

Seagreen Offshore Wind Farm

Traffic and Transportation Plan

March 2020



Project Title	Seagreen Wind Energy Ltd
Document Reference Number	LF000009-CST-OF-PLN-0015

Traffic and Transportation Plan

Section 36 Consent Condition 25 and Offshore Transmission Asset Marine Licence Condition 3.2.2.11

For the approval of Scottish Ministers

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Consent Plan Overview

Purpose of the Traffic and Transportation Plan (TTP)

This Traffic and Transportation Plan (TTP) is submitted by Seagreen Wind Energy Limited (SWEL) on behalf of Seagreen Alpha Wind Energy Limited (SAWEL) and Seagreen Bravo Wind Energy Limited (SBWEL) to address the specific requirements of (1) condition 25 of the Section 36 (S36) Consents granted by the Scottish Ministers to SAWEL under S36 of the Electricity Act 1989 (in respect of the Alpha Offshore Wind Farm) and to SBWEL (in respect of the Bravo Offshore Wind Farm) on 10 October 2014 both as varied by the Scottish Ministers by decision letter issued pursuant to an application under section 36C of the Electricity Act 1989 on 28 August 2018 and, in respect of the consent applicable to the Bravo Offshore Wind Farm, as assigned to SAWEL on 22 November 2019; and (2) condition 3.2.2.11 of OTA Marine Licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 on 10 October 2014 to SAWEL and to SBWEL, as amended by the revised marine licence granted by the Scottish Ministers on 6 March 2019 (reference 04678/19/0) in respect of the Seagreen Offshore Transmission Assets (OTA) associated with the Seagreen Alpha and Seagreen Bravo Wind Farms (OWFs) (the OTA Marine Licence);

for the Seagreen Alpha and Seagreen Bravo Offshore Wind Farms and their associated Offshore Transmission Assets.

Seagreen Alpha and Seagreen Bravo OWFs and the OTA are collectively referred to as the 'Seagreen Project'.

The overall aims and objectives of the TTP are to set out a mitigation strategy for the impact of road based traffic and transportation associated with construction of the Project works, as consented by the S36 Consents and OTA Marine Licence. The TTP also provides details on the ports to be used during the construction of the Seagreen Project and the construction activities and their associated vehicle movements.

No significant traffic or transport effects are anticipated and therefore it is considered by Seagreen that no mitigation measures will be required.

All Seagreen Contractors (including their Sub-Contractors) involved in the Seagreen Project are required to comply with this TTP through conditions of contract.

Scope of the TTP

This TTP covers, in line with the requirements of the condition 25 of the S36 Consents and condition 3.2.2.11 of the OTA Marine Licence, a mitigation strategy for the impact of road based traffic and transportation associated with the construction of the Project works, as consented by the S36 Consents and the OTA Marine Licence.

This TTP also covers the following:

- Guidance and methodology – DfT Guidance on Transport Assessment and Guidelines for the Environmental Assessment of Road Traffic (The Institute of Environmental Management and Assessment, 1993);
- Seagreen project activities and movements; and
- Description of main ports and harbours.

Structure of the TTP

The TTP is structured as follows:

Section 1&2	Provides an overview of the Project and the consent requirements that underpin the content of this TTP. It also sets out the purpose, objectives and scope of the TTP and sets out the process for making updates and amendments. It also provides a description of the main port and harbours, details on construction activities and vehicle movements.
Section 3	Provides details on construction road traffic at the main Ports identified for the project and provides an assessment of mitigation measures required in line with appropriate guidance.
Section 4	Demonstrates compliance with the original application and commitments made.
Section 5	Lists the references made within this TTP.
Appendices	Appendix A – Abbreviations and Definitions Appendix B – Change Management Process Appendix C – Compliance with ES Parameters Appendix D – Summary Mitigation Measures

Plan Audience

This TTP will be submitted for approval to the Scottish Ministers (in respect of condition 25 of the S36 Consents)/Licensing Authority (in respect of condition 3.2.2.11 of the OTA Marine Licence) in consultation with:

- S36 Consents: Transport Scotland and any such other advisors as may be required at the discretion of the Scottish Ministers; and
- OTA Marine Licence: Transport Scotland, Angus Council, Fife Council and any such other advisors as may be required at the discretion of the Licensing Authority

Copies of the TTP are to be held in the following locations:

- Seagreen's head office;
- Seagreen's construction office and marine coordination centre;
- at the premises of any Contractor (as appropriate), including the Seagreen ECoW, acting on behalf of Seagreen; and
- aboard any vessel engaged in the Wind Farm/OTA.

