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Visual amenity in relation to an Environmental Impact Assessment

Undertaking of the permitting activities including environmental impact studies and related actions for the Malta-Italy Gas pipeline interconnection

Technical Study

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1.0 Introduction

This report forms part of the Environmental Impact Assessment to:

- Land reclamation next to the existing Delimara power station (DPS).
- Excavation of tunnel from DPS side to the seaward site opening in area known as Għar Bella.
- Construction of land based facilities to accommodate gas terminal infrastructure.
- Underwater pipeline connecting Malta terminal to another terminal in Gela, Sicily.

Its aim is to establish the impact the proposed development will have on the existing landscape and on the visual amenity of the site. The report will be split up into two parts, that is, the Landscape Assessment and the Visual Assessment. It is important that one distinguishes between both assessments since this might create some confusion with readers:

- Assessment of landscape effects: assessing effects the scheme could create on the landscape as a resource in its own right;

- Assessment of visual effects: assessing effects the scheme could have on specific views and on the general visual amenity experienced by people.

The report will incorporate both a desktop study, including existing literature, such as the Local Plans and the Strategic Plan for Environment and Development (SPED) and also field surveys.

The zone of theoretical visual influence (ZTVI) within a range of 3.0Km from the Scheme was identified using Global Mapper 18– Figure 1. The ZTVI was based on the highest structure on site which is a 23.90m above sea level. The receptors found along the chosen viewpoints are:

- Residents who can view the Scheme from their homes or residences;
- People walking in the streets, tracks which have views of the Scheme or parts thereof;
- Farmers working their fields;
- Tourists visiting the surroundings;
- Passengers and drivers in vehicles on the roads who would have views of the Scheme;

Numerically, these could account from single people to hundreds on a daily basis. The Scheme is barely visible from various areas in the surroundings.

As already stated the ZTVI was produced by using the highest point of the proposed constructions (23.90m above sea level) and a receiver height of 1.8m. The software depicts an area where the receiver at that height would be theoretically able to view the tip of any of highest construction. The basemap used is a LIDAR Digital Terrain Model for the Islands

with a 1m resolution. Hence the topographical features, with the exception of trees and other vegetation, are taken into consideration by the software when plotting the ZTVI.

The viewpoints related to the Scheme are shown in Figure 1 and Figure 2. These include:

- Short distance views;
- Medium distance views;
- Long distance views.

The baseline photos (Figure 4, Figure 7, Figure 11, Figure 14, Figure 18 and Figure 21) were taken from these viewpoints as shown below (Figure 1 and Figure 2). The horizontal angular field of view of all the baseline photos was 39.6^0 and the height at which they were taken was 1.8m above ground level. The photos for all Viewpoints were taken on the 16th January 2019 between 14.00 and 17.00hrs. The views from these points will be analysed, identifying the characteristics of the view, the key elements forming the existing landscape and the existing condition of same.

One of the major problems encountered when on site was that although the theoretical model showed that the site would be visible from various points around the site, the original plotted viewsheds had to be changed in the field. This was mainly due to the fact some views are obstructed by large trees or new structures, boundary walls and buildings.

The viewpoints are:

- VP 1: Carpark overlooking Delimara Power Station;
- VP 2: Ponta tat-Tawwalija, Delimara;
- VP 3: Ponta tal-Gidien, Delimara;
- VP 4: Ponta tal-Ħofra, Delimara;
- VP 5: Dawret il-Qalb Mqaddsa, Birżebbuġa;
- VP 6: Triq it-Tramuntana, Marsaxlokk;

The chosen viewpoints represent potential views of the site. These were chosen both in terms of their proximity to the sites and also in terms of their sensitivity for anyone living or approaching the area on foot or by vehicle. Photos from all the sites were submitted and approved by ERA.

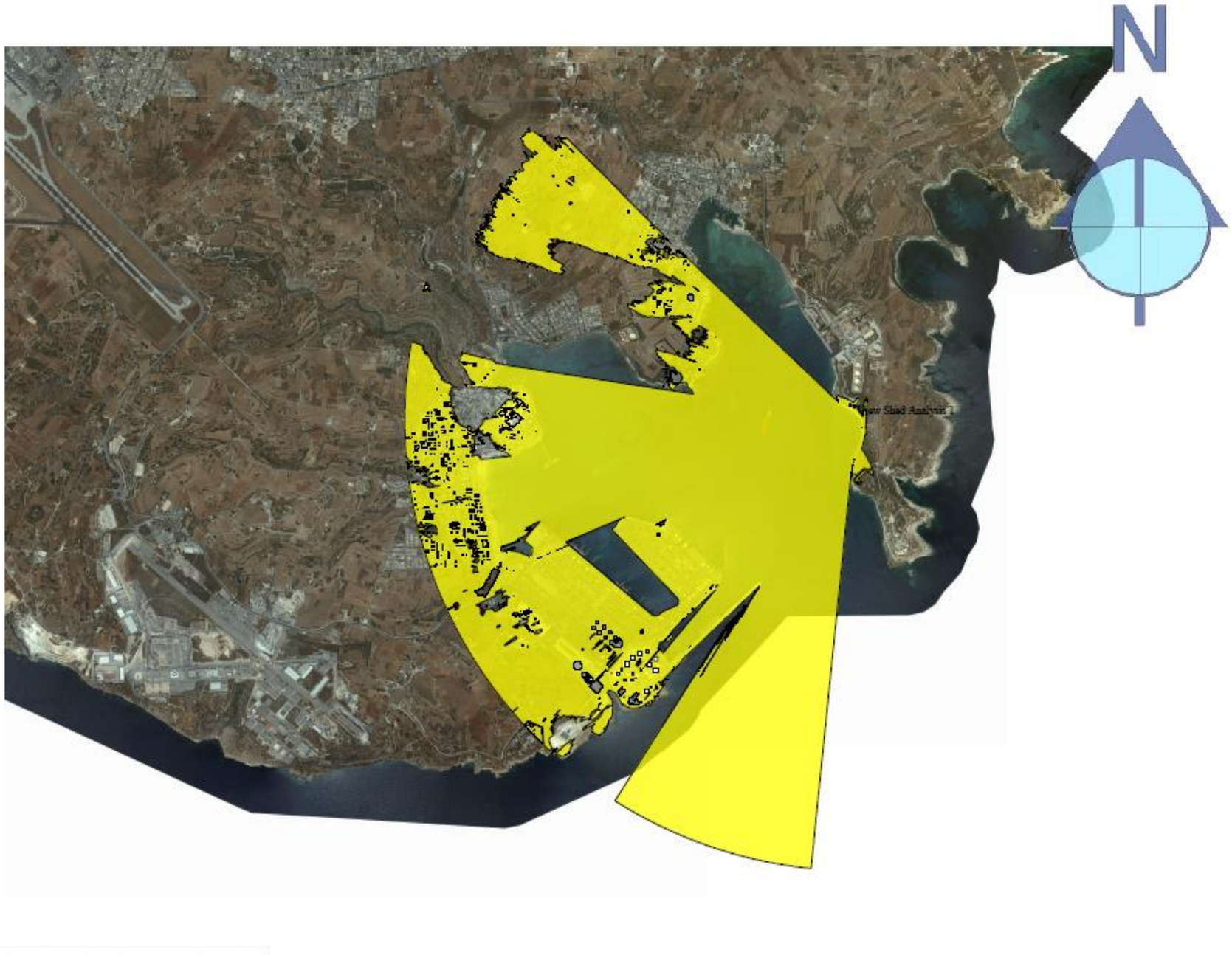

Figure 1: Zone of Theoretical Visual Influence with a 3.0km radius. The yellow shading shows the area from where the topmost part of the Scheme would theoretically be visible (Source: LIDAR Terrestrial data. MEPA ERDF156).

