



[Appendix 1 附件一]

Vessel Specification and Information

船舶與作業相關資訊

Task Name:	Pin Pile Installation
Page:	2
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

1.0 作業範圍 SITE AREA

1.1 作業區域 Layout of Site

下圖1可見其風場範圍，關於此區之座標請詳見表2。Construction area as shown in below picture 1

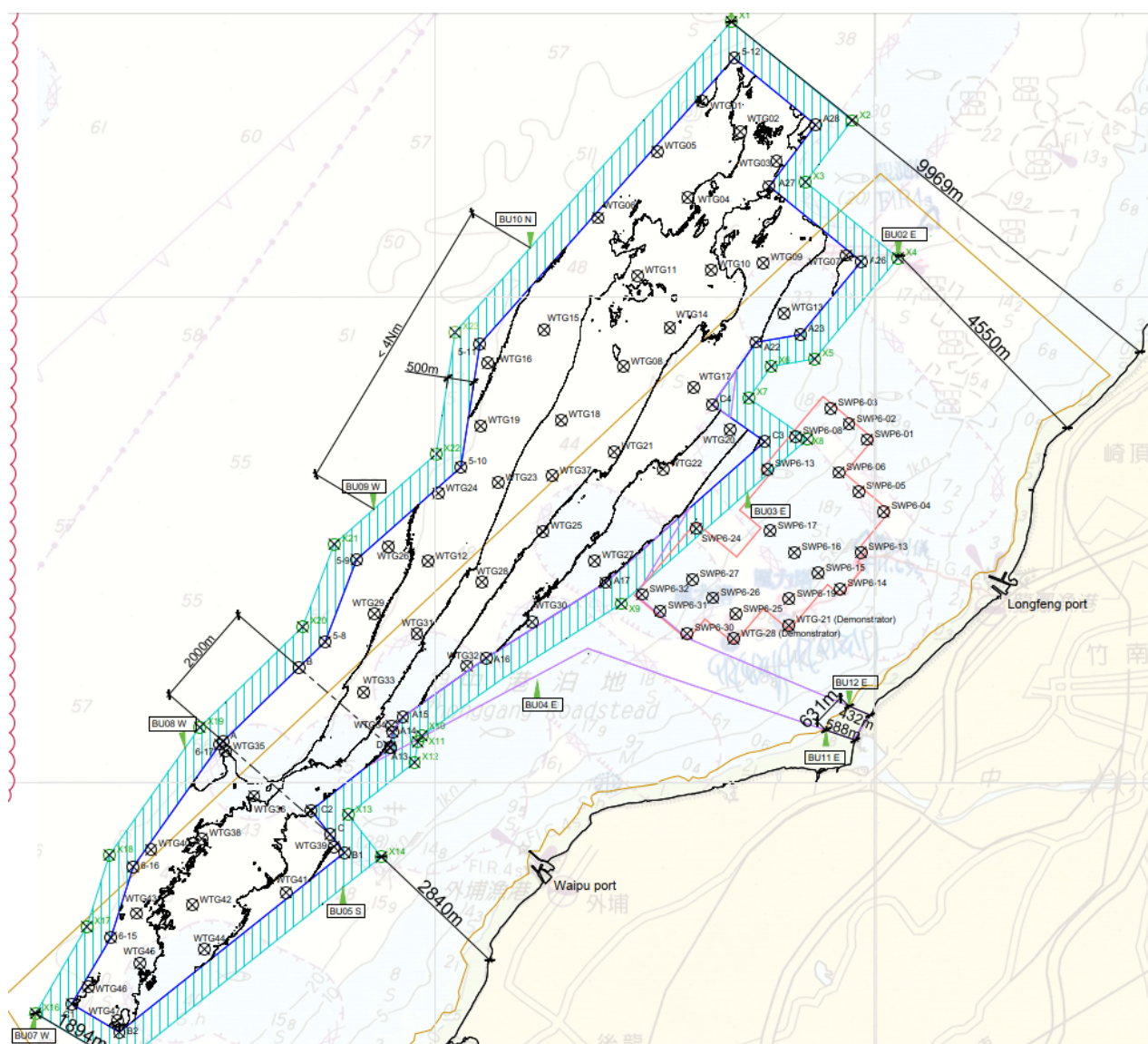


Figure 1-1 : Offshore Windfarm boundary and survey boundary

風場位置圖及調查範圍

Task Name:	Pin Pile Installation
Page:	3
Package:	Foundation
Issued Date:	25th-Jun-2021