1. Introduction

1.1 Consents and Licences

Seagreen Wind Energy Limited (SWEL), (hereafter referred to as Seagreen) was granted Section 36 Consents (S36 Consents) under the Electricity Act 1989 by Scottish Ministers in October 2014 for Seagreen Alpha and Seagreen Bravo Offshore Wind Farms (OWFs), as varied. Marine Licences for Seagreen Alpha and Bravo OWFs and the Offshore Transmission Asset (OTA) were also granted by Scottish Ministers in October 2014, under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009, (together the 'Marine Licences').

Seagreen Alpha and Seagreen Bravo Offshore Wind Farms (OWFs) and the OTA are collectively referred to as the 'Seagreen Project'. In 2018, following application by Seagreen, the Alpha OWF Marine Licence and Bravo OWF Marine Licence were varied by Scottish Ministers, following application by Seagreen in 2019 these licences were subsequently varied. In 2019, the OTA Marine Licence was also varied by the Scottish Ministers. In 2019, the Bravo Marine Licence was assigned from Seagreen Bravo Wind Energy Limited (SBWEL) to Seagreen Alpha Wind Energy Limited (SAWEL).

1.2 Project Description

The Seagreen Project is located in the North Sea, in the outer Firth of Forth and Firth of Tay region and comprises the OWFs (the WTGs, their foundations associated array cabling and cables from the WTGs up and onto the OSPs), together with associated infrastructure of the OTA (Offshore Substation Platforms, OSPs, their foundations and the offshore export cables), to facilitate the export of renewable energy to the national electricity transmission grid. The location of the Seagreen Project is shown in Figure 1.1.

The Seagreen Project will consist of the following key components:

- 150 WTGs comprised of:
 - 114 WTGs installed on three-legged steel jackets, each installed on suction bucket caissons; and
 - 36 WTGs installed on up to four-legged steel jackets, each installed on pin pile foundations.
- Two OSPs, each installed on up to 12 pin pile foundations;
- A network of inter-array subsea cables, comprised of:
 - Circa 300 km of inter-array cables to connect strings of WTGs on suction bucket caissons together and to connect these WTGs to the OSPs;
 - Circa 55 km of inter-array cables to connect strings of WTGs on piled foundations together and to connect these WTG to the OSPs; and
 - Circa 3 km of interconnector cable to connect the two OSPs.
 - Inter-array cables will be buried where possible and where burial is not possible cable protection will be provided.
- Up to three subsea export cables, totalling circa 190 km in length, to transmit electricity from the OSP to the landfall at Carnoustie and connecting to the onshore export cables for transmission to the onshore substation and connection to the National Grid network. Subsea export cables will be buried where possible and where burial is not possible cable protection will be provided.