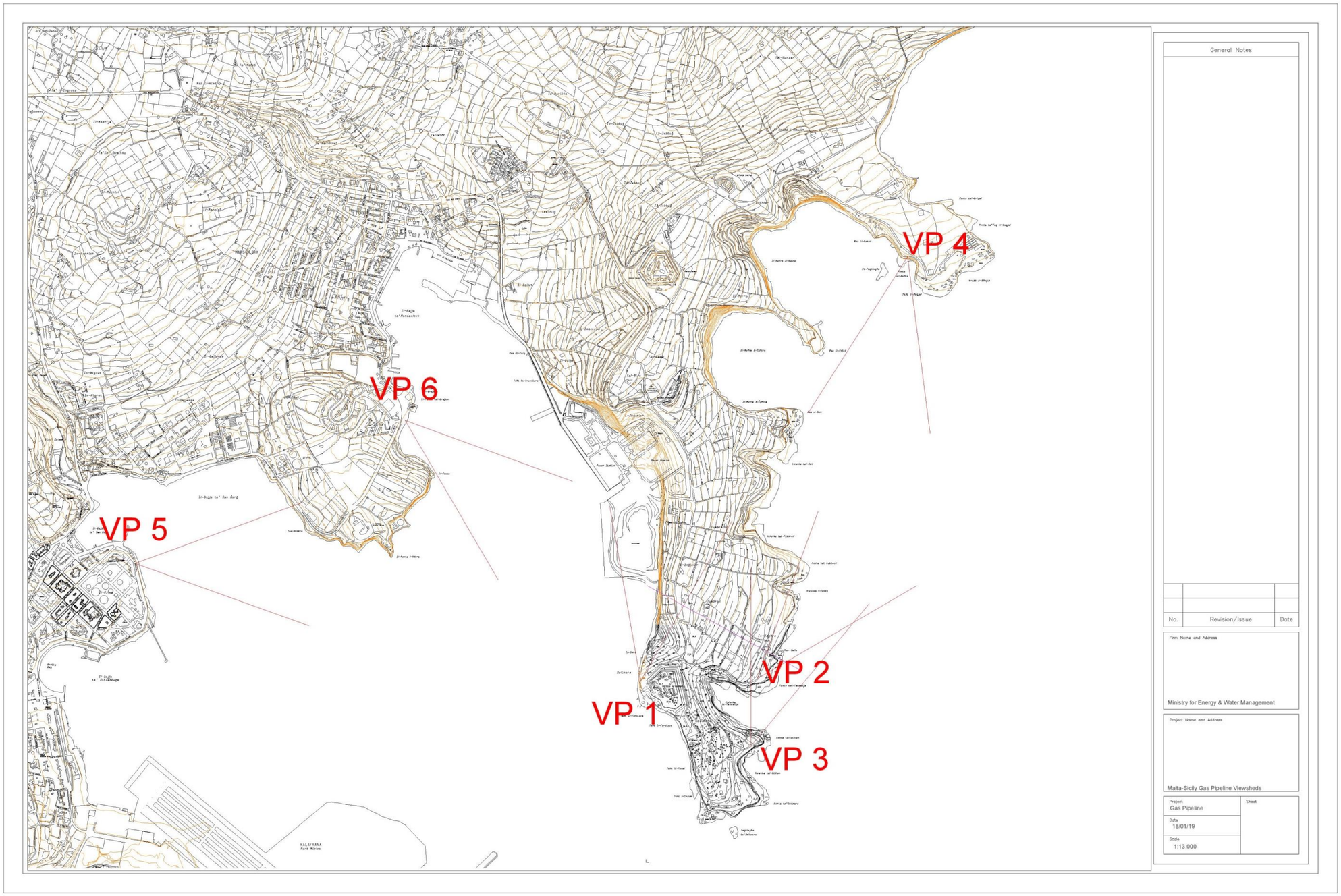

Figure 2: Site Plan showing labelled viewpoints and viewsheds (in red) with respect to Scheme (Magneta line)

2.0 Landscape Assessment

The following aspects of the landscape will be taken into consideration in order to understand the effects of the development on the landscape resource:

1. The elements making up the landscape;
2. The combination of the elements which contribute to the characteristics of the landscape;
3. The character of the landscape arising from the distinct and recognizable pattern of the elements which occur in the area.

2.1 Baseline study

The baseline study consisted of:

- A desktop study using the *Landscape Assessment Study of Maltese Islands* report together with the *Marsaxlokk Bay Local Plan* (MBLP) and the Strategic Plan for the Environment and Development (SPED).
- Identifying key elements making up the landscape (1-3) in the area;
- Field survey, including use of photos from selected viewpoints of area;
- Identifying sensitive receptors, including elements of the physical landscape that may be directly affected by the development e.g. topographic, geological and drainage features, woodland, tree cover, land use, field boundaries and artefacts.
- Assessing the condition of the existing landscape;
- Establishing the Landscape Value of the landscape under consideration.

2.1.1 *Landscape Assessment Study*

The definition of Landscape as defined by the European Landscape Convention is given as "*an area, as perceived by people, whose character is the result of the action and interaction of natural and /or human factors*". Although the Landscape is perceived through the five senses and the appreciation of the landscape by people is the result of the integration of these five senses, however, most of the time the sense of sight is usually given predominance over the other senses. For the purposes of the Landscape Assessment Study, published as part of the review of the Structure Plan for the Maltese Islands, the term Landscape was taken to refer to the "*visual aesthetic component of the surrounding environment – that is, the views as appreciated and interpreted through the sense of sight*"[1] The main aims of the Landscape Assessment Study were to:

a) Identify the main character (areas) of the Maltese Islands;
b) Explore the changes on the landscape that have taken place during the review period;
c) Develop a model to direct policy formulation in the revised Plan.

In order to facilitate the description of a landscape, the Maltese Islands were divided into 61 landscape character units. A landscape unit is identified by a number of features that tend to

[1] *Landscape Assessment Study of Maltese Islands (MEPA) pp7*

occur in the selected tract of land. The relevant Landscape Character Areas as defined by the Landscape Study and which fall within the areas of influence for this study (Figure 3) are the following:

- *Żejtun- Marsaskala* Hinterland (M41, M61)
- *Marsaxlokk* Bay Basin (M43, M47)
- Kalafrana- Ħal Far (M44)
- *Delimara* Peninsula (M45, M45)

Figure 3: Landscape Character Areas within 3km area of influence (outline in red) of Scheme (source: Landscape Assessment Study of the Maltese Islands (MEPA))

2.1.1.1 Żejtun- Marsaskala Hinterland (M41, M61)

General Landscape Description

An area of gently rolling hills, mostly occupied by dry agricultural land and intersected by a number of shallow valleys. There are two main settlements (*Żejtun* and *Marsaskala*) together with a number of scattered hamlets or agglomerations of built-structures; *Tal-Barrani* Road on its southwestern flank and a number of busy thoroughfares intersect the area. In common with other agricultural areas on the eastern part of Malta, a number of farm buildings can be found in this area. Warehouses, small garage industries, agricultural stores and other built structures can also be found. The largest settlements of the area are located at those bays - *Marsaskala* and *Marsaxlokk*. The villages blend into the landscape quite well, even though a number of buildings are modern, as the buildings are generally not very high. Inland there are some more settlements - *Gudja*, *Għaxaq* and *Żejtun*; the rest of the area is mainly agricultural. There is one main operating hard stone quarry and a sewage treatment and waste recycling plant. The eastern flank is demarcated by the coastal area. There are two coastal indentations, namely *Marsaskala* Creek and St. Thomas Bay. This stretch of coastline is a predominantly rocky coast with wave cut platforms along some stretches.

Enhancing Features

The belfry of the *Marsaskala* parish church only locally dominates the settlement as the church is back-dropped by residential development along the nearby slopes. The historic centre of *Marsaskala* is smaller and less prominent. Other chapels and historic buildings can also be found scattered in the rural areas. *Marsaskala* creek is fairly picturesque and the promenade encourages appreciation of the area. The immediate foreshore is mostly accessible and provides a pleasant land-sea interface in this area. Picturesque rock-cut traditional saltpans can be found on relatively extensive areas near *Il-Gżira*. A natural cultivated subsidence structure known as *Iċ-Ċirku* (*Latnija* area) can only be observed from within the structure or from the air as the surrounding rubble are generally higher than two metres. The white plunging cliffs due south of *Il-Munxar* Point are quite spectacular especially when viewed from the *Xrobb l-Għaġin* area. The multi-coloured shallow water collage is quite pleasant when viewed from the elevated areas which are as yet fortunately quite undeveloped.

Detracting Features

The encirclement of modern development around the historic settlements is problematic as are the rooftop accretions that characterize the majority of Maltese roofscapes. The characterless egg-crate architecture that is almost synonymous with tourism dominated areas has not spared *Marsaskala*.

2.1.1.2 Marsaxlokk Bay Basin (M43, M47)

General Landscape Description

A basin with a general dip towards *Marsaxlokk* Bay. It is intersected by a number of pluvial valleys which also drain into the Bay. A large proportion of the basin is dominated by farmland fringed by the coastal settlements of *Marsaxlokk* and *Birżebbuġa*. *Marsaxlokk* is Malta's largest fishing village whilst *Birżebbuġa* is predominantly a tourism related residential area. A number of industrial concerns and fuel storage facilities are situated quite close to the residential areas. Various historic sites can be found in this basin, the most conspicuous of which is Fort *San Luċjan* which in recent years has been used as a fish-farming base. Various farms and residential dwellings as well as garage industries and commercial outlets can be found scattered in the rural areas.

Enhancing features

The fortified tower of *San Luċjan* near *il-Ponta l-Kbira*, dominates *Marsaxlokk* Bay by virtue of its mass, design and composition. The parish churches at *Marsaxlokk* and *Birżebbuġa* also rise above the surrounding settlement. However, in both cases the effect is diminished because the church is not situated at the highest part of the settlement. Development backdrops each respective church, especially in the case of *Marsaxlokk*. In *Birżebbuġa*, the higher apartments which girdle the coastline and the fuel tanks, compete with the dominance of the parish church.

In *Marsaxlokk*, the coastal residential area has retained some of its traditional charm and has in most parts not been replaced by modern apartments. The multi-coloured traditional

fishing vessels impart on *Marsaxlokk* a unique character through the interplay of colour on a shimmering water surface. The marine craft at *Birżebbuġa* also convey a lively atmosphere to the coastal scenery albeit to a much lesser degree than *Marsaxlokk*. A significant number of historic buildings and features are found scattered both in the historic centres of the larger settlements as well as in the rural areas. The area is particularly rich in archaeological remains but these can only be appreciated from their immediate surroundings and are not conspicuous as far as long distance views are concerned. The v-shaped valleys that drain into *Marsaxlokk* Bay are quite picturesque and represent a welcome relief from the nearby developed areas. The (as yet) undeveloped coast around Fort *San Lucjan* is equally picturesque except for the area near the fuel storage tank just below the Fort. The gently dipping shorelines are also quite attractive as are the pocket beaches. The reclaimed beach at *Birżebbuġa* has furthered the coastline from the carriageway and has been buffered through the construction of a beach garden. This garden has introduced an additional element of greenery to an otherwise unimpressive developed area.

