AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Appendix 22.1A Framework Traffic Management Strategy - Tracked

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

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CONTENTS

TABLES

PLATES

APPENDICES

1. FRAMEWORK TRAFFIC MANAGEMENT STRATEGY

1.1. INTRODUCTION

1.1.1.1. This document provides details of the Framework Traffic Management Strategy ('FTMS') required in connection with the construction of the Onshore Cable which forms part of the Proposed Development, running from the proposed Converter Station in Lovedean, Hampshire to the Landfall at Eastney, Portsmouth. This FTMS sets out the overarching principles and methodology to be used during the construction of the Proposed Development and will be developed in further detail, as required by the Development Consent Order ('DCO'), by appointed contractors prior to commencement of each phase of the works.

1.1.1.2. This document is an updated version of the FTMS~~-~~, of which versions have previously submitted at Deadline 1 and Deadline 6 of the Examination (~~Examination Library Reference:~~ REP1-068 and REP6-030), and thus should be taken to directly supersede the submission version. Updated information included within this document primarily relates to the following:

- Provision of a Framework Signage Strategy that sets out how traffic management highway signage will be implemented on the Onshore Cable Corridor and wider highway network;
- Updates to how access to properties will be maintained throughout the construction process;
- Further information of the proposed communication strategy which will be implemented during the Construction Stage to ensure that residents, businesses and other stakeholders are kept up-to-date with details of the works;
- Provision of a Travel Demand Management Strategy that will be implemented alongside the FTMS; ~~and~~
- Additional information on the indicative location of Joint Bays which has been provided in the UK Joint Bay Feasibility Report submitted in the examination at Deadline 7 (REP7-073); and
- Proposed changes to traffic management requirements on A2030 Eastern on Portsmouth Football Club match days.

1.1.1.3. The FTMS should be read in conjunction with Appendix 22.1 (Transport Assessment) ('TA') of the Environmental Statement ('ES') Volume 3 (APP-137)~~ and~~, the Supplementary Transport Assessment ('STA') (~~-~~REP1-142) and the Supplementary Transport Assessment Addendum (REP7-065), which details the anticipated impact on all forms of traffic and travel as a consequence of the construction of the Proposed Development and which in turn has informed the traffic management requirements to mitigate those anticipated impacts. Further details on the management of construction traffic in connection with the construction of the Converter Station and the Onshore Cable Route can be found within Appendix 22.2 (Framework Construction Traffic Management Plan) ('CTMP') of the ES Volume 3 ~~(REP1-070~~(REP6-033).

1.1.1.4. A key aspect of the FTMS is the proposed programme for the ~~constructions~~ construction of the Onshore Cable Route, which aims to mitigate the impacts of the works by taking account of key constraints and sensitive locations along the route. In relation to this, the FTMS provides an indicative programme for construction that considers environmental constraints, major events likely to be planned during the Construction Stage, school term times and the interaction between adjacent or nearby locations to minimise the impact of the construction of the Onshore Cable Route in the highway.

1.1.1.5. It should be noted that this document forms an update to the previously submitted FTMS ~~(REP1-068~~(REP6-030). The revisions undertaken reflect ~~on-going~~ discussions with HCC and PCC which have taken place post-submission.

2. OVERARCHING TRAFFIC MANAGEMENT PRINCIPLES

2.1. INTRODUCTION

2.1.1.1. The FTMS has been developed with the aim of minimising disruption to all road-users, including pedestrians, cyclists, public transport users and car drivers. This section sets out the principles that will be followed by contractors during the construction of the Onshore Cable Route. These principles will be included within the Technical Specification issued to contractors as part of the construction tender process, along with specific details of traffic management requirements at key sections of the Onshore Cable Corridor as described within this document.

2.2. DESCRIPTION OF UK ONSHORE CABLE CORRIDOR

2.2.1.1. The Onshore Components of the Proposed Development comprise the Converter Station, the Onshore Cable Route and the Landfall. Four High Voltage Direct Current ('HVDC') Cables (two circuits) are proposed to be installed in the Onshore Cable Corridor between the Converter Station and the Landfall. The Onshore Cables will be installed in two ducts per circuit, mostly in trenches or in certain specific locations via trenchless installation methods (e.g. Horizontal Directional Drilling ('HDD')). The proposed Onshore Cable passes through the urban areas of Waterlooville, Purbrook, Drayton and Portsmouth, with the Landfall located at Eastney.

2.2.1.2. A typical cross-section of the cable trench arrangement in the highway is shown in Plate 1, showing each pair of Direct Current ('DC') Cables in its own trench. Each excavated trench would typically be approximately 0.7 m in width but could increase to 1 m in order to facilitate the cables being installed deeper, when navigating existing utility services. In the majority of cases, parallel trenches will be excavated at separate times for each circuit.

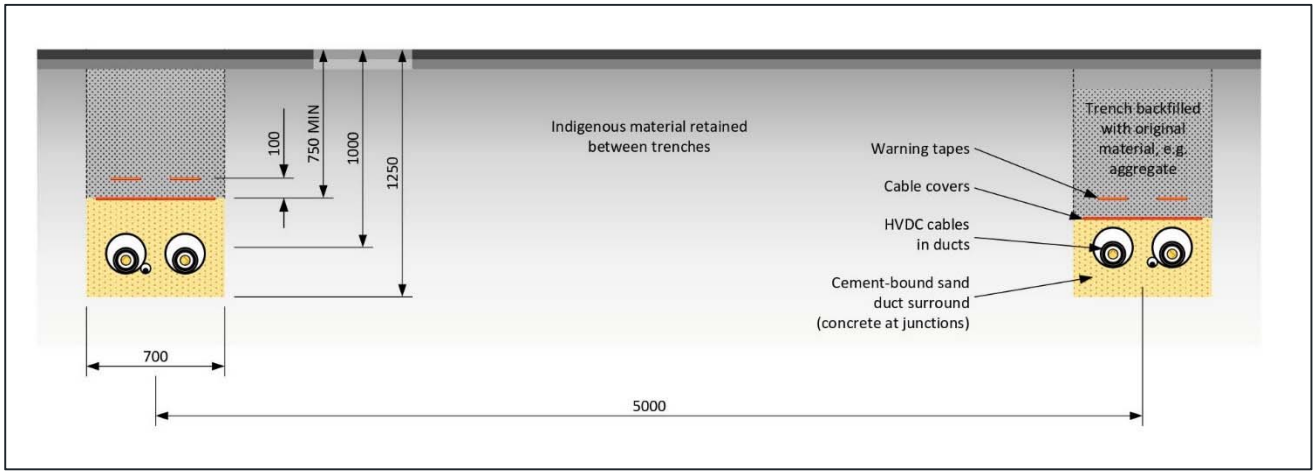


Plate 1 - Typical Arrangement of HVDC Cable in Road, Verges and Footpath

2.2.1.3. The Onshore Components of the Proposed Development have been split into 10 sections for ease of description as follows:

- Onshore Cable Corridor Section 1 – Lovedean (Converter Station Area)
- Onshore Cable Corridor Section 2 – Anmore
- Onshore Cable Corridor Section 3 – Denmead/Kings Pond Meadow
- Onshore Cable Corridor Section 4 – Hambledon Road to Farlington Avenue
- Onshore Cable Corridor Section 5 – Farlington
- Onshore Cable Corridor Section 6 – Zetland Field and Sainsbury's Car Park
- Onshore Cable Corridor Section 7 – Farlington Junction to Airport Service Road
- Onshore Cable Corridor Section 8 – Eastern Road (adjacent to Great Salterns Golf Course) to Moorings Way
- Onshore Cable Corridor Section 9 –Moorings Way to Bransbury Road
- Onshore Cable Corridor Section 10 – Eastney (Landfall)

2.2.1.4. A plan showing these sections can be found in Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (APP-118). For the purposes of this study these Sections have also where appropriate been divided into shorter sub-sections as described in Sections 3 to 12 of this report.

2.2.1.5. In some locations the Onshore Cable Corridor includes a number of route options. Where a number of options are present, these represent alternate route options due to constraints affecting the cable installation.

2.3. CONSTRUCTION METHODOLOGY OF ONSHORE CABLE ROUTE

2.3.1.1. During construction there will be a number of locations along the route at which construction work will be performed simultaneously, all of which will require traffic management measures when being completed in or immediately adjacent to roads. For the purposes of the FTMS, each location is referred to as a 'construction zone.' The stages of construction for the Onshore Cables are as follows:

- Excavation of the trench, installation of the cable ducts and reinstatement of the final grade;
- Excavation of Joint Bays;
- Provision for cable pulling, requiring space for cable drums and winches;
- Cable jointing work; and
- Filling of ducts, if necessary, to maintain thermal performance e.g. at locations of unexpected service congestion.

2.3.2. INSTALLATION OF CABLE DUCTS

2.3.2.1. ~~2.3.1.2.~~A conservative estimate of the installation rate for cable ducts is approximately ~~12 m – 30 m~~ 12m – 30m per 10-hour day shift per circuit, varying depending on the level of services and/or other constraints which are encountered, within urban areas and approximately 50 m per day in open country. These typical installation rates are per gang per shift and are dependent upon the level of obstacles and utility services encountered within the road or constraints that need to be observed to minimise impacts. At this stage the approximate likely construction progress has been estimated using available utility records. For the purpose of this assessment construction progress rates fall into four categories as is set out below, these progress rates apply to the construction of the cable duct component of the Onshore Cable Route only:

- 50m / day in areas of "open country";
- 30m / day in "Grassed areas with light service congestion";
- 24m / day in "Roads with light service congestion"; or
- 12m / day in "Roads with heavy service congestion."

2.3.2.2. ~~2.3.1.3.~~When considering these installation rates across the entirety of the Onshore Cable Route the average assumed progress rate has been calculated at 100 m per week per circuit, which maintains the overall construction programme detailed within (Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (APP-118). However, for the purposes of this document these construction rates have been applied as appropriate to each section of the Onshore Cable Corridor with revised durations of traffic management set out in the subsequent sections of the report.

2.3.2.3. ~~2.3.1.4.~~For the durations set out in this document, all part days (e.g. 0.4 days) have been rounded up to full days and part weeks (e.g. 2 days) have also been rounded-up to the next full week. Accordingly, the assumptions regarding the rate of installation represent a very robust and worst-case analysis of the likely construction periods on each section.

2.3.2.4. ~~2.3.1.5.~~The locations of the ducts within the road will be dictated by, amongst other factors, existing services. Where it is necessary to increase installation depth to clear existing services it may be necessary to increase the distance between ducts to avoid de-rating the circuits (i.e. when the cables operate at the maximum temperature and do not achieve the maximum required current carrying capacity).

2.3.3. INSTALLATION OF JOINT BAYS

2.3.3.1. ~~2.3.1.6.~~Joint Bays will be positioned off of the highway (in highway verges, fields or other land) where possible, to limit the need for road closures associated with their installation, with the final location to be confirmed as part of the detailed design approvals post the grant of the DCO for the Proposed Development. It is preferable to avoid the need for the Onshore Cables to cross the highway to access a Joint Bay location.

2.3.3.2. ~~2.3.1.7.~~Typically, it would take approximately 20 working days to complete one joint bay location. This timescale includes the excavation, set-up, cable pulling, jointing, bonding connections, testing and reinstatement (i.e. site cleared and reinstated to its original state). Each excavation will be approximately 15 m x 3 m, with additional space required at ground level for construction, cable installation, jointing and reinstatement, including a 20 m x 6 m 'compound' during jointing (for approximately one week).

2.3.3.3. Construction of Joint Bays, when required in carriageway, will be subject to the same traffic management proposals and restriction which are set out in Section 3 – 10 of this document.

2.3.4. CONCURRENT WORKING RESTRICTIONS

2.3.4.1. ~~2.3.1.8.~~The construction of the Onshore Cable Corridor on-carriageway will be undertaken by a maximum of six gangs working concurrently at any one time. These concurrent works will take into account the restrictions set out in Section 3 – Section 12 of this report.

2.3.4.2. ~~2.3.1.9.~~There are six locations along the Onshore Cable Route where the ducts will be installed by trenchless installation methods. None of these locations require the utilisation of highway land during construction and as such will not require traffic management measures.

2.4. NEW ROADS AND STREETS WORKS ACTS 1991

2.4.1.1. All works in the highway to be carried out as part of the construction of the Proposed Development will observe requirements of the New Roads and Street Works Act ('NRSWA') (HM Government, 1991). The DCO replicates relevant sections of the NRSWA to provide powers for the undertaker to carry out the following within the Order Limits:

- Break up or open the street, or any sewer, drain or tunnel under it;
- Tunnel or bore under the street or carry out works to strengthen or repair the carriageway;
- Place or keep apparatus in, or under the street;
- Maintain, renew or alter apparatus in, or under the street or change its position;
- Execute and maintain any works to provide hard and soft landscaping;
- Carry out re-lining and placement of road markings;
- Removal and Installation of temporary and permanent signage;
- Removal, replace and relocate and street furniture; and
- Execute any works required for or incidental to any works related to the above tasks.

2.4.1.2. Prior to commencement of works in the highway, detailed designs for the works and the traffic management measures will be submitted for approval to the relevant Highway Authority in accordance with the relevant requirements at Schedule 2 to the DCO. It will also be required that detailed design works and traffic management measures which are proposed associated with the construction of new accesses to the highway be submitted to the local Highway Authority for technical approval, either by way of a Section 278 or a Minor Works Agreement. Further details of these requirements are contained within the Framework Construction Traffic Management Plan (REP6-032).

2.4.1.3. The detailed design of all highway accesses will be approved pursuant to the DCO requirements. The Converter Station Access junction is to be the subject of an agreement pursuant to Section 278 of the Highways Act 1980. It is proposed that all temporary construction accesses are also the subject of minor works agreement with the relevant highway authority pursuant to Section 278 of the Highways Act 1980.

2.5. TRAFFIC MANAGEMENT METHODOLOGY OF ONSHORE CABLE ROUTE

2.5.1.1. In all cases the traffic management requirements will be based upon guidance included within the following documents to ensure the safety of all road-users and construction workers:

- Traffic Signs Manual Chapter 8: Traffic Safety Measures and Signs for Roadworks and Temporary Situations (Department for Transport, 2009);
- Safety at Streetworks and Roadworks: A Code of Practice (Department for Transport, 2013); and
- New Roads and Street Works Act 1991: Code of Practice of Co-ordination of Street Works and Works for Road Purposes and Related Matters (Fourth Edition) (Department for Transport, 2012).

2.5.1.2. Using this Guidance, the following assumptions have been used to inform the traffic management requirements of the construction process:

- It is anticipated that the cable duct installation will take place in 100 m sections, generally taking approximately five working days to complete each section including reinstatement of the highway. Where progress is anticipated to be slower, a shorter section may be used to ensure that each section is only in place for approximately one week:
- The Onshore Cable Route will include two circuits (as described in Section 2.2), with trench excavation and cable duct installation taking place at separate times for all parallel sections or circuits, except where road closures are required;
- The construction corridor will generally be 4.0-6.0 m and 100-150 m long, although this can be reduced by use of smaller plant to 2.0-3.0 m at local pinch points where required to avoid road closures; and
- Construction on a footway will require 2.0 m on footway / verge and 3.0 m on carriageway to allow for construction vehicle access if no other parallel routes are available.

2.5.1.3. Taking account of these assumptions the following overall principles have been applied to the traffic management requirements for the Onshore Cable Corridor:

- Two-way traffic flow should be maintained wherever possible, albeit this may need to be facilitated by shuttle working, temporary traffic signals and lane closures;

- Full road closures should only be a last resort and where required pedestrian access should be maintained at all times. Where a full road closure is required, the programming of works should aim to minimise disruption where possible and provide for non-car modes, ensuring that safe and convenient routes are provided for pedestrians, cyclists and public transport users;
- Traffic management measures should provide for non-car modes, ensuring that safe and convenient routes are provided for pedestrians, cyclists and public transport users. Removal of such provision should only be considered as a last resort and where required must accompanied by suitable diversion routes.

2.5.1.4. Where the carriageway width past the construction zone is 6.75 m or wider, two-way traffic flow will be maintained without traffic control.

2.5.2. TYPES OF TRAFFIC MANAGEMENT

2.5.2.1. Construction of the majority of the Onshore Cable Route will be facilitated through temporary lane closures, which will require different types of traffic management depending on the location of the trench within the highway and remaining carriageway width while the construction zone is in place. The main types of traffic management measures to be implemented are described below.

Two-Way Shuttle Working with Temporary Traffic Signals

2.5.2.2. This type of traffic management will be employed along sections of the Onshore Cable Corridor that are single-carriageway two-lane (one in each direction) sections of highway, allowing two-way traffic flow to be maintained past the construction zone. A diagram showing a typical layout of shuttle-working traffic signals is shown in Plate 2, which will follow standard Chapter 8 of the Traffic Signs Manual (DfT, 2009).

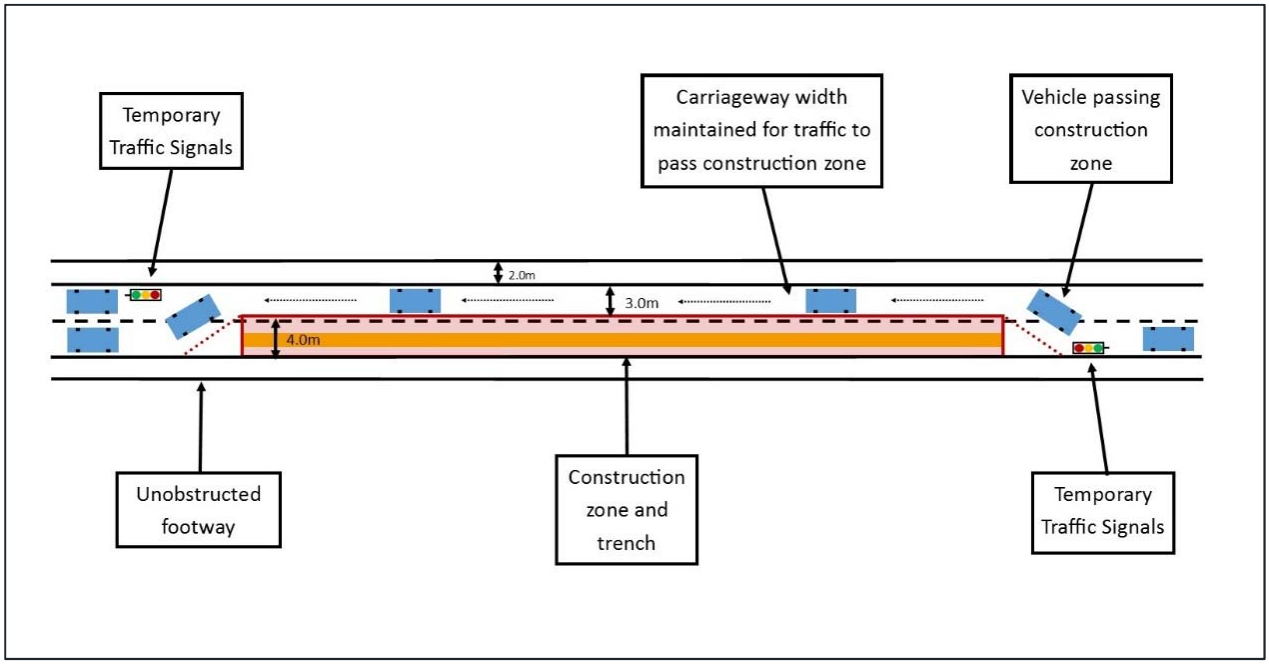


Plate 2 - Shuttle Working with Temporary Traffic Signals

2.5.2.3. Where two-way shuttle-working is installed the minimum lane width past the construction zone will be 3.0m on routes used by buses / Heavy Goods Vehicles ('HGVs') and ideally 3.25-3.7 m. Where a route is used only by cars and Light Goods Vehicles ('LGVs') the lane width may be reduced to 2.5 m. This follows guidance contained within Chapter 8 of the Traffic Signs Manual (DfT, 2009) and reflects the different road types that form part of the Onshore Cable Corridor. This means that the lane widths used will be defined by existing land-uses on any given street (e.g. residential or commercial) and access arrangements.

2.5.2.4. All shuttle-working traffic signals will run in Vehicle Actuated ('VA') mode during the off-peak period but be manually controlled during peak periods as is required and specified within the conditions of any permit issued by the relevant local authority. With VA mode, detectors are used to monitor traffic flows and use this information to adjust the length of green-time to reduce delays. Manual operation during peak hours will allow traffic flow and queue lengths to be monitored, therefore giving the ability to mitigate blocking back of queues to adjacent or sensitive junctions.

Lane Closures without Shuttle Working Traffic Signals

2.5.2.5. On wider single carriageway roads and dual carriageways, it may be possible for lane closure to be implemented without the need for traffic signal control. At these locations either the carriageway will be wide enough to accommodate two-way traffic and the construction zone through lane realignment, or a single lane closure will be required where there are two or more lanes in each direction

2.5.2.6. Plate 3 shows a diagram of single lane closure on a dual carriageway link, with the same setup also appropriate for single carriageway roads where there is more than one lane in each direction. An example of this is A3 London Road, where the majority of its length has two-general traffic lanes and at least one bus lane. This will follow the requirements of Chapter 8 of the Traffic Signs Manual (DfT, 2009).