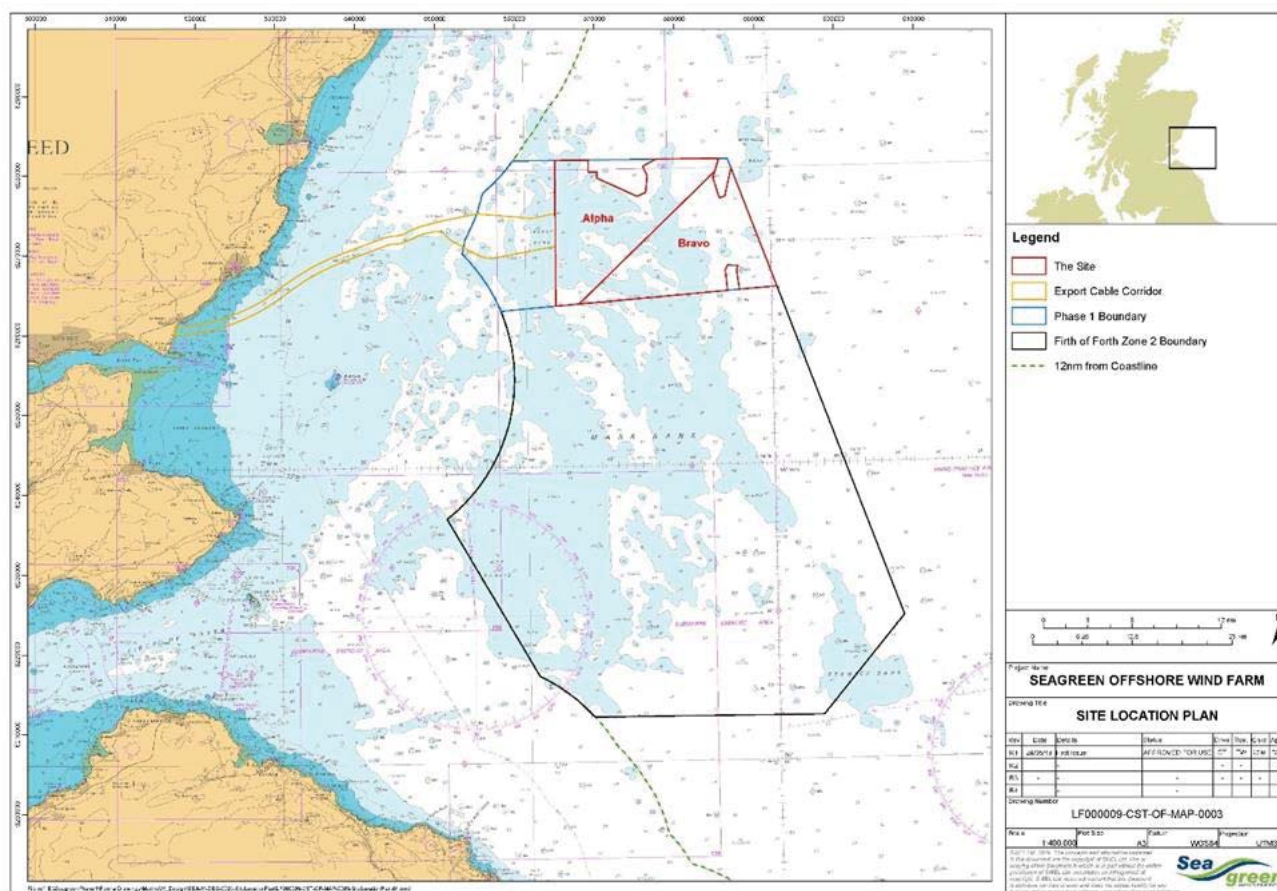


Figure 1.1 - Project Location

1.3 Consent and Licence Requirements

This TTP has been prepared to discharge condition 25 of the S36 Consents and condition 3.2.2.11 of the Marine Licence (04678/19/0) as set out in Table 1.1.

Table 1.1: Consent Conditions to be discharged by this TTP

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this TTP
Section 36	Condition 25	The Company must, at least 6 months prior to the Commencement of the Development submit a Traffic and Transportation Plan ("TTP") in writing, to the Scottish Ministers for their written approval.	This document sets out the TTP for approval by the Scottish Ministers.
		Such approval may only be granted following consultation by the Scottish Ministers with Transport Scotland and any such other advisors as may be required at the discretion of the Scottish Ministers.	To be undertaken by the Scottish Ministers.
		The TTP must set out a mitigation strategy for the impact of road based traffic and transportation associated with the construction of the Development.	Section 3
		The Development must be constructed and operated in accordance with the approved TTP (as updated and amended from time to time, following written approval from the Scottish Ministers).	Section 1, 2, 3 and 4
Marine Licence (OTA)	3.2.2.11	The Licensee must, no later than 6 months prior to the Commencement of the Works submit a TTP, in writing, to the Licensing Authority for their written approval.	This document sets out the TTP for approval by the Scottish Ministers.
		Such approval may only be granted following consultation by the Licensing Authority with Transport Scotland, Angus Council, Fife Council and any such other advisors as may be required at the discretion of the Licensing Authority.	To be undertaken by the Scottish Ministers.
		The TTP must set out a mitigation strategy for the impact of road based traffic and transportation associated with the Works.	Section 3

1.4 Linkages with other consent plans and Consent Conditions

Section 36 Consent Condition 25 and Marine Licence Condition 3.2.2.11 (see Table 1.1) do not explicitly identify linkages between this TTP and other Consent Plans.

1.5 Construction management

Full details of the construction management procedures, including environmental compliance, monitoring and reporting and roles and responsibilities are provided in the Offshore Construction Environmental Management Plan (LF000009-CST-OF-PLN-0014 - Offshore CEMP).

1.6 Updates and Amendments

Should any updates to this TTP become necessary, the change management process for any updates required to the TTP, including resubmission of consent plans for approval, is outlined in Appendix B – The TTP Change Management Procedure.

2. Scope and Objectives of the TTP

This TTP has been prepared to address the specific requirements of the relevant conditions attached to the S36 Consents and Marine Licences (collectively referred to as ‘the consents’) issued to Seagreen and applies to all offshore construction, as required to be undertaken before the Final Commissioning of the Works.

