

LEGEND AND NOTES

- Formosa 2 WTG Nominal Positions (28/01/2019) - See Coordinate table
- Infield Macro Route Centreline
- Export Cable Macro Route Centreline
- Infield Macro Route Corridor (50m wide)
- Formosa 1 WTG Locations (see coordinate table)
- Formosa 1 MetMast
- Hsinchu Buoy
- Actual Deployed Wave Buoy Location
- Planned Wave Buoy Locations
- Formosa 1 Licence Boundary Positions (see coordinate table)
- Formosa 2 Licence Boundary Positions (see coordinate table)
- Formosa 2 Licence Boundary
- Formosa 2 Export Cable Corridor
- Formosa 1 Licence Boundary
- WTG Exclusion Area (SEE NOTE 6.7)

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REV.	REVISION	BY	DATE	CKD.	APPVD.
C	FOR INFORMATION	AG	25/02/2019	TT	MU
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SCALE 1:35,000

SOURCE
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FORMOSA 2
海能風力發電股份有限公司

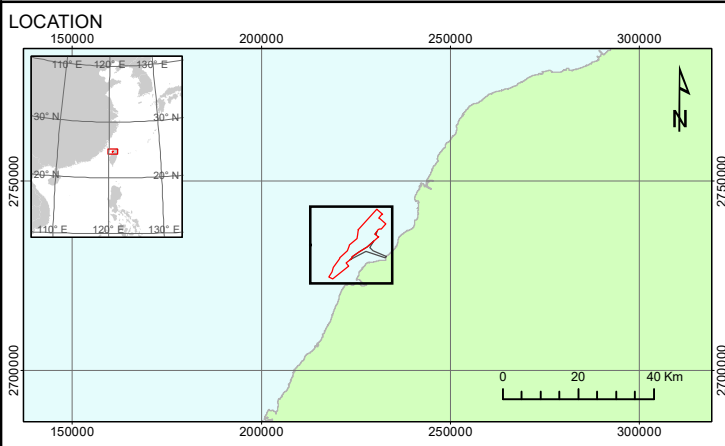
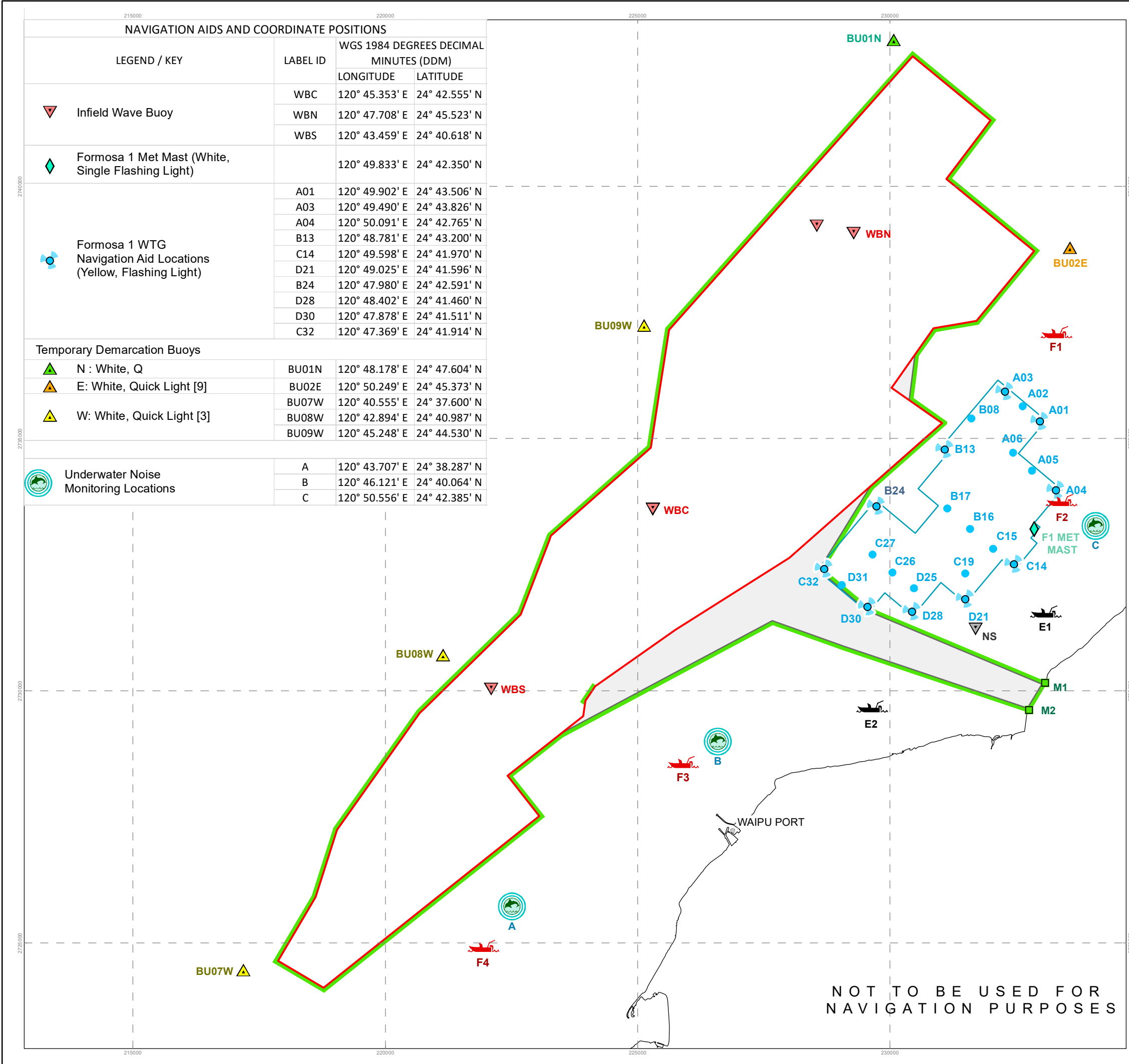
COORDINATE SYSTEM
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Projection: Transverse Mercator
Datum: TWD 1997
False Easting: 250,000.0000
False Northing: 0.0000
Central Meridian: 121.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Metre