Detracting Features

The fuel tanks at *Birżebbuġa* dominate the surrounding areas and contrast sharply with them. A number of piers and pipelines ancillary to the conveyance of fuel do not make a positive contribution to the scenery. The fuel pipes which pass through *Wied Dalam* are rather unsightly although they are partially masked by surrounding vegetation and the steep sides of the valley. The tasteless architecture of most apartments in *Birżebbuġa* has both degraded the scenic value of the coastline as well as obscured the traditional historic settlement of *Birżebbuġa* from long distance views.

2.1.1.3 Kalafrana- Ħal Far (M44)

General Landscape Description

An industrial stretch of land rises gently towards the western fringe. The eastern fringe has been partially reclaimed and is occupied by the Malta Freeport and the ancillary breakwater. The western part of the area is occupied by the *Ħal-Far* industrial estate, an ex-military airfield which has been converted to accommodate industrial buildings. Until recently, significant proportions of this former airfield were accessible for public informal recreation, however much of this land has now been designated for industrial purposes. The farmland between *Ħal-Far* and *Kalafrana* accommodates a hamlet and a number of farms.

Enhancing Features

Fort *Bengħisa* overlooking the low plunging cliffs at *il-Mara*, is one of the few enhancing features although its current use is rather incompatible with the historic value of the monument and it currently lies in a rather dilapidated state. The head-office of the Malta Freeport and the landscaped area adjacent to the building, represent one of the better examples of modern architecture in Malta.

Detracting Features

The operational area of the Freeport (container terminal) at the southern tip of *Marsaxlokk* Bay, with its accumulation of massive cranes, is a very prominent feature which has a visual impact on the whole of *Marsaxlokk* Bay. An antenna farm lies between *Tal-Papa* and *Kalafrana*.

2.1.1.4 Delimara Peninsula (M45, M45)

General Landscape Description

This is a rural peninsula without any particular residences of significance. The upper globigerina limestone is mainly evident in the southern and north-eastern parts of the peninsula. The dominating features of the area are the power station together with its chimneys, which are found on the eastern flank, whereas Fort *Delimara* and the lighthouse define the skyline in the southern tip of the peninsula.

Enhancing features

The rural character of the area is considered one of the most pleasant in the eastern parts of the Island. Good distant views of various parts of Malta are possible thanks to the fact that the peninsula reaches a height of up to 30m above sea level. The views from this part cover the whole of *Marsaxlokk* Bay and extend as far as the *Rabat-Binġemma* escarpment. The *Delimara* Fort is a low-lying military structure which guards the entrance of *Marsaxlokk* Bay. The nearby lighthouse, which has recently been restored, is one of the few of a kind found in Malta. There are also a number of small inlets along the eastern side of the peninsula, which are very picturesque and enhance the scenery on this side of the land. The islet between *Ras il-Fenek* and *Xrobb l-Għagin* is another feature, which contributes to the landscape. The terracing fields sloping down towards the fishing village frame the northern part of the peninsula, while the *Tas-Silġ* church and nearby monastery fit nicely into the surrounding farmland. There are a number of saltpans along the eastern part of the peninsula, which complement the wave cut platforms and caves found in the area.

Detracting features

The main problematic feature in the area is the power station complex mainly due to the visibility of the chimney stack and also the gas tanker moored close by, which is visible from various places. The remaining part of the plant, sunken in the excavated cliff face, conveys an industrial context in otherwise relatively rural undisturbed surroundings. There are also a number of pockets of dilapidated areas. A number of fields are used for hunting and trapping purposes and this is evident from the large number of shabbily constructed hunting butts and bird cage supports found throughout the area. Field walls are mostly in a dilapidated state. Similarly, the Fort at the end of the peninsula is also in a decrepit state. There are also a number of illegal constructions along various parts of the coast, which double up as summer resorts.

2.1.2 *Marsaxlokk Bay Local Plan*

At the time when the MBLP was approved, the Landscape Assessment Study had yet to be produced and as a result, the Plan did not make reference to any Regional Character Areas as found in other Local Plans published more recently. The Delimara peninsula is not considered as an Area of High Landscape Value. The Local Plan refers to parts of the area to be included in the Delimara National Park (MD01).

2.1.3 *Strategic Plan for the Environment and Development (SPED)*

The Strategic Plan for the Environment and Development, SPED has recently replaced The Structure Plan for the Maltese Islands and its policies. The areas which could guide this report are those found under Key Issues, namely under the headings of Environment and Rural Areas and also the National Spatial Framework for the same headings. Further detail outlined in the subsections below.

2.1.3.1 Key Issues

Environment

2.20 *Malta has established a well-developed legal framework and a set of institutions in the environmental field that have protected ecological, archaeological and built heritage as well as landscapes. Public investment…….for generating energy from renewable sources. However, in many instances the environment is still seen as a competitor against development. Sustainable development necessitates a shift whereby development gradually works with and safeguards the environment and the natural resources it requires.*

Rural Areas

2.47 *The smallness of the islands, the high population density and the transition experienced in the last decades from a predominantly agrarian society to industrialised and urban communities have led to significant change in land use patterns. The expansion of urban settlements and new built-up areas up until the designation of the Temporary Provisions Schemes in 1988 has led to the coalescence of town and villages. This has had an adverse impact on the distinct characteristics of rural areas and resulted in a reduction of open countryside; damage to natural habitats, wildlife and natural hydrological processes; conflicting activities; soil erosion and soil sealing; risks of pollution, such as from ground level ozone; contamination of soil and water catchments; and the scarring of traditional landscape. Other significant threats come from dumping……agricultural malpractices.*

2.48 *Agriculture dominates the rural environment yet abandonment, loss and fragmentation of agricultural land remain critical issues for the future sustainability of Malta's rural areas. The present situation of Maltese agriculture…….The reduction in full time employment in agriculture and the continuing process of land fragmentation have shifted people's interest in the use of agricultural land and buildings for gardening as a hobby and /or for their exclusive enjoyment of the countryside as a weekend retreat. This has increased pressure for new structures in the rural area, sometimes under the pretext of agriculture, or for conversion of existing structures to a non-agricultural use. Therefore the promotion and support of a sustainable and modernised agricultural industry is also crucial to safeguarding the countryside for present and future generations. The challenges of modernisation of*

arable and livestock farming require an appreciative understanding of the spatial context within which they occur.

***2.49** The Maltese Landscape has been moulded over time by natural and anthropological forces and can be described as a cultural landscape. It is characterised by the karstic rock formations, the closely-knit geometric forms of settlements dominated by domes and steeples, terraced agricultural fields and Mediterranean flora. This has a valuable…..give the islands their cultural identity. Various buildings of heritage value have been abandoned whilst others were subjected to significant structural changes and additions.*

Coastal Zone and Marine Area

***2.51** The coastal zone within the Maltese Islands is perceived as a limitless resource that can accommodate all types of uses, in particular the marine environment, which is not covered by an adequate property management system. Consequently this has given rise to conflicts as the limited coastal space on land has been gradually taken up by uses that do not necessitate a coastal location, to the detriment of the legitimate coastal uses as well as the natural and cultural resources. With the coast accommodating most of the nation's strategic infrastructure (energy, ports, desalination and sewage treatment plants) and being identified as a tourism zone in Malta's current tourism policy, the impacts from user conflicts within the coast become even more significant.*

2.52 Increased building heights and new materials and designs have eroded the traditional character of settlements in the urbanised coast. Coastal engineering works have led to an increase in the artificialisation of the coastline and loss of sandy beaches whilst fishing villages have been almost completely transformed and displaced by recreational and holiday accommodation facilities. Demand for development is concentrated in areas that have easy access to the sea leading to intensification in already developed coasts. Competition for a coastal space is significant even from legitimate coastal uses such as port-related activities including fuel storage, aquaculture and recreation, which reflects the needs for modernisation of operations.

2.53 The use of the marine environment for economic activities has been increasing over the last two decades, diversifying from fisheries and shipping with the development of the Malta Freeport, the establishment of bunkering sites, the introduction of aquaculture as well as the development of yacht marinas. All these activities also generate the demand for ancillary facilities on land. Although the fishing industry in Malta is mainly artisanal, its social and cultural importance far outweighs its economic contribution to the national GDP. Together with aquaculture it is considered to be a major user of the coastal and marine space with the 25 nautical mile Fisheries Management Conservation Zone dedicated to sustainable fisheries.

2.54 With the potential of marine related development still not fully exploited, it is possible that future development proposals for marine use particularly in the renewable energy sector, short sea shipping and diversification of the aquaculture industry will also increase. Given the distinctive difference in water depths between the northern and southern shores pressure for maritime development within the coastal zone will likely be concentrated along the northern shores. In the absence of a holistic policy direction that addresses marine space,

the potential for conflicts between marine uses as well as coastal activities is high and if left unchecked may be detrimental to the efficient use of the marine resources.

