft DCO (document reference 3.1)). The full CTMP must be submitted to Norfolk County Council (NCC), in its role as county planning authority, who will consult with Great Yarmouth Borough Council (GYBC) and the Environment Agency (EA), following submission. It must provide greater detail and clarification on those matters relating to the working methodology (and the mitigation measures that will, therefore, apply to this methodology) and must be finalised before works commence.
- 1.1.6 The full CTMP will apply to all works authorised by the draft DCO (document reference 3.1) and undertaken by the Contractor and must be in compliance with the terms of this Framework CTMP.
- 1.1.7 Nothing in this Framework CTMP precludes the full CTMP being amended by the Contractor, following approval by the county planning authority, to reflect any changes to construction methodology. However, any submission for such an amendment must include evidence, including details of further

mitigation, where necessary, to demonstrate that the construction method will not give rise to materially new or materially different environmental effects to those reported in the ES.

1.1.8 It should be noted that all information included is based on current proposals and assumptions at the time of writing, and may be subject to change through the detailed design process and as a result of consultation with the relevant stakeholders.

1.1.9 The remainder of this document is set out as follows:

- Chapter 2: Overview of Construction Programme;
- Chapter 3: Managing Highway Works;
- Chapter 4: Transport Management Plan;
- Chapter 5: Routing of Vehicular Traffic and Non-Motorised Users (NMUs); and
- Chapter 6: Liaison, Monitoring and Review.

2 Overview of Preliminary Construction Programme

2.1 Construction Programme

2.1.1 Chapter 2 of Volume I of the Environmental Statement (ES) (DCO Document 6.1) provides a full description of the Scheme, and is accompanied by the General Arrangement Plan (document reference 2.2). It is anticipated that construction of the Scheme would commence in late 2020 and would take approximately two years to complete.

2.1.2 An approximate preliminary construction programme, based upon a construction period starting in Q4 2020 and ending in Q4 2022, which shows the main construction activities from mobilisation through to Scheme opening, is provided in Table 2.1 of the Scheme description and replicated below:

Table 2.1: Preliminary Construction Programme

Key Construction Activity	Indicative Timing	Indicative Duration
Mobilisation and Site Establishment	27 weeks	Q4 2020 – Q2 2021
Western Approach Retaining Structures	57 weeks	Q1 2021 – Q2 2022
Eastern Approach Retaining Structures	55 weeks	Q2 2021 – Q2 2022
Southtown Road Bridge	25 weeks	Q2 2021 – Q4 2021
Eastern Accommodation Underpass	20 weeks	Q4 2021 – Q2 2022
Double-leaf Bascule Bridge	87 weeks	Q1 2021 – Q4 2022
Small Vessel Waiting Facilities	6 weeks	Q3 2021 – Q4 2021
Western Roundabout, Eastern Signalised Junction, and other ancillary works (e.g. surfacing, landscaping)	86 weeks	Q4 2020 – Q3 2022

2.2 Construction Compounds

2.2.1 On the east side of the river a construction compound would be located on land between the River Yare and South Denes Road, immediately north of the new crossing. Access to this compound from the trunk road network is

likely to be via Acle New Road, North Quay, South Quay South Denes Road and Fish Wharf, a side road opposite Barrack Road.

2.2.2 On the west side of the river a construction compound would be located on land between William Adams Way and Queen Anne's Road, immediately west of Suffolk Road. Access to this compound from the trunk road network is likely to be via William Adams Way, Suffolk Road and Queen Anne's Road.

2.2.3 Chapter 5 includes further details.

2.3 Construction Staffing and Deliveries

2.3.1 As described in Chapter 2 of the ES (document reference 6.1) the Applicant has considered the delivery profile of staff and construction materials as well as an estimate of the maximum number of staff likely to be employed during the construction phase to inform ES (document reference 6.1).

2.3.2 The peak in staff numbers is anticipated about half way through the construction period, with approximately 185 full time equivalents working on site each day. HGV movements are expected to peak at 360 per week, or 72 per day on average.

2.4 Access Arrangements during Construction

2.4.1 The Contractor will ensure the works are planned to enable them to be delivered safely and, in a manner, which minimises congestion and disruption for all road users.

2.4.2 The approach to minimise disruption to the highway will be underpinned by a signage and communication strategy that will be developed with the Applicant and key stakeholders.

2.4.3 Temporary closures of some footpaths and public rights of way are likely to be necessary at certain points during the construction of the Scheme. Where this is the case, temporary diversion routes will be provided.

2.4.4 Chapter 5 of this document includes further details.

2.5 Core Working Hours

2.5.1 Table 2.2 below summarises the core working hours during the construction period.

Table 2.2: Summary of Core Working Hours

Day Period	Time Period
Weekday	07:00 – 19:00
Saturday	07:00 – 13:00
Sunday / Bank Holiday	None

3 Managing Highway Works

3.1 Works on Existing Highways

- 3.1.1** Good practice for carrying out highway works are set out below. Roadworks should:
- Be tidy and safe with a clutter-free site so it is safe for pedestrians, cyclists and other road users;
 - Have clear and consistent signage to explain what is happening;
 - Always have activity on site or, if not, explain why (e.g. concrete is drying); and
 - Take up as little road / pavement space as possible with a compact working area and eliminating the unnecessary use of cones, safety barriers and storage of materials.
- 3.1.2** In addition, the Contractor will consider the needs of pedestrians and cyclists and ensure that safe (and where necessary signed) routes remain available where possible and commensurate with demand. The Contractor will maintain pedestrian access to existing businesses wherever practicable.
- 3.1.3** During demolition of the footbridge on Williams Adams Way, the Contractor will endeavour to retain pedestrian and cycle access along the southern boundary to minimise disruption to access of Southtown Common.
- 3.1.4** Post demolition and prior to the completion of the proposed roundabout and associated crossings, pedestrians and cyclists will be directed to use the nearby controlled crossings at the junction with Southtown Road.
- 3.1.5** The Contractor will seek to minimise delays and queues by providing manual control of contraflow signals during peak periods, where necessary and reasonably practicable.
- 3.1.6** Works which may have an adverse impact on local residents and road users during the works will be advised to the Community Liaison officer will be the liaison between the Contractor and those who have complained.
- 3.1.7** All reasonably practicable measures will be put in place to avoid / limit and mitigate the deposition of mud and other debris on the highway. These measures will have regard to the nature and the use of the Site and will include:

-
- Hardstanding at the access and egress points which will be cleaned at appropriate intervals;
 - Vehicle clean down points to clean vehicle wheels at each exit point on to the highway;
 - The correct loading of vehicles and sheeting of loads where necessary to avoid spillage during their journeys;
 - The use of mechanical road sweepers combined with water sprays for the suppression of dust to clean site hardstanding, roads and footpaths in the vicinity of the Site; and
 - The flushing of gullies in the vicinity of the Site.