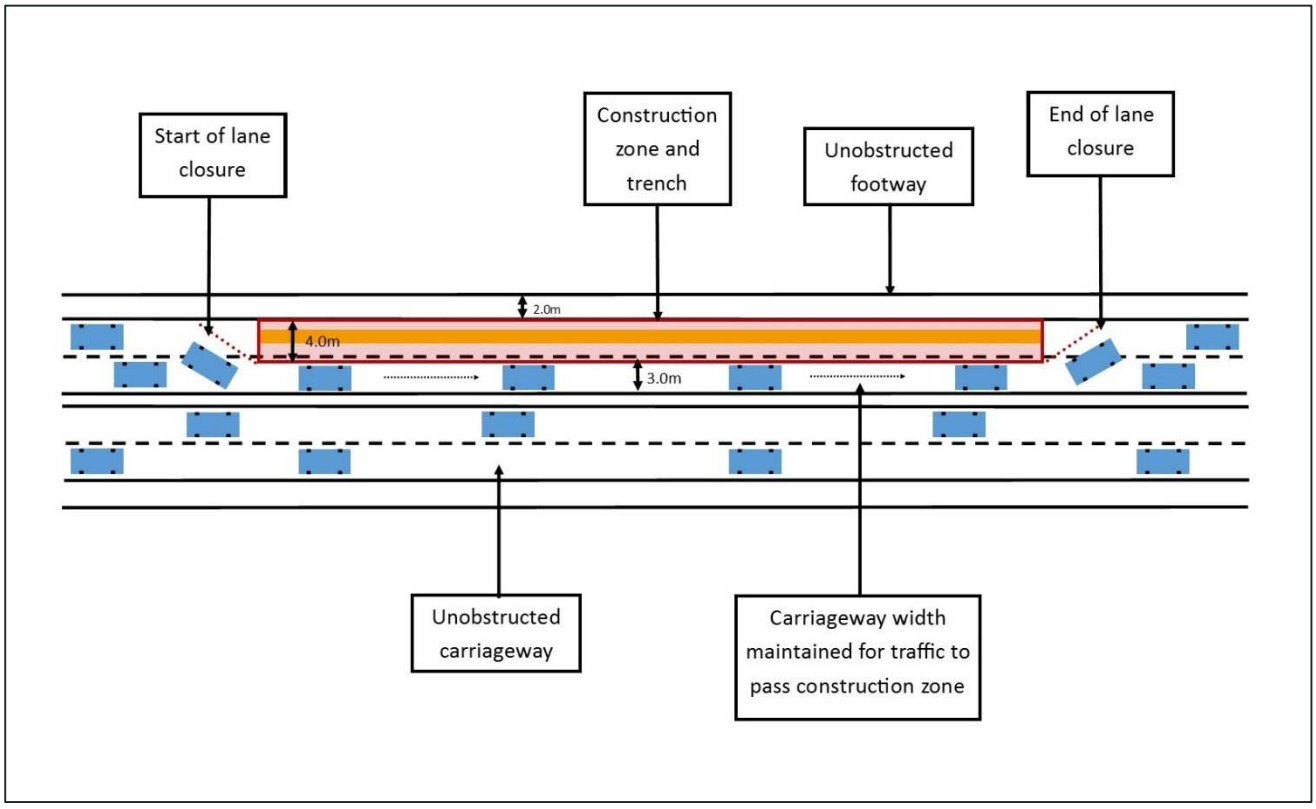


Plate 3 - Lane Closure without Shuttle Working Traffic Signals

2.5.2.7. As with the shuttle-working the minimum lane width past the construction zone will be 3.0 m on routes used by buses / HGVs and ideally 3.25-3.7 m.

2.5.3. RESIDENTIAL AND BUSINESS ACCESS

2.5.3.1. Residential and business access comes in two forms along the Onshore Cable Corridor:

- As direct access, through access junctions, driveways or vehicle crossovers directly onto residential or business premises; and
- Via side-road junctions that adjoin the Onshore Cable Corridor.

2.5.3.2. Included in Appendix 1 of this document is the 'Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy', hereby referred to as the 'Access to Properties Note', which gives specific consideration to the impacts of the Proposed Development upon parking and driveway access for residential properties, businesses and car parks located within or immediately adjacent to the Onshore Cable Corridor. The general principles for access to properties is as follows:

- All residents and businesses will be informed of construction works affecting access at least 10 days in advance of the works commencing;
- Access for vulnerable residents ~~and~~ , those with mobility impairments and those with children of Primary School age or younger will be maintained at all times;
- Access in emergency situations will be provided at all times;
- Contractors will be required to make best endeavours to provide access to other residents with prior notification through use of road plating or similar, noting that it may not always be possible given the nature of the construction works; and
- Contractors will be required to be in continuous liaison with affected residents and businesses by notifying them on the first day of construction and prior to removal of road plating.

2.5.3.3. Residential and business access will ~~require~~ be maintained wherever possible, albeit with different traffic management approaches to be applied depending upon the circumstances as described below. It should be noted that the required traffic management will only be in place for 1-2 weeks for each individual side-road due to the way in which the construction corridor will progress in sections.

2.5.3.4. The type of traffic management is dependent on the location of the construction zone within the carriageway, which cannot yet be defined as detailed design of the traffic management will only be completed once a contractor is appointed. For example, side-roads on the northern side of the carriageway may not require temporary closure or traffic signal control when the construction zone is on the southern side of the carriageway. This will also apply to dual-carriageway and wide single-carriageway

sections, where construction works on one side of the carriageway are unlikely to impact on the other side.

Side-Road Access

2.5.3.5. Side-road access adjacent to the cable route will be considered on an individual basis with the traffic management used dependent on the characteristics of the road and junction. The strategy at this stage can be summarised as follows:

- For residential cul-de-sacs, side-road access will be maintained via either road plate or three-way traffic signals. The decision to use traffic signals will depend on the level of traffic flow and visibility from the side-road to the main road traffic signal approaches. Where visibility is poor, traffic signal control is likely to be required, although in all cases this will depend on the exact location of the construction zone.
- For side-roads that act as through-roads, temporary closure of the access will be considered but this depends on the category of road, what the side road provides access to and the suitability of diversion routes. Where closure is not an option, three-way traffic signals will be used if the location of the construction zone requires it.
- Where the side-road junction is controlled by traffic signals with the main road and where there is more than one approach lane at each entry, it may be possible to continue operating the existing signals through closure of a single lane on each entry. Where this is not possible, temporary traffic signals will be used instead of the existing control.

2.5.3.6. The exact traffic management strategy for side-road access will be agreed with the Highway Authority through submission of detailed designs and traffic management measures prior to commencement of works. It should be reiterated however that such traffic management will only be in place for a maximum of 1-2 weeks for each individual side-road and will be fully dependent upon the location of the Construction Zone.

2.6. TRAFFIC MANAGEMENT MEASURES OUTSIDE OF THE ONSHORE CABLE CORRIDOR

2.6.1.1. Contractors will also consider, where appropriate, the use of additional measures to mitigate impacts on minor roads outside of the Onshore Cable Corridor resulting from traffic reassigning away from the traffic management on the Onshore Cable Route itself. These measures include, but are not limited to, the following:

- One-way working / no entry orders / banned turns: To prevent certain routes being used by traffic reassigning away from traffic management on the Onshore Cable Route;
- Suspension of on-street parking: To facilitate two-way traffic flow and / or implementation of passing bays where on-street parking occurs;
- Priority measures / road narrowing: To discourage certain manoeuvres from being undertaken and to discourage use of certain routes;
- Bolt-down speed humps / Temporary speed limits: To reduce the potential for use of inappropriate traffic speeds along minor residential roads; and
- Signage to discourage certain driver behaviour such as "Keep Clear', 'Do Not Block Junction', 'Unsuitable Route for HGVs' and 'Unsuitable Route for Diverting Traffic'.

2.6.1.2. Proposals for the provision of such measures should be included as part of the detailed traffic management strategies submitted to the relevant highway authority and may also be included within a condition of any permit issued for traffic management works by relevant local authorities. The ability of contractors to implement these measures is included in Article 16 of the dDCO.

A3(M) Junction 3

2.6.1.3. Further to 'Technical Note HE03 – Response to Highways England Technical Note TN03' (Appendix 2 of the Supplementary Transport Assessment Addendum (REP7-065), it has been confirmed that consideration should be given to the position should the committed part signalisation scheme of A3(M) Junction 3 be implemented prior to construction of the Onshore Cable Route.

2.6.1.4. Should this occur, based upon the traffic modelling completed in REP7-065, it may be necessary to alter proposed lane markings on the northbound off-slip of the junction during construction of the Onshore Cable Route to mitigate potential impacts associated with additional traffic using this route to avoid traffic management on the A3 London Road. In these circumstances the Contractor will be required to consider the need to include for these temporary alterations to the highway layout as part of the detailed traffic management measures submitted to HCC for approval, which will require consultation with Highways England. The need or otherwise for these alterations, or other temporary measures which will have the same effect such as signage, will require ongoing engagement between the Contractor, HCC and Highways England. This will provide a reactive approach to traffic management during the construction of the Onshore Cable Route. Queue lengths and collision records on these slip roads will be monitored throughout the works by the Road Safety Officer to determine whether any additional mitigation is required to deal with road safety matters.

2.7. ~~2.6.~~NOTICE PERIODS FOR CONSTRUCTION WORKS

2.7.1.1. ~~2.6.1.1.~~The submission of detailed designs and traffic management measures for approval by HCC or PCC will be undertaken in accordance with the relevant requirement at Schedule 2 to the DCO. Schedule 3 to the DCO provides the time periods for the approval of those details. Once approved, a permit will be applied for, with the timescale for the grant of a permit being 10 days in accordance with the Permit Scheme. To ensure the co-ordination of works and to provide certainty of when works will be carried out in specific locations, Provisional Advance Authorisations may be applied for and obtained, ~~typically~~ at least 3 months before works in a location are scheduled to be undertaken.

2.7.1.2. ~~2.6.1.2.~~The application for approval of a traffic management strategy to a relevant Highway Authority~~-~~, completed in addition to the relevant permit scheme, will include the following information:

- plans detailing the extent of the works;
- the construction methodology in relation to the works including details of the hours of the day within which the works are to be carried out;
- a schedule of timings for the works, including the dates and durations for any closures of any part of the public highway;
- the traffic management strategy to be implemented in relation to those works, including details of any traffic signals and signs and any traffic regulation measures proposed in connection with those works;
- a schedule of condition of any part of the public highway to be affected by the works, informed through photographic and scanner surveys;
- a specification of the condition in which the parts of the public highway to be used for the works will be reinstated post completion of the works and occupation of that part of the public highway for that purpose;
- details of any lighting to be used in connection with the works for the duration that the works are being undertaken;
- contact details for the client and contractor carrying out the works;
- details of the advanced publicity to be carried out in connection with those works; and
- details of the proposed approach to the reinstatement of the public highway in connection with those works, including (where applicable) details of both temporary and permanent reinstatement~~;~~ and where a notice pursuant to section 58 or 58A has been issued in relation to the relevant part of the public highway and the prescribed period in that notice remains in effect when the works are undertaken such reinstatement may include half or full carriageway reinstatement.

2.7.1.3. The detailed design of all highway accesses will be approved pursuant to the DCO requirements. The Converter Station Access junction is to be the subject of an agreement pursuant to Section 278 of the Highways Act 1980. It is proposed that all temporary construction accesses are also the subject of minor works agreement with the relevant highway authority pursuant to Section 278 of the Highways Act 1980.

2.7.1.4. ~~2.6.1.3.~~The construction methodology will require the work to be completed in a number of phases as the installation of the Onshore Cable progresses along a section of highway. Where possible, an application for approval will be submitted for multiple phases (such as whole cable sections between Joint Bays), albeit noting that individual approvals may be required for smaller phases of work.

2.8. ~~2.7.~~CONSTRUCTION PROGRAMME

2.8.1.1. ~~2.7.1.1.~~An indicative onshore construction programme has been developed for construction works associated with the Proposed Development, taking account of factors such as environmental constraints, public events, school terms and public holidays.

2.8.1.2. ~~2.7.1.2.~~The following wildlife events are taken into consideration and will be built into the phasing of enabling and construction works for the Converter Station and Onshore Cable:

- Badger breeding season from January to March;
- Bird breeding and nesting season from March to August;
- Plant growing season and winter wet season from August to November, at Kings Pond Meadow SINC and Denmead in Section 3; and
- Wintering bird season, from October to March.

2.8.1.3. ~~2.7.1.3.~~Public activities and events that are likely to be planned in proximity to the Converter Station Area and Onshore Cable Corridor, including but not limited to the following are also taken into consideration:

- School term time;
- Football season;
- Coastal Waterside Marathon;
- Great South Run;
- South Central Festival; and
- Victorious Festival.

2.8.1.4. ~~2.7.1.4.~~An indicative onshore construction programme for the Onshore Cable is as follows:

- HDD and Landfall installation: Q3 2021 – Q1 2024
- Onshore HVDC Route Construction / Installation: Q3 2021 – Q4 2023

2.8.1.5. ~~2.7.1.5.~~Further to this indicative programme, consideration has been given within the FTMS to the construction programme for each individual section of the Onshore Cable Corridor. This considers the constraints listed above and links between nearby sections of the Onshore Cable Corridor, where for example multiple construction zones in the same area should be avoided. The programme for each sub-section is presented as a month-by-month calendar year with the following categories:

- Green – construction may be completed at any time within the month;
- Amber – construction may take place during part of the month only;
- Red – construction should be avoided during this month.

2.8.1.6. ~~2.7.1.6.~~This programme will mitigate the impacts of the construction works on the highway network.

2.8.2. ~~2.7.2.~~A2030 EASTERN ROAD TRAFFIC MANAGEMENT DURING PORTSMOUTH DURING PORTSMOUTH FC HOME GAMES

2.8.2.1. ~~2.7.2.1.~~Further to the programme restriction detailed above, consideration has been given specifically to how the FTMS for the A2030 Eastern Road responds to Portsmouth FC home games, noting the potential traffic congestion resulting from pre-match and post-match traffic flows and traffic management that will reduce highway capacity.

2.8.2.2. ~~2.7.2.2.~~To inform this strategy, the 'Eastern Road, Impact of Football Traffic: Technical Note' has been completed and is provided at Appendix 2 of this document. This document has provided a review of traffic flows and conditions on the A2030 Eastern Road before and after weekday evening Portsmouth FC games played in February and March 2020 prior to the Covid-19 UK Lockdown. However, due to Covid-19 pandemic it has not been possible to complete traffic surveys on Saturday football match days prior during the Examination as had been planned.

2.8.2.3. ~~2.7.2.3.~~These assessments have shown the on weekday match days, while traffic flows were comparable to weekday traffic peaks, the traffic surveys recorded a much higher proportion of slow moving traffic than non-match days. This therefore suggests that there is significant congestion on the A2030 Eastern Road before and after a football match, which would be worsened by the implementation of traffic management, and that actual traffic flows during these periods may be higher than weekday peak periods.

2.8.2.4. ~~2.7.2.4.~~On this basis, in the first instance, it is proposed the FTMS allows for removal of traffic management on the A2030 Eastern Road on football match days in order to mitigate the potential impacts on such, with this detailed within Section 10 of this document.

2.8.2.5. ~~2.7.2.5.~~This mitigation would be achieved through the careful scheduling of works changeovers between each 100m construction section, which under the proposed 24-hour construction working hours would occur every three days. This will also allow the traffic management to be removed prior to a football match and reinstalled on the same day therefore minimising delay to the construction progress.

2.8.2.6. ~~2.7.2.6.~~However, as the assessment work undertaken so far was based on evening traffic flows for weekday matches, and noting the limitations for undertaking football match day surveys at the current time due to Covid-19 restrictions, the Applicant may undertake further representative surveys to confirm the position when possible to do so, post grant of the DCO.

2.8.2.7. ~~2.7.2.7.~~These surveys will be reviewed by and agreed with Portsmouth City Council and Hampshire County Council. If these assessments identify that the traffic flows are comparable to those for weekday peak hours, the need to remove traffic management on football match days would be lifted, so as to assist with the efficient delivery of the works in this location.

2.9. ~~2.8.~~COMMUNICATION STRATEGY

2.9.1.1. ~~2.8.1.1.~~The communication strategy for the construction of the Onshore Cable Corridor is included in the Access to Properties Note which is included in Appendix 1 of this document.

2.9.1.2. ~~2.8.1.2.~~In summary, the communication strategy includes further details regarding the high-level timeline and nature of communications activities to be undertaken at all stages of the construction of the Onshore Cable Route. The strategy includes details of identified stakeholders, any challenges which may face communications that have been identified and a working plan of actions to be undertaken prior to and during the works, as well as an evaluation strategy for after works have been completed.

2.10. ~~2.9.~~FRAMEWORK SIGNAGE STRATEGY

2.10.1.1. ~~2.9.1.1.~~Additional to the communication methodologies set out in the Access to Properties Note, a Framework Signage Strategy has been produced to communicate proposals to road users who may otherwise be unaware of the construction works and associated traffic management and ensure that traffic reassigning away from the Onshore Cable Corridor uses appropriate routes.

2.10.1.2. ~~2.9.1.2.~~The strategy included in Appendix 3 considers the following key topics:

- The location of strategic signage across the wider strategic highway network which informs drivers of the construction works and allows them to re-route well before reaching the Onshore Cable Corridor;
- The location of additional signage in the vicinity of or on the Onshore Cable Corridor which allows drivers to re-route in close proximity of the works;
- Signage to direct and encourage use of appropriate alternative routes to avoid the construction works; and

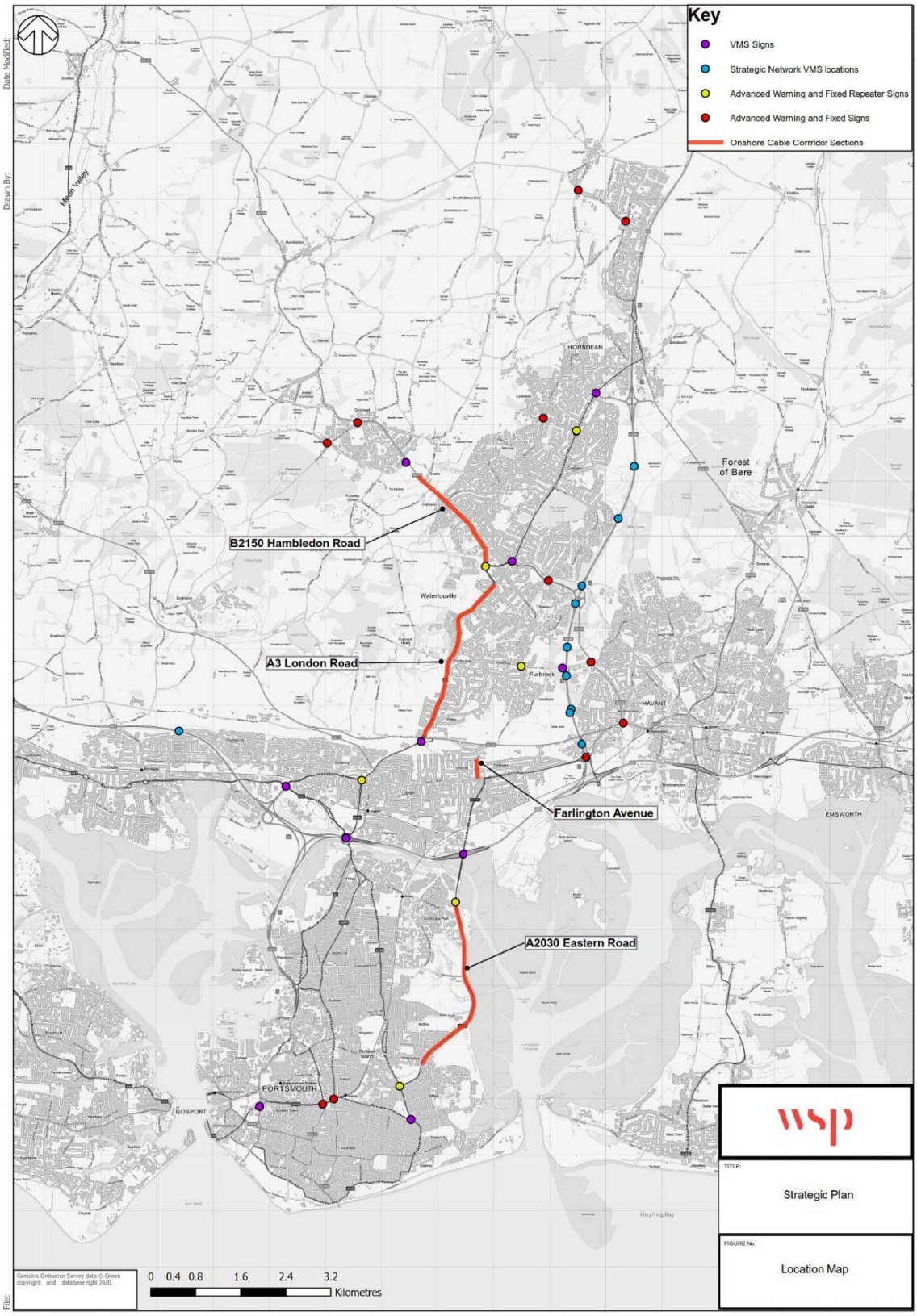
- Signage to discourage use of routes which are considered to be inappropriate for reassignment of traffic away from the works.