1.2 風場邊界座標資訊 Coordinate of Site Boundary

The coordinate information is as below. 詳細座標如下表所示。

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"

Table 1-1 : Coordinate of Site Boundary
 風場範圍座標

Vessel Specification and Information

2.0 船舶基本資料 VESSEL INFORMATION

2.1 臺灣先鋒 MOET PIONEER

船名 Vessel Name	MOET PIONEER
船籍港 Home Port	Kaohsiung
總噸數 Gross Tonnage	1050
船長 LOA	49m
船寬 Width	13.2m
IMO	9533971
MMSI	416006264



Figure 2-1 : Photo of Photo of MOET Pioneer

臺灣先鋒船舶照片



Task Name:	Pin Pile Installation
Page:	5
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

2.2 海底尤金 Seaway Yudin (航北字第 1103101168 號)

船名 Vessel Name	Seaway Yudin
船籍港 Home Port	Limassol
總噸數 Gross Tonnage	25527
船長 LOA	183.3
船寬 Width	36.0 m / 40.0 m max
IMO	8219463
MMSI	210334000



Figure 2-2 : Photo of Seaway Yudin

海底尤金船舶照片

Task Name:	Pin Pile Installation
Page:	6
Package:	Foundation
Issued Date:	25th-Jun-2021

2.3 太平洋自由 Pacific Liberty (航港局序號: 2020090407)

船名 Vessel Name	太平洋自由 Pacific Liberty
船籍港 Home Port	SINGAPORE
總噸數 Gross Tonnage	5179
船長 LOA	97.29M
船寬 Width	20M
IMO	9648398
MMSI	565738000



Figure 2-3 : Photo of Pacific Liberty

太平洋自由號船舶照片

Vessel Specification and Information

2.4 太平洋火神 Pacific Vulcan (航港局序號: 2020090405)

船名 Vessel Name	太平洋火神 Pacific Vulcan
船籍港 Home Port	Singapore
總噸數 Gross Tonnage	2177
船長 LOA	66 m
船寬 Width	16 m
IMO	9443542
MMSI	564046000



Figure 2-4 : Photo of Pacific Vulcan

太平洋火神船舶照片

Task Name:	Pin Pile Installation
Page:	8
Package:	Foundation
Issued Date:	25th-Jun-2021

2.5 太平洋女武神 Pacific Valkyrie (航港局序號: 2020090402)

船名 Vessel Name	太平洋女武神 Pacific Valkyrie
船籍港 Home Port	Singapore
總噸數 Gross Tonnage	2147
船長 LOA	66m
船寬 Width	16m
IMO	9361653
MMSI	5656910000



Figure 2-5 : Photo of Pacific Valkyrie

太平洋女武神 船舶照片

Task Name:	Pin Pile Installation
Page:	9
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

2.6 東方 6 號 (Orient No.6)

船名 Vessel Name	東方 6 號 (Orient No.6)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	816 ton
船長 LOA	40.17m
船寬 Width	12.60m
IMO No.	9441635
MMSI	416006265



Figure 2-6 : Photo of Orient No.6

東方 6 號船舶照片

Task Name:	Pin Pile Installation
Page:	10
Package:	Foundation
Issued Date:	25th-Jun-2021

2.7 東方 7 號 (Orient No.7)

船名 Vessel Name	東方 7 號 (Orient No.7)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	816 ton
船長 LOA	40.17m
船寬 Width	12.60m
IMO No.	9441673
船岸電臺業務識別碼 MMSI	416006266



Figure 2-7 : Photo of Orient No.7

東方 7 號船舶照片

Task Name:	Pin Pile Installation
Page:	11
Package:	Foundation
Issued Date:	25th-Jun-2021