This TTP provides an overview of the traffic and transport associated with the offshore construction of the Seagreen Project, that will be utilising the road network and provides an assessment of mitigation measures required in line with appropriate guidance.

This document does not cover any part of the Seagreen Project components transported by sea directly from the manufacturing, fabricating facilities or pre-assembly yards to the OWF and OTA sites, either directly, or via a marshalling port or storage port. The components to be delivered by sea are:

- Wind Turbine Generators (WTGs);
- WTG and OSP substructures and foundations (piles/suction caissons/jackets);
- Inter-array cables (IAC) and interconnector cable;
- Export cables; and
- Offshore Substation Platforms (OSPs).

Whilst these major components will be delivered by sea, there will be road traffic movements arising from the installation of these components and these are included in the TTP.

2.1 Guidance and Methodology

The following guidance documents have been taken into account in completing this TTP:

- Transport Scotland, Transport Assessment Guidance (2012);
- The Department for Transport (DfT), Guidance on Transport Assessment (GTA) (DfT, 2007); and
- The Institute of Environmental Management and Assessment (IEMA) ‘Guidelines for the Environmental Assessment of Road Traffic’ (1993).

DfT’s Guidance suggests that transport assessment is only required for a development that generates 30 or more two-way movements in any hour.

The IEMA guidelines suggest two broad principles to be used as a screening process to determine the scale and extent of the assessment. These are:

- Rule 1 - include road links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles is predicted to increase by more than 30%); and
- Rule 2 - include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

Existing traffic levels for the roads in the vicinity of the project ports have been established from Department for Transport (DfT) traffic counts. Traffic count locations on trunk roads closest to the ports have been used to indicate the typical traffic volumes.

The anticipated traffic generated by the Seagreen Project can be compared against the estimated baseline traffic. If the IEMA thresholds have not been exceeded, the significance of the effects can be considered to be negligible/low and not significant and further detailed assessments and mitigation are not required.

3. Construction Road Traffic and Mitigation Measures

3.1 Description of Main Port and Harbours

Traffic movements will be generated to and from the main ports that will be utilised in the construction of the Seagreen Project. The section below provides information on the main facilities relevant to this TTP. The items that are likely to be transported by the road network to support the Seagreen Project are detailed below.

3.1.1 Port of Montrose

Based on the East Coast of Scotland, the Port of Montrose, operated by the Montrose Port Authority, is a thriving support and service hub for the North Sea energy and shipping industries. The port offers a broad range of port related services including port agency, stevedoring (loading and unloading vessels), storage and bunkering.

With approximately 1,000 metres of quayside on both the north and south side of the Harbour, Montrose Port provides a sheltered haven almost half a mile long. Port facilities include water berths to a depth of 8m, 130,000m² of open storage, 42,000m² warehousing and over 2,000m² of office space.

Vehicular access to the port is via the A92, A934 and A935 which in turn link with the A90. The A90 provides a route along the east coast of Scotland, north to Cowie and Fraserburgh and south to Dundee and Edinburgh via the M90.

The Seagreen Marine Co-ordination Centre (MCC) will be based at Montrose.

3.1.2 Other Port and Harbour Options

In addition to the ports and harbours detailed above, other ports and harbours may be utilised during construction of the Seagreen Project; the location of these cannot presently be confirmed. Such facilities are anticipated to be used infrequently for movement of personnel, refuelling, vessel sheltering, delivery of supplies and disposal of waste.

Smaller vessels such as, but not limited to, guard vessels and small workboats, that will travel to and from the OWF site more frequently than larger vessels may be more likely to use these other ports and harbours.

3.1.3 Pre-assembly Ports, Harbours and Marshalling Port

The port of Able Seaton close to the mouth of the River Tees and the Port of Vlissingen, located in the Netherlands, will be used for pre-assembly of WTGs before being shipped by sea to the OWF sites and therefore fall outside of the scope of this report.

The location of a Marshalling Port has yet to be confirmed. As set out in Section 2, road traffic at any Marshalling Port is outside of the scope of this TTP.

3.2 Construction Activities and Vehicle Movements at Ports

It is not anticipated that any abnormal indivisible load deliveries associated with the major components of the Seagreen Project will be transported by road. All will be delivered by marine vessels either directly from the site of manufacture, fabrication or pre-assembly to the OWF site, or potentially via a marshalling port. The delivery of the components below will not use the road network:

- The Wind Turbine Generators (WTG) (including turbine tower sections, turbine blades and turbine nacelles) will be delivered directly by sea from the ports of manufacture after pre-assembly.
- The major support structure components (piles, suction caissons and jacket structures) will be delivered to the OWF site by sea from the site of fabrication, or via a marshalling port.
- Inter-array cables and the interconnector cable will be delivered directly to the OWF site by sea transport from the point of manufacture, or will shipped by sea via a marshalling port.
- Export cables are expected to be delivered directly to the OTA site by sea transport from the point of fabrication.
- The Offshore Substation Platforms (OSPs) will be delivered directly to the OWF site by sea transportation from the point of fabrication, or will be shipped by sea via a marshalling port.