3.1.8 Minor works notices are used where the scope of work is unlikely to have an impact on road users and that the traffic management layout is generally a standard layout in accordance with Chapter 8 of the latest available Traffic Signs Manual.

3.1.9 Major works notices are used where the scope of work is likely to have an impact on road users and that the traffic management may not be a standard layout in accordance with Chapter 8 of the latest available Traffic Signs Manual.

Major Applications

3.1.10 A major application will need to be made in two parts to NCC and if required the relevant Highways Authority for:

- The application - which will include scheme drawings, design and assessment reports etc. The application will indicate the intended start date; and
- A possession notification - which confirms the start date and time and generally includes the traffic management layouts, contractor's method statement, risk assessment and any conditions which are considered necessary, such as advanced warning signing and hours of working.

3.1.11 The Contractor will work with NCC and will undertake appropriate consultation with the GYBC during the development of major schemes directly with the appropriate authority. This may include the structures team (or equivalent), traffic signals team (or equivalent), highway maintenance team (or equivalent) and lighting team (or equivalent) as well as traffic managers (or equivalent), so that the authority can meet its obligations under the Traffic Management Act 2004. Such obligations are documented in the 'Norfolk Permit Scheme for Road Works and Street Works (Traffic Management Act 2004)'.

Minor Applications

- 3.1.12** A minor works notice is submitted to the relevant Highways Authority and will need to be accompanied by sufficient information to enable the notice to be determined. The minor works notice must be in compliance with the 'Norfolk Permit Scheme for Road Works and Street Works (Traffic Management Act 2004)' (or equivalent).
- 3.1.13** These notices are required three days before the works commence. It is assumed that minor works notices are deemed to be approved after three working days unless the local highway authority requests additional information or advises that there are conflicting works by a statutory undertaker. Where emergency works are required, notification is made as soon as practicable.

3.2 Temporary Closure / Diversion

- 3.2.1** During the Site establishment and construction phases the Site will become an enclosed area with no public access. No public access will be available to the Site generally. Any diversions required to facilitate construction activity should be reasonable, safe, well signed and accessible.
- 3.2.2** Public notices will be issued in advance informing local residents and businesses of dates and durations of road and rights of way closures. The Contractor will ensure provision and maintenance of suitable and sufficient signs and barriers indicating temporary and permanent closures to public accesses and rights of way.
- 3.2.3** It is intended to maintain the pedestrian route from Suffolk Road over Williams Adams Way once the footway has been removed. The route will be via the controlled crossings at the traffic signals at the junction with Southtown Road.

4 Transport Management Plan

4.1 Waterborne Transport

- 4.1.1 The location is accessible to barges. It is not, however, proposed to employ barges to transport materials directly to site other than piles for the cofferdams. The project does not lend itself to greater use of waterway networks because the majority of materials or deliveries, or disposal of materials, would require 'double handling' of materials off-site. This would require a similar number of off-site road trips (albeit of lesser distance) to transport materials between the waterway(s) and the Site.

4.2 Road Transport

- 4.2.1 Based on the limitations described above, this Framework CTMP has been developed based on the use of road transport for delivery of materials, plant, equipment and removal of waste from site which cannot be recycled / re-used on site.
- 4.2.2 The daily travel to and from the Site by members of the project staff and operatives will be made via car, public transport, walking and cycling.
- 4.2.3 The following sections set out how the impact and effect of road transport during the duration of the project will be managed and mitigated.

4.3 Managing Vehicle Movements

- 4.3.1 HGV and large delivery vehicles for the works will be managed by the Contractor, who will ensure that the specified road network is used at all times unless otherwise agreed with the highway authority to use the local road network.
- 4.3.2 The preference will be to use sub-contractor (suppliers) who meet the Fleet Operator Recognition Scheme (FORS) standards through assessment, attaining as a minimum the Bronze Accreditation.
- 4.3.3 The Contractor will operate a well-maintained fleet of construction vehicles and use mains electricity or battery powered equipment over diesel and petrol-powered equipment where practicable.
- 4.3.4 The Principal Contractor will ensure that all Contractors and sub-contractors where reasonably practicable avoid deliveries during peak periods (07.30 to 09.00 and 16.30 to 18.00) of traffic flow and periods of congestion upon the highway network.

-
- 4.3.5 The Contractor shall implement and manage a transparent controlled 'booking or logging system' to manage deliveries and vehicle movements both into and out of the Site.
- 4.3.6 The Contractor shall prepare a delivery management plan to be used to identify and control the delivery of materials, plant and equipment to the Site and thereafter their unloading within the holding area(s) upon the Site.
- 4.3.7 Unless otherwise agreed with the local planning authority, the highway authority or the appropriate authority controlling land not maintained by the highway authority, the Contractor will ensure that no construction related vehicles shall park or wait upon the public highway or upon local access roads.
- 4.3.8 The Contractor will apply HGV safety standards, including the use of a banksman, to ensure pedestrian and cyclist safety.
- 4.3.9 Where construction requirements dictate that on occasion, deliveries will need to be made by Abnormal Indivisible Loads, (AIL's), the Principal Contractor will ensure that these loads will be delivered to the Site at times that are predetermined to suit traffic conditions upon the delivery routes that avoid periods of congestion upon those routes. The Contractor shall inform the Local Traffic Police and all relevant authorities of such deliveries within the required timeframe and ensure that all regulations are adhered to. An Abnormal Indivisible Load are vehicles which exceed one or more of the following:
- 18.75 metres overall length;
 - 2.9 metres wide;
 - 44 tonne total weight; and
 - An axle load of 11.5 tonnes or more.
- 4.3.10 The Contractor will produce a Workforce Travel Plan which will include measures to minimise the number of single occupancy car trips by promotion of other sustainable modes and control of car parking.
- 4.3.11 A framework version is included as Appendix B to the Outline CoCP (document reference 6.16) and has been developed in liaison with the NCC Travel Plan team using the standard template known as the Business Travel Pack.