PROJECT
FORMOSA 2 OFFSHORE WIND FARM PROJECT

TITLE
FORMOSA 2 SITE MANAGEMENT PLAN WTG LOCATIONS

DOCUMENT NUMBER
F2-ENG-DEV-F2-LY-SI-00002-001

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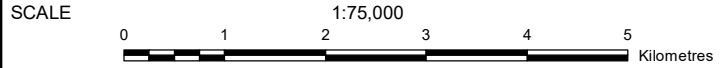


LEGEND AND NOTES			
	Formosa 2 License Boundary		
	Formosa 2 Construction Boundary		
	Formosa 2 Export Cable Corridor		
	Formosa 1 License Boundary		

NFA Vessel Position	LABEL ID	WGS 1984 DEGREES DECIMAL MINUTES (DDM)	
		LONGITUDE	LATITUDE
	F1	120° 50.100' E	24° 44.460' N
	F2	120° 50.160' E	24° 42.660' N
	F3	120° 45.720' E	24° 39.840' N
	F4	120° 43.380' E	24° 37.860' N
	E1	120° 49.980' E	24° 41.460' N
	E2	120° 47.940' E	24° 40.440' N
	M1	120° 49.966' E	24° 40.694' N
	M2	120° 49.776' E	24° 40.404' N

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4	FOR INFORMATION ONLY	AG	09/03/2021	AT	PH
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COORDINATE SYSTEM			
Coordinate System:	TWD 1997 TM Taiwan	Central Meridian:	121.0000
Projection:	Transverse Mercator	Scale Factor:	0.9999
Datum:	TWD 1997	Latitude Of Origin:	0.0000
False Easting:	250,000.0000	Units:	Metre
False Northing:	0.0000		

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PROJECT	FORMOSA 2 OFFSHORE WIND FARM PROJECT
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TITLE	MARKING PLAN DURING CONSTRUCTION (BEFORE FOUNDATION INSTALLATION)
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DOCUMENT NUMBER	F2-ENG-CON-F2-PL-LO-00001
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[Appendix 2 附件二]

Vessel Specification and Information

船舶與作業相關資訊

1.0 作業範圍 SITE AREA

1.1 作業區域 Layout of Site

下圖可見其作業範圍，淺綠色線為近岸電纜輸出位置，黑色線為離岸陣列電纜輸出位置。座標位置詳附件 1。Below shows the operation boundary, export cable route is shown as light green and inter-array cables as dark black. Please find the coordinates in Appendix 1.