2.10.1.3. ~~2.9.1.3.~~On the highway network itself, the provision and location of signage will be an important factor in notifying road users of programmed construction works. While there will be 'Advanced Warning' signs placed on the highway before the works detailing start-date and periods of works, it is also intended that Variable Message Signs ('VMS') are provided at key locations along the Onshore Cable Corridor. These will be installed at least one week prior to commencement of the construction works along each section of highway.

2.10.1.4. ~~2.9.1.4.~~The use of VMS signs is proposed as these are considered more conspicuous than standard Advance Warning' signs and can be easily updated to reflect the intended programme of works.

2.10.1.5. ~~2.9.1.5.~~Further to this, it is proposed that secondary signs are placed within the vicinity of the Onshore Cable Corridor both in advance of the works and during them to provide an additional opportunity to direct traffic away from the construction works and onto appropriate routes.

2.10.1.6. ~~2.9.1.6.~~The strategy for the location of signage across the wider highway network during construction of the Onshore Cable Route is shown in Plate 4 below. The location and full details of all signs will be agreed with each Highway Authority prior their implementation as part of the submission of detailed traffic management strategies.~~.~~


Key
VMS Signs
Strategic Network VMS locations
Advanced Warning and Fixed Repeater Signs
Advanced Warning and Fixed Signs
Onshore Cable Corrridor Sections
B2150 Hambledon Road
A3 London Road
Farlington Avenue
A2030 Eastern Road
Forest of Bere
HORNDEAN
Waterlooville
Purbrook
HAVANT
EMSWORTH
PORTSMOUTH
GOSPORT
Hayling Bay
Meon Valley
Date Modified:
Drawn By:
File:
0 0.4 0.8 1.6 2.4 3.2
Kilometres
Contains Ordnance Survey data © Crown copyright and database right 2020.
wsp
TITLE:
Strategic Plan
FIGURE No:
Location Map

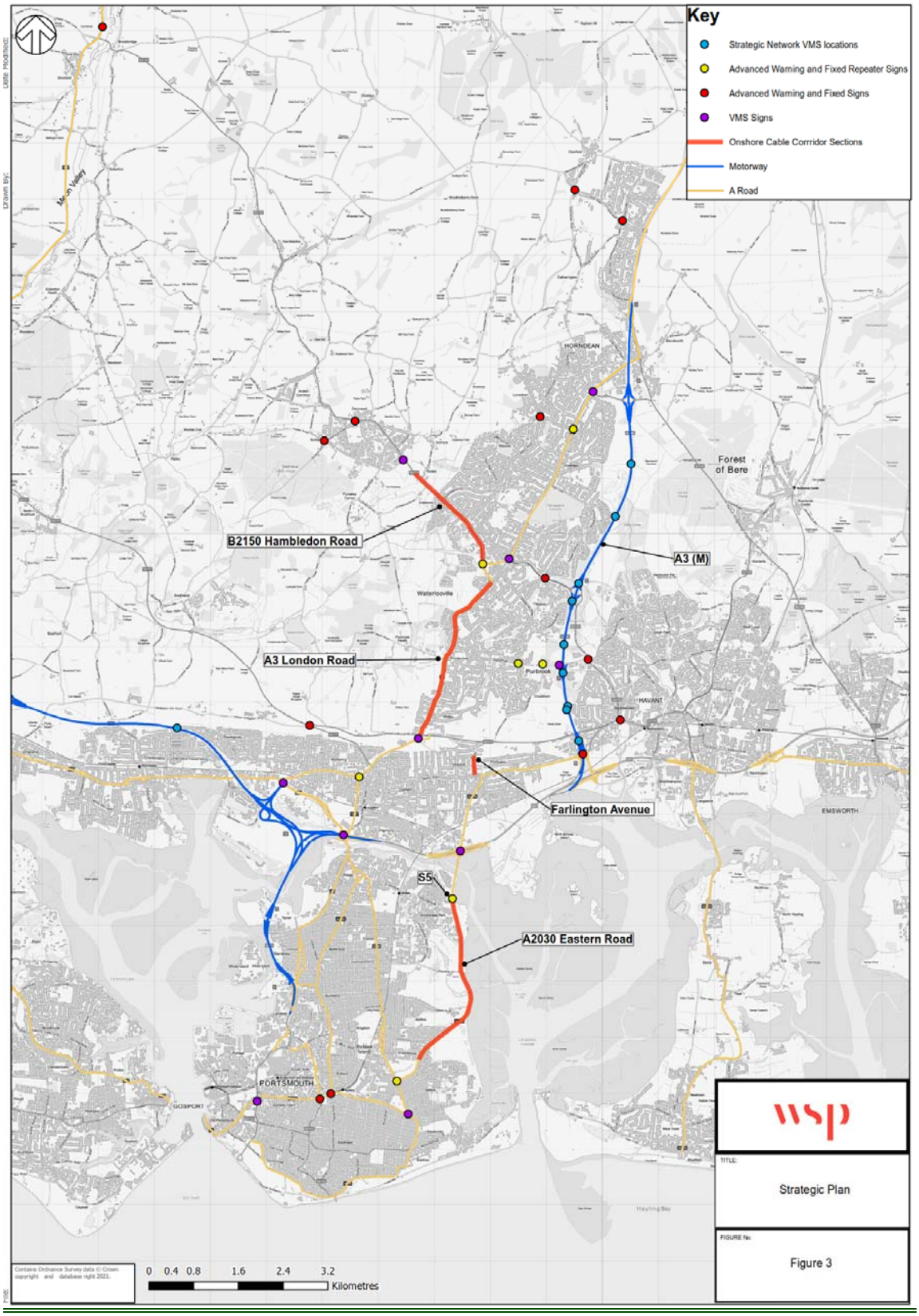

Key
Strategic Network VMS locations
Advanced Warning and Fixed Repeater Signs
Advanced Warning and Fixed Signs
VMS Signs
Onshore Cable Corrridor Sections
Motorway
A Road
B2150 Hambledon Road
A3 (M)
A3 London Road
Farlington Avenue
S5
A2030 Eastern Road
HORNDEAN
Forest of Bere
Waterlooville
Purbrook
HAVANT
EMSWORTH
PORTSMOUTH
GOSPORT
0 0.4 0.8 1.6 2.4 3.2
Kilometres
wsp
TITLE:
Strategic Plan
FIGURE No:
Figure 3

Plate 4 – Strategic Signage Strategy

Signage at Traffic Management Locations

2.10.1.7. ~~2.9.1.7.~~The Signage Strategy also provides a framework for the implementation of signage at key locations where traffic management will be required along the Onshore Cable Route. As part of this, locations are provided to encourage traffic to use appropriate routes and discourage use of routes which may be sensitive to increases in traffic flow.

2.10.1.8. ~~2.9.1.8.~~Although not listed within the Framework Signage Strategy, as part of the submission of detailed traffic management strategies to HCC and PCC the Contractor will also be required to confirm the provision of temporary signs (such as white on red or black on yellow) to encourage positive user behaviour to mitigate possible safety problems on the Onshore Cable Corridor itself. Examples include 'Keep Clear', 'Do Not Block Junction', 'Merge in Turn' and 'Do Not Overtake Cyclists', the locations of which are dependent upon the exact location of the traffic management at any one time.

2.11. TRAVEL DEMAND MANAGEMENT STRATEGY

2.11.1.1. Additional to the FTMS, Access to Properties Note and Framework Signage Strategy, a Travel Demand Management (TDM) strategy has also been produced. The overall aim of TDM Strategy is to manage the traffic/travel demand at the identified locations at A2030 Eastern Road and A3 London Road in Waterlooville to avoid excessive disruption across the transport network, promote travel behaviour change and influence travel demand across the study area.'

2.11.1.2. The TDM Strategy focuses on behaviour change solutions, working in partnership with local authorities, partners and stakeholders to influence the travel behaviour of target audiences to encourage them to alter their behaviour through the 5Rs – Reducing the need to travel, Re-moding journeys, Re-routing journeys, Re-timing journeys and Re-thinking journeys to maximise car occupancies.

2.11.1.3. The TDM Strategy comprises six linked components to ensure as many people as possible are aware of the construction works and Traffic Management measures, when they will be in place and the travel options available to them to reduce any potential impacts upon their daily lives through implementation of the 5Rs. The six components are listed below and elements of each described in the following paragraphs:

- Mass media engagement, marketing and communications campaign;
- Engagement with the business community;

- Engagement with freight, logistics and delivery sector businesses;
- Engagement with schools and colleges;
- Engagement with residents; and
- Engagement with visitors.

2.11.1.4. Once the final construction programme has been agreed and finalised, the Applicant will begin work on delivering the TDM Strategy to ensure that TDM activities align with the construction programme and are afforded as much preparation time as possible.

2.11.1.5. The TDM strategy will be monitored and evaluated continually throughout construction in order to demonstrate the effectiveness of the TDM measures and determine whether the Strategy is achieving its objectives.

2.12. ~~2.10.~~PEDESTRIANS AND CYCLISTS

2.12.1.1. ~~2.10.1.1.~~Pedestrian and cycle routes along the Onshore Cable Corridor will be maintained wherever possible, with full closure considered as the last resort, such as where it would prevent full closure of a major road. In all cases the construction works will ensure that pedestrians and cyclists can pass in a safe manner, with suitable barriers between the construction works. Particular attention will also be paid to the needs of people with mobility and visual impairments to ensure that their safety and free movement is retained. All layouts will follow protocol defined by Chapter 8 of the Traffic Signs Manual (DfT, 2009).

2.12.2. ~~2.10.2.~~PEDESTRIANS

2.12.2.1. ~~2.10.2.1.~~Where construction works do obstruct a footway a minimum unobstructed width of 1.0 m will be provided alongside the construction corridor, and where this is not possible a safe alternative route will be provided. Where possible, a desirable minimum footway width of 1.2m will be provided. This will include provision of suitable crossing facilities where required, including temporary replacement of existing pedestrian crossings that may need to be closed to facilitate construction.

2.12.2.2. ~~2.10.2.2.~~In some locations, a footway closure may be required without a suitable alternative route being available nearby or on the opposite side of the carriageway. In these instances, a pedestrian route will be provided within the carriageway with a minimum unobstructed width of 1.0 m, albeit this will be wider where it does not impact on traffic flow. Suitable barriers will be provided, along with ramps and footway boards where these are required.

2.12.2.3. ~~2.10.2.3.~~In all cases, access to Public Rights of Way which terminate at the back of footway / edge of the Order Limits will be maintained at all times through the provision

listed above and / or plating over the trench if necessary.

2.12.2.4. ~~2.10.2.4.~~Some temporary footway closures may be required to facilitate delivery and collection of materials. In the majority of cases this will be mitigated through alternative footway links being available but where this is not possible, the following will apply:

- The footway be closed for no longer than 15 minutes in every one-hour period;
- Construction operatives will be made available to assist users past the works;
- Pedestrians with impaired mobility will need to wait no longer than 5 minutes; and
- Temporary footway closure signs are provided in place of the works.

2.12.3. ~~2.10.3.~~CYCLISTS

2.12.3.1. ~~2.10.3.1.~~Where there are shared-use paths or cycleways impacted by the works these will be kept open if possible, or a suitable diversion route provided.

2.12.3.2. ~~2.10.3.2.~~Where full closure of cycle route is necessary and diversion routes are unsuitable temporary cycle facilities will be provided past the construction corridor where possible, such as on the Eastern Road shared-use path. This could be completed as part of a full lane closure or through provision of a temporary off-road route. The width of these temporary routes will be 2.5 m where possible, with a minimum of 1.5 m. If the temporary route is provided over unmade ground, then footway boards will be used to provide a formal surface.

2.12.3.3. ~~2.10.3.3.~~In some cases, it may be required to narrow a shared-use path past the construction corridor to a width that is not suitable for cycle use (I.e. 1.0 m). In these circumstances 'Cyclists dismount and use footway' signs will be used as a last resort, noting that his would only be completed for one 100 m section at a time.

2.12.3.4. ~~2.10.3.4.~~Where road closures are required for construction of the Onshore Cable Route cycle access will be maintained at all times.

2.12.3.5. On A3 London Road where closure of the bus and cycle lane is required to facilitate construction of the Onshore Cable Route, specific consideration should be given by the Contractor as part of the detailed design of traffic management measures to the how cyclists merge with the general traffic lane. As a minimum 'cycle lane ahead closed' advance signing will be provided to ensure that cyclists have ample opportunity to alter their road position before reaching the road works. These detailed traffic management measures will be submitted to the relevant Highway Authority for approval as detailed in paragraph 2.4.1.2 and 2.7.1.2

2.13. ~~2.11.~~PUBLIC TRANSPORT

2.13.1.1. ~~2.11.1.1.~~During construction of the Onshore Cable Route some existing bus stops may need to be closed depending upon the exact location within the carriageway or footway. Where this is required, a temporary bus stop will be provided as close as possible to the original location, taking into account highway safety of all road users.

2.13.1.2. ~~2.11.1.2.~~Construction of the Onshore Cable Route within the A3 London Road will require works within the existing bus lane or suspension of the bus lane to mitigate the impact on general traffic flow. As with the rest of the Onshore Cable Corridor this will be completed in 100 m sections and therefore bus priority will be maintained where the bus lane is suspended through provision of temporary bus priority traffic signals where practicable. An example layout of this temporary bus priority is provided in Appendix 4 for reference.

2.13.1.3. Where this is not possible, it is proposed that temporary 'Merge In Turn' signs are installed to encourage vehicles to allow buses to join the general traffic lane.

2.14. ~~2.12.~~SCHOOL ACCESS

2.14.1.1. ~~2.12.1.1.~~Construction of the Onshore Cable Route will take place during school holidays on links that contain schools or where they are located directly adjacent to the Onshore Cable Corridor. This includes the following links and schools:

- Solent Junior School on Solent Road and Solent Infant School on Evelegh Road, adjacent to Farlington Avenue; and
- Mooring Way Infant School, Moorings Way.

2.14.1.2. ~~2.12.1.2.~~Consideration will also be given to schools located close to the Onshore Cable Corridor, given the potential wider re-distribution impact of the construction works. This includes the provision of traffic marshalling around schools in proximity to the Onshore Cable Corridor to assist with the safe management of traffic flow and pedestrians in the proximity to school accesses. As detailed within the Supplementary Transport Assessment Addendum (REP7-065) the use of traffic marshals should be considered at the following locations:

- Milton Road, Waterlooville (Section 4) at Hart Plain Junior School, Hart Plain Infant School and Cowplain Community School;
- Mill Road, Waterlooville (Section 4) at Mill Hill Primary School and Growing Places Nursery;
- Park Avenue, Purbrook (Section 4) at Purbrook Park School;
- Westbrook Grove Purbrook (Section 4) at Purbrook Infant School;
- Evelegh Road and Solent Road, Farlington (Section 5) at Solent Infant School and Solent Junior School;
- Grove Road and Station Road (Section 5) at Springfield School; and
- Dundas Lane (Section 8) at Admiral Lord Nelson School.

Traffic marshals, who will be appointed by the contractor, hold authority through the Community Safety Accreditation Scheme (CSAS) to stop or divert traffic during construction in order to reduce delays and ensure the safety of the travelling public.

2.15. ~~2.13.~~RESPONSIVE TRAFFIC MANAGEMENT PROTOCOL

2.15.1.1. ~~2.13.1.1.~~It is proposed that the FTMS required to support the Proposed Development operates as a 'live' and responsive strategy. This means that, in continuous liaison with HCC / PCC (as appropriate), an approved TMS will be amended where required to reflect traffic conditions and events that may impact upon the construction works or capacity of the highway network surrounding the Onshore Cable Corridor. Examples of this can include:

- a protocol to temporarily suspend and remove works or alter traffic management strategies if a road traffic accident, emergency event or other unforeseen circumstances occur on either the Onshore Cable Corridor or surrounding network requires road closures and diversion of traffic;
- where the construction zone is at key junctions within the network, management of traffic signals adjacent to the Onshore Cable Corridor during peak hours to ensure signal timings reflect additional traffic flows;
- Management of traffic signal junctions along diversion routes associated with road closures;
- Provision of traffic marshalling around schools adjacent to the Onshore Cable Corridor (other than those included in paragraph 2.14.1.2) to mitigate the impact of traffic redistribution onto such links;~~and~~
- Revisions to signage to direct traffic onto appropriate routes and discourage the use of inappropriate routes~~.~~; and
- Use of other additional traffic management measures away from the Onshore Cable Route as detailed in Section 2.6

2.15.1.2. ~~2.13.1.2.~~The ability of the FTMS to respond to events away from the Onshore Cable Corridor itself will mitigate impact of the works should these events occur. These unforeseen incidences include emergency events and / or urgent works, such as road traffic accidents, gas leaks, burst water mains and loss of customer service. This is particularly important for the A3 London Road and A2030 Eastern Road, both of which experience a significant increase in traffic flow when ~~there are road traffic accidents~~ such incidents occur on either the A3(M) or M275. Such mitigation can be directed by HCC and PCC through powers contained within the Permit Scheme where new circumstances occur which could not have reasonably been foreseen or where the impact is significant.

2.15.1.3. ~~2.13.1.3.~~In addition to this, the CTMP includes provision for a road safety officer, who will be responsible for the continual monitoring of the streetworks for the Onshore

Cable Route to ensure the proactive management of road safety. They will ensure there is sufficient road signage to warn the public of construction works and inform construction related traffic to ensure compliance and route choice. There will also be contact telephone numbers for the public to raise concerns as well as the provision of a website. Receptors that attract vulnerable people will be updated on a regular basis with visits (e.g. schools) as necessary.

2.16. ~~2.14.~~EMERGENCY SERVICES

2.16.1.1. ~~2.14.1.1.~~The Onshore Cable Corridor runs past a number of emergency services locations therefore meaning that access by emergency vehicles will need to be actively managed ~~where possible~~ to minimise delays. The Onshore Cable Corridor runs nearby or adjacent to the following bases:

- Waterlooville Fire Station - A3 Maurepas Way;
- Eastern Road Ambulance Station, albeit this does not provide emergency response; and
- Eastney Lifeboat Station – Ferry Road.

2.16.1.2. ~~2.14.1.2.~~At Waterlooville Fire Station access will be maintained at all times by excavation of the trench taking place in two phases to allow a suitable width access between works or through use of road plates.

2.16.1.3. ~~2.14.1.3.~~In proximity to Eastney Lifeboat Station, the works along Fort Cumberland Road will be facilitated by shuttle working traffic signals. This will maintain access to Ferry Road and the Lifeboat Station at all times.

2.16.1.4. ~~2.14.1.4.~~Along the remainder of the Onshore Cable Corridor each construction location zone will be setup to ensure access by emergency vehicles is achievable. To facilitate access and minimise delay through the works, a protocol will be setup for management of temporary signals. This could include implementation of an 'all red' phase to clear the construction zone of traffic or extended green times to give priority to an approaching vehicle.

2.16.1.5. ~~2.14.1.5.~~Under the responsive traffic management protocol described in Section 2.12 there will also be an option to temporarily suspend works if required to mitigate the impacts of the road traffic accident or other emergency event in proximity to the Onshore Cable Corridor.

2.16.1.6. ~~2.14.1.6.~~Where there are full road closures, road plates will be available at the point of work at all times, should emergency access be required. At the end of the working

day road plates would be installed to allow for out of hours emergency access only. Out of hours emergency access will be provided by an onsite standby emergency team.

2.16.1.1. In addition, the Applicant will seek to produce a communication plan in conjunction with the emergency services to address the specific needs of the emergency services during the construction. The communication plan will outline the relevant procedures to be followed by both parties with regard to the dissemination of information and how emergency access will be safeguarded and delivered through each individual phase.

3. SECTION 1 – LOVEDEAN (~~CONVERTOR~~ CONVERTER STATION AREA)

3.1.1.1. The Onshore Cable Route will not be constructed within public highway within Section 1, but some traffic management will be required to facilitate construction of the temporary and permanent access junction for the Converter Station. This is described below and shown on Drawing EN02022-TMS-1 included in Appendix ~~4~~ 5 to this FTMS.

3.1.1.2. TM will also be required where the Onshore Cable Corridor crosses Broadway Lane at approximately 200 m east of the junction with Edney's Lane

3.2. SUB-SECTION 1.1 - CONVERTER STATION ACCESS JUNCTION

3.2.1.1. Construction of the Converter Station access junction / access road will be primarily constructed 'off-line' in order to avoid impacting upon traffic flow along Broadway Lane and Day Lane. However, it is likely that construction work on each access junction bellmouth will require some limited narrowing of the existing carriageway, which will only accommodate one-way traffic flow. This will be accommodated by the implementation of three-way temporary traffic signals to control traffic flow in the vicinity of the access. The exact location of the temporary traffic signals will be determined by the contractor(s) however, it is envisaged that these would be located as follows to provide adequate visibility for approaching traffic:

- Adjacent to Broadway Cottages on Broadway Lane south of the proposed access junction;
- 20 m north of the give-way line on Broadway Lane north of the proposed access junction (at the junction with Day Lane); and
- 75 m east of the junction of the Broadway Lane / Day Lane junction on Day Lane.