4.4 Construction Logistics Control

- 4.4.1 The Contractor will identify and present to all suppliers and sub-contractors all such information and requirements as are necessary to undertake the

works in accordance with the approved routings, plans and requirements presented in the full CTMP or as required and/or agreed with all appropriate authorities. Change of status or requirements will be delivered by the Contractor throughout the construction period at inductions and regular project meetings to ensure that all suppliers and sub-contractors comply.

- 4.4.2 The Contractor will develop a full construction logistics control plan to address the requirements of any planning conditions and/or local requirements of the GYBC and/or highway authority. Such requirements relating to, but not limited by:
- Deliveries of construction plant, equipment and materials to be made to the appropriate location within the project by construction and delivery vehicles of a size and loaded weight appropriate for the width, geometry and levels of usage of the prescribed and approved delivery route;
 - The Identification, signing and details of approved routes for construction vehicles and the monitoring regime to ensure compliance of usage throughout the duration and extent of the construction activity for which the routes have been provided;
 - Phasing and timing of deliveries as far as is reasonable to ensure that working hours and restrictions upon delivery times for individual routes are maintained to avoid unnecessary congestion;
 - Timings and notice periods for abnormal load deliveries, where applicable; and
 - Traffic management approval requirements and notice periods for approval.

5 Routing of Vehicles and NMUs

5.1 Public and off-Site Road Network

- 5.1.1 The Contractor will ensure that all drivers and their vehicles delivering to or attending the Site will meet their legal obligations for safe operation and obey any traffic sign, road marking or traffic signals upon all road networks.
- 5.1.2 The routes to site are shown on Figure 1, as shown at the back of this document. All construction traffic and delivery vehicles for the East will enter and egress the Site via Fish Wharf Quay.
- 5.1.3 All construction traffic and delivery vehicles for the West will enter and egress the Site via Suffolk Road or directly on to Bollard Quay via Southtown Road.
- 5.1.4 For deliveries to site consultation with the abnormal loads unit of the, local traffic Police and other interested parties will take place to ensure that abnormal loads are suitably managed.
- 5.1.5 The Contractor will work with sub-contractors and the appropriate authority, to identify all access and delivery routes upon all public highway, footway / footpath, cycleway or public right of way that may be used or affected by the construction movements generated by the works. The Traffic Coordinator shall be responsible for the monitoring of the implementation and operation of the construction logistics throughout the extent of construction works.
- 5.1.6 The full CTMP shall be reviewed by Traffic Coordinator as construction progress dictates and shall be responsible for checking, promotion and obtaining the authorising from the relevant authorities of such additional measures or changes as may become necessary dependent upon site conditions.

5.2 On-site Transport Networks

- 5.2.1 The Contractor shall ensure that the management and interaction of pedestrians and vehicular movements on site will be controlled, managed and shall be safe at all times through planned interventions and segregation. The management and control strategy shall include, but not be limited to:

-
- Provision of relevant information from the Construction Plan to enable the establishment of safe systems of work and method statements;
 - The Planning, managing and monitoring of transport movements within the Site and the establishment of site rules and regulations that shall be used to enforce the transport movements;
 - The identification and establishment of a logistical transport management system to ensure the timely delivery of plant, equipment, materials and labour by appropriate and safe means of transport;
 - The identification and establishment of vehicular movements within the Site to ensure the safe and controlled movement of vehicles and pedestrians around the Site, provision for waiting vehicles and controlled parking areas if and where appropriate;
 - The identification of systems that will ensure that pedestrians and vehicles are segregated and kept apart as far as is practical;
 - The systems and monitoring regime to be implemented to ensure that subcontractors make adequate and appropriate provision within their methodology and method statements to maintain compliance with the Construction Plan;
 - The Contractor shall ensure that compliance with the full CTMP and all associated documents is monitored and enforced, identifying the actions that shall be taken if they are breached.

5.3 Pedestrians

5.3.1 The Contractor will wherever possible and as far as is practical, provide segregation between pedestrians and vehicles movement within the Site. This will be achieved through the establishment of:

- Safe designated pedestrian routes to work locations, along segregated routes or physically separated from vehicle movements;
- Vehicle-only areas, especially where space is limited or traffic is heavy; and
- Safe vehicle routes around the Site that are physically segregated from pedestrian movements.

5.4 Construction Vehicles (Deliveries and Waste)

5.4.1 The Contractor will provide lay-down and holding area for loading / unloading, storage and transference of materials and equipment between deliveries and the workplace for use by all.

5.4.2 The Contractor will, as far as is reasonably practical, provide on-site vehicle routes established to accommodate the most common types of construction vehicles required for all deliveries, which shall provide access to the main work areas, lay-down and holding areas.

5.4.3 The on-site vehicle routes shall, as far as is reasonably practical:

- Be segregated vehicles from pedestrian routes;
- Have firm surfaces and safe profiles to allow safe vehicle movements;
- Have speed limits and speed control measures specific to the Site conditions and the types of vehicles using the route;
- Segregate site vehicles, delivery vehicles and private vehicles where possible.

6 Liaison, Monitoring and Review

- 6.1.1 As a live document, the full CTMP will be reviewed and updated by the Contractor on a regular basis.
- 6.1.2 The Traffic Coordinator will be responsible for the monitoring and review of the full CTMP, such monitoring and review to occur within each sub-phase and depending upon construction activity and transport requirement at any particular time.
- 6.1.3 An important part of this full CTMP will be the continual monitoring and review of its effectiveness. Regular monitoring and reviewing by the Contractor will help to gauge progress towards the targets and objectives, and, if necessary, enable the full CTMP to be refined and adapted in order to improve its progression and enhance the effectiveness of subsequent CTMPs.

Supporting Figure

Figures 1 is presented overleaf.

Great Yarmouth Third River Crossing

Application for Development Consent Order

Document 6.16: Outline Construction Code of Practice: Appendix B: Framework Workforce Travel Plan

Planning Act 2008

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009 (as amended) (“APFP”)**

APFP regulation Number: 5(2)(q)

Planning Inspectorate Reference Number: TR010043

Author: Norfolk County Council

Document Reference: 6.16 – Appendix B: Framework Workforce Travel Plan

Version Number: 0 – Revision for Submission

Date: 30 April 2019

Explanatory Note

The following document (Appendix B to document reference 6.16) entitled 'Business Travel Pack' has been prepared following advice from, and using the standard template provided by Norfolk County Council's Travel Plan Team. When read in conjunction with the Framework Construction Traffic Management Plan (Appendix A to document reference 6.16) forms the Framework Workforce Travel Plan for the Scheme.