Whilst the major components will be delivered by sea there will be road traffic movements arising from the installation of these components as set out below. These are principally around movement of personnel, transportation of supplies, transportation of waste and transportation of grout.

3.2.1 Movement of Personnel

The process of installation and commissioning of the Seagreen Project will require the transport of personnel including technicians, crew and others to the OWF and OTA sites. Crew changes for the export cable, foundations, inter array and interconnector cable scope are anticipated to be directly onto the installation vessels at ports. All other personnel associated with the WTG installation will be transferred using Crew Transfer Vessels (CTV).

CTVs will likely operate between the Port of Montrose and the OWF and OTA sites for the installation of project infrastructure.

3.2.2 Transportation of Supplies

Supplies needed during construction include fuel, food, potable water, welfare and medical supplies, installation equipment and tools. These items will largely be transported by road to the ports, by vans or HGVs, and then by sea to the OWF and OTA sites using transport barges and tugs. General workboats may be required to provide general support duties and could also be used to transport these items.

Vessels will visit a number of ports for refuelling during the construction phase. However, the fuel is likely to be obtained directly from the facilities available at the ports and so there will be no direct road traffic associated with delivery of fuel to the ports specifically associated with the Seagreen Project.

3.2.3 Transportation of Waste

From experience on similar projects, waste generated from the Seagreen Project will include a range of materials, but the principal constituents comprise general waste, wood, paper, metal, food waste, domestic waste and plastic waste. Waste generated during construction will be delivered by marine vessels from the Seagreen Project to ports where it will be handled by a suitably certified waste management company holding the appropriate waste management permits and/or licences to store wastes. Any onward transportation will require to be handled by suitably registered or licensed waste carriers. Transportation will be by suitable vehicles, in most cases HGV. This waste will be transferred from the port to a permitted or licensed waste management facility depending on the waste type. This facility could be for example be a waste recycling facility or waste treatment facility.

3.2.4 Transportation of Grout

Grout, used for sealing the connection between the jacket substructure and the piles, will be delivered to port by road using HGVs. Grout will be delivered by HGVs to the Port of Montrose, which will be used as a buffer after which it will likely be transferred to a suitable vessel for delivery to the OWF site.

3.3 Construction Road Traffic and Mitigation Proposals at Port of Montrose

The Port of Montrose will be the principal location for activities to support the offshore works. The main road traffic movements generated by operations at Montrose will be from crew transfer, but also vessel resupply and waste disposal.

As set out in Section 3.2.1, crew changes for the export cable, foundations, inter array and interconnector cable scope are anticipated to be directly onto the installation vessels at ports. All other personnel associated with the WTG installation will be transferred using Crew Transfer Vessels (CTV).

It is estimated that there would be 975 return CTV trips to construct the 150 WTGs. The Stage 1 (114 WTG's on suction caisson foundations) will be constructed over a fourteen month construction period and then Stage 2 (36 WTGs on piled foundations) will be constructed over a three month construction period. Assuming a linear construction rate and worker requirement (i.e. CTV trips), this equates to an average of 57 return CTV trips per month over the combined construction period of 17 month. Assuming a seven day working period, this equates to an average of approximately two return CTV trips per day over the combined construction period of 17 months.

Based upon typical crew and passenger capacities of CTVs of the scale typically utilised for offshore wind farm projects, it is estimated that there will be up to 30 staff per vessel.

Table NTS0905 of the National Travel Survey, published annually by the Department of Transport (<https://www.gov.uk/government/statistical-data-sets/nts09-vehicle-mileage-and-occupancy>) sets out an average vehicle occupancy of 1.2 persons per vehicle amongst commuters between 2002 and 2018 (the latest data available) (car occupancy data is also available from Transport Scotland, however, this data aggregates all trip types which is not representative of only commuting). Based upon this, it is estimated there would be 100 vehicle movements (includes arrivals and departures), per day, associated with staff for the WTG installation.

The Offshore Vessel Management Plan (VMP) (document reference: LF000009-CST-OF-PLN-0006) sets out that the Service Operations Vessel (SOV) to support the WTG installation activities will have a single return trip to Port of Montrose approximately once per month during installation activities, which would generate two HGV movements per month to service the SOV with regards to supplies and waste.