2.8 東方 8 號 (Orient No.8)

船名 Vessel Name	東方 8 號 (Orient No.8)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	1,179 ton
船長 LOA	45.89m
船寬 Width	13.80m
IMO No.	9457074
船岸電臺業務識別碼 MMSI	416006266



Figure 2-8 : Photo of Orient No.8

東方 8 號船舶照片

Vessel Specification and Information

2.9 宏運號 (Hung Yunn)

船名 Vessel Name	宏運號 (Hung Yunn)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	277 ton
船長 LOA	30.90m
船寬 Width	8.80m
IMO No.	-
船岸電臺業務識別碼 MMSI	416237900



宏運號船舶照片

Figure 2-9 Photo of Hung Yunn

Vessel Specification and Information

2.10 宏運 3 號 (Hung Yunn No.3)

船名 Vessel Name	宏運 3 號 (Hung Yunn No.3)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	337 ton
船長 LOA	32.03m
船寬 Width	9.60 m
IMO No.	-
船岸電臺業務識別碼 MMSI	416000030



宏運 3 號船舶照片

Figure 2-10 Photo of Hung Yunn No.3

Vessel Specification and Information

2.11 白海豚 2 號 (White Dolphin No.2)

船名 Vessel Name	白海豚 2 號 (White Dolphin No.2)
船籍港 Port of Registry	臺中港 Taichung Port
總噸數 Gross Tonnage	150 ton
船長 LOA	28.22m
船寬 Width	6.80m
IMO No.	-
船岸電臺業務識別碼 MMSI	416005932



白海豚 2 號船舶照片

Figure 2-11 Photo of White Dolphin No.2



Vessel Specification and Information

Task Name:	Pin Pile Installation
Page:	15
Package:	Foundation
Issued Date:	25th-Jun-2021

2.12 白海豚 3 號 (White Dolphin No.3)

船名 Vessel Name	白海豚 3 號 (White Dolphin No.3)
船籍港 Port of Registry	臺中港 Taichung Port
總噸數 Gross Tonnage	154 ton
船長 LOA	28.22m
船寬 Width	6.80m
IMO No.	-
船岸電臺業務識別碼 MMSI	416005698



白海豚 3 號船舶照片

Figure 2-12 Photo of White Dolphin No.3

Vessel Specification and Information

2.13 保時達 (Posh Daring)

船名 Vessel Name	保時達 (Posh Daring)
船籍港 Port of Registry	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	3,208 ton
船長 LOA	74.00m
船寬 Width	16.80m
IMO No.	9503081
船岸電臺業務識別碼 MMSI	416006277



保時達船舶照片

Figure 2-13 Photo of Posh Daring

Vessel Specification and Information

2.14 米歐 4001 (EOS4001)

船名 Vessel Name	米歐 4001 (EOS4001)
船籍港 Port of Registry	Singapore > R.O.C.
總噸數 Gross Tonnage	9,128 ton
船長 LOA	122m
船寬 Width	37m
IMO No.	N/A
船岸電臺業務識別碼 MMSI	563027130



米歐 4001 駁船照片

Figure 2-14 Photo of EOS4001

Vessel Specification and Information

2.15 米歐 4002 (EOS4002)

船名 Vessel Name	米歐 4002 (EOS4002)
船籍港 Port of Registry	Singapore > R.O.C.
總噸數 Gross Tonnage	9,128 ton
船長 LOA	122m
船寬 Width	36.6m
IMO No.	N/A
船岸電臺業務識別碼 MMSI	563027140



米歐 4002 駁船照片

Figure 2-15 Photo of EOS4002

Task Name:	Pin Pile Installation
Page:	19
Package:	Foundation
Issued Date:	25th-Jun-2021

2.16 東方巴法洛(DF BUFFALO)

船名 Vessel Name	東方巴法洛 (DF BUFFALO)
船籍港 Port of Registry	R.O.C.
總噸數 Gross Tonnage	- ton
船長 LOA	97m
船寬 Width	30m
IMO No.	N/A
船岸電臺業務識別碼 MMSI	416006179