3.2.1.2. Broadway Lane and Day Lane within the vicinity of the Converter Station Area are currently rural lanes without street lightning of footways and are subject to a national speed limit (60 mph).

3.2.1.3. To reduce traffic speeds within the vicinity of the access works it is also proposed that a temporary 30 mph speed limit is implemented to be in place for the entirety of Day Lane up to its junction with Lovedean Lane, and Broadway Lane between the northern edge of Broadway Cottages and the junction with Day Lane. This is secured via inclusion with within the Framework CTMP (REP6-032) and Requirement 17 of the dDCO.

3.2.1.4. The timeframe for this traffic management to be in place will be dependent upon the construction schedule of the access junction. Currently, the anticipated programme for these works suggests that traffic management will need to be in place for 8-12 weeks to facilitate construction of the access junction.

3.2.1.5. Table 1 shows a breakdown of the calendar year, showing availability for the construction of the access works to take place within this Section.

Table 1 – Section 1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration ~~Per Circuit~~
1.1	Converter Station Access	TBC	Shuttle Working	8-12 weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
None								50 weeks			

3.2.1.6. This shows that construction can take place during any month of the year. It is also considered that there are no constraints on the construction programme presented by works on adjacent sections of the Onshore Cable Corridor.

3.3. SUB-SECTION 1.2 – BROADWAY LANE

3.3.1.1. TM is required in Sub-Section 1.2 at the intersection of the Onshore Cable Corridor and Broadway Lane. The Onshore Cable Corridor crosses Broadway Lane at approximately 200 m east of the junction with Edney's Lane.

3.3.1.2. Below is a breakdown of the calendar year, showing availability for the construction of the Onshore Cable Corridor to take place within this Section.

~~Table 2 - Section 1.2 Programme Availability~~

Table 2 - Section 1.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
1.2	Broadway Lane	6	Road Closure	1 Day
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Section 3.1 – 2 weeks								48 weeks			

3.3.1.3. Programming of these works at separate times to Section 3.1 will minimise the impact resulting from the proposed traffic management strategy for Broadway Lane and Anmore Road.

3.4. DESCRIPTION OF TRAFFIC MANAGEMENT

3.4.1.1. It is likely that a full road closure will be required to allow the Onshore Cable to cross Broadway Lane. It is anticipated that this road closure will need to be in place for one day per circuit. This is described below and shown on Drawing EN02022-TMS-1 and EN02022-TMS-2 included in Appendix ~~4~~ 5 to this FTMS.

3.4.1.2. A diversion route will need to be implemented to mitigate the impact of the proposed road closure on Broadway Lane. The diversion route will need to take account of the following:

- The nature of rural lanes within the vicinity of the road closure and their suitability for accommodating diverted traffic; and
- The general origin and destination of traffic using Broadway Lane.

3.4.1.3. Taking account of these factors, it is recommended that diversions be implemented that route traffic via Edney's Lane, Anmore Road, Anmore Lane and Broadway Lane as shown in Drawing EN02022-TMS-11 included in Appendix ~~5~~ 6 to this FTMS. Taking into account this proposed diversionary routing, the closure of Broadway Lane should be scheduled so as to not coincide with construction in Anmore Road, a link which is contained within Section 3 of the Onshore Cable Corridor.

3.4.1.4. Appropriate signage will be provided along this diversion at all appropriate junction locations. Broadway Lane to the east of the Onshore Cable Corridor provides the sole vehicular access to several residential properties, as well as to the Lower Chapters Bed and Breakfast. Broadway Lane to the east of the Onshore Cable Corridor will remain open to ensure access to properties and the bed and breakfast is retained throughout the duration of works.

4. SECTION 2 - ANMORE

4.1.1.1. The Onshore Cable Corridor in Section 2 is contained entirely within agricultural fields and does not include or intersect any highway, as such, no TM is required in this Section.

5. SECTION 3 – DENMEAD/KINGS POND MEADOW

5.1.1.1. As with Section 2, the Onshore Cable Corridor within Section 3 is contained primarily within agricultural fields. However, there are two limited sections of public highway which are likely to be impacted within this section. The impacted highway includes the following:

- **Sub-Section 3.1**: Anmore Road: up-to 50 m between agricultural fields to the north and south; and
- **Sub-Section 3.2:** B2150 Hambledon Road to Soake Road (180m).

5.1.1.2. Both of these links are likely to require traffic management to facilitate the construction of the Onshore Cable Route. The construction works within this section are likely to take a maximum of 1-2 weeks to complete per circuit.

5.2. SUB-SECTION 3.1 – ANMORE ROAD

5.2.1.1. Table 3 below provides a summary of the traffic management requirements for Section 3.1.

Table 3 – Sub-Section 3.1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
3.1	Anmore Road	6	Road Closure	1 Day
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Section 1.2 – 1 week (rounded up from 1 day) Sub-Section 3.2 – 3 weeks								46 weeks			

5.2.1.2. Programming of these works at separate times will minimise the impact resulted from the proposed traffic management strategy for Broadway Lane and the B2150 Hambledon Road (Section 3.2).

DESCRIPTION OF TRAFFIC MANAGEMENT

5.2.1.3. The Onshore Cable Corridor will cross Anmore Road between agricultural fields to the north and south, requiring a full road closure for the period of the construction works. The Onshore Cable Corridor will intersect Anmore Road in a north-south orientation, whilst moving from the fields to the immediate north of the carriageway, to those in the south. Works in Sub-Section 3.1 will only impact upon a limited section of highway~~,~~ and would require a one-day road closure per circuit.

5.2.1.4. As is stated above, any road closures on Anmore Road should be scheduled to avoid coinciding with any closure of Broadway Lane. The recommended diversion route for the road closure on Anmore Road is via Mill Road, B2150 Hambledon Road and Soake Road as shown in Drawing EN02022-TMS-11 included in Appendix ~~5~~ 6 to this FTMS.

5.2.1.5. Taking into account this proposed diversion, it is also recommended that the closure of Anmore Road should not take place at the same time as any works on B2150 Hambledon Road (Section 3.2).

5.3. SUB-SECTION 3.2 – B2150 HAMBLEDON ROAD TO SOAKE ROAD

5.3.1.1. Within Sub-Section 3.2, the Onshore Cable Corridor includes a section of B2150 Hambledon Road between the point from which the cable exits the agricultural fields, to the junction with Soake Road. Table ~~3~~ 4 below provides a summary of the traffic management requirements for Section 3.2.

Table 4 – Sub-Section 3.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
3.2	B2150 Hambledon Road to Soake Road	180	Shuttle working TS	3 weeks

Calendar Restrictions											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions	
Sections	Total Availability per Calendar Year
Sub-Section 4.1 – 22 weeks Sub-Section 4.2 – 14 weeks Sub-Section 4.31 – 2weeks Sub-Section 4.33 – 5 weeks Sub-Section 4.34 – 4 weekends Sub-Section 4.35 – 3 weeks	4 weeks

5.3.1.2. Programming of Section 3.2 works will be undertaken at separate times to that scheduled for

- Section 4.1 - B2150 Hambledon Road between Soake Road and Milton Road;
- Section 4.2 - B2150 Hambledon Road and A3 Maurepas Way between Milton Road and A3 London Road (1.0 km); and
- Sections 4.31, 4.33, 4.34 and 4.35 - All sections of A3 London Road between A3 Maurepas Way and Ladybridge Road that require shuttle working traffic signals.

5.3.1.3. This phasing of works will mitigate disruption to traffic flow within the Denmead and Waterlooville area, particularly those trips which travel along the B2150 Hambledon Road and A3 London Road to / from Purbrook, Cosham and Portsmouth. Specifically, it will ensure that there is not more than one location of traffic management that requires shuttle working on B2150 Hambledon Road, A3 Maurepas Way and A3 London Road at any one time.

5.3.1.4. Sub-Section 4.32 has intentionally been omitted from the restrictions because unlike sub-sections 4.1, 4.2, 4.31, 4.33, 4.34 and 4.35, the traffic management involves a bus lane closure rather a general traffic lane closure. This is considered to be less disruptive from a traffic management perspective, meaning works associated with Sub-Section 4.32 can occur simultaneously with Sub-Section 3.2 if required.

DESCRIPTION OF TRAFFIC MANAGEMENT

5.3.1.5. Construction along this section of B2150 Hambledon Road will likely require implementation of single lane closure, with shuttle working being implemented through the use of temporary traffic signals to allow for continued two-way traffic flow. Where the cable enters / exits agricultural fields, the construction corridor will be phased / managed in line with the standard protocol set out in the technical specification issued to contractors in order to ensure that a continuous pedestrian link is provided along the northern side of the carriageway.

5.3.1.6. Where the Onshore Cable Corridor intersects the junction with Soake Road, temporary three-way traffic signals may need to be implemented to allow continuous access to the Byng's Business Park and Jewson Builders Merchant at the southern end of Soake Road. This will mitigate the need for HGV's wishing to access these businesses from using the less suitable Anmore Road / northern half of Soake Road as a temporary diversion route.

5.3.1.7. No residential properties are impacted by this section of the Onshore Cable Corridor.

6. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

6.1.1.1. This section provides a summary of the proposed TMS for the longest section of the Onshore Cable Corridor, which runs from B2150 Hambledon Road between Denmead and Waterlooville and Burnham Road in Farlington. This section has been split into five sub-sections, based upon similarities in road types and commonalities in traffic management requirements. The total length of this section is 6.7 km, and the sub-sections are as follows:

- **Sub-Section 4.1** – B2150 Hambledon Road between Soake Road and Milton Road;
- **Sub-Section 4.2** – B2150 Hambledon Road and A3 Maurepas Way between Milton Road and A3 London Road;
- **Sub-Section 4.3** – A3 London Road to Ladybridge Roundabout;
  - **Sub-Section 4.31** – A3 London Road between Forest End Roundabout and south of the junction with Forest End;
  - **Sub-Section 4.32** - A3 London Road between south of junction with Forest End and southern end of bus lanes (in proximity to Poppy Fields);
  - **Sub-Section 4.33** - A3 London Road between south of southern end of bus lanes (in proximity to Poppy Fields) and Post Office Road;
  - **Sub-Section 4.34** - A3 London Road between Post Office Road and Rocking Horse Nursery;
  - **Sub-Section 4.35** - A3 London Road between Rocking Horse Nursery and Ladybridge Roundabout;
- **Sub-Section 4.4** – A3 London Road to Portsdown Hill Road;
  - **Sub-Section 4.41** - A3 London Road between Ladybridge Roundabout and start of bus lane;
  - **Sub-Section 4.42** - A3 London Road between start of bus lane and Lansdowne Avenue;
  - **Sub-Section 4.43** - A3 London Road between Lansdowne Avenue and bus lane (south of The Brow);

- **Sub-Section 4.44** - A3 London Road between bus lane (south of The Brow) and Portsdown Hill Road; and

- **Sub-Section 4.5** – B2177 Portsdown Hill Road.

6.1.1.2. The FTMS proposals for Section 4 are shown on Drawing EN02022-TMS-3, 4 and 5 included in Appendix ~~4~~5

6.2. SUB-SECTION 4.1 – B2150 HAMBLEDON ROAD BETWEEN SOAKE ROAD AND MILTON ROAD

6.2.1.1. Section 4.1 includes the section of B2150 Hambledon Road between the junction with Soake Road and the roundabout with Milton Road. All of B2150 Hambledon Road in this subsection is single carriageway and is subject to a 30 mph speed limit.

6.2.1.2. Table 5 shows availability for the construction of the Onshore Cable Route to take place within this subsection.

Table 5 – Sub-Section 4.1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.1	B2150 Hambledon Road between Soake Road and Milton Road	1300	Shuttle working TS	11 - 22 weeks

Calendar Restrictions											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions	
Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks Sub-Section 4.2 – 14 weeks	23 weeks

Sub-Section 4.31 – 2 weeks Sub-Section 4.33 – 5 weeks Sub-Section 4.34 – 4 weekends Sub-Section 4.35 – 3 weeks	

6.2.1.3. December has been categorised as 'Amber' due to the proximity of the southern end of B2150 Hambledon Road in this sub-section to Wellington Retail Park, Asda Superstore on A3 Maurepas Way and Lidl supermarket on Elettra Avenue. As December is typically a very busy period in this location, construction should only take place during the first two weeks of the month.

6.2.1.4. In addition to these considerations, construction within Section 4.1 should not take place simultaneously with the following:

- Section 3.2 - B2150 Hambledon Road to Soake Road;
- Section 4.2 - B2150 Hambledon Road and A3 Maurepas Way between Milton Road and A3 London Road (1.0 km); and
- Section 4.31, 4.33, 4.34 and 4.35 – All sections of A3 London Road between A3 Maurepas Way and Ladybridge Road that require shuttle working traffic signals.

6.2.1.5. This phasing of works will mitigate disruption to traffic flow within the Denmead and Waterlooville area, particularly those trips which travel along the B2150 Hambledon Road and A3 London Road to / from Purbrook, Cosham and Portsmouth. Specifically, it will ensure that there is not more than one location of traffic management that requires shuttle working on B2150 Hambledon Road, A3 Maurepas Way and A3 London Road at any one time.

6.2.1.6. Sub-Section 4.32 has intentionally been omitted from the restrictions because unlike sub-sections 3.2, 4.2, 4.31, 4.33, 4.34 and 4.35 the traffic management involves a bus lane closure rather a general traffic lane closure. This is considered to be less disruptive from a traffic management perspective, meaning works associated with Sub-Section 4.32 can occur simultaneously with Sub-Section 4.1 if required.

6.2.2. DESCRIPTION OF TRAFFIC MANAGEMENT

6.2.2.1. For the majority of this subsection construction will likely be able to be facilitated by shuttle working traffic signals. Opportunities to reduce the length of shuttle working will however be taken where possible and practical, such as at the following:

- By constructing one circuit within Southdown View / Hambledon Road and the Hambledon Road spur that runs parallel to the B2150 Hambledon Road. This is described in further detail in paragraph 6.2.2.3 – 6.2.2.6 and would remove disruption from B2150 Hambledon Road for 450m or 8 weeks for one circuit; and
- Use of lane realignment between the junction with The Hundred and the roundabout junction with Milton Road. The use of right-turn lanes to facilitate construction works will likely enable construction to take place without impacting on two-way traffic flow for 200m or 3 weeks for each circuit.

6.2.2.2. These options will help minimise the length of time shuttle working traffic signals are required on B2150 Hambledon Road.

Southdown View / Hambledon Parade / Hambledon Road

6.2.2.3. Southdown View runs parallel to B2150 Hambledon Road between Darnell Road and Sunnymead Drive and provides access to 13 residential properties (all with off-road parking) and a public car park which serves Billy's Lake open space which comprises of approximately 10 acres of woodland. It measures approximately 150 m in length. The carriageway width of Southdown View is less than 6.0 m, so to avoid road closure, the construction corridor will be narrowed through the use of smaller plant. Two-way traffic flow will be facilitated by an informal 'give-and-take' approach which is appropriate for a link with such low traffic flows. Construction along this link is anticipated to take approximately 2-3 weeks per circuit.

6.2.2.4. Construction works through the junction of Southdown View / Sunnymead Drive / Hambledon Parade will be managed through the use of temporary traffic signals, with construction being phased to ensure that the carriageway remains open at all times.

6.2.2.5. Hambledon Parade is approximately 140 m in length and provides access to a number of retail / commercial units on the northern side of the carriageway. On-street parking is provided on either side of Hambledon Parade and provides capacity for 23 cars, with two additional two accessible bays and a loading bay. To accommodate construction, the on-street parking spaces on one side of the carriageway may need to be temporarily suspended to mitigate the need for a full road closure. To further mitigate the impact of construction on retail / commercial units, it is proposed that construction corridor will be split into 70 m sections therefore allowing some on-street parking to remain on both sides of the carriageway throughout the duration of the works. A one-way system will be implemented along Hambledon Parade during construction to minimise traffic congestion. Construction along this link is anticipated

to take 2-3 weeks per circuit.

6.2.2.6. The Hambledon Road spur, running parallel to the north of the B2150 is a residential cul-de-sac providing access to 16 residential properties, all of which have dedicated off-road parking. The carriageway is approximately 5.0m wide on this link, with the northern verge / footway providing an additional 4.0m. This total width of 9.0m provides adequate space for construction but will require use of smaller plant in order to avoid a full road closure. The approximate length of the spur is 150m. Two-way traffic flow will be facilitated by an informal 'give-and-take' approach which is appropriate for a link with such low traffic flows and the majority of residents will continue to be able to park off-road on driveways. It is anticipated that construction of cable ducts along this link will take approximately 2-3 weeks per circuit.

B2150 Hambledon Road

6.2.2.7. Construction of the Onshore Cable Route along B2150 will require shuttle working traffic signals, although opportunities for lane realignment will be taken on the approach to the junctions with Darnel Road and Milton Road to maintain two-way traffic flow. For example, retaining two free-flow traffic lanes for 200 m between The Hundred and Milton Road by use of right-turn lanes and central hatching will remove the requirements for shuttle working traffic signals for 4 weeks per circuit.

6.2.2.8. Several junctions intersect B2150 Hambledon Road in Section 4.1, with the required traffic management at each location dependent upon the exact location of the construction zone within the carriageway, which is not possible to define at this stage. The following junctions, however, will be subject to traffic signal control due to their existing layout or classification:

- B2150 Hambledon Road / Darnel Road – either lane realignment and use of existing traffic signals or temporary three-way traffic signals;
- B2150 / Hambledon Road / Sunnymead Drive – temporary three-way traffic signals; and
- B2150 / Hambledon Road / Milton Road / Elettra Avenue roundabout – temporary traffic signals.

6.2.2.9. The traffic management required for the following junctions will be determined by the contractor and dependent upon location of the construction zone, albeit with access retained at all times, either directly or my alternative routes:

- B2150 Hambledon Road / Sickle Way;
- B2150 Hambledon Road / Hambledon Parade;
- B2150 Hambledon Road / Charlesworth Drive;
- B2150 Hambledon Road / Petersham Drive; and
- B2150 Hambledon Road / The Hundred.

Milton Road

6.2.2.10. Milton Road in Sub-Section 4.1 has been identified within the Road Safety Technical Note (REP6-075) as benefiting from the use of traffic marshals in the vicinity of the school. should construction on B2150 Hambledon Road in this section be undertaken in term time. This additional traffic management measure would be reactive to conditions on this links during construction and would be overseen by the road safety officer.

6.3. SUB-SECTION 4.2 – B2150 HAMBLEDON ROAD AND A3 MAUREPAS WAY BETWEEN MILTON ROAD AND A3 LONDON ROAD

6.3.1.1. Sub-section 4.2 includes B2150 Hambledon Road to the south of the roundabout with Milton Road, as well as A3 Maurepas Way between the roundabout with Houghton Avenue and Forest End Roundabout, and the Hambledon Road Spur Road.

6.3.1.2. Table 6 provides details of programme availability and traffic management proposals for this sub-section.

Table 6 – Sub-Section 4.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.2	B2150 Hambledon Road and A3 Maurepas Way between Milton Road and A3 London Road	1000	Lane Closure	14 weeks

Calendar Restrictions											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 4-week restriction due to Christmas shopping.

Other Restrictions	
Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks Sub-Section 4.1 – 22 weeks Sub-Section 4.31 – 2 weeks Sub-Section 4.33 – 5 weeks Sub-Section 4.34 – 4 weekends Sub-Section 4.35 – 3 weeks Sub-Section 4.41 – 1 week Sub-Section 4.43 – 3 weeks	9 weeks

6.3.1.3. December has been categorised as 'Red' as this section contains vehicular accesses to Wellington Retail Park, Asda Superstore on A3 Maurepas Way and Lidl supermarket on Elettra Avenue and Waterlooville town centre. As December will be a busy period in this location, construction of this section of the Onshore Cable should not take place during this month. In addition to these considerations, construction within Section 4.2 should not take place simultaneously with the following Sections:

- Sub-Sections 3.2 and 4.1 – B2150 Hambledon Road north-west of this section'
- Section 4.31, 4.33, 4.34, 4.35, 4.41 and 4.43 – All sections of A3 London Road between A3 Maurepas Way and Portsdown Hill Road that require shuttle working traffic signals.

6.3.1.4. Phasing of works will mitigate disruption to traffic flow within the Denmead and Waterlooville area, particularly those trips which travel along the B2150 Hambledon Road and A3 London Road to / from Purbrook, Cosham and Portsmouth. Specifically, it will ensure that construction along Sub-Section 4.2 does not occur at the same time as traffic management that requires shuttle working on B2150 Hambledon Road, A3 Maurepas Way and A3 London Road.

6.3.1.5. Sub-Section 4.32, 4.42 and 4.44 have intentionally been omitted from the restrictions because within sub-sections 3.2, 4.1 4.31, 4.33, 4.34, 4.35, 4.41 and 4.43, the traffic management involves a bus lane closure rather a general traffic lane closure. This is considered to be less disruptive from a traffic management perspective, meaning works associated with these three sub-sections can occur simultaneously with Sub-Section 4.2 if required.

6.3.2. DESCRIPTION OF TRAFFIC MANAGEMENT

B2150 Hambledon Road

6.3.2.1. Construction along B2150 Hambledon Road in this subsection will require implementation of single lane closures. To facilitate continued access to Wellington Retail Park throughout the duration of works, temporary turning restrictions may need to be implemented at the junction of B2150 Hambledon Road / Aston Road. Temporary turning restrictions will prohibit right turn movements at this junction, allowing it to remain operational via a left-in, left-out arrangement. These temporary access arrangements are likely to be in place for one week per circuit.