The Department for Transport (DfT) provides traffic count data at count sites across the UK, with count site ref:20855 located on the A92 adjacent to the Port of Montrose. This count site provides Annual Average daily flow data for 2018, the most recent year for which data is available, and recorded 10,679 (two-way) vehicles on this section of the A92, 480 of which were HGVs.

These DfT flows are taken from a single section of local road adjacent to each of the above ports and represent only a proportion of the total flow that enters and exits Montrose on a daily basis. To place these traffic flows into context, 102 construction vehicle movements per day (including the day on which HGVs are generated) equates to 0.96% of the AADF on the A92 at the Port of Montrose. In terms of HGVs only (on the one day per month on which HGVs are generated), two HGV movements per day equates to 0.42% of the HGV AADF on the A92 at the Port of Montrose.

These traffic flows and percentage impacts are summarised in Table 3.1.

Table 3.1 Summary of Percentage Impacts in Traffic Flow on the A92 adjacent to Port of Montrose

	Observed Annual Average Daily Traffic Flow	Proposed Seagreen Daily Construction Traffic Flows	% Impact
A92 adjacent to Port of Montrose	10,679 (480)	102 (2)	0.96% (0.42%)

Note: HGV flows are shown in brackets

As set out in Section 2.1 Guidance and Methodology, the IEMA guidelines suggest two broad principles to be used as a screening process when determining the scale and extent of the assessment. Rule 1 – where link roads and the level of HGVs will increase by more than 30%, and Rule 2 for sensitive areas where traffic flows are predicted to increase by 10% or more. It is clear from the calculations above that at Montrose Port the level of increase will not exceed 1% and thus not trigger either Rule 1 or Rule 2 of the IEMA Guidance.

It is considered that this level of traffic flow is negligible, when placed into context against the daily traffic flows recorded at the DfT count locations and also against the total traffic flows into and out of the Port of Montrose. Therefore, in accordance with the IEMA guidelines, the Seagreen Project flows will have a negligible impact on the local road network.

No mitigation measures are therefore required in relation to the port traffic. Notwithstanding this, all contractors will be requested to implement standard good practice to ensure traffic effects on the road network are minimised and appropriately communicated and managed.

4. Compliance with the ES and ES Addendum

The relevant conditions of the S36 Consent and the OTA Marine Licence require that the Seagreen Project be constructed in accordance with the construction methods assessed in the ES and ES Addendum and that construction related mitigation proposed in the ES and ES Addendum are to be delivered.

However, traffic effects were scoped out of the Environmental Statement (ES) or ES Addendum and only one commitment has been identified which is relevant to this TTP.

Appendix D presents the commitments made by Seagreen in the ES and ES Addendum to mitigate measures relative to construction methods and processes set out in this TTP. The table provides details of the commitment and a cross-reference to the relevance of this commitment to the TTP.

5. References

Table 5.1 Seagreen Document References

SWEL Document Number	Title
LF000009-CST-OF-PRG-0002	Offshore Construction Programme
LF000009-CST-OF-PLN-0014	Offshore Construction Environmental Management Plan
LF000009-CST-OF-MST-0002	Offshore Transmission Assets Construction Method Statement
LF000009-CST-OF-MST-0001	Offshore Wind Farm Construction Method Statement
LF000009-CST-OF-PLN-0006	Offshore Vessel Management Plan