Help your staff get to work with the

Business Travel Pack



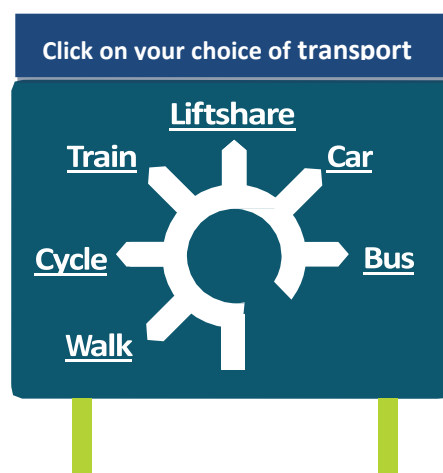
Welcome to the Business Travel Pack for staff

This pack aims to give you the tools to help encourage your staff to consider using sustainable modes of transport.

By providing useful information that will make it easier for employees to make informed choices for getting to and from work, it promotes the number of benefits that the scheme has, from saving time and money to improving health and wellbeing. It will also help boost your businesses corporate social responsibility and staff productivity. This can be used to help staff and visitors access your workplace as well as reduce your business mileage.

Why not join our LinkedIn group to share your ideas with other organisations? You can also be kept up to date with bus service changes, travel related events and much more.

All content is copyright of Norfolk County Council 2018 ©



Business Benefits

There are a number of ways in which your business will benefit from the business pack and promoting sustainable travel to your staff.

Reducing car park pressures – If you have car parking at your site, by encouraging other modes of travel instead of private car this will reduce pressures on parking.

Reducing business expenditure – Cycle to work schemes allow staff to hire bicycles over a set period of time. This is seen as a great benefit for staff but because the 'loan' is recuperated before tax and national insurance, you will reduce National Insurance contributions, saving your company money. More details on the scheme can be found on page 8.

Helping you attract and retain staff – The commute to work can be stressful for staff. To attract the best possible staff it's important that they understand how they can access your site. This pack can help you produce information for current and prospective staff so they are aware of all their options.

Active travel increases productivity – A more active workforce has been shown to be more productive and is likely to have reduced levels of absenteeism. This can only be good for business. Most modes of sustainable travel will include some level of activity and therefore this is a simple way for you to encourage staff to be more active.



Live Travel Information at your fingertips...

Good news! Live travel information is now available for you to access at work.

You can have information for bus departures for your nearest bus stops on display screens in your reception area, as an icon on computer desktops, mobile phone or as a newsfeed on your website.

For more information or advice, and for help with setting this up, please email the team: travelplans@norfolk.gov.uk

Not sure what you want? Have a look at the options below:



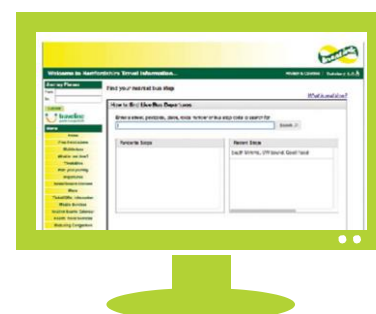
Live feed on screen

If you already have a screen in your reception area, staff room or waiting area, it is very easy to set up to show travel information for staff and visitors.



Desktop icon

You can create a shortcut to travel information on your intranet site so that staff can see how the buses are running without leaving their desk.

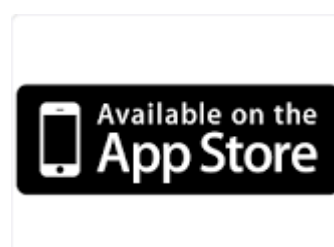


Website links

Provide an interactive travel map on your company website so visitors and staff can see how the buses are running.

On your mobile phone

Origin	Plat.	Arrives	Expected
Liverpool Lime Street	3B	1215	On Time
Service from: Liverpool Lime Street (0646), Liverpool South Parkway (0658), Widnes (0707), Warrington Central (0716), Birchwood (0721), Manchester Oxford Road (0738), Manchester			
London Liverpool Street	2	1227	1234
Service from: London Liverpool Street (1039), Stratford (London) (1038), Chelmsford (1103), Colchester (1124), Manningtree (1134), Ipswich (1154), Stowmarket (1204), Diss (1217)			
Cambridge	3A	1230	On Time
Service from: Cambridge (1112), Ely (1128), Brandon (1143), Thetford (1154), Attleborough (1209), Wymondham (1216)			
Lowestoft	6	1233	On Time
Service from: Lowestoft (1148), Oulton Broad North (1152), Somerleyton (1158), Haddiscoe (1202), Reedham (Norfolk) (1211), Cantley (1215), Brandall (1222)			
Sheringham	4B	1241	Delayed



You can download Apps for [iOS](#) or [Android](#) which will show live bus and train times for all mobile staff so they have the information on the move.

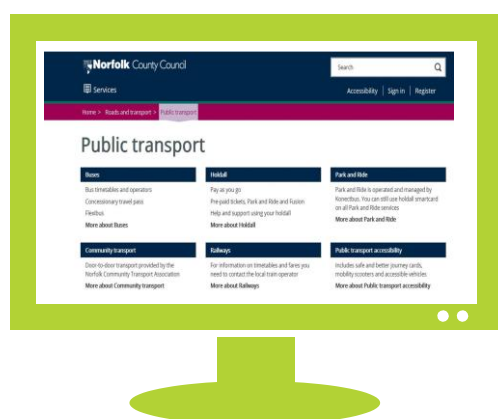


Want to find travel information?

Norfolk County Council hosts an easy to use, up to date public transport webpage:

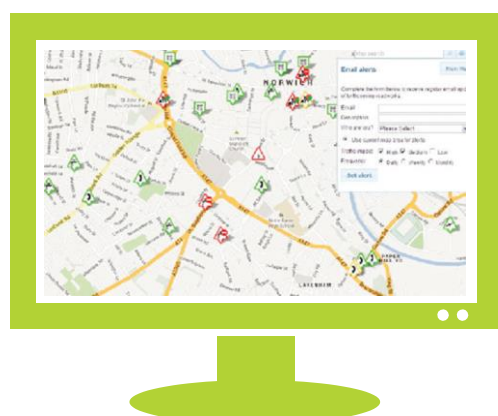
www.norfolk.gov.uk/roads-and-transport/public-transport

Here you can find out all the information you need including bus routes, car parking availability, traffic jams and roadworks.