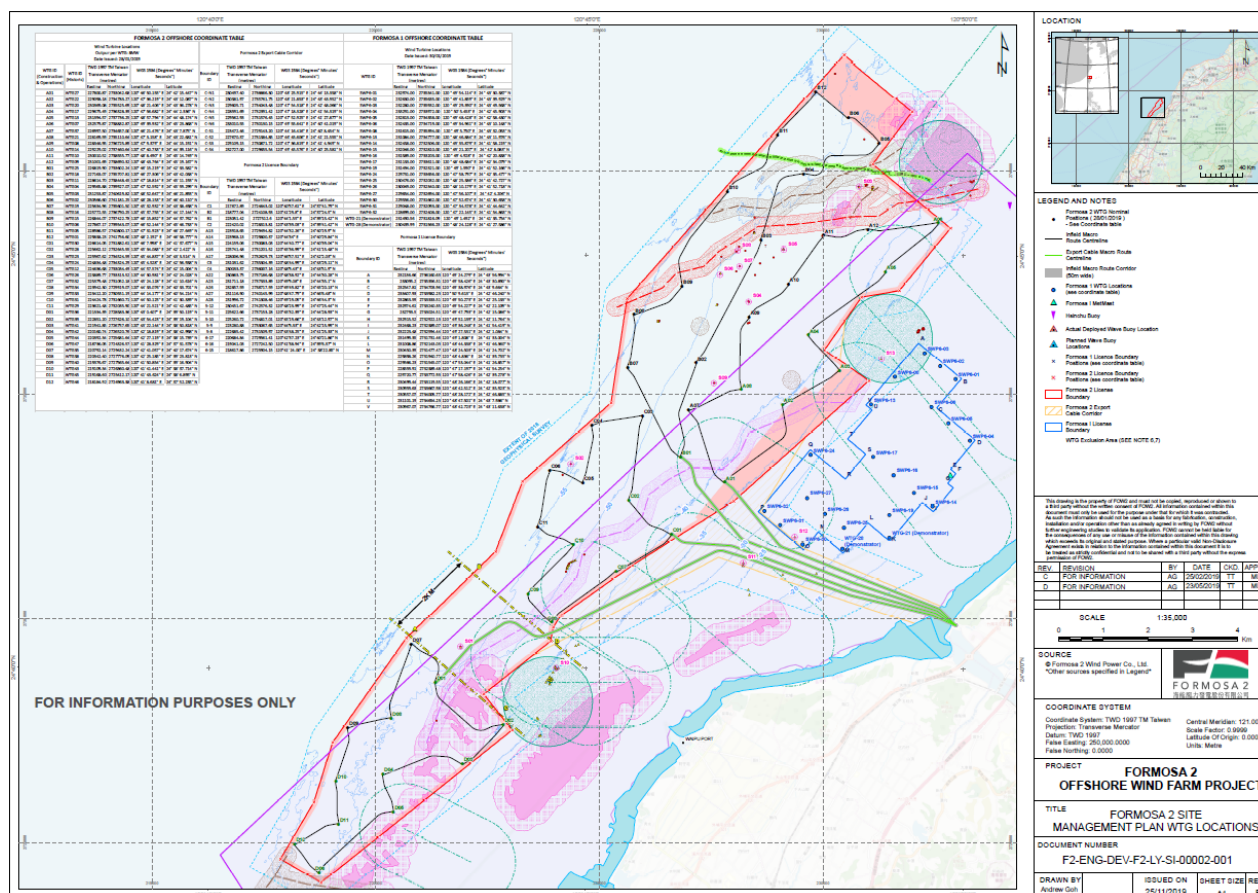


Figure 1-1 : Cable Route Layout

電纜作業佈置圖

Task Name:	海纜作業 Cable Laying
Page:	3
Package:	海纜 CABLE
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1.2 風場範圍座標 Coordinate of Field