東方巴法洛駁船照片

Figure 2-16 Photo of DF BUFFALO

Vessel Specification and Information

2.17 MP Prospect :

船名 Vessel Name	MP Prospect
船籍港 Home Port	Singapore/新加坡
總噸數 Gross Tonnage	2562 噸
船長 LOA	70m
船寬 Width	16.6m
IMO/Call Sign	9760689
MMSI	565595000



Figure 2-17 : Photo of MP Prospect

阿凡達勇敢號船舶照片

Vessel Specification and Information

2.18 宏隼 1 號 Falcon 1

船名 Vessel Name	宏隼 1 號 (Falcon 1)
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 2-18 : Photo of Falcon 1

宏隼 1 號船船舶照片

Vessel Specification and Information

2.19 宏隼 2 號 Falcon 2

船名 Vessel Name	宏隼 2 號 (Falcon 2)
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	168.11 ton
船長 LOA	27 m
船寬 Width	10 m
IMO	9894002
MMSI	416006193



Figure 2-19 : Photo of Falcon 2

宏隼 2 號船船舶照片

Vessel Specification and Information

2.20 宏隼 3 號 Falcon 3

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 2-20 : Photo of Falcon 3

宏隼 3 號船船舶照片

Task Name:	Pin Pile Installation
Page:	24
Package:	Foundation
Issued Date:	25th-Jun-2021

2.21 TIPM 22602 - 非長租僅按實際狀況單次租賃 Time Charter by voyage

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 2-21 : Photo of TIPM 22602

TIPM 22602 船舶照片

Vessel Specification and Information

2.22 TIPM 22601 - 非長租僅按實際狀況單次租賃 Time Charter by voyage

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 2-22 : Photo of TIPM22601

TIPM22601 船舶照片

Task Name:	Pin Pile Installation
Page:	26
Package:	Foundation
Issued Date:	25th-Jun-2021

2.23 阿凡達勇敢號 Avatar Courage – 備用 Backup

船名 Vessel Name	阿凡達勇敢號 Avatar Courage
船籍港 Home Port	台灣 ROC
總噸數 Gross Tonnage	1706 噸
船長 LOA	60m
船寬 Width	16.4m
IMO/Call Sign	BR4182
MMSI	416005886



Figure 2-23 : Photo of Avatar Courage

阿凡達勇敢號船舶照片

Task Name:	Pin Pile Installation
Page:	27
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

2.24 守護 1 號 (Guard No.1) - 備用 Backup

船名 Vessel Name	守護 1 號 Guard No.1
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	76 ton
船長 LOA	21 m
船寬 Width	6 m
MMSI	416006386



Figure 2-24 : Photo of Guard No.1

守護 1 號船舶照片

Vessel Specification and Information

2.25 守護 2 號 (Guard No.2) - 備用 Backup

船名 Vessel Name	守護 2 號 Guard No.2
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	76 ton
船長 LOA	21 m
船寬 Width	6 m
MMSI	416006387



Figure 2-25 : Photo of Guard No.2

守護 2 號船舶照片



Task Name:	Pin Pile Installation
Page:	29
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

2.26 守護 4 號 (Guard No.4) - 備用 Backup

船名 Vessel Name	守護 4 號 Guard No.4
船籍港 Home Port	高雄港 Kaohsiung Port
總噸數 Gross Tonnage	-
船長 LOA	26 m
船寬 Width	6 m
MMSI	416006325



Figure 2-26 : Photo of Guard No.4

守護 4 號船舶照片

Task Name:	Pin Pile Installation
Page:	30
Package:	Foundation
Issued Date:	25th-Jun-2021

2.27 MMA Crystal (航港局許可資料編號 2021032602)

船名 Vessel Name	MMA Crystal
船籍港 Port of Registry	SINGAPORE
總噸數 Gross Tonnage	2,763 ton
船長 LOA	70.05m
船寬 Width	17.00m
IMO No.	9594212
船岸電臺業務識別碼 MMSI	565399000