Roadwork Alerts

You can also sign up to Roadwork Alerts in your area here at roadworks.org and they are sent straight to your email address.



Discount Schemes

Bus travel is a great alternative to travel by car if your business is based in Norfolk.

It reduces congestion and reduces pressure on car parks in the city. It also can be a cheaper alternative, especially when the cost of running a car and parking everyday are taken into account. We understand that your employees might prefer the convenience and comfort of their cars, so may need a bit of convincing to take the bus. To make bus travel for commuters even better value for money, a number of bus operators in Norfolk have offered further discounts for signing up to the Business Travel pack. Your employees can now purchase some great season ticket deals.

Why not become a member of the First Bus Corporate Travel Club?

You and your employees will be able to access a number of discounted travel tickets to save on the cost of your commute.

Visit: firsttravelsolutions.com/services/corporate-travel-club

Anglianbus & Konectbus

Anglianbus & Konectbus also offer **discounted annual season tickets** to a number of businesses throughout Norfolk. For more information contact David Smith: david.smith@konectbus.co.uk



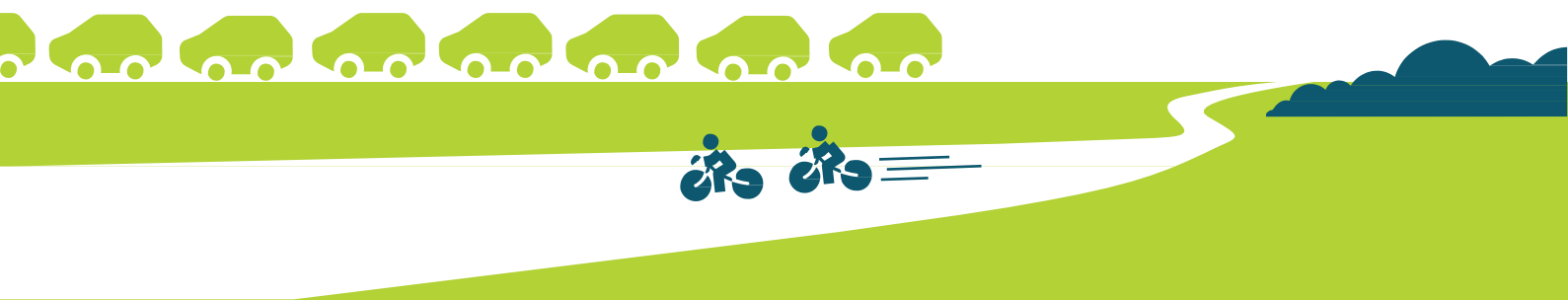
Adult cycling initiative from Norfolk County Council

Norfolk County Council has initiated an education, training and publicity campaign to support the increasing levels of adult cycling around the county.

Many organisations are now offering the cycle to work scheme to their employees and this resource has been developed to complement this. A free workplace seminar aimed at commuter cyclists, or potential cyclists, is the first stage. The seminar will cover the economic, health and environmental benefits of cycling, whilst providing advice on equipment, routes and riding techniques. This seminar will also inform your staff of key safety messages and other advice that the riders would want to know. With seminars lasting an hour, this is an ideal introduction for new cyclists, whilst acting as a great refresher for those that cycle more frequently.

Cyclists will then be offered a free follow-up road riding session, which will be client focused and concentrate on areas of concern raised by the cyclist.

To book a seminar for your workplace, please contact Norfolk County Council on **0344 800 8020** or email the team at roadsafety@norfolk.gov.uk Each seminar is for a maximum of 10 cyclists, but we can run the seminar multiple times if you have a high demand at your workplace.



Cycle to Work Scheme

The cycle to work scheme is a benefit that you can set up for your staff. Employers of all sizes can get involved and employees can see real savings on the cost of commuting by bike.

The scheme allows employees to hire cycles and cycle equipment from their employer as a tax free benefit. At the end of the hire term an employer may choose to sell the cycle on to the employee at market value. If this happens an employee can save over 30% on the cost of the bike and the employer will pay less National Insurance Contributions for the employee during the hire term.

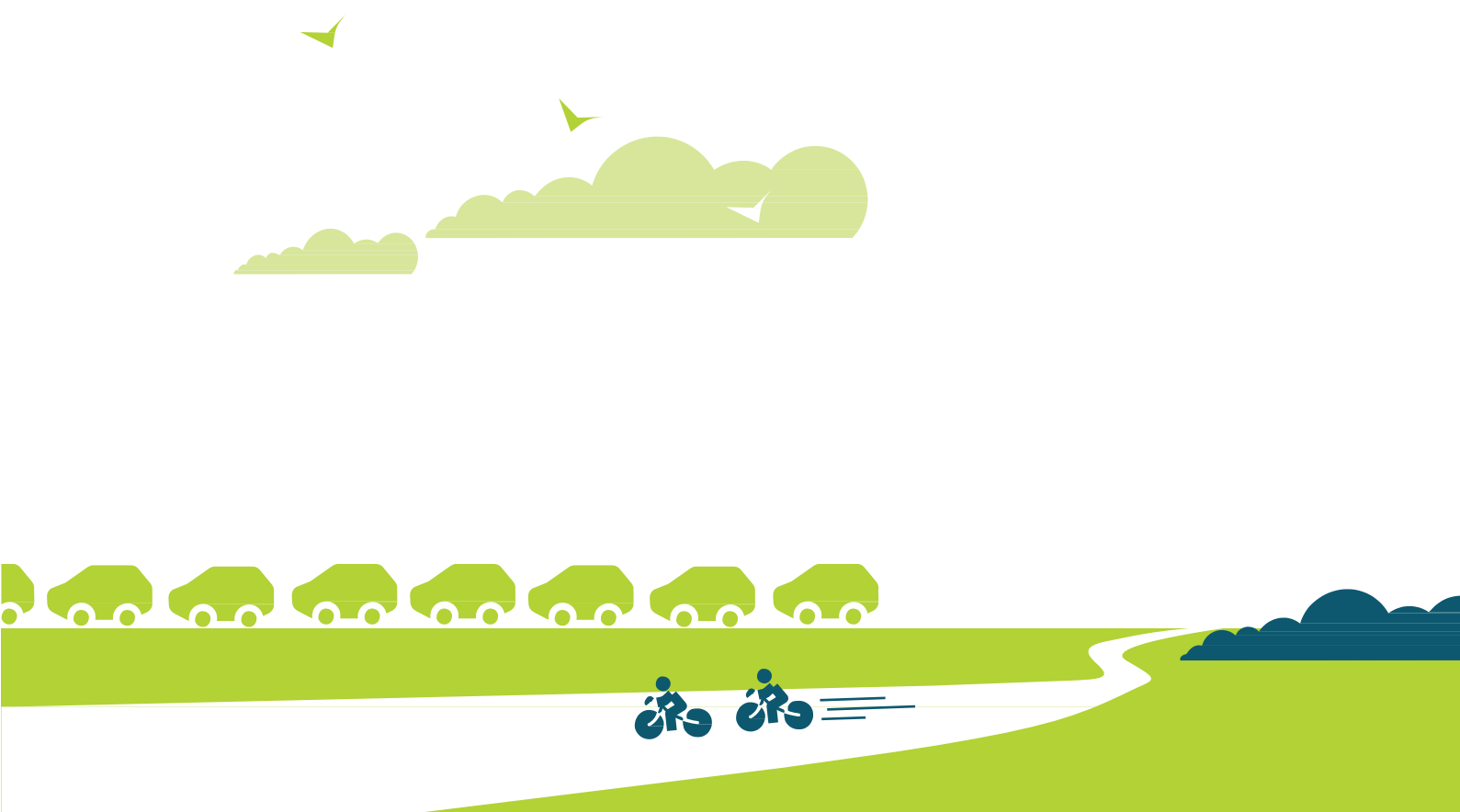
A guide on how to implement the scheme can be found online