2.55 Land based activities are the main sources of coastal and marine pollution that affect the natural processes and the socio-economic activities that depend on them such as bathing water quality and seafood quality. Coastal and marine areas are also vulnerable to the impacts of climate change, not only through increased temperatures that may affect marine ecosystems but also through increased storm surges and sea-level changes that are likely to accelerate coastal erosion and affect coastal habitats and the densely used low-lying coastal areas.

2.1.3.2 National Spatial Framework

Climate Change

Thematic Objective 9: *To control Greenhouse gas emissions and enhance Malta's capacity to adapt to Climate Change by*

1. *Supporting the implementation of Malta's Energy and Water Policies*
2. *Support the implementation of the National Mitigation Strategy and National Adaptation Strategy*

Coastal Zone and Marine Area

Coastal Objective 1: *To prioritise uses that necessitate a location on the coastal zone and marine area in a manner which minimises user conflicts, does not accelerate coastal erosion, protects biodiversity, cultural heritage, landscapes and visual access to them, public access and use and increases resilience to climate change impacts by*

1. *Designating*
    a. *a predominantly terrestrial urban coast to promote compatible urban coastal uses, safeguard legitimate coastal uses and visual access from promenades, and enhance public use of bathing areas; and*
    b. *a predominantly terrestrial rural coast to encourage the continuation of traditional agricultural use where predominant and public access for informal recreation, to restrain mineral extraction from extending towards the coastline and improve small scale beach facilities. The rural coast may also accommodate legitimate coastal uses of strategic importance which may be incompatible with urban coastal uses and where no alternative locations on the designated urban coast exist*
2. *Facilitating the implementation of the Marine Strategy Framework Directive and work towards good environmental status*
3. *Facilitating the implementation of a national integrated maritime strategy*

2.1.4 *Field surveys*

The field surveys were carried out on the 16th January 2019 between 14.00 and 17.00hrs. Each of the sites shown in Figure 2 was visited and the following details were recorded:

1. A series of photos taken were taken with a Pentax K1 at height of 1.8m above the ground. A single shot, including a view of the Scheme, was chosen for a more detailed analysis;
2. A rough sketch of the whole view recording key elements (visual and non-visual) of the landscape was drawn, including any striking characteristics and intrusive features;

The chosen sites are at different altitudes with reference to the scheme and are all within 3.0 km of the proposed site.

One of the major problems encountered when on site was that although the theoretical model showed that the site would be visible from various points around the site, the original plotted viewsheds had to be modified in the field. This was mainly due to the fact that some views are obstructed by large trees or buildings.

Figure 4: Viewpoint (VP 1) from carpark overlooking Delimara Power Station

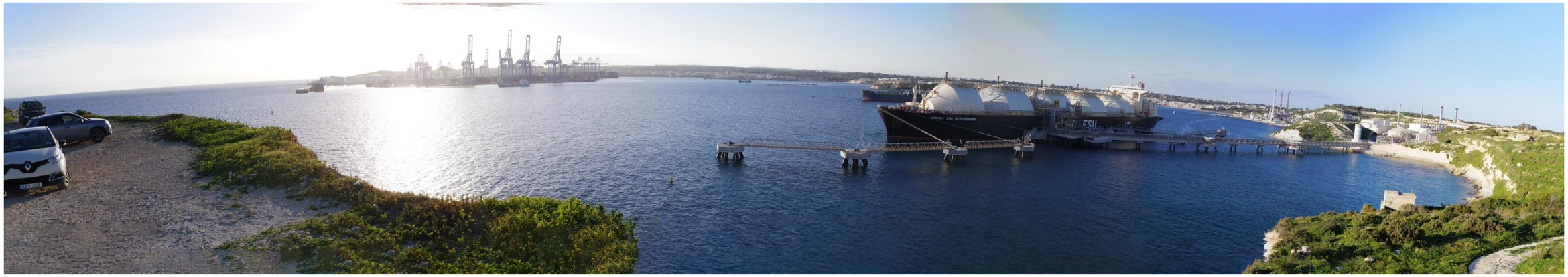

Figure 5: Panoramic view (west) from carpark overlooking Delimara Power Station and Marsaxlokk Bay