Hambledon Road (spur)

6.3.2.2. Hambledon Road (spur) within Sub-Section 4.2 has been identified within the UK Joint Bay Feasibility Report (REP7-073) as a possible location for Joint Bay 07. Construction along B2150 Hambledon Road in this subsection would require implementation of single lane closures should a Joint Bay be installed in the carriageway in this location. Two-way traffic flow will be facilitated by an informal 'give-and-take' approach which is appropriate for a link with such low traffic flows. As is set out in Section 2.3.3. of this report, installation of Joint Bays will take approximately 20 working days per circuit.

B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue Roundabout

6.3.2.3. ~~6.3.2.3.~~Temporary traffic signals may also need to be implemented at the roundabout junction of B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue. Traffic management is likely to be required at this junction for approximately one week.

A3 Maurepas Way

6.3.2.4. ~~6.3.2.4.~~Construction within A3 Maurepas Way may require a closure of one lane of the dual carriageway. On the A3 in this section a minimum of three lanes will remain operational, and two-way flow will be maintained at all times. The link provides the entry to the Asda Waterlooville Superstore car park, access to this car park will be retained throughout the duration of works.

6.3.2.5. ~~6.3.2.5.~~Waterlooville Fire Station gains vehicular access from A3 Maurepas Way on this link. Vehicular access from the fire station will be retained at all times throughout the duration of works through phased construction maintaining a suitable access width at all times.

Forest End Roundabout

6.3.2.6. ~~6.3.2.6.~~Temporary traffic signals may be required at Forest End Roundabout. Construction through this junction is likely to be in place for 2-3 days per circuit.

6.4. SUB-SECTION 4.31 - A3 LONDON ROAD BETWEEN FOREST END ROUNDABOUT AND SOUTH OF THE JUNCTION WITH FOREST END

6.4.1.1. A limited section of shuttle working may be required between Forest End Roundabout and just south of the junction with Forest End, where the central island ends. The programme availability to complete this sub-section is shown in Table 7 below.

Table 7 – Sub-Section 4.31 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.31	A3 London Road between Forest End Roundabout and south of the junction with Forest End	100	Shuttle Working	2 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter School Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), School Summer Holidays (approximately 6 weeks), and October Half-Term (1 week).

Approximate availability per calendar year: **18 weeks**.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks ***(no calendar restrictions)*** **Sub-Section 4.1 – 22 weeks** ***(2-week restriction due to Christmas)*** **Sub-Section 4.2 – 14 weeks** ***(4-week restriction due to Christmas)*** **Section 4.32 = 10 weeks** ***(no calendar restrictions)*** **Sub-Section 4.33 – 5 weeks** ***(same calendar restrictions)*** **Sub-Section 4.34 – 4 weekends** ***(no calendar restrictions)*** **Sub-Section 4.35 – 3 weeks** ***(same calendar restrictions)***	3 weeks *(based on avoiding simultaneous works at sub-sections 4.33, 4.35, 4.41 and 4.43 where there are similar calendar restrictions)*

Sub-Section 4.41 – 1 week ***(same calendar restrictions)*** **Sub-Section 4.43 – 3 weeks** ***(same calendar restrictions)***	

6.4.1.2. Due to the high traffic flows at this location and close proximity to Waterlooville town centre, construction should not take place outside of the periods shown in Table 7. In addition to these considerations, construction within Section 4.3 should not take place simultaneously with the following Sections:

- Sub-Sections 3.2, 4.1 and 4.2 – B2150 Hambledon Road and A3 Maurepas Way;
- Sub-Sections 4.32, 4.33, 4.34, and 4.35 – parts of Section 4.3 – A3 London Road between A3 Maurepas Way and Ladybridge Road; and
- Sub-sections 4.41 and 4.43 – Parts of A3 London Road between Ladybridge roundabout and Portsdown Hill road that require shuttle working traffic signals.

6.4.1.3. This phasing of works will mitigate disruption to traffic flow within the Denmead and Waterlooville area, particularly those trips which travel along the B2150 Hambledon Road and A3 London Road to / from Purbrook, Cosham and Portsmouth. The programme will ensure that the construction of sub-section 4.2 is not completed at the same time as any other works on A3 London Road north of Ladybridge roundabout nor during any periods where shuttle working traffic signals are required on either B2150 Hambledon Road or A3 London Road south of Ladybridge roundabout.

6.5. SUB-SECTION 4.32 – A3 LONDON ROAD BETWEEN SOUTH OF JUNCTION WITH FOREST END AND SOUTHERN END OF BUS LANES (IN PROXIMITY TO POPPY FIELDS)

6.5.1.1. Construction within this section can be completed through lane realignment, thereby maintaining two-way traffic flow for the entirety of this sub- section. Where the construction zone is located, the bus lanes and general traffic lane will merge from two to one lane. To mitigate the impact on public transport, temporary bus priority traffic signals will be provided where possible to maintain bus priority over general traffic. Table 8 provides details of the available programme for this sub-section.

Table 8 – Sub-Section 4.32 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.32	A3 London Road between south of junction with Forest End and southern end of bus lanes (in proximity to Poppy Fields)	1000	Lane Closure	17 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 4.31 – 2 weeks **Sub-Section 4.33 – 5 weeks** **Sub-Section 4.35 – 3 weeks** **Sub-Section 4.41 – 1 week** **Sub-Section 4.42 – 8 weeks** **Sub-Section 4.43 – 3 weeks** **Sub-Section 4.44 – 4 weeks**	24 weeks

6.5.1.2. Given the limited impact of construction along this section it is proposed that works can be completed all year round. To minimise impacts on public transport the construction within this section should not take place simultaneously with the following:

- Sub-Sections 4.31, 4.33, 4.35 – Sections of A3 London Road north of Ladybridge Roundabout that require shuttle working traffic signals; and
- Sub-Sections 4.41 and 4.43 – Sections of A3 London Road south of Ladybridge roundabout that require shuttle working traffic signals.

6.5.1.3. Sub-Section 4.32 has been identified in the UK Joint Bay Feasibility Report as a possible location of both Joint Bay 10 and Joint Bay 11. As is set out in Section 2.3.3. of this report, construction of Joint Bays will take approximately 20 working days per circuit in each location. Construction of Joint Bays in this section would be facilitated by single lane closures, as with the construction of the Cable Ducts component of the Onshore Cable Route.

6.5.1.4. If practicable, temporary bus priority traffic signals will be used to maintain bus priority over general traffic where the lane merge occurs. Where this is not possible, it is proposed that temporary 'Merge In Turn' signs are installed to encourage vehicles to allow buses to join the general traffic lane. Similarly, 'cycle lane ahead closed' advance signing will be provided to ensure that cyclists have ample opportunity to alter their road position before reaching the road works.

6.6. SUB-SECTION 4.33 – A3 LONDON ROAD BETWEEN SOUTH OF SOUTHERN END OF BUS LANES (IN PROXIMITY TO POPPY FIELDS) AND POST OFFICE ROAD

6.6.1.1. Shuttle working will be required between the junction of A3 London Road / Poppy Fields and the junction of A3 London Road / Post Office Road. The programme availability to complete these works is shown on Table 9 below.

Table 9 – Sub-Section 4.33 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.33	A3 London Road between Poppy Fields and just south of Post Office Road and Campbell Crescent	250	Shuttle Working	5 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter School Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), School Summer Holidays (approximately 6 weeks), and October Half-Term (1 week).

Approximate availability per calendar year: 18 weeks.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks ***(no calendar restrictions)*** **Sub-Section 4.1 – 22 weeks** ***(2-week restriction due to Christmas)*** **Sub-Section 4.2 – 14 weeks** ***(4-week restriction due to Christmas)*** **Sub-Section 4.31 – 2 weeks** ***(same calendar restrictions)*** **Sub-Section 4.32 = 10 weeks** ***(no calendar restrictions)*** **Section 4.34 – 4 weekends** ***(no calendar restrictions)*** **Sub-Section 4.35 – 3 weeks** ***(same calendar restrictions)*** **Sub-Section 4.41 – 1 week** **(same calendar restrictions)**	9 weeks *(based on avoiding simultaneous works at sub-sections 4.31, 4.35, 4.41 and 4.43 where there are similar calendar restrictions)*

Sub-Section 4.43 – 3 weeks ***(same calendar restrictions)***	

6.6.1.2. Due to the high traffic flows at this location, no construction should take place outside of the periods shown in Table 9. In addition to these considerations, construction within Section 4.3 should not take place simultaneously with the following Sections:

- Sub-Sections 3.2, 4.1 and 4.2 - B2150 Hambledon Road and A3 Maurepas Way;
- Sub-Sections 4.31,4.32, 4.34, 4.35 - All other parts of Section 4.3 - A3 London Road between A3 Maurepas Way and Ladybridge Road; and
- Sub-sections 4.41 and 4.43 – Parts of A3 London Road between Ladybridge roundabout and Portsdown Hill road that require shuttle working traffic signals.

6.6.1.3. As with other sub-sections of A3 London Road, this phasing of works will mitigate disruption to traffic, particularly those trips which travel along the A3 London Road between Waterlooville, Purbrook, Cosham and Portsmouth. The programme will ensure that the construction of sub-section 4.33 is not completed at the same time as any other works on A3 London Road north of Ladybridge roundabout nor during any periods where shuttle working traffic signals are required on either B2150 Hambledon Road or A3 London Road south of Ladybridge roundabout.

6.6.1.4. Campbell Crescent in Sub-Section 4.33 has been identified in the UK Joint Bay Feasibility Report as a possible location of Joint Bay 12. Construction of Joint Bays in this section will be facilitated by single lane closure of Campbell Crescent and / or shuttle working traffic signals on A3 London Road. Two-way traffic flow on Campbell Crescent would be facilitated by an informal 'give-and-take' approach which is appropriate for a link with such low traffic flows. As is set out in Section 2.3.3. of this report, construction of Joint Bays will take approximately 20 working days per circuit.

6.6.1.5. Detailed traffic management strategies for this section of A3 London Road should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A3 London Road, Stakes Hill Road and Stakes Road / Ladybridge Road.

6.7. SUB-SECTION 4.34 - A3 LONDON ROAD BETWEEN POST OFFICE ROAD AND ROCKING HORSE NURSERY

6.7.1.1. A full road closure may need to be implemented on the section of the A3 London Road between Post Office Road and Rocking Horse Nursery and Pre-School, a distance of approximately 90m. It is anticipated that this closure would take place over the course of four weekends per circuit, with construction taking place only during 10-hour working days between 08:00 and 18:00.

6.7.1.2. The programme availability to complete these works is shown on Table 10 below.

Table 10 – Sub-Section 4.34 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.34	A3 London Road between Post Office Road and Rocking Horse Nursery	90	Road Closure	4 weekends

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 4.31 – 2 weeks **Sub-Section 4.41 – 1 week** **Sub-Section 4.43 – 3 weeks**	44 weeks

6.7.1.3. Given off-peak nature of the road closure requirements within sub-section 4.34 there are no calendar restrictions. The will however will most likely be completed at a similar time to sub-section 4.33 and 4.35.

6.7.1.4. During the period of road closure, it will be necessary to provide a diversion route for all traffic, with the following proposed to the east of the A3 London Road:

- For northbound traffic on the A3 London Road travelling between Ladybridge Roundabout and the Forest End Roundabout – Diversion via Ladybridge Road eastbound, Stakes Road eastbound, Stakes Hill Road northbound; and Rockville Drive westbound;
- For southbound traffic on the A3 London Road travelling between Forest End Roundabout and Ladybridge Roundabout – Diversion via Rockville Drive eastbound, Stakes Hill Road southbound, Stakes Road westbound and Ladybridge Road westbound.

6.7.1.5. These diversion routes are shown on Drawing EN02022-TMS-11 included in Appendix ~~5~~6.

6.7.1.6. To minimise the impact of the road closure, construction works will not be completed simultaneously with Sections 4.31, 4.41 and 4.43, all of which require shuttle working traffic signals elsewhere on the A3 London Road.

6.8. SUB-SECTION 4.35 - A3 LONDON ROAD BETWEEN ROCKING HORSE NURSERY AND LADYBRIDGE ROUNDABOUT

6.8.1.1. Shuttle working will also be required for this sub-section between Rocking Horse Nursery and Pre-School and Ladybridge Roundabout. Table 11 provides details of the programme availability for completion of construction in this sub-section.

Table 11 - Sub-Section 4.35 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.35	A3 London Road between Rocking Horse Nursery and Ladybridge roundabout	170	Shuttle Working	3 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter School Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), School Summer Holidays (approximately 6 weeks), and October Half-Term (1 week).

Approximate availability per calendar year: 18 weeks

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks ***(no calendar restrictions)*** **Sub-Section 4.1 – 22 weeks** ***(2-week restriction due to Christmas)*** **Sub-Section 4.2 – 14 weeks** ***(4-week restriction due to Christmas)*** **Sub-Section 4.31 – 2 weeks** ***(same calendar restrictions)*** **Sub-Section 4.32 = 10 weeks** ***(no calendar restrictions)*** **Sub-Section 4.33 – 5 weeks** ***(same calendar restrictions)*** **Sub-Section 4.34 – 4 weekends** ***(no calendar restrictions)*** **Sub-Section 4.41 – 1 week** ***(same calendar restrictions)*** **Sub-Section 4.42 = 8 weeks**	7 weeks *(based on avoiding simultaneous works at sub-sections 4.31, 4.33, 4.41 and 4.43 where there are similar calendar restrictions)*

(no calendar restrictions) **Sub-Section 4.43 – 3 weeks** ***(same calendar restrictions)*** **Section 4.44 = 4 weeks** ***(no calendar restrictions)***	

6.8.1.2. Given the requirement for shuttle-working and volume of traffic which uses A3 London Road in this section, no construction work on this section should take place outside of the periods shown in Table 11.

6.8.1.3. As with other sub-sections of A3 London Road, this phasing of works will mitigate disruption to traffic, particularly those trips which travel along the A3 London Road between Waterlooville, Purbrook, Cosham and Portsmouth. The programme will ensure that the construction of sub-section 4.35 is not completed at the same time as any other works on A3 London Road north of Ladybridge roundabout nor during any periods where shuttle working traffic signals are required on either B2150 Hambledon Road or A3 London Road south of Ladybridge roundabout. Several junctions intersect the A3 London Road in Section 4.3. Those junctions which provide connections to the eastern side of the carriageway are, for the most part, accessible by alternate routes on the wider network. While the exact traffic management for each side-road can only be determined once the exact construction zone location is confirmed, at this stage it is proposed that the following are subject to Temporary traffic signals:

- A3 London Road / Mill Road priority junction (due to the proximity of Mill Hill Primary School); and
- A3 London Road / Ladybridge Road / Marrels Wood Garden.

6.8.1.4. As noted, the technical specification issued to contractors will set out the standard protocol for enabling continued access to cul-de-sacs throughout the duration of works.

6.8.1.5. It should be noted that the majority of the side roads to the west of A3 London Road in this section form part of the West of Waterlooville Major Development Area (MDA) which is currently in build out stage. As such, existing cul-de-sacs which currently gain sole vehicular access from A3 London Road which may require temporary traffic signals during construction, may be more suited to temporary suspension of access from the A3 during construction as the wider road network of the MDA develops and the residential streets gain further permeability.

6.8.1.6. Detailed traffic management strategies for this section of A3 London Road should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A3 London Road, Stakes Hill Road and Stakes Road / Ladybridge Road.

Westbrook Grove

6.8.1.7. Westbrook Grove in Sub-Section 4.35 has been identified within the Road Safety Technical Note (REP6-075) as benefiting from the use of traffic marshals in the vicinity of the school, should construction on A3 London Road in this section be undertaken in term time. This additional traffic management measure would be reactive to conditions on this links during construction and would be overseen by the road safety officer.

6.9. SUB-SECTION 4.41 - A3 LONDON ROAD BETWEEN LADYBRIDGE ROUNDABOUT AND START OF BUS LANE

6.9.1.1. Immediately south of Ladybridge roundabout the A3 London Road does not include bus lanes, for a distance of approximately 70 m, and will therefore require shuttle working traffic signals to facilitate construction of the Onshore Cable Route. Table 12 provides details of the programme availability for completion of constructions in this sub-section.

Table 12 - Sub-Section 4.41 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.41	A3 London Road between Ladybridge roundabout and start of bus lane	80	Shuttle Working	1 week

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter School Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), School Summer Holidays (approximately 6 weeks), and October Half-Term (1 week).

Approximate availability per calendar year: 18 weeks

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks ***(no calendar restrictions)*** **Sub-Section 4.1 – 22 weeks** ***(2-week restriction due to Christmas)*** **Sub-Section 4.2 – 14 weeks** ***(4-week restriction due to Christmas)*** **Sub-Section 4.31 – 2 weeks** ***(same calendar restrictions)*** **Sub-Section 4.33 – 5 weeks** ***(same calendar restrictions)*** **Sub-Section 4.34 – 4 weekends** **Sub-Section 4.35 – 3 weeks** ***(same calendar restrictions)*** **Section 4.42 = 8 weeks** ***(no calendar restrictions)*** **Sub-Section 4.43 – 3 weeks** ***(same calendar restrictions)***	5 weeks *(based on avoiding simultaneous works at sub-sections 4.31, 4.33, 4.35 and 4.43 where there are similar calendar restrictions)*

Section 4.44 = 4 weeks ***(no calendar restrictions)***	

6.9.1.2. Given the requirement for shuttle-working and volume of traffic which uses A3 London Road in this section, no construction work on this section should take place outside of the periods shown in Table 12.

6.9.1.3. As with sub-section 4.35, this phasing of works will mitigate disruption to traffic, particularly those trips which travel along the A3 London Road between Waterlooville, Purbrook, Cosham and Portsmouth. The programme will ensure that the construction of sub-section 4.41 is not completed at the same time as any other works on A3 London Road north of Ladybridge roundabout nor during any periods where shuttle working traffic signals are required on either B2150 Hambledon Road or A3 London Road south of Ladybridge roundabout.

6.9.1.4. Detailed traffic management strategies for this section of A3 London Road should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A3 London Road, Crookhorn Lane and Stakes Road / Ladybridge Road.

6.10. SUB-SECTION 4.42 - A3 LONDON ROAD BETWEEN START OF BUS LANE AND LANSDOWNE AVENUE

6.10.1.1. Construction within this section can be completed through lane realignment, thereby maintaining two-way traffic flow for the entirety of this sub- section. Where the construction zone is located, the bus lanes and general traffic lane will merge from two to one lane. To mitigate the impact on public transport, temporary bus priority traffic signals will be provided where possible to maintain bus priority over general traffic. Table 13 provides details of the available programme for this sub-section.

Table 13 - Sub-Section 4.42 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.42	A3 London Road between start of bus lane and Lansdowne Avenue	850	Lane Closure	8 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions

Sections	Total Availability per Calendar Year
Section 4.33 – 5 weeks **Sub-Section 4.34 = 4 weekends** **Section 4.35 – 3 weeks** **Sub-Section 4.41 – 1 week** **Sub-Section 4.43 – 3 weeks** **Sub-Section 4.44 – 4 weeks**	32 weeks

6.10.1.2. Given the limited impact of construction along this section it is proposed that works can be completed all year round. To minimise impacts on public transport the construction within this section should not take place simultaneously with the following:

- Sub-Sections 4.31, 4.33, 4.35 – Sections of A3 London Road north of Ladybridge Roundabout that require shuttle working traffic signals;
- Sub-Sections 4.41 and 4.43 – Sections of A3 London Road of Ladybridge roundabout that require shuttle working traffic signals; and
- Sub-Sections 4.44 – sections of the A3 London Road south of Ladybridge Roundabout where bus lane closures are required.

6.10.1.3. Sub-Section 4.42 has been identified in the UK Joint Bay Feasibility Report as a possible location Joint Bay 14 and Joint Bay 15. Construction of Joint Bays in this section would be facilitated by single lane closures, as with the construction of the Cable Ducts component of the Onshore Cable Route. As is set out in Section 2.3.3. of this report, construction of Joint Bays will take approximately 20 working days per circuit in each location.

6.10.1.4. If practicable, temporary bus priority traffic signals will be used to maintain bus priority over general traffic where the lane merge occurs. Where this is not possible, it is proposed that temporary 'Merge In Turn' signs are installed to encourage vehicles to allow buses to join the general traffic lane. Similarly, 'cycle lane ahead closed' advance signing will be provided to ensure that cyclists have ample opportunity to alter their road position before reaching the road works.

Park Avenue

6.10.1.5. Park Avenue in Sub-Section 4.42 has been identified within the Road Safety Technical Note (REP6-075) as benefiting from the use of traffic marshals in the vicinity of the school, should construction on A3 London Road in this section be undertaken in term time. This additional traffic management measure would be reactive to conditions on these links during construction and would be overseen by the road safety officer.

6.11. SUB-SECTION 4.43 - A3 LONDON ROAD BETWEEN LANSDOWNE AVENUE AND BUS LANE (SOUTH OF THE BROW)

6.11.1.1. Sub-section 4.43 may require shuttle working traffic signals, although temporary removal of existing pedestrian refuge islands may allow for two-way traffic flow to be maintained due to the wide carriageway width. The worst-case requirement of shuttle working traffic signals has the programme constraints identified in ~~Table 14~~.