MMA Crystal 船舶照片

Figure 3-8 Photo of MMA Crystal

Task Name:	Pin Pile Installation
Page:	31
Package:	Foundation
Issued Date:	25th-Jun-2021

2.28 TIPM 22603 - 非長租僅按實際狀況單次租賃 Time Charter by voyage

船名 Vessel Name	TIPM 22603
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	10 m
IMO	9909833
MMSI	416006189



Figure 2-27 : Photo of TIPM 2260 3

TIPM 22603 船舶照片

Vessel Specification and Information

2.29 白海豚-5031 (BH-5031)

船名 Vessel Name	白海豚-5031 (BH-5031)
船籍港 Port of Registry	臺中港 Taichung Port
總噸數 Gross Tonnage	99.16 ton
船長 LOA	25.25m
船寬 Width	5.80m
IMO No.	-
船岸電臺業務識別碼 MMSI	416006667



白海豚-5031 船舶照片

Figure 3-9 Photo of BH-5031

Task Name:	Pin Pile Installation
Page:	33
Package:	Foundation
Issued Date:	25th-Jun-2021

Vessel Specification and Information

2.30 永康 653 號 (EC653)

船名 Vessel Name	永康 653 號 (EC653)
船籍港 Port of Registry	臺中港 Taichung Port
總噸數 Gross Tonnage	
船長 LOA	40.26m
船寬 Width	8.8m
IMO No.	NA
船岸電臺業務識別碼 MMSI	416005229



永康 653 號 船舶照片

Figure 3-9 Photo of EC653

Task Name:	Pin Pile Installation
Page:	34
Package:	Foundation
Issued Date:	25th-Jun-2021

3.0 特殊設備 SPECITIAL EQUIPMENT

#	設備 Equipment	型號 Specification	用途 Purpose
1.	打樁錘	N/A	基礎安裝
2.	翻樁器	N/A	基礎安裝
3.	氣泡幕儀器	N/A	減噪儀器
4.	噪音檢測儀	N/A	水下聲音監控

4.0 緊急聯絡人與專案負責人 CONTACT INFORMATION

專案公司 海能公司 Formosa 2			
職位 Position	公司 Company	姓名 Name	電話 Mobile Phone
施工經理	海能風力發電股份有限公司	Paul Hammond	+886 971 007 716
運輸&安裝經理	海能風力發電股份有限公司	Oliver Stettner	+886 916 548 103
FDN 安裝經理	海能風力發電股份有限公司	Rick Brook	+886 989 547 915
海事經理	海能風力發電股份有限公司	蔡亞霖	+886 911 374 469

Table 4-1 : Contact Information of Project Company

專案公司聯絡人資訊

承包商公司 楊德若 Jan De Nul			
職位 Position	公司 Company	姓名 Name	電話 Mobile Phone
Project Director	JDN	David Debaere	+886 928 066 610
EMT	JDN	應變中心	+886 928 012 152