Figure 6: Panoramic view (east) from carpark overlooking Delimara peninsula

Figure 7: Viewpoint (VP 2) from Ponta tat-Tawwalija

Figure 8: Panoramic view (north view) from Ponta tat-Tawwlija, Delimara

Figure 9: Panoramic view (south view) from Ponta tat-Tawwlija, Delimara

Figure 10: Panoramic view (northwest view) from Ponta tat-Tawwlija, Delimara

Figure 11: Viewpoint (VP 3) from Ponta tal-Gidien, Delimara

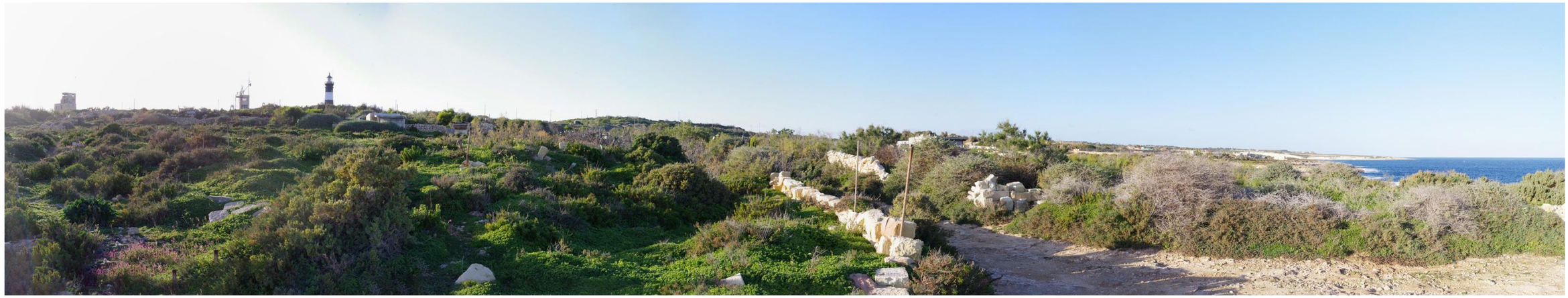

Figure 12: Panoramic view (north) from Ponta tal-Gidien, Delimara

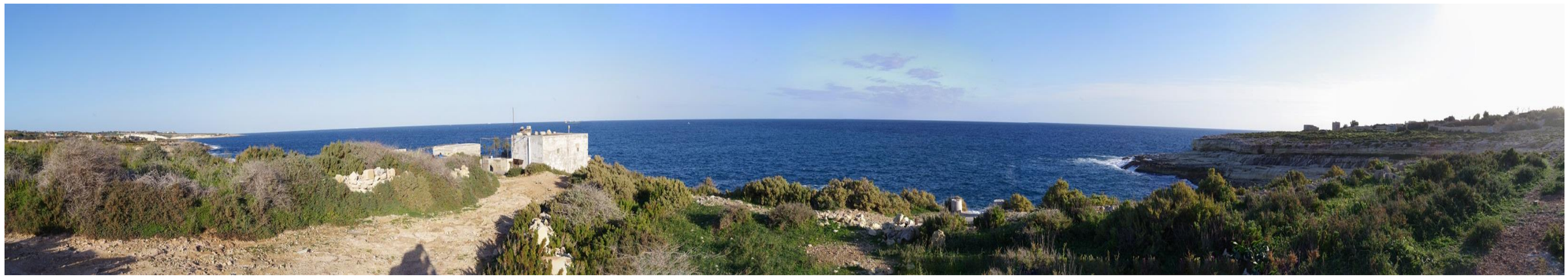

Figure 13:Panoramic view (south) from Ponta tal-Gidien, Delimara

Figure 14: Viewpoint (VP 4) from Ponta tal-Ħofra, Delimara

Figure 15: Panoramic view (south) from Ponta tal-Ħofra, Delimara

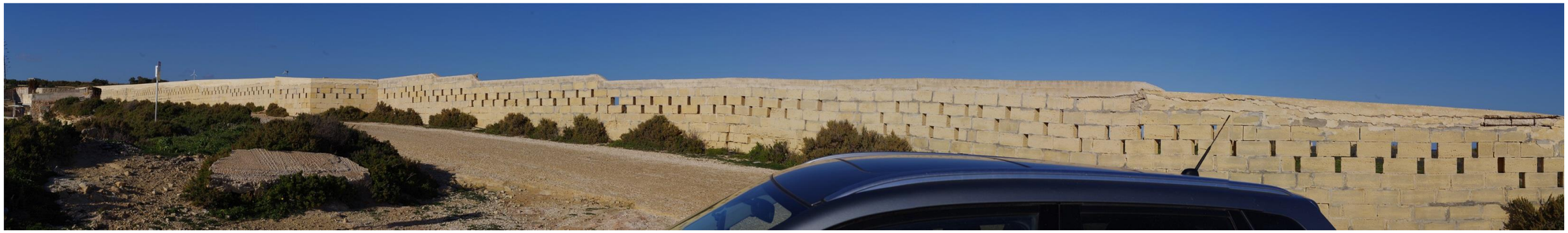

Figure 16: Panoramic view (north) from Ponta tal-Ħofra, Delimara

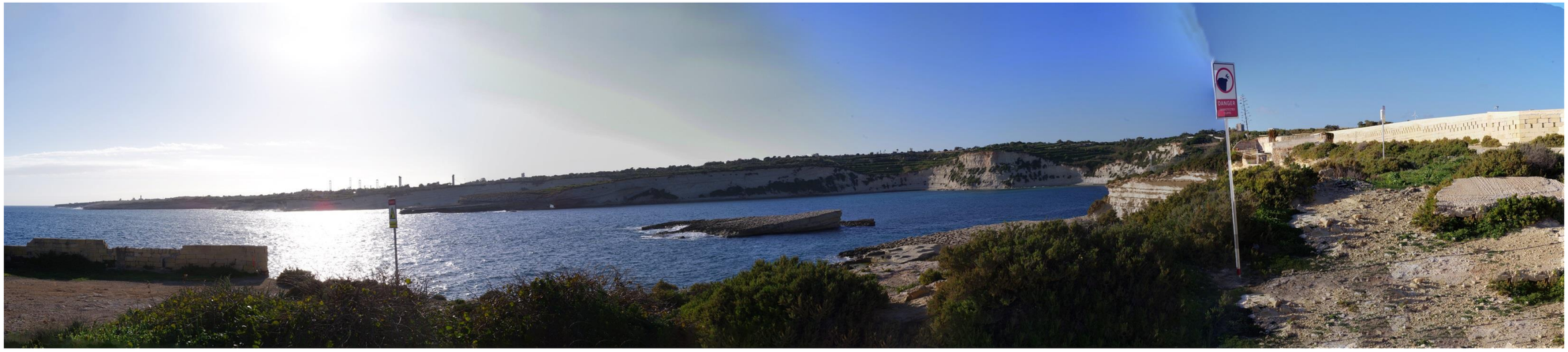

Figure 17: Panoramic view (northwest) from Ponta tal-Ħofra, Delimara

Figure 18: Viewpoint (VP 5) from Dawret il-Qalb Mqaddsa, Birżebbuġa

Figure 19: Panoramic view (southeast) from Dawret il-Qalb Mqaddsa, Birżebbuġa

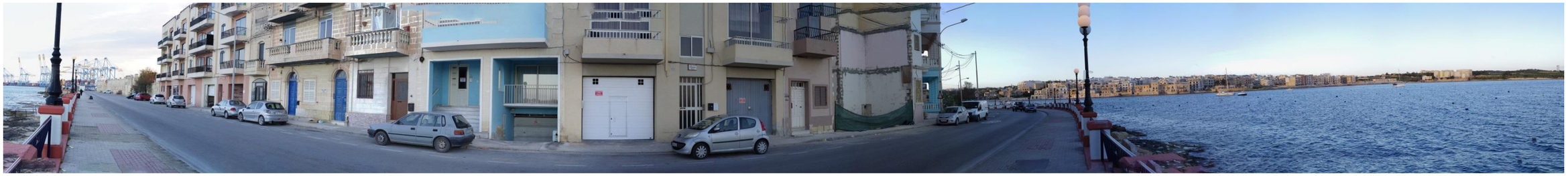

Figure 20: Panoramic view (west northwest) from Dawret il-Qalb Mqaddsa, Birżebbuġa

Figure 21: Viewpoint (VP 6) from Triq it-Tramuntana, Marsaxlokk

Figure 22: Panoramic view (northeast) from Triq it-Tramuntana, Marsaxlokk

Figure 23: Panoramic view (south) from Triq it-Tramuntana, Marsaxlokk

2.1.4.1 Viewpoint 1: Carpark overlooking Delimara Power Station (Figure 4 – Figure 6)

The view from this point overlooks part of the Scheme and most of the existing power Station complex including the gas storage tanker moored along the pier below.

The view on the west side (Figure 5) overlooks Marsaxlokk Bay, the Freeport area together with distant views beyond. The closest views are dominated by the FSU tanker and the large cranes at the Freeport, the latter are found directly opposite the viewpoint. Otherwise, the bay houses various vessels and a number of small fish farm pens just off San Lucjan Tower. Coastal residences along the villages of Birżebbuġa and Marsaxlokk are also evident from this point.

Towards the east side (Figure 6) there is the narrow Delimara Peninsula which is still in a semi-pristine stage, bar the large Power Station complex. Most of the area is still used for agriculture or consists of fields used for various other purposes. Adjacent to the car park is Fort Delimara located in a strategic location overlooking the entrance to the port.

Unfortunately, fly tipping is not unusual in this area, which is frequented by many both during the week but more so during the weekends, especially in winter. The area is also quite popular with tourists throughout the year and also ramblers who walk along the various narrow pathways crisscrossing the peninsula.

2.1.4.1.1 Viewshed

2.1.4.1.1.1 Key elements

2.1.4.1.1.1.1 Visual

1. Blue sea
2. Large cranes
3. Boats/ ships
4. Terraced fields
5. Fly tipping
6. Fort Delimara
7. Greenery (bushes and trees)
8. Delimara Power Station Structures including FSU
9. Rural rooms
10. Birżebbuġa and Marsaxlokk villages
11. Parked vehicles

2.1.4.1.1.1.2 Non-visual

1. Alarm sirens from Freeport area
2. Engine noise from sea vessels
3. Birds calling

2.1.4.1.1.1.3 *Intrusive features*

1. Large cranes
2. Fly tipping
3. Delimara Power Station Structures
4. Vehicles

2.1.4.1.2 Combination of elements contributing to characteristic of Landscape

The view consists of a complex mix of elements ranging from the historical (Fort Delimara) to the industrial (Freeport and Delimara Power Station) and natural (greenery on fields and the blue sea). The Marsaxlokk port area also shows contrasting activities between the intense industrial activity at the Freeport and the residential area of Birżebbuġa whereas on the Marsaxlokk side there is the Power Station activity contrasting with the miniscule fishing village of Marsaxlokk and the inner harbour area with its colourful painted boats.

2.1.4.1.3 Sensitive receptors

The viewpoint is enjoyed by various tourists looking for Fort Delimara and also those looking to enjoy panoramic views of the bay and the activities taking place in the area. It is also a spot various Maltese people seeking for some form of relaxation during all days of the week. The number of people visiting this site could range between a few tens daily to hundreds especially during the weekend in winter. Although the Scheme would be visible from this point, it will still be within the current area occupied by the Power Station.

2.1.4.1.4 Condition of existing landscape

The condition of the existing landscape could be termed as moderate to poor due to the fact that there are a lot of human intrusions which have deteriorated the natural landscape and changed its form and structure, in some cases even beyond recognition. Unfortunately, the isolation of the peninsula is also leading to the deterioration resulting from acts of vandalism and also fly tipping in various areas. The adjacent historic fort is in a dilapidated state, the only signs of human intervention are in the forms of vandalism acts leading to further deterioration of the existing landscape.

2.1.4.2 Viewpoint 2: Ponta tat-Tawwalija (Figure 7 – Figure 9)

The viewpoint is from a point along the eastern coast of the Delimara peninsula overlooking the sea which can best be reached on foot although the terrain is rough. It shows the area from where the gas pipeline will reach land and connect to the Terminal Plant on the opposite site of the peninsula through an underground tunnel. The area is dominated mainly by uninterrupted views of the sea; however, there are various constructions currently underway in various forms, shapes and sizes along the coast. There is also evidence of additional constructions along various parts of the rough track. The shoreline is mainly dominated by small bushes which are tolerant to sea spray and so can resist such conditions. Beyond there are also a number of fields and pseudo agricultural buildings (Figure 10). Looking towards the south west (Figure 9) and further inland one will also notice the Delimara Lighthouse on the promontory.

Various people visit this area mostly during the summer months but also during the winter weekends. A much smaller number visit this area during the weekdays.

2.1.4.2.1 Viewshed

2.1.4.2.1.1 Key elements

2.1.4.2.1.1.1 Visual

1. Blue sea
2. Buildings along coastline
3. Shrubs and bushes
4. Delimara lighthouse
5. Rubble walls
6. Construction activity

2.1.4.2.1.1.2 Non-visual

1. Sea water breaking on rock
2. Bird song
3. People talking

2.1.4.2.1.1.3 *Intrusive features*

1. Buildings along coast
2. Construction activity

2.1.4.2.2 Combination of elements contributing to characteristic of Landscape

The view from this point consists mainly of the vast expanse of sea along the coast which is peppered with a number of odd constructions in the form of well sized rooms/ dwellings/ boathouses which are impacting the coastal areas and are also impinging on the otherwise unspoilt surroundings. All of these constructions are serviced by a road track of some form leading to intrusions of vehicular activity and trampling on the wild areas and further damage to flora and fauna. This is also having a damaging effect on the landscape of the area. This is leading to the slow urbanisation of the whole coastal area on this side of the peninsula. During the summer months these constructions are supplemented with other makeshift ones which are dismantled or removed during the winter months. During the winter months, the area is relatively quiet but things change drastically during the summer months where the place becomes a hive of activity. There are also signs of more residences in the proximity in the form of a hotel and also some farmhouses. In the hypothetical scenario where no permanent rooms are present, the view is an excellent one but the presence of the above-mentioned constructions is leading to the degradation of the landscape and the whole area.