Table 14 - Sub-Section 4.43 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.43	A3 London Road between Lansdown Avenue and start of bus lane (south of The Brow)	250	Shuttle Working	3 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: Work Permitted Only During: February Half-Term (1 week), Easter School Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), School Summer Holidays (approximately 6 weeks), and October Half-Term (1 week).

Approximate availability per calendar year: 18 weeks

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 3.2 – 3 weeks ***(no calendar restrictions)*** **Sub-Section 4.1 – 22 weeks** ***(2-week restriction due to Christmas)*** **Sub-Section 4.2 – 14 weeks** ***(4-week restriction due to Christmas)*** **Sub-Section 4.31 – 2 weeks** ***(same calendar restrictions)*** **Sub-Section 4.33 – 5 weeks** ***(same calendar restrictions)*** **Sub-Section 4.34 – 4 weekends** ***(no calendar restrictions)*** **Sub-Section 4.35 – 3 weeks** ***(same calendar restrictions)*** **Sub-Section 4.41 – 1 week (same calendar restrictions)**	7 weeks *(based on avoiding simultaneous works at sub-sections 4.31, 4.33, 4.35, and 4.41 where there are similar school term-time restrictions)*

Section 4.42 = weeks ***(no calendar restrictions)*** **Section 4.44 = 4 weeks** ***(no calendar restrictions)***	

~~6.11.1.2.~~Given the requirement for shuttle-working and volume of traffic which uses A3 London Road in this section, no construction work on this section should take place outside of the of the periods shown in

6.11.1.3. Table 14. The phasing of works aims to mitigate disruption to traffic, particularly those trips which travel along the A3 London Road between Waterlooville, Purbrook, Cosham and Portsmouth. The programme will ensure that the construction of this sub-section is not completed at the same time as any other works on A3 London Road south of Ladybridge roundabout nor during any periods where shuttle working traffic signals are required on either B2150 Hambledon Road or A3 London Road north of Ladybridge roundabout.

6.11.1.4. Detailed traffic management strategies for this section of A3 London Road should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A3 London Road, Crookhorn Lane and Stakes Road / Ladybridge Road.

6.12. SUB-SECTION 4.44 - A3 LONDON ROAD BETWEEN BUS LANE (SOUTH OF THE BROW) AND PORTSDOWN HILL ROAD

6.12.1.1. As with sub-sections 4.32 and 4.42 construction within this sub-section can be accommodated for through the use of either lane realignment as a result of the wide carriageways and bus lanes. This means that overall, 2.25km out of 3.20km construction along A3 London Road can be accommodated while retaining two-way traffic flow and avoiding the need for shuttle working traffic signals. Table 15 shows the programme availability for sub-section 4.44.

Table 15 – Sub-Section 4.44 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.44	A3 London Road start of bus lane (south of The Brow) and B2177 Portsdown Hill Road	400	Lane Closure	4 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 4.31 = 2 weeks **Sub-Section 4.33 = 5 weeks** **Sub-Section 4.34 = 4 weekends** **Sub-Section 4.35 = 3 weeks** **Sub-Section 4.41 = 1 week** **Sub-Section 4.42 = 8 weeks** **Sub-Section 4.43 = 3 weeks**	28 weeks

6.12.1.2. Given the limited impact of construction along this section it is proposed that works can be completed all year round. To minimise impacts on public transport the construction within this section should not take place simultaneously with the following:

- Sub-Sections 4.31, 4.33, 4.34 and 4.35 – Sections of A3 London Road north of Ladybridge Roundabout that require shuttle working traffic signals;
- Sub-Sections 4.41 and 4.43 – Sections of A3 London Road of Ladybridge roundabout that require shuttle working traffic signals; and
- Sub-Section 4.42 – A3 London Road south of Ladybridge Roundabout where lane closure are required.

6.12.1.3. As with the northern part of A3 London Road, in this Section, the majority of side roads to the east of the construction corridor are accessible via alternate routes on wider road network. While the exact traffic management for each side-road can only be determined once the exact construction zone location is confirmed, at this stage it is proposed that the following are subject to temporary traffic signals:

- A3 London Road / The Brow: The Brow also provides access to multiple residential roads and Purbrook Park school; and
- A3 London Road / A3 southbound slip road: No properties gain access from this link.

6.12.1.4. If practicable, temporary bus priority traffic signals will be used to maintain bus priority over general traffic where the lane merge occurs. Where this is not possible, it is proposed that temporary 'Merge In Turn' signs are installed to encourage vehicles to allow buses to join the general traffic lane. Similarly, 'cycle lane ahead closed' advance signing will be provided to ensure that cyclists have ample opportunity to alter their road position before reaching the road works.

6.12.1.5. As is noted in the Road Safety Technical Note (REP6-071), the junction of A3 London Road / Park Avenue would benefit from additional 'Keep Clear' or 'Do Not Block Junction' signs. This should therefore be included within the detailed traffic management strategy submitted to the local highway authority for approval.

6.13. SUB-SECTION 4.5 – B2177 PORTSDOWN HILL ROAD BETWEEN CAR PARK ACCESS AND FARLINGTON AVENUE

6.13.1.1. Section 4.5 spans between the priority-controlled access junction of the Car Park directly to the south of B2177 Portsdown Hill Road and the priority-controlled junction of B2177 Portsdown Hill Road / Farlington Avenue. Table 16 below shows the available programme for completion of construction on sub-section 4.5.

Table 16 - Sub-Section 4.5 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.5	B2177 Portsdown Hill Road between Car Park Access and Farlington Avenue	160	Shuttle Working	2 Weeks

Calendar Restrictions											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Sub-Section 4.41 – 1 week Section 4.42 = 8 weeks Sub-Section 4.43 – 3 weeks Sub-Section 4.44 = 4 weeks Section 5.1 – 6 weeks Sub-Section 5.2 – 6 weeks								22 weeks			

6.13.1.2. Aside from this however, construction work should not take place on the B2177 Portsdown Hill Road concurrently with the following:

- Sub-Sections 4.41 , 4.42, 4.43 and 4.44 – A3 London Road between Ladybridge Roundabout and B2177 Portsdown Hill Road that require shuttle working traffic signals; and
- Sub-Sections 5.1 and 5.2 – Farlington Avenue.

6.13.1.3. The aim of these restrictions is to mitigate the potential cumulative impacts of multiple construction zones being located within a similar area as the same time. Specifically, it will avoid works on the B2177 Portsdown Hill Road being completed at the same time as construction on the A3 London Road south of Ladybridge Roundabout and Farlington Avenue.

6.13.2. DESCRIPTION OF TRAFFIC MANAGEMENT

6.13.2.1. It is likely that shuttle working will be required for the entirety of the highway network contained within Section 4.5 and will be in place for approximately two weeks per circuit.

6.13.2.2. Temporary traffic signals or road plating will be required to maintain access at the following junctions whilst the construction corridor intersect the B2177 in these locations:

- Priority junction of B2177 Portsdown Hill Road / Hilltop Crescent: This junction provides the sole vehicular access to approximately 50 private residential properties; and
- Priority junction of B2177 Portsdown Hill Road / Hoylake Road: This junction provides the sole vehicular access point to 16 private residential properties.

6.13.2.3. As is noted in the Road Safety Technical Note (REP6-071), the junction of A3 London Road / B2177 Portsdown Hill Road and the junction of B2177 Portsdown Hill Road / Farlington Avenue would benefit from additional 'Keep Clear' or 'Do Not Block Junction' signs during construction work on B2177 Portsdown Hill Road. This should therefore be included within the detailed traffic management strategy submitted to the local highway authority for approval.

7. SECTION 5 – FARLINGTON

7.1.1.1. Section 5 spans from the junction of B2177 Hambledon Road / Farlington Avenue in the north to the junction of A2030 Eastern Road / Fitzherbert road in the south. For ease of assessment, Section 5 has been split into two subsections, these subsections are as follows:

- **Sub-Section 5.1** – Farlington Avenue between Portsdown Hill Road and Sea View Road;
- **Sub-Section 5.2** – Farlington Avenue between Sea View Road and Havant Road;
- **Sub-Section 5.3** – Evelegh Road;
- **Sub-Section 5.4** – Crossing of Havant Road into Farlington Avenue and Crossing of A2030 Havant Road into Portsmouth Water Land; and
- **Sub-Section 5.5** – Havant Road / the A2030 Havant Road and the A2030 Eastern Road between Farlington Avenue and Zetland Field.

7.1.1.2. The FTMS proposals are shown on Drawing EN02022-TMS-5 and 6 included in Appendix ~~4~~ 5 to this FTMS.

7.2. SUB-SECTION 5.1 – FARLINGTON AVENUE BETWEEN B2177 PORTSDOWN HILL ROAD AND SEA VIEW ROAD

7.2.1.1. Two-way flow is likely to be able to be retained on Farlington Avenue through the use of shuttle working traffic signals between the junction with B2177 Portsdown Hill Road and the junction with Sea View Road. Table 17 shows the programme availability for construction along this sub-section.

Table 17 - Sub-Section 5.1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.1	Farlington Avenue between B2177 Portsdown Hill Road and Sea View Road	650	Shuttle Working	6 Weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter Holidays (2 weeks), May Half-Term (1 week), June (4 weeks), July outside of school holidays (3 weeks), Summer Holidays (approximately 6 weeks), and October Half-Term (1 week) available.

Approximate availability: 11 weeks.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 4.5 = 2 weeks (no calendar restrictions) Sub-Section 5.2 = 6 weeks (same calendar restrictions) Sub-Section 5.3 = 3 weeks (same calendar restrictions) Sub-Section 5.5 = 6 weeks *(2-week restriction for South Coast Festival and Victorious Festival plus 4-week restriction at Christmas. No school term-time restrictions)*	14 weeks *(based on avoiding simultaneous works at Sub-Section 5.2 and 5.3 where there are similar calendar restrictions)*

7.2.1.2. Construction along Sub-Section 5.1 will take approximately 6 weeks per circuit. In order for the programme to be deliverable, construction will be limited to the school holidays where possible and with the exception of June and early July. In addition, construction along this section should not take place simultaneously with the

following owing to the location of Solent Infant School on Evelegh Road and Solent Junior School on Solent Road:

- Section 4.5 – Portsdown Hill Road;
- Section 5.2, 5.3 – Farlington Avenue south of Sea View Road and Evelegh Road; and
- Section 5.5 – Havant Road between the junction with Farlington Avenue and Eastern Road.

7.2.1.3. These restrictions will mitigate the cumulative impacts associated with construction being completed across several locations in the same area.

7.2.1.4. The majority of side roads which have junctions with Farlington Avenue are accessible via more than one junction and therefore alternative access is available implemented. Temporary three-way signals or road plating will be required to provide access to the Blake Road cul-de-sac.

7.2.1.5. Sub-Section 5.1 has been identified in the UK Joint Bay Feasibility Report as a possible location of both Joint Bay 18 and Joint Bay 19. Construction of Joint Bays in this section would be facilitated by shuttle working traffic signals, as with the construction of the Cable Ducts component of the Onshore Cable Route. As is set out in Section 2.3.3. of this report, construction of Joint Bays will take approximately 20 working days per circuit in each location.

7.3. SUB-SECTION 5.2 – FARLINGTON AVENUE BETWEEN SEA VIEW ROAD AND HAVANT ROAD

7.3.1.1. Due to width restrictions on the southern section of Farlington Avenue between the junction with Sea View Road and the junction with Havant Road, a temporary road closure may be required on this link. Table 18 shows the available programme for construction on this sub-section.

Table 18 - Sub-Section 5.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.2	Farlington Avenue between Sea View Road and Havant Road	350	Road Closure	6 weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: Work Permitted Only During: February Half-Term (1 week), Easter Holidays (2 weeks), May Half-Term (1 week), Summer Holidays (approximately 6 weeks), and October Half-Term (1 week) available. Approximate availability: 11 weeks.											
Other Restrictions											
Sections						Total Availability per Calendar Year					
Sub-Section 4.5 – 2 weeks ***(no calendar restrictions)*** **Sub-Section 5.1 – 6 weeks** ***(similar calendar restrictions but also includes June / July outside of school holidays)*** **Section 5.3 = 2 weeks (same calendar restrictions)** **Sub-Section 5.5 – 6 weeks** ***(2-week restriction for South Coast Festival and Victorious Festival plus 4-week restriction at Christmas. No school term-time restrictions)***						14 weeks *(based on avoiding simultaneous works at Sub-Section 5.3 where there are similar school term-time restrictions)*					

7.3.1.2. Owing to the location of Solent Infant School on Evelegh Road and Solent Junior School on Solent Road, construction should only take place during the school holidays to avoid impacts to school trips. . Avoidance of term time for construction is also fundamental to ensure that emergency access is maintained during term time.

In addition, construction along this section should not take place simultaneously with the following:

- Section 4.5 – Portsdown Hill Road;
- Section 5.1 and 5.3 Farlington Avenue between Portsdown Hill Road and Sea View Road and Evelegh Road;
- Section 5.5 – Havant Road between the junction with Farlington Avenue and Eastern Road.

7.3.1.3. These restrictions will mitigate the cumulative impacts associated with construction being completed across several locations in the same area.

7.3.2. DESCRIPTION OF TRAFFIC MANAGEMENT

7.3.2.1. While it is anticipated that a full road closure will be required, a limited section of shuttle working may be able to be implemented on Farlington Avenue between the junction with Sea View Road and the junction with Solent Road. This would allow two-way traffic to be retained on this link for the duration of works. This section is approximately 200 m long and thus it is anticipated that works would be in place on this link for approximately 4 weeks in total per circuit.

7.3.2.2. Access to residential properties which are to be impacted by the proposed road closure will not be possible for the duration of works. The section of Farlington Avenue which may require a temporary road closure to accommodate construction is approximately 350m in length but would be split into construction zones of approximately 100 m in length. As such it is only access to an estimated 10-15 properties which would be impacted at any one time.

7.3.2.3. Where road closures are required, it will not be possible for vehicles to access residential properties expect in an emergency. Access for pedestrians will however be retained at all times. To help minimise disruption to residents during road closures, the existing waiting restrictions on Farlington Avenue will be suspended, if agreed with PCC. This will allow for limited on-street parking on sections of Farlington Avenue north or south of the road closure.

7.3.2.4. Detailed traffic management strategies for this section of Farlington Avenue should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads east and west of Farlington Avenue, west of A2030 Eastern Road in Section 5 and north of Grove Road.

7.4. SUB-SECTION 5.3 – EVELEGH ROAD

7.4.1.1. The Order Limit in this location also includes the section of Evelegh Road which spans from the junction with Farlington Avenue in the west to the 70th Portsmouth Scouts Hut in the east, providing an alternative route for one circuit along the Portsmouth Water land that runs parallel to Farlington Avenue. This section of Evelegh Road is likely to require a temporary road closure to accommodate construction. Use of this route would halve the road closure time required on Farlington Avenue between Solent Road and Havant Road. Table 19 shows the available programme for construction on this sub-section.

Table 19 - Sub-Section 5.3 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.3	Evelegh Road	150	Road Closure	3 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: February Half-Term (1 week), Easter Holidays (2 weeks), May Half-Term (1 week), Summer Holidays (approximately 6 weeks during the last week of July and throughout August), and October Half-Term (1 week) available. Approximate availability: 11 weeks.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 5.1 = 6 weeks ***(similar calendar restrictions but also includes June / July outside of school holidays)*** **Section 5.2 = 6 weeks (same calendar restrictions) Section 5.5 – 6 weeks**	7 weeks *(based on avoiding simultaneous works at Sub-Section 5.2 where there are similar school term-time restrictions*

(2-week restriction for South Coast Festival and Victorious Festival plus 4-week restriction at Christmas. No school term-time restrictions)	

7.4.1.2. The part of Evelegh Road that forms part of the Onshore Cable Corridor also provides the sole vehicular access to Solent Infant School, as stated above, and therefore all road closures on this route should be scheduled to avoid term times. construction should also not take place simultaneously with the following sub-sections:

- Section 5.1 and 5.2 Farlington Avenue between Portsdown Hill Road and Havant Road; and
- Section 5.5 (Havant Road between the junction with Farlington Avenue and Eastern Road).

7.4.1.3. These restrictions will mitigate the cumulative impacts associated with construction being completed across several locations in the same area.

7.4.1.4. Where road closures are required, it will not be possible for vehicles to access residential properties expect in an emergency. Access for pedestrians however, will be retained at all times.

7.5. DIVERSION ROUTES FOR ROAD CLOSURES ON FARLINGTON AVENUE AND EVELEGH ROAD

7.5.1.1. ~~7.5.1..1.1~~Appropriate diversion routes have been identified, as can be seen in Drawing EN02022-TMS-12 included in Appendix ~~5~~ 6 to this FTMS. The diversion routes for Farlington Avenue will direct vehicles away from the Solent Road / Sea View Road and Galt Road / Evelegh Road routes which are the shortest alternative routes during road closures for traffic wishing to continue to the northern or southern end of Farlington Avenue. The proposed diversion routes are as follows:

- For traffic left from Havant Road to Farlington Avenue: The diversion will be eastwards along A2030 Havant Road, Bedhampton Road and Portsdown Hill Road with the opposite used for southbound traffic; and
- For traffic turning right from Havant Road to Farlington Avenue: The diversion with westwards along the Havant Road, A3 London Road, Boundary Way and Portsdown Hill Road to reach the northern end of Farlington Avenue with the opposite used for southbound traffic.

7.5.1.2. Should Evelegh Road be used for one circuit, traffic will be diverted along Galt Road

to gain access to the eastern end of Evelegh Road.

7.5.1.3. These diversion routes should be accompanied by the provision of 'Access Only' signage for adjoining minor roads as detailed within the Framework Signage Strategy included in Appendix 3.

7.6. SUB-SECTION 5.4 – CROSSING OF HAVANT ROAD INTO FARLINGTON AVENUE AND CROSSING OF A2030 HAVANT ROAD INTO PORTSMOUTH WATER LAND

7.6.1.1. Where the Onshore Cable Corridor crosses Havant Road it is anticipated that two temporary road closures will also be required. The road closures are anticipated to be required at the following locations, assuming the contractor routes one circuit along Farlington Avenue and one through the parallel Portsmouth Water land:

- On Havant Road directly to the south of the signal-controlled junction with Farlington Avenue; and
- On A2030 Havant Road between the junction with the A2030 Eastern Road and the junction with Waterworks Road.

7.6.1.2. It is anticipated that these road closures will be required to allow the cable to move from across the respective junctions into and out of the main carriageway on Havant Road. Table 20 shows the available programme for construction on this sub-section.

Table 20 - Sub-Section 5.4 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.4	Havant Road	N/A	Road Closure	1-2 Weekends

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
2 weeks for South Central Festival and Victorious Festival, plus a 4-week Christmas embargo.

Other Restrictions	
Sections	Total Availability per Calendar Year
Sub-Section 4.5 = 2 weeks **Sub-Section 5.2 – 6 weeks** **Sub-Section 5.3 – 3 weeks** **Sub-Section 5.5 – 6 weeks**	29 weeks

7.6.1.3. It is anticipated that this closure would take place either:

- Over the course of one weekend per circuit, with construction taking place from Saturday sunrise until Sunday sunset, (including night-working); or
- Over the course of two-weekends per circuit, with construction only taking place only during working hours of 07:00 to 22:00. Given that construction will take place during non-peak periods, there are only limited calendar restrictions relating to only Christmas and the South Central Festival and Victorious Festival weekends.

7.6.1.4. Additionally, construction on this link should not coincide with:

- Section 5.2 – Farlington Avenue between Sea View Road and Havant Road;
- Sub-Section 5.3 – Evelegh Road; and
- Sub-Section 5.5 – Havant Road and A2030 Eastern Road.

7.6.1.5. These restrictions will ensure that traffic disruption is not exacerbated within the local area, particularly given the need for diversions and their intended routes.

7.7. DIVERSION ROUTES FOR ROAD CLOSURES ON HAVANT ROAD AND THE A2030 HAVANT ROAD

7.7.1.1. Weekend road closures on Havant Road will require the following diversion routes to be implemented: also shown on Drawing EN02022-TMS-13 and 14 included in Appendix ~~5~~6

7.7.1.2. For traffic turning right from Havant Road onto the A2030 Eastern Road: The diversion will be eastwards along A2030 Eastern Road, onto the A27 via the J1 of the A3(M)) and back onto the A2030 Eastern Road at the A27 Farlington roundabout; and

7.7.1.3. For traffic turning right from Havant Road to Farlington Avenue: The diversion with westwards along the Havant Road, A3 London Road, Boundary Way and Portsdown

Hill Road. To reach the northern end of Farlington Avenue.

7.7.1.4. Access to Waterworks Road from Havant Road will be maintained for the duration of the road closure in this location.

7.7.1.5. The entirety of Havant Road / A2030 Havant Road contained within the Order Limit in Section 5.2 also forms part of the Area 3 HE Agreed Diversion Routes for the A27. Due to the designation of this route as an HE Agreed Diversion, any roadworks on this link will be coordinated with HE and scheduled as to not coincide with planned roadworks on the A27 Havant Bypass.