Table 4-2 : Contact Information of Contractor Company

承包商公司聯絡人資訊










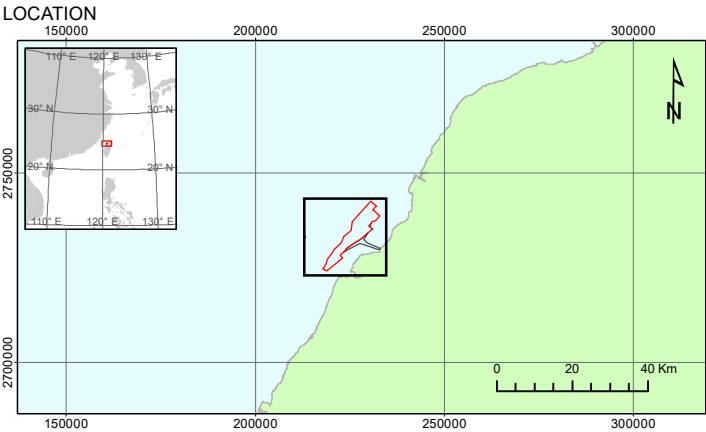
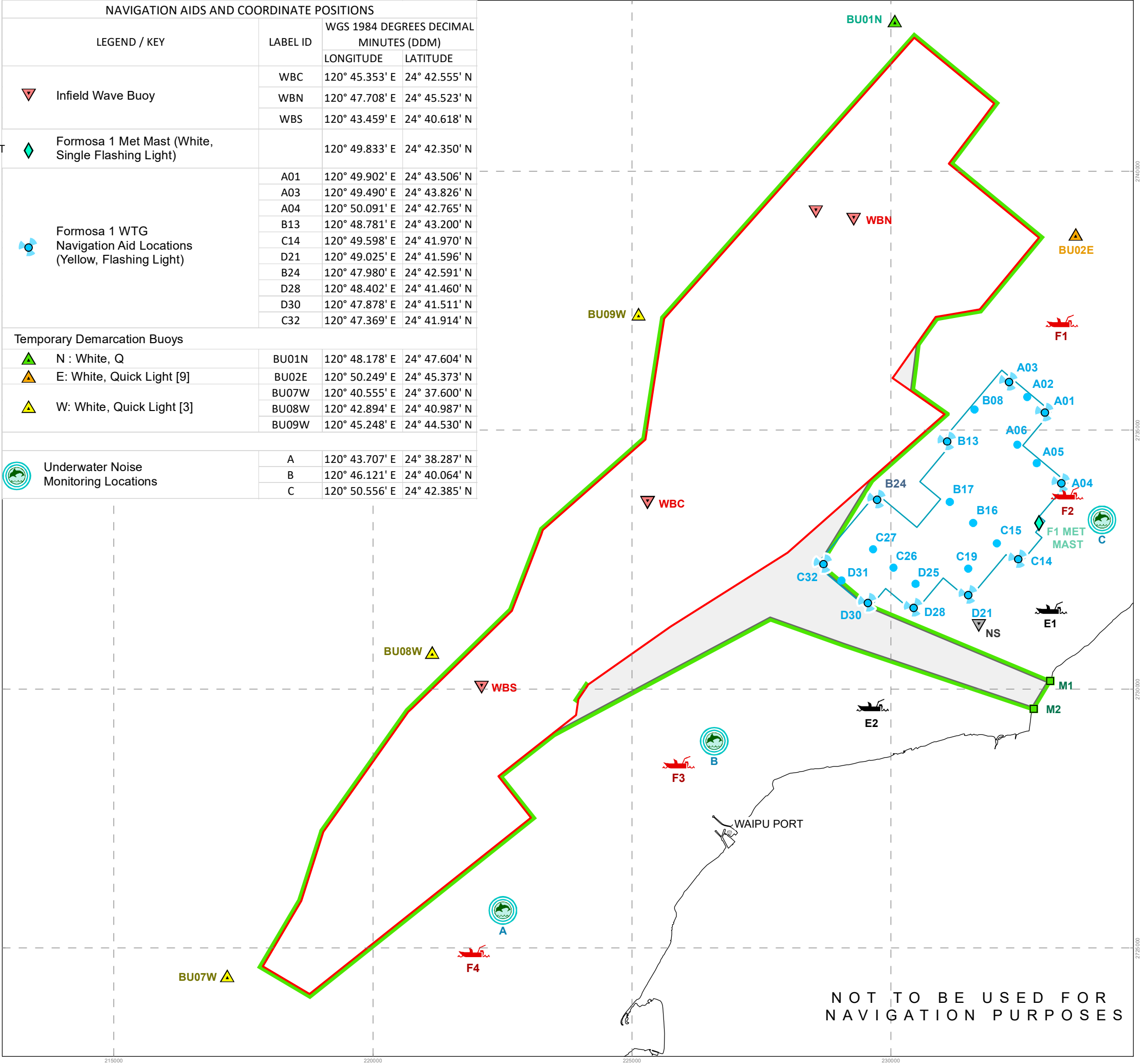
Task Name:	Pin Pile Installation
Page:	35
Package:	Foundation
Issued Date:	25th-Jun-2021