2.1.4.2.3 Sensitive receptors

The condition of the existing landscape could be considered as moderate to poor, much depending on the season. This assessment is mainly due to human intrusion in its various forms. The increase in construction activity under various guises will not improve matters and in due course will become more resembling a seaside resort of sorts. Various people visit the area both for walks and also for swimming or other leisure activities throughout the year. These could vary from a few tens on a daily basis in winter to hundreds during the hot summer months. The Scheme should not be visible from this point albeit during construction (laying of pipe) the vessels would be visible and there could possibly be some minor activity on land. Once the Scheme is operational there shouldn't be any visible activity on land but there could be marker buoys at sea if these are requested by the Maritime Authority.

2.1.4.2.4 Condition of existing landscape

The condition of the landscape can be considered as moderate to good mainly due to the various structures found along the coast together with makeshift tracks serving as access routes to these structures.

2.1.4.3 Viewpoint 3: Ponta tal-Gidien, Delimara (Figure 11 – Figure 13)

This viewpoint is from a point along the coast south of the entrance of the gas pipeline along the coast of the Delimara peninsula. Most of the area can only be reached by foot. The view is very similar to the previous one and as such is mainly dominated by the sea and the eastern coast of the peninsula of Delimara (Figure 11 and Figure 12). Various rooms built along the coast are also evident from this point. However, low bushes and small trees dominate most of the surrounding land. The Delimara Lighthouse is also evident along the west side of this viewpoint (Figure 13). Various low lying constructions are also evident around the place.

Various people visit this area mainly during the winter mainly for hunting and trapping purposes. The coastal part is used much more during the summer months.

2.1.4.3.1 Viewshed

2.1.4.3.1.1 Key elements

2.1.4.3.1.1.1 Visual

1. Low vegetation
2. Blue sea
3. Rubble walls
4. Small buildings

2.1.4.3.1.1.2 Non-visual

1. Sea water breaking on rock
2. Bird song

2.1.4.3.1.1.3 *Intrusive features*

1. Buildings along coast

2.1.4.3.2 Combination of elements contributing to characteristic of Landscape

The view from this point consists mainly of a vast expanse of sea and parts of the eastern coast of the peninsula including the white cliffs next to the Xrobb l-Għaġin Park and the park buildings. Otherwise, most of the area is covered with low lying bushes and trees interrupted with a number of footpaths and makeshift road tracks.

2.1.4.3.3 Sensitive receptors

The number of people visiting the area during the year varies considerably. The area is frequented mostly by swimmers during the summer months but during the winter the area is mainly visited by hunters, trappers and ramblers and tourists roaming the area.

2.1.4.3.4 Condition of existing landscape

The condition of the landscape can be considered as moderate mainly due to the various forms of interventions which have taken place over the years. These consist mainly of constructions both in the form of small rooms and also of makeshift tracks.

2.1.4.4 Viewpoint 4: Ponta tal-Ħofra, Delimara (Figure 14 – Figure 17)

The viewpoint is from a point adjacent to the Xrobb l-Għaġin Park. It is similar to the previous points along the east coast of the peninsula (Figure 14). The viewpoint is close to a

sizable area used mostly as a car park at the end of the road which also leads to the Park and a dwelling (Figure 15). As in other viewpoints most of the views are dominated by the long distant views of the sea. On the landside, a long perimeter wall lies along the road leading to this viewpoint (Figure 16). The view overlooks the bay known as il-Ħofra which is frequented mostly during the summer months and serves as a berthing place for various pleasure boats visiting the area. During the winter months, the area is popular with locals for picnics and also with people enjoying the countryside or visiting the Park. It is also popular with tourists exploring the area.

2.1.4.4.1 Viewshed

2.1.4.4.1.1 Key elements

2.1.4.4.1.1.1 Visual

1. Blue sea
2. Topographical features
3. Low lying vegetation
4. Sea vessels
5. Delimara Lighthouse
6. Radar building
7. Coastal buildings
8. Electricity pylons
9. Delimara Power station chimneys
10. White sea cliffs
11. Terraced fields

2.1.4.4.1.1.2 Non-visual

1. Sea water breaking on rock
2. Bird song

2.1.4.4.1.1.3 *Intrusive features*

1. Buildings along coast and promontory
2. Electricity pylons

2.1.4.4.2 Combination of elements contributing to characteristic of Landscape

The view from this point consists mainly of the inlet bay and small islet just a few metres off the edge of the cliff which together with the vast expanse of the sea offer a relaxing view to whoever is present at this point. On the landside, the view is mainly dominated by various constructions both along the coast but also on the promontory thus interrupting the skyline. Various structures such as pylons and chimneys interrupt the skyline (Figure 17). On the opposite part of the bay a number of terraced fields descend along a gentle slope until they stop along the shear drop of the cliffs enclosing Il-Ħofra bay.

2.1.4.4.3 Sensitive receptors

The number of people visiting the area varies considerably between summer and winter. In summer, the place is frequented daily but especially during the weekend by swimmers while in winter it is much popular during the weekends rather than during the week. During weekdays it is visited by tourists and schoolchildren as an excursion to the park. The number

of people could vary from a few tens during the weekdays up to several hundred during the summer months.

2.1.4.4.4 Condition of existing landscape

The condition of the existing landscape could be considered as moderate especially when one considers that the natural elements are still dominant when compared to the various anthropogenic ones.

2.1.4.5 Viewpoint 5: Dawret il-Qalb Mqaddsa, Birżebbuġa (Figure 18 – Figure 20)

The viewpoint is exactly on the opposite side of the Scheme and the bay. Apart from the expanse of the sea between the two points there is the dominant San Lucjan Tower sitting on top of the protruding part of rock within the bay (Figure 18). On the opposite side the FSU gas tanker adjacent to the cliffs found along the outer part of Delimara dominates the viewpoint. The viewpoint is close to the entrance of ENEMED depot which is along a stretch of road which consists mainly of apartment blocks (Figure 19). The Freeport facilities lie south of the viewpoint, their towering cranes dominating the area while the stacks of containers block views of the sea beyond. Toward the north, one finds the older part of the Birżebbuġa village complete with the small berthing area of St George's Bay with various berthed sea craft. One could also note a number of fuel tanks found along Triq il-Qajjenza (Figure 20).

Whereas originally Birżebbuġa was a seaside resort area and so would be a relatively quiet place during the winter, now this has become another residential area which increases in popularity during the summer months thanks to an influx of locals and tourists.

2.1.4.5.1 Viewshed

2.1.4.5.1.1 Key elements

2.1.4.5.1.1.1 Visual

1. Blue sea,
2. Sea vessels including FSU
3. San Lucjan Tower
4. Fish farm pens
5. Power Station chimneys
6. Delimara lighthouse and radar station
7. Plastic moorings
8. White cliffs
9. Fuel dolphin

2.1.4.5.1.1.2 Non-visual

1. Freeport alarms
2. Passing vehicles
3. Aircraft overhead

2.1.4.5.1.1.3 *Intrusive features*

1. Power station chimneys
2. Fuel dolphin

3. Plastic moorings
4. Large vessels

2.1.4.5.2 Combination of elements contributing to characteristic of Landscape

The mix of elements found within the bay have changed the area from one which was more related to a fishing village with small vessels plying their trade to one which is now dominated by industrial activities, be it large container ships, fuel tankers and also gas tankers. The area has therefore become more like a major industrial port surrounded by a number of small villages. The original cliff face along the Delimara peninsula has been overtaken by the Power Station activities which have spilled over onto the surroundings and have dominated a significant part of the area.

2.1.4.5.3 Sensitive receptors

The number of people who reside or visit the area, or travel along the promenade varies from hundreds to thousands daily depending on the day of the week and the season (summer or winter). The receptors could vary from people residing in the various apartments and residences living in the area to people travelling in vehicles or working in the area.

2.1.4.5.4 Condition of existing landscape

The condition of the existing landscape is relatively poor mainly due to the intensive industrial activity found in the area which has a dominant effect. The eventual removal of the FSU tanker will slightly improve the condition of the area, although the pier will probably remain in place.

2.1.4.6 Viewpoint 6: Triq it-Tramuntana, Marsaxlokk (Figure 21 – Figure 23)

The viewpoint is taken from a point adjacent to the Marsaxlokk Aquatic Sports Club. The view is dominated by the existing Power Station complex and the FSU gas tanker, which has covered up a significant part of the cliff face. The foreground is dominated by sea craft and ships which form an integral part of the life in this harbour area. In fact, one could encounter large and small fishing vessels and also oil and fuel tankers, which unload their cargo in various points in the area, including the Power Station (Figure 21 and Figure 22).

Apart from the power station complex, a number of fields and small pockets of trees and shrubs dominate the remaining landscape. Otherwise, there is a large hillock of rubble, which was deposited to the south of the power station complex and is currently hiding a number of large fuel tanks behind it. Over the years, this mound was covered with vegetation and hence its impact has been reduced. On the far end of the peninsula, there is also Fort Delimara, which is covered by the gas tanker. West of the viewpoint one finds a large yard used by a fish farming company. A number of terraced fields are found along both sides of the road south of the viewpoint (Figure 23).

2.1.4.6.1 Viewshed

2.1.4.6.1.1 Key elements

2.1.4.6.1.1.1 Visual

1. Power Station complex;

2. Gas tanker;
3. Leisure boats;
4. Deposition of rubble next to Power Station complex;
5. Blue sea;
6. Vessel trailers and boats on land;
7. Pockets of trees and vegetation in various areas.