7.8. SUB-SECTION 5.5 – HAVANT ROAD AND A2030 EASTERN ROAD BETWEEN FARLINGTON AVENUE AND ZETLAND FIELD

7.8.1.1. Sub-Section 5.5 spans the following areas of road in the Order Limit:

- Havant Road / A2030 Havant Road between the signal-controlled junction of Farlington Avenue / Havant Road and the priority-controlled junction of the A2030 Havant Road / Waterworks Road;
- A2030 Eastern Road between the signal-controlled junction with A2030 Havant Road / Havant Road and Zetland Field, approximately 200m north of the junction with Fitzherbert Road.

7.8.1.2. Table 21 shows the available programme for construction on this sub-section.

Table 21 - Sub-Section 5.5 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.5	Havant Road / the A2030 Havant Road and the A2030 Eastern Road between Farlington Avenue and Zetland Field	600	Lane Closure	6 weeks

Calendar Restrictions											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
2 weeks for South Central Festival and Victorious Festival, plus a 4-week Christmas embargo.

Other Restrictions	
Sections	Total Availability per Calendar Year
Sub-Section 5.2 – 6 weeks Section 5.4 – 2 weekends, Sub-Section 6 – 1 week	39 weeks

7.8.1.3. As with Section 5.4, construction work should be avoided in December due to the Christmas shopping period and the proximity to Sainsbury's / B&M Home Store in Farlington. Certain parts of May and August should also be avoided due to the South Coast and Victorious Music Festivals, which use the nearby Farlington playing fields as a campsite for those attending these events.

7.8.2. DESCRIPTION OF TRAFFIC MANAGEMENT MEASURES

Havant Road

7.8.2.1. The Onshore Cable Corridor runs through Farlington Avenue / Havant Road / A2030 Eastern Road traffic signal junction, which is dual carriageway and comprises of four lanes, two in each direction.

7.8.2.2. When the construction zone is running east/west along Havant Road, rather than north/south as described in Sub-section 5.4, single lane closures will be required. It will also be necessary to temporarily restrict right turns between Havant Road and Farlington Avenue and between Havant Road and between Havant Road and A2030 Eastern Road to minimise traffic delays at the junctions. The single lane closures are anticipated to be in place for approximately 2 weeks per circuit.

7.8.2.3. Detailed traffic management strategies for Havant Road should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads east and west of Farlington Avenue, west of A2030 Eastern Road in Section 5 and north of Grove Road.

7.8.2.4. If construction on Havant Road takes place during the school term the use of traffic marshals should be considered on Evelegh Road / Solent Road in the vicinity of Solent Infant School and Solent Junior School and on Grove Road / Station Road in the vicinity of Springfield School.

A2030 Eastern Road

7.8.2.5. ~~7.8.2.4.~~Construction along the A2030 Eastern Road in Sub-Section 5.5 can be accommodated using temporary single lane closures. These lane closures will be in place on only one of the carriageways at any given time to minimise disruption to road users. The part of A2030 Eastern Road contained within Section 5.5 is approximately 400 m in length, and thus it is anticipated that the proposed single lane closures will be in place for approximately 4 weeks per circuit.

7.8.2.6. ~~7.8.2.5.~~Where works are completed off-carriageway, a temporary closure and diversion of one of the shared-use paths alongside the A2030 Eastern Road will be required. Due the limited options for suitable non-motorised users to divert, any temporary closures of a shared-use path will be facilitated by a diversion route that runs parallel to the construction zone. As with the overall works, any closure will be limited to 100 m at a time as the construction zone progresses along the A2030 Eastern Road.

8. SECTION 6 – SAINSBURY'S CAR PARK

8.1.1.1. The highway network in Section 6 is inclusive of Fitzherbert Road between the signal-controlled junction with the A2030 Eastern Road and the signal-controlled junction with the access into the car park of Sainsbury's Farlington Superstore. Also included in this section is the part of Sainsbury's car park. The FTMS proposals are shown in Drawing EN02022-TMS-6 included in Appendix ~~4~~5.

8.1.1.2. Table 22 shows a breakdown of the calendar year, showing availability for the construction of the Onshore Cable Route to take place within this section.

Table 22 - Section 6 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
6	Fitzherbert Road	60	Lane Closure	1 week

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
2 weeks for South Central Festival and Victorious Festival, plus a 4-week Christmas embargo and restriction around Easter to mitigate impact on trade.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 5.5 – 6 weeks	40 weeks

8.1.1.3. As with Section 5.5 construction work should be avoided in December and around Easter due to the Christmas shopping period and the proximity to Sainsbury's and B&M Home Store.

8.1.1.4. Additionally, Certain parts of May and August should also be avoided due the South Central and Victorious Music Festivals, which use the nearby Farlington playing fields as a campsite for those attending these events.

8.1.1.5. Finally, construction within this sub-section should also not take place simultaneously with Sub-Section 5.5, to minimise the traffic impacts within this area.

DESCRIPTION OF TRAFFIC MANAGEMENT MEASURES

Fitzherbert Road

8.1.1.6. Within Fitzherbert Road, it is anticipated that construction can be accommodated with the use of single lane closures. The part of Fitzherbert Road contained within Section 6 is approximately 60 m long and thus it is anticipated that these single lane closures will be in place for approximately 1 week per circuit.

8.1.1.7. These works may be completed on a 24hr working basis to minimise disruption to Sainsbury's and B&M Home Store. Where this occurs, the noisiest activities (road cutting / breaking and resurfacing) will be avoided between 22:00 and 07:00. Furthermore, it is anticipated that temporary three-way signals will need to be implemented at the junction of Fitzherbert Road and the access to Sainsbury's Car Park. The temporary signals will ensure that access to Sainsbury's Car Park is maintained at all times throughout construction. Similar construction working hours may be used as for Fitzherbert Road to minimise disruption to Sainsbury's and B&M Home Store.

Sainsbury's Car Park

8.1.1.8. The Order Limits contain a portion of the car park of Sainsbury's Farlington Superstore. It is anticipated that partial closure of the car park may be required for the duration of works. This partial closure would likely include the temporary suspension of parking spaces on the western side of the Car Park. Construction taking place in Sainsbury's Car Park may require the temporary realignment of the Car Park's internal road, making it one way in the southbound direction on the western side.

9. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

9.1.1.1. Section 7 is inclusive of the A2030 Eastern Road between the junction with A27 Havant Bypass and the junction with Airport Service Road. It is anticipated that construction in Section 7 will take place entirely off carriageway, and thus no traffic management measures are deemed necessary in this Section.

9.1.1.2. Table 23 shows a breakdown of the calendar year, showing availability for the construction of the Onshore Cable Route to take place within this section. Certain parts of May and August should also be avoided due the South Coast and Victorious Music Festivals, which use Farlington playing fields as a campsite for those attending these events.

Table 23 - Section 7 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
7	Farlington Playing Fields and Langstone Harbour Playing Fields	N/A	N/A	N/A

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
2 weeks for South Central Festival and Victorious Festival, plus a 4-week Christmas embargo.

Other Restrictions

Sections	Total Availability per Calendar Year
N/A	46 weeks

9.1.1.3. As these works are not being completed on-carriageway, there is no requirement to avoid simultaneous construction with other nearby sections.

9.1.1.4. As is noted in the Road Safety Technical Note (REP6-071) temporary 'Merge In Turn' signage is proposed to be installed on A2030 Eastern Road in this Section where single lane closures are in place to encourage vehicles to queue in both lanes.

10. SECTION 8 – A2030 EASTERN ROAD (ADJACENT TO GREAT SALTERNS GOLF COURSE) TO MOORINGS WAY

10.1.1.1. Section 8 is inclusive of the A2030 Eastern Road between the signal-controlled junction A2030 Eastern Road / Airport Service Road in the north and the priority-controlled junction of A2030 Eastern Road / Eastern Avenue in the south. Also included within Section 8 is the entirety of Eastern Avenue. The FTMS proposals are shown on Drawings EN02022-TMS-7 and 8, which are contained within Appendix ~~4~~5.

10.1.1.2. For the purpose of this assessment, Section 8 has been split into three sub-sections as follows:

- **Sub-Section 8.1** – A2030 Eastern Road between the junction with Airport Service Road and the junction with Tangier Road;
- **Sub-Section 8.2** – A2030 Eastern Road between the junction Tangier Road and the junction with Eastern Avenue; and
- **Sub-Section 8.3** – Eastern Avenue.

10.1.1.3. Sub-Section 8.2 has been further disaggregated into three options to take account of the multiple options for cable routeing in this location.

10.1.1.4. Where works are completed off-carriageway along the Eastern side of the A2030 Eastern Road, a temporary closure and diversion of the shared-use path may be required. This shared-use path forms part of National Cycle Network Route 222. Due to the limited options for suitable diversions away from Eastern Road, any temporary closures will be facilitated by a diversion route that runs parallel to the construction zone. As with the overall works, any closure will be limited to 100 m at a time as the construction zone progresses along the A2030 Eastern Road.

10.2. SUB-SECTION 8.1 – A2030 EASTERN ROAD BETWEEN THE JUNCTION WITH AIRPORT SERVICE ROAD AND TANGIER ROAD

10.2.1.1. Table 24 details the programme availability for Sub-Section 8.1. Due the volume of traffic which uses the A2030 Eastern Road, construction works should be limited to the Easter holidays, May half-term (outside of the football season), June, early July and summer holiday periods. During the summer construction will also need to avoid the Victorious Festival at the end of August.

10.2.1.2. As noted in Section 2.7.2 it is proposed at this time that traffic management on this Section is removed on Portsmouth FC match-days in the first instance.

10.2.1.3. Traffic surveys will be completed prior to construction works on A2030 Eastern Road to confirm an up-to-date and representative position of traffic flows on the day of Portsmouth FC home games. Should those surveys, which will be reviewed by and agreed with PCC and HCC, identify that the traffic flows are comparable to those in the weekday peak hour as assessed in the TA and STA the need to remove traffic management on football match days will be lifted, so as to assist with the efficient delivery of the works in this location.

Table 24 – Sub-Section 8.1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
8.1	A2030 Eastern Road between Airport Service Road and Tangier Road	1200	Lane Closures	5 Weeks (24hr, 7-Day construction) 8 Weeks (10hr, 7-Day construction)

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: Easter Holidays (2 weeks), May Half-Term (1-week), June , July and August (approximately 13 weeks, with avoidance of the Victorious Festival Weekend).
Approximate availability: 16 weeks.

Other Restrictions

Traffic management to be removed on Portsmouth FC home match days

Sections	Total Availability per Calendar Year
Sub-Section 8.2 – 2-11 weeks	8-14 weeks *(depending upon option used for Sub-Section 8.2)*

10.2.1.4. Construction within this section should also not take place simultaneously with any other construction works along the A2030 Eastern Road contained within Section 8. This is to mitigate the cumulative traffic impacts of construction taking place in two sections of the same road.

DESCRIPTION OF TRAFFIC MANAGEMENT MEASURES

10.2.1.5. It is anticipated that the construction corridor on A2030 Eastern Road will require single lane closures on both the southbound and northbound carriageways between the junction with Airport Service Road and the junction with Tangier Road. These single lane closures will be scheduled as so they do not take place concurrently on the northbound and southbound carriageways as to minimise disruption. This section of Section 8.1 is approximately 1200 m long.

10.2.1.6. Discussions with PCC indicate that due to the heavily trafficked nature of this link, the use of 24-hour, seven-day a week working would be preferable in this section to minimise the period that traffic management is in place. Use of 24-hour working by construction teams on this link would increase the progression rate to approximately 36 m per 24-hour period. At this rate of construction, works on this link are likely to take approximately 5 weeks per circuit assuming a seven-day working week.

10.2.1.7. If 24-hour working is employed on a seven-day working week the period of construction would be 5 weeks per circuit. If a 10-hour working day is used across a seven-day period (07:00-17:00 Monday to Friday and 08:00-18:00 at the weekend), the construction period would take 8 weeks per circuit. This highlights the mitigation achieved by use of 24-hour, seven-day a week working.

10.2.1.8. It should also be noted that between the junction with Burrfields Road and Tangier Road may be able accommodate installation of at least one circuit off-carriageway, using the verge on the eastern verge of the A2030 Eastern Road. Where on-carriageway works are required, the preferred option would be single lane closures on the southbound carriageway only. This is preferred over use of the northbound carriageway as the two-lane southbound carriageway merges into one lane further downstream.

10.2.1.9. Four junctions intersect the A2030 Eastern Road in Section 8.1. These are as follows:

- Signal-controlled junction of A2030 Eastern Road / Airport Service Road;
- Signal controlled junction of A2030 Eastern Road / Burrfields Road;
- Priority controlled access junction, providing access to Langstone Harbour Viewing Car Park; and
- Signal controlled junction of A2030 Eastern Road / Tangier Road.

10.2.1.10. Due to the volume of traffic which travels through the three signal-controlled junctions in Section 8.1, it is not considered appropriate to temporarily suspend side road access during construction regardless of which, if any, of the carriageways on this link are impacted. Whilst the roads which gain access from these signal-controlled junctions are not cul-de-sacs, and consequently remain accessible via alternate routes on the wider road network, the level of demand on them renders it unfeasible for access to be temporarily suspended via A2030 Eastern Road. Where necessary, temporary signals will instead be implemented, if required, although depending on the location of the Construction Zone it may be possible for each junction to operate under the existing traffic signal control but with single lane closures on entry or exit.

10.2.1.11. A2030 Eastern Road in Section 8.1 grants the sole vehicular access to The Great Salterns Mansion Harvester, and Harbourside Holiday Park, a complex of 69 holiday homes. Both the Harvester and Holiday Park gain access exclusively from the signal-controlled junction of the A2030 Eastern Road / Burrfields Road, and thus access will continue to be facilitated through the phasing of construction.

10.2.1.12. The access to Langstone Harbour Viewing Car Park on the southbound carriageway, may require temporary suspension throughout the course of construction. Where possible, access will be maintained by road plating of the access. In any case, access will only be impacted by the installation of one circuit for a period of one week or less.

10.2.1.13. If construction on Sub-Section 8.1 take place during the school term the use of traffic marshals should be considered on Dundas in the vicinity of Admiral Lord Nelson School. In addition as is noted in the Road Safety Technical Note (REP6-071) the following signage should be provided during construction works in Sub-Section 8.1:

- temporary 'Merge In Turn' and 'Do Not Block Junction' signage should be installed on A2030 Eastern Road in this Section where single lane closures are in place to encourage vehicles to queue in both lanes and avoid blocking back through upstream junctions; and
- 'Do Not Block Junction' signage should be installed in the vicinity of the A3 Mile End Road / Church Street / Commercial Road / Hope Street junction and upstream junctions south of this location

10.2.1.14. Detailed traffic management strategies for this section of A2030 Eastern should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A2047 London Road / Kingston Road and A288 Copnor Road, and residential roads between Tangier Road, Baffins Road and A2030 Eastern Road.

10.3. SUB-SECTION 8.2 – A2030 EASTERN ROAD BETWEEN TANGIER ROAD AND EASTERN AVENUE

10.3.1.1. Section 8.2 includes the section of the A2030 Eastern Road which spans from the junction with Tangier Road to the junction with Eastern Avenue. Table 24 shows details of the programme availability for Section 8.2. Due the volume of traffic which uses Eastern Road construction works should be limited to Easter holiday, May half-term, June / July and summer holiday periods. During the summer construction will also need to avoid the Victorious Festival at the end of August.

10.3.1.2. As noted in Section 2.7.2 it is proposed at this time that traffic management on this Section is removed on Portsmouth FC match-days in the first instance.

10.3.1.3. Traffic surveys will be completed prior to completion of construction works on A2030 Eastern Road to confirm an up-to-date and representative position of traffic flows on the day of Portsmouth FC home games. Should those surveys, which will be reviewed by and agreed with PCC and HCC, identify that the traffic flows are comparable to those in the weekday peak hour as assessed in the TA and STA the need to remove traffic management on football match days would be lifted, so as to assist with the efficient delivery of the works in this location.

Table 25 - Sub-Section 8.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
8.2 Option 1	Both Circuits within Milton Common	Up to 300m in carriageway	Lane Closure	1-2 week (24hr, 7-day working) – 2 weeks (10hr, 7-day working)
8.2 Option 2	One Circuit within Milton Common	1300m		8 weeks (10hr, 7-day working)
8.2 Option 3	Both Circuits within the A2030 Eastern Road			11 weeks (10hr, Mon-Fri plus 5hr on Saturdays)

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Work Permitted Only During: Easter Holidays (2 weeks), May Half-Term (1-week), June July and August (approximately 13 weeks, with avoidance of the Victorious Festival Weekend).
Approximate availability: 17 weeks.

Other Restrictions

Traffic management to be removed on Portsmouth FC home match days

Sections	Total Availability per Calendar Year
Sub-Section 8.1 – 5-8 weeks ***(depending upon working hours used)***	9-12 weeks *(depending upon working hours used for Sub-Section 8.1)*

10.3.1.4. Construction within this section should also not take place simultaneously with any other construction works within A2030 Eastern Road contained in Section 8 to mitigate the cumulative impacts of the construction taking place in two sections of the same road.

DESCRIPTION OF TRAFFIC MANAGEMENT MEASURES

10.3.1.5. Section 8.2 is inclusive of three options for cable routeing. These are set out below. Any construction taking place within the carriageway of A2030 Eastern Road will be facilitated by single lane closures.

Option 1 – Both Circuits within Milton Common

10.3.1.6. Option 1 involves both circuits exiting the carriageway south of the A2030 Eastern Road / Tangier Road signal-controlled junction, travelling south through the centre of Milton Common. Should both circuits be accommodated off-carriageway using Milton Common, then single lane closures would only be required for up to 300m. As with Sub-Section 8.1, 24-hour, seven-day a week working would be preferable to minimise the period of disruption, leading to a 1-2 week construction period per circuit.

10.3.1.7. If 24-hour working is employed on a five-day working week the period of construction per circuit would be 2 weeks. If the 10-hour working day is used across a seven-day period (07:00-17:00 Monday to Friday and 08:00-18:00 at the weekend), the construction period would take 2 weeks per circuit.

Option 2 – One Circuit within Milton Common

10.3.1.8. Should it only be practicable for one of the circuits to be accommodated off-carriageway, one circuit may be required to be installed on-carriageway. This would require a single lane closure on the southbound carriageway of A2030 Eastern Road between Tangier Road and Eastern Avenue. As the majority of this section the Eastern Road contains only one southbound lane, the lane closure would be accommodated by lane realignment. This would involve either the existing central hatching or one of the two northbound lanes operating in the southbound direction. It is considered that this will not have a significant impact on northbound traffic flow, due to this being constrained further south by the Eastern Road / Velder Avenue / Milton Road traffic signal junction.

10.3.1.9. This would involve the same construction period as Option 1 for one circuit but the other would require 8 weeks of single lane closures if a 10-hour working day is used across a seven-day period (07:00-17:00 Monday to Friday and 08:00-18:00 at the weekend). Construction for one circuit would require 11 weeks of single lane closures if a 10-hour working day is used Monday to Friday (07:00-17:00) and a 5-hour working day on Saturdays (08:00-13:00). 24-hour working is not possible on

this link due to proximity of residential properties.

10.3.1.10. With the exception of the East Shore Way cul-de-sac, there are no junctions or private properties that gain access from the southbound carriageway of A2030 Eastern Road in the section which would be impacted by this single lane closure.

Option 3 – Both Circuits within the A2030 Eastern Road

10.3.1.11. Should the use of all off-carriageway options be deemed unfeasible by contractors as unfeasible, both cable circuits will be installed within the carriageway along the A2030 Eastern Road in Section 8.2. This would require temporary single lane closures on both the southbound and northbound carriageways, albeit at separate times. Should both cable circuits be placed within the carriageway, traffic management would span between the junctions with Tangier Road and the junction with Eastern Avenue. This section of A2030 Eastern Road is approximately 1.3 km in length and it is anticipated that if required, the traffic management on this link will be in place for 8 weeks per circuit if 10-hour working was used across a seven-day (07:00-17:00 Monday to Friday and 08:00-18:00 at the weekend). Construction for one circuit would require 11 weeks of single lane closures if a 10-hour working day is used Monday to Friday (07:00-17:00) and a 5-hour working day on Saturdays (08:00-13:00).

10.3.1.12. It should be noted that 24-hour working is not appropriate on the majority of the section of A2030 Eastern Road contained within Section 8.2, due to its proximity to residential dwellings.

10.3.1.13. Six junctions intersect A2030 Eastern Road between the junction with Tangier Road and the junction with Eastern Avenue, these junctions are as follows:

- A2030 Eastern Road / Sword Sands Road;
- A2030 Eastern Road / Hayling Avenue;
- A2030 Eastern Road / Stride Avenue;
- A2030 Eastern Road / Kirpal Road / East Shore Way; and
- A2030 Eastern Road / Langstone Road.
- A2030 Eastern Road / Eastern Avenue.

10.3.1.14. It is proposed that, Should Option 3 be pursued in Sub-Section 8.2, it is proposed that a temporary restriction of right turn movements is implemented at these junctions during construction to help mitigate the disruption to traffic flow.