gov.uk/government/publications/cycle-to-work-scheme-implementation-guidance

In addition there is a guide to calculating the market value of a bicycle

hmrc.gov.uk/manuals/eimanual/eim21667a.htm

To help administer this sort of set up there are a number of organisations that will set up, administer and support you with providing this scheme to your staff.



Powered Two Wheelers

Moped or motorcycle use, particularly smaller capacity vehicles, can have significant benefits to the environment, congestion, pressure on car parking spaces and running costs for the user.

Small motorcycles or mopeds create very little pollution and make a significant impact on reduced congestion during rush hour in urban areas. Some 125cc scooters are capable of 125 mpg with stop-start technology enhancing that figure.

The pressure on car parking spaces at your business premises can be drastically reduced by the use of such vehicles.

The cost of tax and insurance, particularly for young employees, could represent very large financial savings over those involved in car ownership.

Your business may need to provide a dedicated motorcycle parking area. Preferably with a ground anchor loop to secure the bike to, and a locker to store crash helmet and clothing once at work.

Advice on licenses and legal issues can be sought from the Road Safety Team at roadsafety@norfolk.gov.uk or by calling **0344 800 8020**

We have a full range of training options post-test or even once Compulsory Basic Training (CBT) has been completed.

Please visit think.norfolk.gov.uk for more details or contact as above.



Norfolk Liftshare

Norfolk Liftshare has been set up by Norfolk County Council to provide a matching service for all those who live, work and travel in and around Norfolk.

This service could really help your staff who struggle to use other means of sustainable transport. This website matches up potential partners as a driver or passenger. Once matched, you can choose to journey share as little or as often as you like!

- Find drivers and passengers to car share with for **FREE**
- Reduce the costs of fuel and parking
- Cut congestion and pollution
- Reduce the stress of driving

www.norfolk.liftshare.com



Share away today

www.norfolk.gov.uk/tfn



Norfolk Car Club

Do you have a vehicle fleet or pay staff a mileage rate?

An alternative to this would be to use the Norfolk Car Club. As business members, you and your staff can drive a brand new car whenever you need to. You can travel as far as you like for as long as you like. In fact, you get all the benefits of owning a car with none of the overheads.

Top business benefits:

- **Flexibility** – access a car whenever you need one, 24/7
- **Save money** – you only pay when you use the vehicle
- **Save time** – with no need for tiresome admin, you're free to focus on your business
- **Peace of mind** – car club vehicles are spotlessly clean, maintained to the highest standards, taxed and insured

norfolkcarclub.com/for-business



Active Norfolk's Fit4Work and Workplace Challenge

Fit4Work is Active Norfolk's Workplace Health Programme and is designed to improve the health and wellbeing of people of working age in the County which in turn can impact on the performance of local businesses.

Through Fit4Work Active Norfolk can support workplaces to identify and address the health and wellbeing needs of their employees. Training is available for staff to become Workplace Health Champions and our Working Well Grant fund enables organisations to apply for funding of up to £500 to support workplace health initiatives, e.g. bike racks to encourage active travel.



**WORKPLACE
CHALLENGE**

activenorfolk
fit4work

What is Workplace Challenge?

A key element of Fit4Work, Workplace Challenge is a national programme from County Sports Partnership Network funded by Sport England which aims to engage workplaces in sport and physical activity.

Active Norfolk's Workplace Challenge website enables employees to:

- **Sign up for FREE!**
- **Record their levels of sport, physical activity and active travel online**
- **Set their own personal physical activity and active travel targets**
- **Challenge their colleagues, friends and other workplaces through the Workplace Challenge leader-boards**
- **Take part in national challenges to win prizes for themselves and their workplace**
- **Sign up to regular Fit4Work Competition Calendar events**
- **Keep up-to-date with information on health initiatives and local sport and physical activity opportunities**

www.activenorfolk.org/fit4work

www.workplacechallenge.org.uk/activenorfolk



Employer discount for Park & Ride in Norwich

The Employer Discount Scheme allows employees of any company who is a member of the scheme to obtain a 10% discount on the purchase of an annual adult Park & Ride ticket.

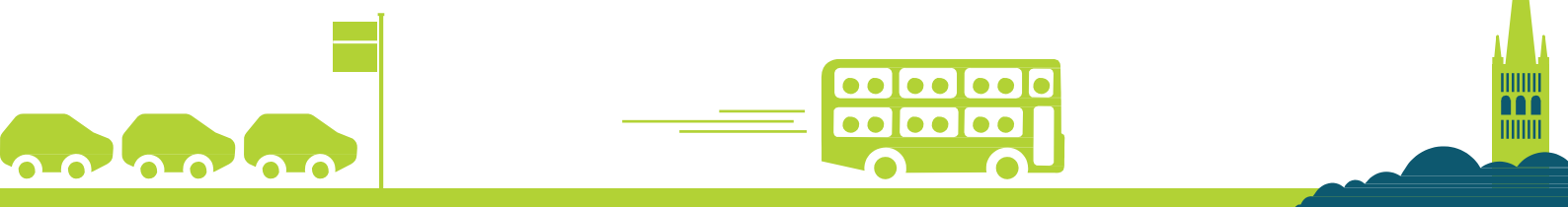
An annual Park & Ride ticket allows unlimited use of any of the Park & Ride services, from any site for the entire period of its validity on any day the services are operating. It can also be used for local journeys between city centre bus stops that are served as part of the Park & Ride network. The discounted price of the Adult ticket is £495. Payment must be made in full and there are no Direct Debit payment options available on the Employer Discount Scheme.