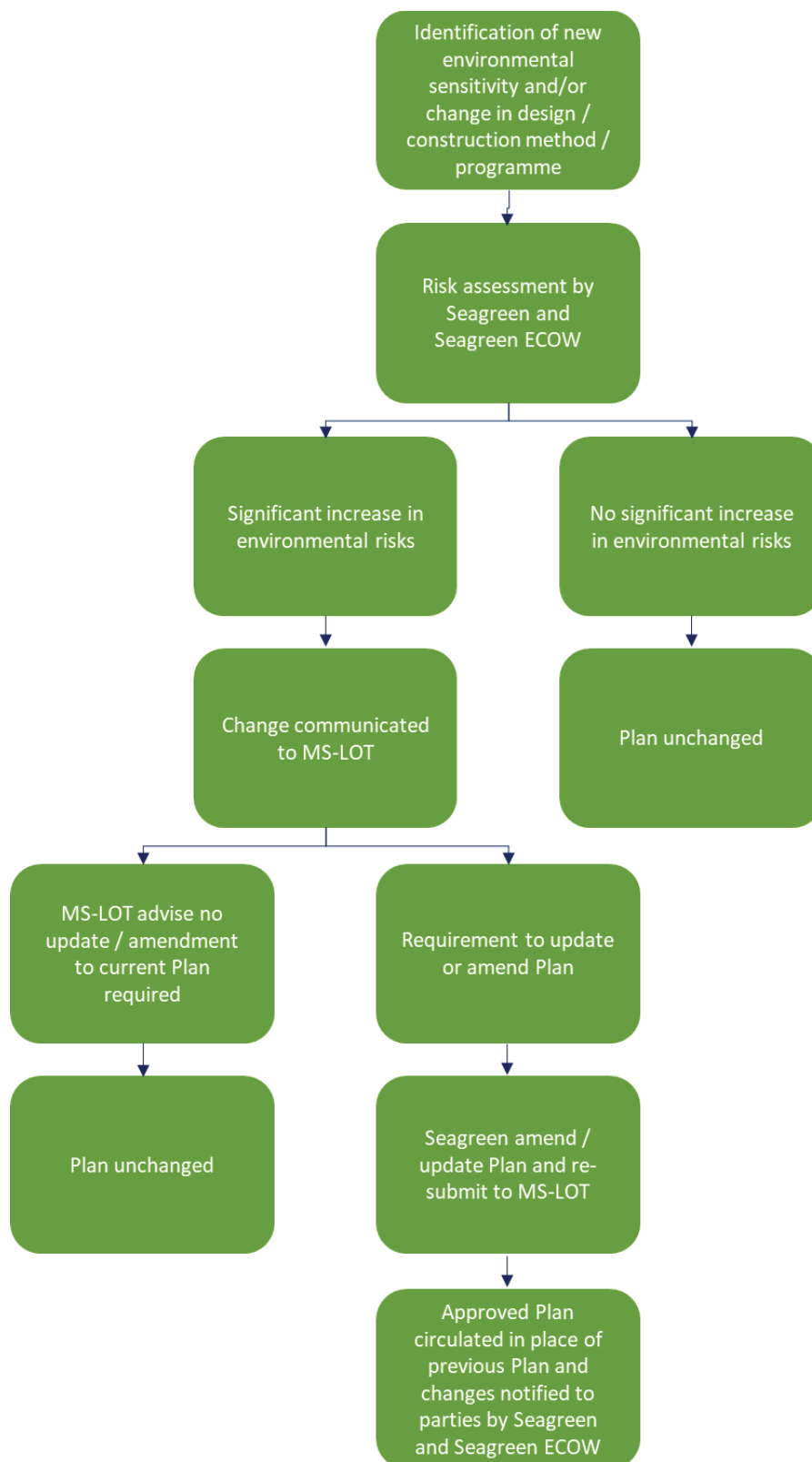
Appendix A – TTP List of Abbreviations and Definitions

Term	Description
AADF	Annual Average Daily Traffic Flow
Alpha Marine Licence	Marine licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 in respect of Seagreen Alpha Wind Farm on 10 October 2014 as amended by the revised marine licence granted by the Scottish Ministers on 28 August 2018 (reference 04676/18/0) and subsequently varied on 12 December 2019 (reference 04676/19/0).
Bravo Marine Licence	Marine licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 in respect of Seagreen Bravo Wind Farm on 10 October 2014 as amended by the revised marine licence granted by the Scottish Ministers on 28 August 2018 (reference 04677/18/0) and subsequently varied on 12 December 2019 (reference 04677/19/0).
CMS	Construction Method Statement as required under Alpha and Bravo Section 36 Condition 11 and the Offshore Transmission Asset Marine Licence Condition 3.2.2.4
commitments register	A register that sets out all commitments to manage and mitigate potential environmental impacts made by SWEL
(the) consents	Collective term used to describe the Section 36 consents and Marine Licences issued to SAWEL, SBWEL and SWEL
Contractor	The contractor as appointed by SWEL
CoP	Construction Programme as required under Alpha and Bravo Section 36 Condition 9 and the Offshore Transmission Asset Marine Licence Condition 3.2.2.3
CTV	Crew Transfer Vessel
DfT	The Department for Transport
ECow	Ecological Clerk of Works as required under Alpha and Bravo Section 36 Condition 29 and the OTA Marine Licence Condition 3.2.2.12.
EIA	Environmental Impact Assessment
ES	Environmental Statement
GTA	Guidance on Transport Assessment
HGV	Heavy Goods Vehicle
IEMA	The Institute of Environmental Management and Assessment
ISO	International Organisation for Standardisation
Landfall site	The point above MHWS where the OTA export cables connects to the OnTW
Licencing Authority	Marine Scotland acting on behalf of the Scottish Ministers
Licensee	SAWEL and SBWEL