10.3.1.15. In addition as is noted in the Road Safety Technical Note (REP6-071) the following

signage should be provided during construction works in Sub-Section 8.1:

- temporary 'Merge In Turn' and 'Do Not Block Junction' signage should be installed on A2030 Eastern Road in this Section where single lane closures are in place to encourage vehicles to queue in both lanes and avoid blocking back through upstream junctions; and
- 'Do Not Block Junction' signage should be installed in the vicinity of the A3 Mile End Road / Church Street / Commercial Road / Hope Street junction and upstream junctions south of this location.

10.3.1.16. Should construction of the Onshore Cable Route take place within the carriageway on this section of A2030 Eastern Road detailed traffic management strategies should include consideration of additional traffic management measures contained within 2.6 of the FTMS on residential roads between A2047 London Road / Kingston Road and A288 Copnor Road, and residential roads between Tangier Road, Baffins Road and A2030 Eastern Road.

10.4. SUB-SECTION 8.3 – EASTERN AVENUE

10.4.1.1. Eastern Avenue, a residential street off the A2030, which gives access to several side roads and private residential properties. Traffic management on Eastern Avenue will only be required in the eventuality that works cannot be accommodated in Milton Common. Table 26 shows details of the programme availability for Section 8.3.

Table 26 -Sub-Section 8.3 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
8.3	Eastern Avenue	220	Road Closure	4
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											

Sections	Total Availability per Calendar Year
Section 9.11 = 3 weeks Section 9.12 = 5 weeks	42 weeks

10.4.1.2. Eastern Avenue is approximately 220 m long and thus it is anticipated that if traffic management measures on this link are required, they will be in place for approximately 4 weeks per circuit.

10.4.1.3. Due to width restrictions on this link, should construction be required in Eastern Avenue, a full road closure will likely be required. Use of the route option that includes Milton Common rather than Eastern Avenue would remove the need for this road closure.

10.4.1.4. Eastern Avenue provides the sole vehicular access to the residential roads of Salterns Avenue, Shore Avenue and Lacey Road. As such, if use of this link is required construction would be split into two parts. The first construction zone would span from the junction of A2030 Eastern Road / Eastern Avenue to just north of the junction of Eastern Avenue / Salterns Avenue. This would allow vehicular access to Salterns Avenue, the adjoining roads, and the southern section of Eastern Avenue to be retained via the junction with Moorings Way. The second construction zone would span the remainder of Eastern Avenue which falls to the south of the junction with Salterns Avenue, this would allow continued access to Salterns Avenue / Shore Avenue and the northern section of Eastern Avenue to be retained.

11. SECTION 9 - MOORINGS WAY TO BRANSBURY ROAD

11.1.1.1. Depending upon the chosen route in Section 8, Section 9 will either start at the Moorings Way to Furze Lane bus link (if the Onshore Cable Route is constructed within the centre of Milton Common) or at the point on Moorings Way adjacent to Eastern Avenue. The FTMS proposals for Section 9 are shown on Drawing EN02022-TMS-8 included in Appendix ~~4~~ 5 to this FTMS.

11.1.1.2. Contained within Section 9 are the following six sub-sections:

- **Sub-Section 9.1** – Moorings Way:
  - **Sub-Section 9.11** – Moorings Way between Eastern Avenue and Godwit Road;
  - **Sub-Section 9.12** – Moorings Way between Godwit Road and the Moorings Way to Furze Lane Bus Link; and
- **Sub-Section 9.2 / 9.3** – Other Roads to Bransbury Park:
  - **Sub-Section 9.21** – Locksway Road;
  - **Sub-Section 9.22** – Longshore Way;
  - **Sub-Section 9.31** – Kingsley Road; and
  - **Sub-Section 9.32** – Yeo Court.

11.1.1.3. It should be noted that Sub-sections 9.11 and 9.12 will only be required if Section 8 of the Onshore Cable Route is constructed along the section of the A2030 Eastern Road between Hayling Avenue and Eastern Avenue or on the western side of Milton Common (option 2 or 3 of Sub-Section 8.2). Conversely, if the Onshore Cable Route is constructed within the centre of Milton Common, Section 9 will start at Sub-Section 9.21.

11.2. SUB-SECTION 9.11 – MOORINGS WAY BETWEEN EASTERN AVENUE AND GODWIT ROAD

11.2.1.1. As with Section 8, the Order Limits within Section 9.11 and 9.12 contains multiple options for cable routeing along Moorings Way. These options are as follows:

- Option 1 – All works accommodated off-carriageway along the southern edge of Milton Common, with the construction corridor re-joining the carriageway at the start of the Moorings Way to Furze Lane Bus Link; and
- Option 2 – One circuit to be placed in the carriageway on Moorings Way and one installed within the southern edge of Milton Common.

11.2.1.2. It is not anticipated that there would be any eventuality in which both HVDC Circuits would need to be accommodated within the carriageway on Moorings Way.

11.2.1.3. Table 27 shows the programme availability for Sub-section 9.11, which will require shuttle working traffic signals to facilitate installation of at least one of the HVDC cables. These restrictions would not be required if the Cables were installed within the edge of Milton Common.

Table 27 – Sub-Section 9.11 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit
9.11	Moorings Way between Eastern Avenue and Godwit Road (passes Moorings Way Infant School)	250	Shuttle Working	3 weeks

Calendar Restrictions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Notes on Calendar Restrictions:
Only February Half-Term (1 week), Easter Holidays (2 weeks), May Half-Term (1 week), Summer Holidays (approximately 6 weeks), and October Half-Term (1 week) available. Approximate availability: 11 weeks.

Other Restrictions

Sections	Total Availability per Calendar Year
Sub-Section 9.12 – 5 weeks ***(no school term-time restrictions)***	11 weeks

11.2.1.4. As Sub-Section 9.11 runs past Moorings Way Infant School, construction works are to be restricted to school holidays only. This will ensure that emergency access is maintained throughout school term-time and school trips are unaffected.

11.2.1.5. Additionally, it is recommended that construction does not take place simultaneously with works in Sub-Section 9.12 (Moorings Ways between Godwit Road and the Moorings Way to Furze Lane Bus Link) when works are taking place on-carriageway. This would help minimise disruption to local residents and bus users.

11.2.1.6. Sub-Section 9.11 contains one junction. This is with Warren Avenue which is not a cul-de-sac. Therefore, Warren Avenue will be accessible via alternate routes throughout the duration of works. Where possible, access onto Mooring Way will be maintained through road plating.

11.3. SUB-SECTION 9.12 – MOORINGS WAY BETWEEN GODWIT ROAD AND MOORINGS WAY TO FURZE LANE BUS LINK

11.3.1.1. Table 28 shows the programme availability for Sub-Section 9.121, which will require shuttle working traffic signals to facilitate installation of at least one of the cable circuits. These restrictions would not be required if both circuits were installed within the edge of Milton Common.

Table 28 – Sub-Section 9.12 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.12	Moorings Way between Godwit Road and Moorings Way to Furze Lane Bus Link	500	Shuttle Working	5 weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections						Total Availability per Calendar Year					
Sub-Section 9.11 – 3 weeks						47 weeks					

11.3.1.2. It is recommended that construction does not take place on this Sub-Section simultaneously with works in Sub-Section 9.12 (Moorings Ways between Eastern Avenue and Godwit Road) when works are taking place on carriageway. These restrictions are to minimise disruption to residents and school pick-up / drop-off times.

11.3.1.3. To accommodate one circuit on-carriageway, shuttle working would be required on Moorings Way between Goodwit Road and the junction of Moorings Way / Sanderling Road. This section of Moorings Way is approximately 500 m in length and thus it is anticipated that construction on this link will take approximately 5 weeks to complete.

11.3.1.4. The section of Moorings Way in Sub-Section 9.12 contains three junctions with the following side roads:

- Godwit Road
- Schooner Way; and
- Sanderling Road.

11.3.1.5. None of the side roads adjoining this link are cul-de-sacs, and therefore all are

accessible via alternate routes throughout the duration of works. Where possible, access onto Mooring Way will also be maintained through road plating.

11.4. SUB-SECTION 9.21 – LOCKSWAY ROAD

11.4.1.1. Sub-section 9.21 contains the section of Locksway Road between the access road to Eastney and Milton Allotments and the access point to the Thatched House Public House.

11.4.1.2. Table 29 shows the programme availability for Sub-Section 9.21.

Table 29 – Sub-Section 9.21 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.21	Locksway Road between access road to Milton Piece Allotments and Thatched House Public House	90	Shuttle Working	1 week
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections						Total Availability per Calendar Year					
Section 9.22 – 2 weeks						48 weeks					

11.4.1.3. It is anticipated that shuttle working facilitated by temporary traffic signals will be required on the section of Locksway Road between the junction with Furze Lane and the access to the Thatched House Public House to accommodate installation of each cable circuit.

11.4.1.4. The remainder of Locksway Road contained within the Order Limits is intended for

use for construction access to Milton Piece Allotments only, and as such, it is not anticipated that any traffic management will be required on this link.

11.4.1.5. The part of Locksway Road for which shuttle working is required provides exclusive vehicular access to Locks Sailing Club, Langstone Harbour Fishermen's Association, Thatched House Public House and Old Oyster Public House. Access to all of the aforementioned premises will be retained throughout construction where possible through the use of road plating.

11.5. SUB-SECTION 9.22 – LONGSHORE WAY

11.5.1.1. If the Onshore Cable Route uses the Portsmouth University playing fields shuttle working traffic signals will be required on Longshore Way for approximately 70-150 m or 1-2 weeks per circuit, depending upon the exact routeing of the circuits.

11.5.1.2. Table 30 shows the programme availability for Sub-Section 9.22.

Table 30 – Sub-Section 9.22 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.22	Longshore Way	150	Shuttle Working	2 Weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Sub-Section 9.21 – 1 week								49 weeks			

11.5.1.3. The only restriction on construction relates to Sub-Section 9.21 Locksway Way Road. This will avoid two sets of shuttle working traffic signals within the same vicinity.

11.6. SUB-SECTION 9.31 – KINGSLEY ROAD

11.6.1.1. The section of Kingsley Road contained within Sub-Section 9.31 spans from the junction with Ironbridge Lane to the junction with Yeo Court. The Order Limit allows for two options for the construction corridor in Kingsley Road. These options are as follows:

- The first option is for the Cables to intersect Kingsley Road in a north-south orientation, whilst moving from the fields to the immediate north of the carriageway, to those in the south. As this would mean the cable route only impacts a limited section of highway, this option would likely require shuttle working to be implemented for 1-2 days as the construction corridor passes across the link; and
- The second option is for the cable route to run along Kingsley Road in an east-west alignment for an up-to 150 m section between Yeo Court and Ironbridge Lane.

11.6.1.2. Regardless of which options is used for construction, it is anticipated that shuttle working facilitated by temporary traffic signals will enable two-way flow to be retained on this link throughout the duration of works.

11.6.1.3. Table 31 provides the programme availability for Section 9.31 assuming that the full 150m of Kingsley Road is required.

Table 31 – Sub-Section 9.31 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.31	Kingsley Road between Ironbridge Lane and Yeo Court	150	Shuttle Working	2 Weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections						Total Availability per Calendar Year					

N/A	50 weeks

11.6.1.4. No calendar restrictions have been identified for Section 9.31 and no restrictions apply due to construction on nearby links.

11.6.1.5. Access is provided from Kingsley Road to two side-roads; Tideway Gardens and Amyas Court. As Tideway Gardens is not a cul-de-sac, access will be maintained at all times via the wider local road network. Amyas Court is a cul-de-sac and thus whilst the exact traffic management for each side-road can only be determined once the exact construction zone location is confirmed, at this stage it is proposed that this road be subject to temporary traffic signals or road plating.

11.7. SUB-SECTION 9.32 – YEO COURT

11.7.1.1. It is anticipated that a full road closure will be required on this link for approximately one week. During this closure, vehicle access will not be possible for the duration of the works but pedestrian access will be retained at all times.

11.7.1.2. Table 32 shows the programme availability for Sub-Section 9.32.

Table 32 – Sub-Section 9.32 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.42	Yeo Court	40	Road Closure	1 week
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
N/A								50 weeks			

12. SECTION 10 – EASTNEY (LANDFALL)

12.1.1.1. Section 10 contains the part of the Onshore Cable Corridor between the junction of Henderson Road / Bransbury Road and Landfall in the car park off Fort Cumberland Road near to Fraser Range. The highway links included in Section 10 are as follows:

- **Sub-section 10.1 –** Henderson Road between the junction with Bransbury Road and the junction with Fort Cumberland Road; and
- **Sub-section 10.2 –** Fort Cumberland Road between the junction with Henderson Road and the junction with Lumsden Road;

Table 33 – Sub-Section 10.1 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
10.1	Henderson Road between Bransbury Road and Fort Cumberland Road	300	Shuttle Working	5 weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 1 week for Great South Run, 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Sub-Section 10.2 – 7 weeks								42 weeks			

12.1.1.2. As the Great South Run route uses Bransbury Road and Henderson Road it is proposed that construction work avoids the month of October, when this event is usually held.

12.1.1.3. Additionally, it is proposed that Sub-Section 10.1 is subject to the restriction that construction cannot take place simultaneously with Sub-Section 10.2. This is to mitigate against the cumulative impacts of works in the same area.

12.1.1.4. Overall, Henderson Road is able to accommodate the construction corridor and retain two-way traffic through the use of single lane closures with shuttle working traffic signals. This would be for approximately 300 m or 5 weeks per circuit.

12.1.1.5. Two junctions intersect the Henderson Road in this Sub-Section, the first of which is Halliday Crescent which is accessible by alternate routes on the wider network. While the exact traffic management for each side-road can only be determined once the exact construction zone location is confirmed, at this stage it is proposed that the second side-road, Henderson Park, which is not accessible from any alternate routes, is subject to temporary traffic signals or road plating.

12.2. SUB-SECTION 10.2 – FORT CUMBERLAND ROAD

12.2.1.1. Table 34 sets out the programme availability for Section 10.2 along Fort Cumberland Road.

Table 34 – Sub-Section 10.2 Programme Availability

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
10.2	Fort Cumberland Road between Henderson Road and Lumsden Road	370	Shuttle Working	7 weeks
Calendar Restrictions				
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Notes on Calendar Restrictions: 2 week restriction at Christmas / New Year											
Other Restrictions											
Sections								Total Availability per Calendar Year			
Sub-Section 10.1 – 5 weeks								45 weeks			

12.2.1.2. Fort Cumberland Road is able to accommodate the construction corridor and retain two-way traffic through the use of single lane closures with shuttle working traffic signals. This would be for approximately 370 m or 7 weeks per circuit. Temporary traffic signals / road plating will be required for the following side roads:

- Ferry Road;
- Gibraltar Road; and
- Lumsden Road.

12.2.1.3. None of these side roads are cul-de-sacs, and as such the Onshore Cable Corridor in Section 10 does not form the sole access point for any of them. As such, access will be maintained at all times via alternate routes on the wider road network.

12.2.1.4. A temporary suspension of access to the car parks serving the flats on the southern side of the carriageway may be required as works progress.

12.2.1.5. Vehicular access to Eastney Lifeboat Station will be maintained throughout the duration of construction through the strategic phasing of construction zones in Henderson Road to ensure access to either Ferry Road or Fort Cumberland Road is retained at all times.

13. SUMMARY OF FTMS

13.1.1.1. This document has provided the Framework Traffic Management Strategy for construction of the Proposed Development, based upon the Order Limits, the construction methodology and national guidance regarding the design / implementation of traffic management measures.

13.1.1.2. The Final TMS to be implemented for each phase of the Proposed Development will be dependent upon the detailed design of the Onshore Cable Corridor and contractor preferences, noting the requirements contained within this document and the Contractor's Technical Specification. All detailed proposals for the TMS will be discussed with HCC / PCC at the earliest opportunity to allow for review and amendment of proposals if required.

13.1.1.3. A summary of the FTMS by section is provided below.

13.1.1.4. Those marked with an asterisk * represent options for the Onshore Cable Corridor which may not be required due to alternative routeing options being pursued.

Table 35 – Section 1 – Lovedean (Converter Station Area)

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
1.1	Converter Station Access	TBC	Shuttle Working	8-12 weeks
1.2	Broadway Lane	6	Road Closure	1 Day

Table 36 – Section 2 – Anmore

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
No on-carriageway impacts in this Section.				

Table 37 – Section 3 Denmead/ Kings Pond Meadow

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
3.1	Anmore Road	6	Road Closure	1 Day
3.2	B2150 Hambledon Road to Soake Road	180	Shuttle working TS	3 weeks

Table 38 – Section 4 - B2150 Hambledon Road to Farlington Avenue

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.1	B2150 Hambledon Road between Soake Road and Milton Road	1300	Shuttle working TS	11-22 weeks
4.2	B2150 Hambledon Road and A3 Maurepas Way between Milton Road and A3 London Road	1000	Lane Closure	14 weeks

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
4.31	A3 London Road between Forest End Roundabout and south of the junction with Forest End	100	Shuttle Working	2 weeks
4.32	A3 London Road between south of junction with Forest End and southern end of bus lanes (in proximity to Poppy Fields)	1000	Lane Closure	17 weeks
4.33	A3 London Road between Poppy Fields and just south of Post Office Road	250	Shuttle Working	5 weeks
4.34	A3 London Road between Post Office Road and Rocking Horse Nursery	90	Road Closure	4 weekends
4.35	A3 London Road between Rocking Horse Nursery and Ladybridge roundabout	170	Shuttle Working	3 weeks
4.41	A3 London Road between Ladybridge roundabout and start of bus lane	80	Shuttle Working	1 week
4.42	A3 London Road between start of bus lane and Lansdowne Avenue	850	Lane Closure	8 weeks
4.43	A3 London Road between Lansdown Avenue and start of bus lane (south of The Brow)	250	Shuttle Working	3 Weeks
4.44	A3 London Road between bus lane (south of The	400	Lane	4 Weeks

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
	Brow) and B2177 Portsdown Hill Road		Closure	
4.5	B2177 Portsdown Hill Road between car park access and Farlington Avenue	160	Shuttle Working	2 Weeks

Table 39 - Section 5 – Farlington

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
5.1	Farlington Avenue between B2177 Portsdown Hill Road and Sea View Road	650	Shuttle Working	6 Weeks
5.2	Farlington Avenue between Sea View Road and Havant Road	350	Road Closure	6 Weeks
5.3	Evelegh Road	150	Road Closure	3 Weeks
5.4	Crossing of Havant Road	N/A	Road Closure	1-2 Weekends
5.5	Havant Road / the A2030 Havant Road and the A2030 Eastern Road between Farlington Avenue and Zetland Field	600	Lane Closure	6 Weeks

Table 40 - Section 6 –Sainsbury's Car Park

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
6	Fitzherbert Road	60	Lane Closure	1 Week

Section 7 – Farlington Junction to Airport Service Road

13.1.1.5. No traffic management is required in Section 7.

Section 8 – A2030 Eastern Road (Adjacent to Great Salterns Golf Course) to Moorings Way

Table 41 - Section 8 – A2030 Eastern Road to Moorings Way

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
8.1	A2030 Eastern Road between Airport Service Road and Tangier Road	1200	Lane Closures	5 Weeks (24hr, 7-Day working) 8 Weeks (10hr, 7-Day working)
8.2 Option 1	Both Circuits within Milton Common	300	Lane Closure	1 Week (24hr, 7-day working) – 2 Weeks (10hr, 7-day working)
8.2 Option 2	One Circuit within Milton Common	1300		8 Weeks (10hr, 7-day working)6 11 weeks (10hr Mon-Fri and 5hr Sat working)
8.2 Option 3*	Both Circuits within the A2030 Eastern Road			
8.3*	Eastern Avenue	220	Road Closure	4 Weeks

Table 42 – Section 9 – Moorings Way to Bransbury Road

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
9.11*	Moorings Way between Eastern Avenue and Godwit Road (passes Moorings Way Infant School)	250	Shuttle Working	3 Weeks
9.12*	Moorings Way between Godwit Road and Moorings Way to Furze Lane Bus Link	500	Shuttle Working	5 Weeks
9.21	Locksway Road between access road to Milton Piece Allotments and Thatched House Public House	90	Shuttle Working	1 Week
9.22	Longshore Way	150	Shuttle Working	2 Weeks
9.31	Kingsley Road between Ironbridge Lane and Yeo Court	150	Shuttle Working	2 weeks
9.32	Yeo Court	40	Road Closure	1 Week

Table 43 - Section 10 – Eastney (Landfall)

Section	Description	Length (m)	Proposed TM	Duration Per Circuit (Cable Ducts)
10.1	Henderson Road	300	Shuttle Working	5 Weeks
10.2	Fort Cumberland Road	370	Shuttle Working	7 Weeks

REFERENCES

Department for Transport. (2009). Traffic Signs Manual Chapter 8: Traffic Safety Measures and Signs for Roadworks and Temporary Situations.

Department for Transport. (2012). New Roads and Street Works Act 1991: Code of Practice of Co-ordination of Street Works and Works for Road Purposes and Related Matters (Fourth Edition).

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HM Government. (1991). New Roads and Street Works Act.

Appendix 1 – Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy

Appendix 2 – A2030 A2030 Eastern Road, Impact of Football Traffic: Technical Note

Appendix 3 – Framework Signage Strategy

Appendix 4 – ~~FTMS~~ ~~Drawings~~Temporary Bus Gate Layout

Appendix 5 – FTMS Drawings

Appendix 6 – FTMS Diversion Drawings