Will I get a paper ticket or a smartcard?

Annual Park & Ride tickets are only available on the Norfolk County Council holdall card. Further details on how to obtain your card and purchase your ticket can be found online. As verification that you are currently employed by a member company is required, these tickets can only be purchased in person at the konectbus information desk in Norwich Bus Station which is open Monday to Saturday 0830–1730.

You should be able to ask your supervisor or line manager for this information. If they are unable to provide it, then you can get in touch with konectbus on feedback@konectbus.co.uk and we will be able to check our current list.

For more info please visit:
www.norwichparkandride.co.uk/eds/



Get involved on Linked in

Business Travel Network for Norwich has been set up for you to share experiences with others using the pack.

Norfolk County Council will keep you up to date with any changes and you can talk to other Travel Champions and find out how they have used the scheme too. We will also be posting information about upcoming workshops to help you get the most from the Business Travel Pack, plus we will be promoting competitions and surveys to win some great prizes. Click the Linked in logo below to go to our Linked in group page:



Encourage your staff to Tweet

Many of the transport operators in Norfolk now use twitter.

It's a great way to get fast responses to enquiries and find out the latest news and travel updates.

[@first Norwich](#)

[@greater Anglia](#)

[@anglianbus](#)

[@nparkandride](#)

[@SandersCoaches](#)

[@konectbuses](#)

[@emtrains](#)

[@Norfolkgreenbus](#)

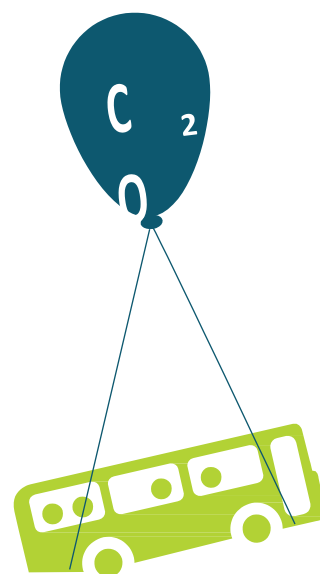
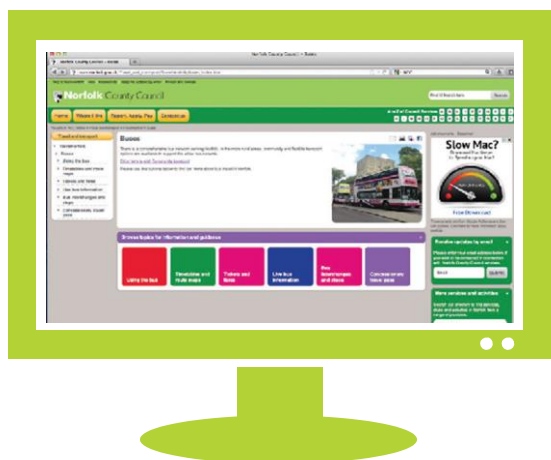
[@GNRailUK](#)

Personalised Journey Planning

Another great feature of the Business Travel Pack is free journey planning software for you and your employees.

It's simple and easy to use. This will show walking or cycling options as well as public transport, Park & Ride and car sharing according to postcode, and this can be tailor-made for every member of staff.

The software also includes handy information such as the number of calories burned; the amount of CO_2 emitted and cost comparisons for each mode of transport used. This could help staff decide on new ways to commute. To set up journey planning for your staff email: travelplans@norfolk.gov.uk



Your travel information plan

This travel information plan aims to try and give your staff and customers practical travel information to and from your premises to encourage sustainable travel by bus, train, by bike or on foot. Traffic jams and full car parks in the city can cause frustration for lots of commuters. You can help keep Norfolk moving.

Travel TIP: the text can be used in different ways, for example; on your website, included in staff induction packs or given out to visitors and customers over the phone.

BAMFARRANS

The person responsible for delivering this plan is: **Sarah Joliffe**

Version date:15/03/019

Email Address: Sarah.Joliffe@bamnuttall.co.uk

Address: BAM Nuttall Ltd

Mile Road

The Airfield

Shipdham

Thetford

IP25 7SP

Travel information will be provided to:

Staff ☒ Visitors ☒ and will be shown on staff Intranet ☒ corporate website ☐

Information held within the travel information plan will be reviewed and updated every 6 months.



Your travel information plan(cont.)

Information will be provided via;

Website ☒ Travel information pack ☒ Sent with meeting/appointment invites ☒
 Posters ☒ Intranet ☒ Staff training/induction ☒

All staff, contractors and subcontractors and site visitors will be made aware of the travel plan and its main points during their induction training/site visit briefing and advised on how to travel to the site sustainably, and where to obtain more information to support their choices from the TPC or Notice board or Intranet.

A Travel Information Pack will be made available to all Staff, Contractors and Sub Contractors and a copy provided within the site offices. The Travel Pack shall contain details of local travel and transport facilities and local interchange facilities.

The following travel plan events will be promoted;