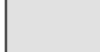
APPENDIX




海上施工區域與其航路標識資訊

MET MAST

NAVIGATION AIDS AND COORDINATE POSITIONS			
LEGEND / KEY	LABEL ID	WGS 1984 DEGREES DECIMAL MINUTES (DDM)	
		LONGITUDE	LATITUDE
 Infield Wave Buoy	WBC	120° 45.353' E	24° 42.555' N
	WBN	120° 47.708' E	24° 45.523' N
	WBS	120° 43.459' E	24° 40.618' N
 Formosa 1 Met Mast (White, Single Flashing Light)		120° 49.833' E	24° 42.350' N
	A01	120° 49.902' E	24° 43.506' N
	A03	120° 49.490' E	24° 43.826' N
 Formosa 1 WTG Navigation Aid Locations (Yellow, Flashing Light)	A04	120° 50.091' E	24° 42.765' N
	B13	120° 48.781' E	24° 43.200' N
	C14	120° 49.598' E	24° 41.970' N
	D21	120° 49.025' E	24° 41.596' N
	B24	120° 47.980' E	24° 42.591' N
	D28	120° 48.402' E	24° 41.460' N
	D30	120° 47.878' E	24° 41.511' N
	C32	120° 47.369' E	24° 41.914' N
Temporary Demarcation Buoys			
 N : White, Q	BU01N	120° 48.178' E	24° 47.604' N
	BU02E	120° 50.249' E	24° 45.373' N
	BU07W	120° 40.555' E	24° 37.600' N
 E: White, Quick Light [9]	BU08W	120° 42.894' E	24° 40.987' N
	BU09W	120° 45.248' E	24° 44.530' N
 W: White, Quick Light [3]			
Underwater Noise Monitoring Locations			
 A	A	120° 43.707' E	24° 38.287' N
	B	120° 46.121' E	24° 40.064' N
	C	120° 50.556' E	24° 42.385' N

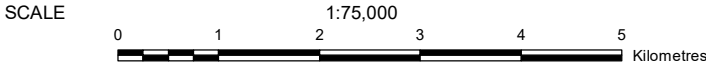


LEGEND AND NOTES	
	Formosa 2 License Boundary
	Formosa 2 Construction Boundary
	Formosa 2 Export Cable Corridor
	Formosa 1 License Boundary

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

This drawing is the property of FOW2 and must not be copied, reproduced or shown to a third party without the written consent of FOW2.
All information contained within this document must only be used for the purpose under that for which it was contracted. As such the information should not be used as a basis for any fabrication, construction, installation and/or operation other than as already agreed in writing by FOW2 without further engineering studies to validate its application. FOW2 cannot be held liable for the consequences of any use or misuse of the information contained within this drawing which exceeds its original and stated purpose. Where a particular valid Non-Disclosure Agreement exists in relation to the information contained within this document it is to be treated as strictly confidential and not to be shared with a third party without the express permission of FOW2.

REV.	REVISION	BY	DATE	CKD.	APPVD.
4	FOR INFORMATION ONLY	AG	09/03/2021	AT	PH
5	FOR INFORMATION ONLY	AG	16/03/2021	AT	PH
6	FOR INFORMATION ONLY	AG	27/04/2021	AT	PH
7	FOR INFORMATION ONLY	AG	25/06/2021	AT	PH



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	

SOURCE: Formosa 2 © 2020 © ESRI (2018)	AUTHOR:  FORMOSA 2 海能風力發電股份有限公司
--	--

PROJECT	FORMOSA 2 OFFSHORE WIND FARM PROJECT
---------	---

TITLE	MARKING PLAN DURING CONSTRUCTION (BEFORE FOUNDATION INSTALLATION)
-------	--

DOCUMENT NUMBER	F2-ENG-CON-F2-PL-LO-00001
-----------------	----------------------------------

DRAWN BY Andrew Goh	ISSUED ON 25/06/2021		SHEET SIZE A3	REV. 7
------------------------	-------------------------	--	------------------	-----------