編號 (No.)	TWD 97		WGS 84 (deg, deg)		WGS 84 (deg, min, sec)	
	E	N	E	N	E	N
C1	217872.89	2724643.02	120.682670	24.628277	120°40'57.61"	24°37'41.79"
B2	218777.04	2724108.93	120.691612	24.623474	120°41'29.8"	24°37'24.5"
B1	223051.42	2727512.60	120.733765	24.654285	120°44'1.55"	24°39'15.42"
C2	222420.02	2728313.81	120.727511	24.661508	120°43'39.03"	24°39'41.42"
A13	223918.65	2729494.82	120.742295	24.672197	120°44'32.26"	24°40'19.9"
A14	223968.13	2729800.37	120.742779	24.674957	120°44'34"	24°40'29.84"
A15	224159.06	2730083.03	120.744660	24.677512	120°44'40.77"	24°40'39.04"
A16	225741.48	2731201.52	120.760277	24.687636	120°45'36.99"	24°41'15.48"
A17	228006.96	2732629.73	120.782642	24.700565	120°46'57.51"	24°42'2.03"
C3	231031.62	2735304.39	120.812498	24.724754	120°48'44.99"	24°43'29.11"
C4	230033.37	2736007.16	120.802621	24.731086	120°48'9.43"	24°43'51.9"
A22	230863.75	2737186.68	120.810813	24.741747	120°48'38.92"	24°44'30.28"
A23	231711.18	2737333.89	120.819189	24.743086	120°49'9.08"	24°44'35.1"
A26	232857.59	2738717.59	120.830506	24.755592	120°49'49.82"	24°45'20.13"
A27	231116.90	2740145.99	120.813276	24.768468	120°48'47.79"	24°46'6.48"
A28	231996.72	2741308.46	120.821961	24.778974	120°49'19.05"	24°46'44.3"
5-12	230451.67	2742576.32	120.806664	24.790402	120°48'23.99"	24°47'25.44"
5-11	225622.66	2737153.28	120.758999	24.741371	120°45'32.39"	24°44'28.93"
5-10	225260.72	2734817.01	120.755462	24.720272	120°45'19.66"	24°43'12.97"
5-9	223280.88	2733067.65	120.735926	24.704444	120°44'9.33"	24°42'15.99"
5-8	222685.42	2731509.97	120.730071	24.690370	120°43'48.25"	24°41'25.33"
6-17	220684.84	2729561.41	120.710342	24.672740	120°42'37.23"	24°40'21.86"
6-16	219041.03	2727242.50	120.694151	24.651771	120°41'38.94"	24°39'6.37"
6-15	218617.86	2725904.15	120.689999	24.639679	120°41'23.99"	24°38'22.84"

Figure 1-2 : Offshore Windfarm Layout

海能風場分布圖

Vessel Specification and Information

2.0 船舶資訊 VESSEL INFORMATION

2.1 康納特 Connector

船名(vessel name) :	康納特 Connector
船籍港(Port of Registry) :	巴拿馬 PANAMA
船舶號數(IMO number) :	9435480
總噸數(GRT) :	20190 t
淨噸數(NRT) :	6058 t
船長(Length) :	137. 70 M
船寬(Beam Moulded) :	32. 00 M
MMSI	373479000



Figure 2-1 : Photo of Connector

Connector 船舶照片

Vessel Specification and Information

2.2 東方建設者(Orient Constructor)

船名 Vessel Name	東方建設者 (Orient Constructor)
船籍 Flag	中華民國 R.O.C.
總噸數 Gross Tonnage	7883 ton
船長 LOA	115.4m
船寬 Width	9m
IMO	9682148
MMSI	416007369



Figure 2-2 : Photo of Orient Constructor

東方建設者 船船舶照片

Vessel Specification and Information

2.3 宏隼 1 號 Falcon 1 – 備用人員運輸船

船名 Vessel Name	宏隼 1 號 (Falcon 1)
船籍港(Port of Registry) :	台中港 Taichung Port / 中華民國 R.O.C
船舶號數(IMO number) :	9884057
總噸數(GRT) :	241. 89 ton
淨噸數(NRT) :	72. 57 ton
船長(Length) :	23. 98 m
船寬(Beam Moulded) :	10. 3 m
航行速率(speed) :	最高速率 27. 6 海浬



Figure 2-3 : Photo of Falcon 1

宏隼 1 號船船舶照片

Vessel Specification and Information

2.4 宏隼 2 號 Falcon 2 – 備用人員運輸船

船名 Vessel Name	宏隼 2 號 (Falcon 3)
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	272 ton
船長 LOA	27 m
船寬 Width	10.32 m
IMO	9884069
MMSI	416006193



Figure 2-4 : Photo of Falcon 2

宏隼 2 號船船舶照片

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Vessel Specification and Information

2.5 宏隼 3 號 Falcon 3 – 備用人員運輸船

船名 Vessel Name	宏隼 3 號 (Falcon 3)
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	168.11 ton
船長 LOA	26.3 m
船寬 Width	10.3 m
IMO	9894002
MMSI	416006165



Figure 2-5 : Photo of Falcon 3

宏隼 3 號船船舶照片

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2.6 風盛 2 號 Prosperous 2 – 備用人員運輸船