2.1.4.6.1.1.2 Non-visual

1. Noise from passing cars;
2. Noise from people working on vessels close by;
3. Bird song.

2.1.4.6.1.1.3 *Intrusive features*

1. Power Station complex;
2. Gas tanker;
3. Deposition of rubble next to Power Station complex;
4. Vessel trailers and boats on land;

2.1.4.6.2 Combination of elements contributing to characteristic of Landscape

In the absence of the power station and gas tanker, the view from this point would be that of a large undeveloped peninsula overlooking a fishing village or harbour area. A large vessel unloading fuel at the dolphin found in the centre of the bay further accentuates this industrial image. The power station complex together with the unloading facility and the Freeport on the opposite side changed the whole setting from a fishing village setting into an industrialised port.

2.1.4.6.3 Sensitive receptors

This viewpoint is rather far away from the Scheme, which would probably be mostly hidden by other structures. However, it must also be pointed out that since the existing footprint is not going to be exceeded, there isn't going to be a marked change to the landscape.

2.1.4.6.4 Condition of existing landscape

The general condition of the existing landscape appears to be poor. The activities at the unloading dolphin and also the presence of the FSU gas tanker together with the structures on land of the power station have changed the natural landscape into an intensive industrial one.

2.1.5 *Landscape Value*

The landscape value of the area was determined using the following methodology. An A3 sized full colour print showing a pre and post development was produced for each of the viewsheds and each set was analysed by the assessor by answering a short questionnaire (Appendix I).

2.1.5.1 Results of Questionnaire

Table 1 shows the results obtained from the questionnaires.

Table 1: Landscape values for different viewpoints

The results show that the lowest score was obtained for the existing landscape from the first viewpoint which is the one closest to the Scheme and which practically overlooks it. Out of the other viewpoints, the Scheme is only partially visible from across the bay (VP5 and VP6).

	VP1	VP2	VP3	VP4	VP5	VP6
Score for existing landscape	4	7	8	7	6	6
Key elements (visual)						
LNG mooring pier	√				√	√
Rural buildings	√			√	√	
Parts of DPS	√		√		√	√
Blue sea	√	√	√	√	√	√
Fields	√		√		√	√
Coastal vegetation		√	√	√	√	√
Seaside buildings		√	√	√	√	
Motor tracks		√	√	√		
White cliffs			√	√	√	
Delimara Lighthouse				√	√	
Radar unit				√	√	
Dilapidated stone wall				√		
LNG tanker					√	√
Electricity pylons and cables				√	√	
Fuel Dolphin					√	
Fish farming pans					√	√
Fuel tanker					√	
Fort San Lucjan					√	
Sea vessels						√
Key Elements (non-visual)						
Aircraft noise	√	√	√	√	√	√
Vehicular noise				√	√	√
Add						
Greenery	√	√			√	
Remove						
Mooring pier	√	√			√	√
Seaside buildings		√	√	√	√	
Motor tracks		√	√	√		
Dilapidated wall				√		
Electricity pylons and cables				√	√	
LNG tanker					√	√
Differences between pre- and post-development photos	Y	N	N	N	Y	Y
Development visible (full: F; partial PF; NV not visible)	PF	NV	NV	NV	PF	PF
Post development score	4	7	8	7	6	6

Thanks to the distances involved and the existing infrastructure in the immediate surroundings, the effects on the landscape value can be considered as minimal. In fact, the scores given have remained the same for both the pre- and post-development scenarios. The pre and post development scores for VP2-VP4 have remained the same since there will be no changes which will affect the landscape of the areas under consideration. However, addition of some greenery and the removal of sea side buildings would definitely help improve the landscape along the coast.

2.2 Analysis of landscape impacts

This section will be presented in a tabular form in order to facilitate reading and for ease of comparison. Each table will be split in three sections, namely the identification, nature and the assessment of impacts on the surrounding landscape. A table for each viewpoint will be produced.

2.3 Identification and nature of impacts

The nature of development being proposed will practically limit the impacts to the area within the perimeter of the development area. These will be split between those occurring during construction phase and those during operation. Mitigation measures, which are introduced, could change the nature of the impact from a negative to a positive one, but its magnitude could either remain the same or change accordingly. Most of the identified impacts are usually of the direct type, however, there are those which occur elsewhere as a result of the development and hence are indirectly linked to it (*indirect impacts*) and there are also potential cumulative ones (*cumulative impacts*) which could occur in the future within the area of influence.

2.4 Assessment of Impacts

The area of influence doesn't include Areas of High Landscape Value.

In order to assess the impacts generated by the proposal, one has to establish a set of criteria to define both the magnitude and the significance of the impacts. The following set of criteria to determine the magnitude of the impacts were adapted from foreign sources in order to determine the magnitude of the impacts[2]:

- **Not Significant**: No/only a very small part of the development is discernible and/or they are at such a distance that they are scarcely appreciated. Consequently, they have very little effect on the landscape.
- **Minor**: The development constitutes only a minor component of the wider landscape, which might be missed out by the casual observer or receptor. Awareness of the development would not have a marked effect on the overall quality of the scene.
- **Moderate**: The development may be visible and a recognisable new element within the landscape and may be readily noticed by the observer or receptor.
- **Major**: The development forms a significant and immediately apparent part of the landscape that affects and changes its overall character.

The criteria adapted to describe the levels of significance were[3]:

- **Major adverse impact**: where the development would cause a significant deterioration in the existing view.
- **Moderate adverse impact**: where the development would cause a noticeable deterioration in the existing view.
- **Minor adverse impact**: where the development would cause a barely perceptible deterioration in the existing view.
- **Minor beneficial impact**: where the development would cause a barely perceptible improvement in existing view.
- **Moderate beneficial impact**: where the development would cause a noticeable improvement in the existing view.
- **Major beneficial impact**: where the development would cause a significant improvement in existing view.
- **No change**: no discernible deterioration or improvement in the existing view.

[2] Adapted from Terence O'Rourke plc as cited in Guidelines for Landscape and Visual Impact Assessment (2nd ed).

[3] Adapted from Nicholas Pearson Associates as cited in Guidelines for Landscape and Visual Impact Assessment (2nd ed).

Other criteria used:

Scale:

- **No change**: No marked change to landscape resource
- **Slight**: Minimal change to landscape resource
- **Moderate**: Denotable change to landscape resource
- **Major**: development is a dominant feature in landscape, hence a significance change to landscape resource

Timing:

- **Temporary**: effect will change over a short period of time
- **Permanent**: the changes to the landscape resource will become a everlasting feature within that landscape

Duration:

- **Short**: change will last less than a couple of years
- **Long**: change will last more than two years

Direct/Indirect:

- **Direct**: an effect that is directly attributable to a defined element or characterisation of the proposed development
- **Indirect**: an effect that is not a direct result of the proposed development but is often produced away from the site or as a result of a complex pathway or secondary association.

Sensitivity:

- **Low**: Development contributes minor change/ effect to the existing landscape value or character
- **Moderate**: Development contributes a discernible change/ effect to the existing landscape value or character
- **High**: Development contributes significantly to the existing landscape value or character and becomes a predominant feature in that landscape.

Probability:

- **Definite**: Certain that such impacts will occur
- **Probable**: there is a 50/50 chance that such impacts will occur
- **Uncertain**: there is a low level of certainty (<25%) that such impacts will occur

Confidence level:

- **High**: Assessor is confident in his predictions

- **Moderate**: there is a level of doubt in the predictions
- **Low**: There is a high level of doubt in the predictions made.

Table 2: Summary of impacts on landscape character

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	**Extents**	**Scale**	**Timing**	**Duration**	**Adverse/ beneficial**	**Direct/Indirect**	**Cumulative**	**Magnitude**	**Significance**	**Reversibility**	**Sensitivity**	**Probability**	**Confidence level**	**Scope for mitigation**	**Mitigation measures**	**Residual impacts**
VP 1: Carpark overlooking Delimara Power Station	Presence of construction machinery/ cranes; Land reclamation and associated works	Development area and beyond	Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate	Moderate	Limited	Moderate	Definite	High	None	None	None
	New structures contrasting with background and original ones	Limited to development area	Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Moderate	Moderate	Irreversible	Moderate	Definite	High	Yes	Choice of colours of structures should blend as much as possible with surroundings; Landscaping exposed part of cliff rock face. The above mitigation measure would still retain the impact significance level however wrong choice of colours could increase impacts rather than attenuate them.	Moderate (slightly reduced)

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	Extents	Scale	Timing	Duration	Adverse/ beneficial	Direct/Indirect	Cumulative	Magnitude	Significance	Reversibility	Sensitivity	Probability	Confidence level	Scope for mitigation	Mitigation measures	Residual impacts
VP2: Ponta tat-Tawwalija, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Moderate to major	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate to major	Moderate to major adverse	Reversible	Moderate to High	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce turbidity and coastal water pollution	Minor to major depending on extent and resulting impacts in case of any accidents
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor
VP3: Ponta tal-Gidien, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Moderate to major	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate to major	Moderate to major adverse	Reversible	Moderate to High	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce as much as possible turbidity and pollution of coastal waters	Minor to major depending on extent and resulting impacts in case of any accidents
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	Extents	Scale	Timing	Duration	Adverse/ beneficial	Direct/Indirect	Cumulative	Magnitude	Significance	Reversibility	Sensitivity	Probability	Confidence level	Scope for mitigation	Mitigation measures	Residual impacts
VP4: Pontal-Ħofra, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Minor to moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to moderate	Minor to moderate adverse	Reversible	Low to Moderate	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce as much as possible turbidity and pollution of coastal waters	Minor to moderate depending on extent and resulting impacts in case of any accidents
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor
VP5: Dawret il-Qalb Mqaddsa, Birżebbuġa	Presence of construction machinery/ cranes Removal of vegetation and existing structures	Limited to development area	Minor to Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to Moderate	Minor adverse	Limited	Low	Definite	High	None during construction	None	None
	New structures contrasting with background and original ones	Limited to development area	Minor to Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Minor to Moderate	Minor adverse	Irreversible	Low	Definite	High	Yes	Removal of FSU gas tanker	Minor beneficial
VP6: Triq it-Tramuntana, Marsaxlokk	Presence of construction machinery/ cranes Removal of vegetation and existing structures	Limited to development area	Minor to Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to Moderate	Minor adverse	Limited	Low	Definite	High	None during construction	None	None