Term	Description
Marine Coordination	The management and surveillance of people, vessels and Offshore structures to ensure the safe preparation and execution of Offshore activities, in order to minimise the probability of an incident, and to provide effective response if an incident does occur
Marine Licences	The three marine licences for the Seagreen Project, comprising the Alpha Marine Licence, the Bravo Marine Licence, the OTA Marine Licence as granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and coastal access Act 2009 on 10 October 2014, and as subsequently varied, in the case of the Seagreen Alpha Offshore Wind Farm Marine Licence and the Seagreen Bravo Offshore Wind Farm Marine Licence, on 29 August 2018, 12 December 2019 and subsequently on 6 March 2019 and in respect of the OTA Marine Licence as varied under the Marine (Scotland) Act 2010 on 6 March 2019
MHWS	Mean High Water Springs
MS-LOT	Marine Scotland Licensing and Operations Team
OnTW	Onshore Transmission Works, from landfall consisting of onshore buried export cables and new transmission substation
OTA	Offshore Transmission Asset, comprising the OSPs and the transmission cable required to connect the Wind Farm Assets to the OnTW from the OSPs to the MHWS at the landfall at Carnoustie.
OWF	Collective term used to describe the Wind Farm Assets and OTA
S36 Consents	Consent under section 36 of the Electricity Act 1989 granted by the Scottish Ministers on 10 October 2014 in respect of the Seagreen Alpha and Seagreen Bravo offshore wind farms, both as varied by the Scottish Ministers by decision letter issued pursuant to an application under section 36C of the Electricity Act 1989 on 28 August 2018 and, in respect of the Seagreen Bravo S36 Consent, as assigned, with the consent of the Scottish Ministers from SBWEL to SAWEL by assignation dated 22 November 2019 and intimated to the Scottish Ministers by intimation dated 27 November 2019.
SAWEL	Seagreen Alpha Wind Energy Limited, a company with registered number 07185533 and having its registered office at No1 Forbury Place, 43 Forbury Road, Reading, United Kingdom RG1 3JH
SBWEL	Seagreen Bravo Wind Energy Limited, a company with registered number 07185543 and having its registered office at No1 Forbury Place, 43 Forbury Road, Reading, United Kingdom RG1 3JH
Site	The area outlined in red in both Figure 1 attached to the S36 consent Annex 1 and the figure contained in Part 4 of the Marine Licence
Seagreen	Seagreen Wind Energy Limited (SWEL), the parent company of Seagreen Alpha Wind Energy Ltd (SAWEL) and Seagreen Bravo Wind Energy Ltd (SBWEL), (company number 06873902) and having its registered office at No.1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH
SOV	Service Operations Vessel

Term	Description
WTG	Wind turbine generator

Appendix B – The TTP Change Management Procedure



Appendix C - Compliance with ES parameters and processes

Construction parameter/process	ES	TTP
Delivery of larger spares and equipment directly from land based manufacturers by sea	Chapter 5, paragraph 5.219	<p>The delivery of the components will not use the road network.</p> <p>The Wind Turbine Generators (WTG) (including turbine tower sections, turbine blades and turbine nacelles) will be delivered directly by sea from ports after pre-assembly.</p> <p>The major support structure components (piles, suction caissons and jacket structures) will be delivered to the OWF site by sea from site of fabrication or via a marshalling port.</p> <p>Inter-array cables will be delivered directly to the OWF site by sea transport from the point of manufacture or will shipped by sea via a marshalling port.</p> <p>Export cables are expected to be delivered directly to the OTA site by sea transport from the point of fabrication.</p> <p>The Offshore Transmission Asset (OTA) will be delivered directly to the OWF site by sea transportation from the point of fabrication or will be shipped by sea via a marshalling port.</p>

Appendix D - Summary of mitigation commitments

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Reference (this document)
ES September 2012	Other Marine Users and Activities 20.43, 20.50, 20.55, 20.62, 20.68, 20.72, 20.73, 20.74, 20.75, 20.77	<p>Consultation with the relevant wind farm project managers/ developers and operators, MOD and licensing authority to ensure logistics management is appropriate and to allow discussion of concerns and facilitate resolution of any potential issues.</p> <p>To this end Seagreen will continue to participate in on-going communication between the parties involved. The situation will also be monitored with regard to any future development to assess potential impacts in the future.</p>	Section 3