船名 Vessel Name	風盛 2 號 Prosperous 2
船籍港 Home Port	台中港 Taichung Port
總噸數 Gross Tonnage	170 ton
船長 LOA	25.75 m
船寬 Width	10.4 m
IMO	9698903
MMSI	416006693



Figure 2-6 : Photo of Prosperous 2

風盛 2 號船舶照片

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Vessel Specification and Information

2.7 保時揚 World Sail – 備用人員運輸船

船名 Vessel Name	保時揚 World Sail
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	161 ton
船長 LOA	23.7 m
船寬 Width	9.5 m
IMO	9681742
MMSI	416005864



Figure 2-7 : Photo of World Sail

保時揚船船舶照片

Task Name:	海纜作業 Cable Laying
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Vessel Specification and Information

2.8 保時航 World Sea – 備用人員運輸船

船名 Vessel Name	保時航 World Sea
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	161 ton
船長 LOA	23.7 m
船寬 Width	9.5 m
IMO	9642100
MMSI	416005863



Figure 2-8 : Photo of World Sea

保時航船船舶照片



Task Name:	海纜作業 Cable Laying
Page:	12
Package:	海纜 CABLE
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Vessel Specification and Information

2.9 TIPM 22602 – 備用人員運輸船

船名 Vessel Name	TIPM 22602
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	176 ton
船長 LOA	26 m
船寬 Width	9.8 m
IMO	9854442
MMSI	416005554



Figure 2-9 : Photo of TIPM 22602

TIPM 22602 船舶照片

Vessel Specification and Information

2.10 TIPM 22601 – 備用人員運輸船

船名 Vessel Name	TIPM 22602
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	176 ton
船長 LOA	26 m
船寬 Width	9.8 m
IMO	9854430
MMSI	416005553



Figure 2-10 : Photo of TIPM22601

TIPM22601 船舶照片

Task Name:	海纜作業 Cable Laying
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Package:	海纜 CABLE
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3.0 特殊設備 SPECITIAL EQUIPMENT

3.1 Connector

設備 equipment	規格 Spec.
吊車 Main Crane	400 t AHC knuckle boom rated 3,000 m mwd
吊車 Aft Crane	50 – 100 t AHC knuckle boom rated 3,000 m mwd
Antiheeling system	22 tanks each side (4 tanks total) reversible propeller pumps of 2,200 m ³ /hr each
ROV system	2 x Shilling HD Work Class ROV in hangar with 2 sliding doors. One ROV at central moonpool, second ROV with LARS at SB side.

4.0 緊急聯絡人與專案負責人 CONTACT INFORMATION

公司 company			
職位 Position	公司 Company	姓名 Name	電話 Mobile Phone
施工經理	宏華營造有限公司	陳柏霖	+886 970-299-249
運輸&安裝經理	楊德諾有限公司	David Debaere	+886 928-066-610
海事經理	海能風力發電股份有限公司	Arden Tsai 蔡亞霖	+886 911 374 469
海事協調中心	海能風力發電股份有限公司	N/A, 值班人員	+886 972 799 573 +886 928 193 922

Table 4-1 : Contact Information

聯絡人資訊



[Appendix 3 附件三]

Vessel Sailing Plan

航行計畫

Task Name:	海纜安裝
Page:	2
Package:	海纜 Cable
Issued Date:	2022/01/03

1.0 航行期間 VOYAGE

1.1 各船作業期間 Operation Period

附上各艘船舶預期作業期間如下。上列作業時間及作業內容供參考(實際作業期間將隨作業進度及海象而調整)。

The operation period as shown in below Figure 1-1 and Table 1-1. The below is for information only. The actual schedule will be changed as the weather and construction progress.