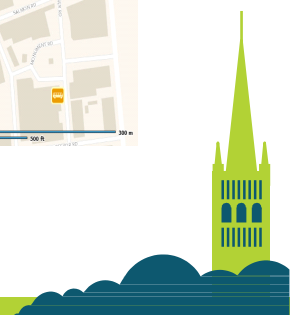
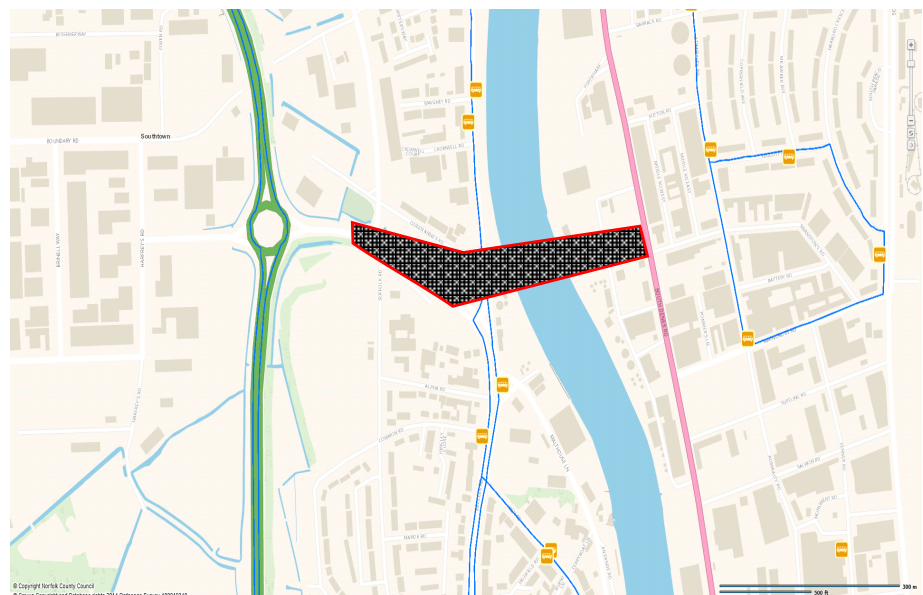
Walk to Work Week ☒ National Bike Week ☒ World Car Free Day ☒
 National Liftshare Week ☒ Local sustainable travel events ☒

A commitment of 46.5 hours staff time has been committed annually for promotion of the Travel Information Plan and sustainable travel.

Correct as of 15th
March 2019

The main construction compounds are located on either side of the River Yare.

Blue routes show local bus services and stops.



Your travel information plan(cont.)

Your local travel options

On foot



Pedestrian access to the eastern site compound can be made via South Denes Road and to the western site compound via Queen Anne's Road. The nearest bus stops are located on Admiralty Road (260 metres) and Beccles Road (200 metres) from the development compounds

You can plan your journey on foot using [walkit.com](https://www.walkit.com) or using [Google maps](https://www.google.com/maps)

By bike



The site can be accessed from South Denes Road or Queen Anne's Road, and is within easy cycling distance of both the train station (8 minutes ride) and Great Yarmouth town centre (4 minutes ride).

There will be 20 secure parking stands, with shower and locker facilities provided to encourage staff to cycle to work.

Maps with suitable routes and locations of supporting cycle retailers shall also be provided within the Travel Information Packs. Pedal Revolution the local cycle retailer is located in Gorleston on Sea is located 3.4 miles away a 19 minute ride

You can plan your Norwich journey by bike using [norwich.cyclestreets.net](https://www.norwich.cyclestreets.net)

Find out more about cycling in Norfolk here: <https://www.norfolk.gov.uk/roads-and-transport/alternative-ways-to-travel/cycling>



By bus

The bus stop on Admiralty Road is a few minutes walk from the site. This is served by the number 2 Barrack Estate circular service provided by First Bus (<https://www.firstgroup.com/norfolk-Suffolk/>).

Regular services operates between Market Gates and the Barrack Estate, Monday-Saturday between 07:00hrs and 22:30hrs, and 09:10hrs- 22:30hrs on a Sunday.

Several services from Beccles Road/Southtown Road, operate with Sanders, First and Border bus, with links to Gorleston, Lowestoft, Norwich and Great Yarmouth. These operate between 07:00hrs and 23:15hrs, and Sundays between 07:35hrs and 22:45hrs. <https://www.norfolk.gov.uk/roads-and-transport/public-transport/buses>

You can plan your journey by bus using travelineeastanglia.org.uk

To find out times of the next bus from the bus stop text its unique code to **84268**.

In Norwich there are six **Park & Ride** sites situated around the City providing regular buses direct to the city centre – find out more about Norwich Park & Ride here: www.norwichparkandride.co.uk



Your travel information plan(cont.)

By train



Great Yarmouth railway station is located to the 1.5 miles North of the development site, with connections from Norwich and Lowestoft. There are signposted walking and cycling routes into the town centre (Market Gates). There is a suitable on highway cycling route to the development. Walking would take much longer, although a short walk into the town to connect with the Number 2 Bus at Market Gates could provide access using Plusbus ticketing.

You can plan your journey by train using nationalrail.co.uk

By Car



The site is easily accessed by car or van from the A47 via William Adams Way or Acle New Road/North Quay/South Quay/South Denes Road.

Carsharing will be promoted via Norfolk lift-share website to finding suitable employees to share journeys to work. <http://norfolk.liftshare.com/>

To encourage staff and contractors to only use essential vehicles for accessing the site, the creation of a secure on-site tool storage will be implemented for workforce tools and equipment. The storage location will be insured for contractors' tools as well as those supplied tools, therefore removing the need for work vans to travel to the site.

Site personnel will be actively discouraged from parking vehicles upon public highways within a 1.5km radius from the site. The TC will be responsible for ensuring that all site personnel are aware of this parking restriction.

Travel tips

The TPC shall carry out a travel survey on the site within three months of works commencing, to ascertain the prevailing modal travel patterns of employees. These results will be integral in the future development of the CTP. The survey will aim to ascertain:

Attitudes towards more sustainable modes of transport,

Journey lengths and origin, Preferences to the current modes of transport,

Attitudes to changing their preferred mode of transport where possible,

The most effective measures to induce a shift from private car usage to more sustainable modes of transport



Want to find out more?



Have you got a smart phone? Why not try these apps

Nextbuses
(iPhone, free)
Bus Scout
(Android, free)
BikeHub
WalkIt

Traveline
travelineeastanglia.co.uk
0871 200 22 33

National Rail Enquiries
nationalrail.co.uk
08457 48 49 50

Greater Anglia
greateranglia.co.uk
0845 600 7245

Cyclestreets
cyclestreets.net

Norfolk Liftshare
www.norfolk.liftshare.com

Norfolk Car Club
norfolkcarclub.com
08456 028 030

Active Norfolk
activenorfolk.org
01603 732333

Great Northern Trains
www.thameslinkrailway.com
0345 026 4700

Park and Ride
norwichparkandride.co.uk
01362 851210

Anglianbus
anglianbus.co.uk
01502 711 109

Coach Services
coachservicesltd.com
01842 821 509

First Bus
firstgroup.com/norwich
08456 020 121

Konectbus
konectbus.co.uk
01362 851 210

Norfolk Green
norfolkgreen.co.uk
01553 776 980

Sanders Coaches
sanderscoaches.com
01263 712 800

Simonds
simonds.co.uk
01379 647 300