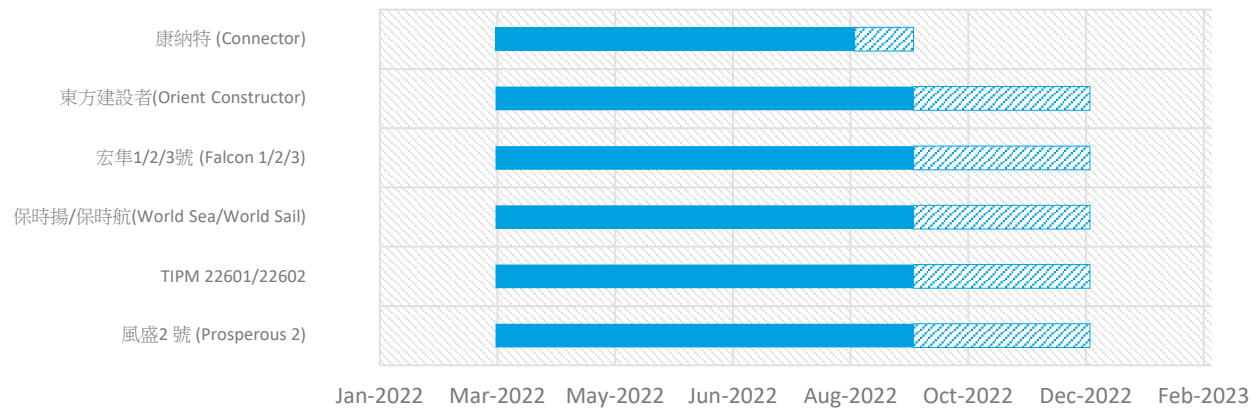


Figure 1-1 : Vessel Operation Period

船隻作業時間

Operation Period 作業期間	Start Day 預計開始日	End Day 預計完成日	Extension for DT 預估預留時間
康納特 (Connector)	01-Mar-2022	31-Aug-2022	30
東方建設者 (Orient Constructor)	01-Mar-2022	30-Sep-2022	90
宏隼1/2/3號 (Falcon 1/2/3)	01-Mar-2022	30-Sep-2022	90
TIPM 22601/22602	01-Mar-2022	30-Sep-2022	90
風盛2號 (Prosperous 2)	01-Mar-2022	30-Sep-2022	90
保時揚/保時航 (World Sea/World Sail)	01-Mar-2022	30-Sep-2022	90











Table 1-1 : Vessel Operation Period

船隻作業時間

Task Name:	海纜安裝
Page:	3
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1.2 航線規劃 Marine Route

針對施工現場與動員母港以及補給港的航線規劃如下圖表所示。最終實際航線路徑仍可因現場狀況以及船長經驗而有所變更。The sailing route of mobilization/base port or logistic port is as below. These are for the information only. The actual route might be changed by captain as the weather and situation dictates

Marine Route 航線路徑	Mobilization/Base Port <> Offshore Site 動員母港<>施工現場	Logistic Port <> Offshore Site 後勤補給港<>施工現場
康納特 (Connector)	 Taichung Port	 Taichung Port
東方建設者 (Orient Constructor)	 Taichung Port	 Taichung Port
宏隼1/2/3號 (Falcon 1/2/3)	 Taichung Port	 Taichung Port
TIPM 22601/ TIPM 22602	 Taichung Port	 Taichung Port
風盛2號 (Prosperous 2)	 Taichung Port	 Taichung Port



Vessel Sailing Plan

Task Name:	海纜安裝
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Issued Date:	2022/01/03

保時揚/保時航 (World Sea/World Sail)	Taichung Port	Taichung Port
		
	Taichung Port	Taichung Port

Task Name:	海纜安裝
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Issued Date:	2022/01/03

2.0 日夜間警示及航行警戒等措施 Marking Plan and Guard Vessels

施工船於夜間施工將保持甲板燈源，並以部分支援船隻作為警戒船，警戒船將在安全區周圍巡航，確保只有獲得核准的船隻能進入安全區。

The light of deck on the vessel shall be keeping in open during night work. Some support vessel will be as guard vessel which is permanently navigating around the safety zone to guarantee that only authorised vessels enter the safety zone.

3.0 AIS & VHF

施工船舶須保持雷達(AIS) 和航海用無線電(Marine VHF)開通，並使用其監控周圍交通。透過即時偵測，避免潛在危害等狀況。另附上船舶資訊如附件二。All the vessel shall keep AIS and radio in operating and will monitor the surrounding traffic visually, by using radar/AIS and maritime VHF radio. Through timely detection, potential hazardous situations can be avoided. The vessel information is as Appendix 2.

4.0 緊急聯絡人與專案負責人 CONTACT INFORMATION

公司 company			
職位 Position	公司 Company	姓名 Name	電話 Mobile Phone
施工經理	宏華營造有限公司	陳柏霖	+886 970-299-249
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海事協調中心	海能風力發電股份有限公司	N/A, 值班人員	+886 972 799 573 +886 928 193 922

Table 5-1 : Contact Information

聯絡人資訊