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	**Extents**	**Scale**	**Timing**	**Duration**	**Adverse/ beneficial**	**Direct/Indirect**	**Cumulative**	**Magnitude**	**Significance**	**Reversibility**	**Sensitivity**	**Probability**	**Confidence level**	**Scope for mitigation**	**Mitigation measures**	**Residual impacts**
	New structures contrasting with background and original ones	Limited to development area	Slight to Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Minor to Moderate	Minor adverse	Irreversible	Low	Definite	High	Yes	Removal of FSU gas tanker	Minor beneficial

2.5 Discussion

One of the main problems associated with assessing the impacts for this development was that at the time of writing it was not yet clear at what stage would the FSU tanker would be removed so one had to leave this as a potential mitigation measure which could materialize in due course. Furthermore, the assessment had to consider the worst case scenario for any impacts which could take place in due course.

VP1: Carpark overlooking Delimara Power Station

Most of the construction work associated with the land-based facility will be clearly evident from this viewpoint albeit the land take-up is relatively small when compared to the rest of the plant and adjacent structures. Impacts will change in due course and there are limited mitigation measures which one could undertake, mainly concerning the colours of the external fabric of the structures; these should blend in with the surroundings hence earth colours are being recommended. Furthermore, the cliff face will be landscaped to reduce the impacts resulting from rock cutting. Impacts during construction and operational phases are bound to be of moderate significance.

VP2: Ponta tat-Tawwalija, Delimara

There shouldn't be any land-based structures on this side of the peninsula so the only impacts will mainly those related to activities at sea. These could arise from vessels being used during the drilling or pipe laying operations and also as a result of any leakages of mud during the drilling operations. In the latter case, this would probably create an area of turbid waters which could move in the direction of the prevailing currents, the impact significance of which is hard to pinpoint since this would depend much on the extent and duration. During operation if the Maritime Authority requests the presence of any marker buoys to indicate the presence of the pipeline, these would only have a minimal impact.

VP3: Ponta tal-Gidien, Delimara

Similarly to VP2, the impacts from this viewpoint are practically the same as those found from Ponta tat-Tawwalija mainly for the same reasons.

VP4: Ponta tal-Ħofra, Delimara

The impacts from this viewpoint are similar to the previous two cases however, in this case the distances involved are larger hence this should attenuate some of the impacts. In this case the impacts during the construction phase are considered to be a degree lower than the previous two. During operation they are considered minor in all three locations.

VP5: Dawret il-Qalb Mqaddsa, Birżebbuġa

The viewpoint shows the Scheme from across the bay. Most of the Scheme will be hidden from a large mound of rubble and the pier adjacent the FSU tanker. During construction one would expect that cranes and other large machinery which would be used. These together with the effect from excavations along part of the cliff face would be visible from here. Hence the magnitude of the impact will be minor to moderate albeit the significance will

only be slightly adverse. The latter is mainly due to the distances involved and also the impact the FSU tanker together with the pier has on the landscape. Once the FSU will be removed, this will result in a beneficial impact on the existing landscape.

VP6: Triq it-Tramuntana, Marsaxlokk

The viewpoint is also from another part of the bay but from a closer and more angular view than the previous one. The Scheme will only be partly visible from this point for practically the same reasons already stated above. The impacts are also similar to those above.

2.6 Recommended mitigation measures

The recommended mitigation measures can be split between those taking place during the construction phase and those during the operational or post operational phase.

During construction it is being recommended that protection measures are undertaken around vessels during drilling and pipe laying operations in order to prevent the dispersion of sediments in open waters. The built structures should be painted in colours which blend well with the surroundings.

Furthermore, the eventual removal of the FSU gas tanker (which does not form part of this application) is likely to have a beneficial impact on the landscape of the area.

2.7 Residual impacts

The residual impacts vary from one viewpoint to another. In the case of VP1, this will practically remain the same, provided that light colours blending with the surroundings will be used. In the case of VP2-VP4, the main impacts arise during construction and the residual impacts could vary much mainly depending on the extent and duration of the impacts which would occur during the excavation and construction stages.

The residual impacts during the operation phase for VP5 and VP6 will much depend on when and whether the FSU tanker will be removed, which does not form part of the application under consideration. Removal of both FSU and pier will have the most beneficial impact on the landscape since they tend to dominate the area.

2.8 Conclusion

The Landscape Assessment showed that the Scheme could have a moderate adverse impact during construction mainly from viewpoints 2-4 and a minor impact during the operational phases. The Scheme will have a moderate impact both during construction and operational phases from the closest viewpoint, i.e. VP1. The impacts arising from viewpoints across the bay are mainly minor to moderate adverse which could become minor beneficial if and when the FSU tanker is removed.

3.0 Visual Assessment

The visual assessment will be divided into a desk study and a field study. The desk study will explore the nature of the visual amenity of the area along with the visibility of the development using photographic techniques. It will also identify the potential receptors of the visual effects such as residents, visitors and travellers passing through the area of influence.

The field survey consisted of a walkthrough survey in the surrounding area of the proposed scheme in order to identify areas from where it could be visible. Once such areas were identified, then these were visited and the best spots were chosen as viewpoints to be used for the assessment. Furthermore, the exercise served to identify sensitive visual receptors.

3.1 Desk study

The proposed development area is not designated as an Area of High Landscape Value.

3.2 Field Study

The viewpoints for the visual assessment from where the baseline photographs were taken were identified through a walkthrough survey in the surrounding area of the scheme. Photos were taken using the same methodology described in Section 2.1.4 above.

3.2.1 *Zone of Theoretical Visual Influence (ZTVI)*

The ZTVI was the same as that used in the landscape character assessment.

3.2.2 *Viewpoints*

The following viewpoints were used (same as the landscape character assessment):

- VP1: Carpark overlooking Delimara Power Station;
- VP2: Ponta tat-Tawwalija, Delimara;
- VP3: Ponta tal-Gidien, Delimara;
- VP4: Ponta tal-Ħofra, Delimara;
- VP5: Dawret il-Qalb Mqaddsa, Birżebbuġa;
- VP6: Triq it-Tramuntana, Marsaxlokk;

The chosen viewpoints represent potential views of the site. These were chosen both in terms of their proximity to the sites and also in terms of their sensitivity for anyone living or approaching the area on foot or by vehicle.

3.2.3 *Potential visual receptors*

The potential visual receptors are:

- Passengers and drivers (travelling in vehicles [could reach hundreds daily] from all viewpoints;
- Residents living in the surroundings of the scheme;
- Farmers working their fields;
- Tourists visiting the surroundings; and
- Workers and visitors to surrounding establishments.

The duration of the view of the development site experienced by the above-mentioned viewers varies from just a few seconds for motorists or passengers in cars driving along the roads surrounding the scheme to that of a much longer duration for residents living in the buildings overlooking the site.

3.2.4 Sensitive receptors

The sensitive receptors, which are being identified, are the users/ visitors from the six viewpoints mentioned above and which will be used in the visual analysis. The Environmental and Resources Authority, ERA agreed to use these six viewpoints for the visual assessment.

A representative baseline photo was taken from each of these six sites and a photomontage of the proposed development as seen from each of these sites was produced. These will be used in the visual assessment later on in the report.

All the photos for all Viewpoints were taken on the 16th January 2019 between 14.00 and 17.00hrs.

3.2.5 *Analysis of Vista from viewpoint 1*

Figure 24: View from Carpark overlooking Delimara Power Station

The viewpoint overlooks part of the Scheme and previous parts from the changes which took place over a number of years at the Delimara Power Station. In fact, from here one has very good views of the gas tanker berthed along a pier in close proximity of the power station and also the ancillary equipment associated with it. The land-based part of the Scheme will be partially evident from this point. A natural inlet bay is also found below the steep cliffs separating the viewpoint from the power station.

The principle elements constituting the view are:

- The greenery found along the fields surrounding the power station complex;
- Parts of the power station;
- Part of the pier; and
- The sea.

3.2.6 *Analysis of Vista from viewpoint 2*

Figure 25: View from Ponta tat-Tawwalija, Delimara

The view from this point consists mainly of the open sea and adjoining coast on the east side of the Delimara peninsula. This area is mainly characterised by a number of rooms built in the proximity of the coast surrounded by fields and coastal vegetation. A track connects most of the above-mentioned rooms. The only significant signs of the Scheme along this side of the peninsula will be during the construction period when vessels would be laying down the pipework to reach land. During operation if the Maritime Authority requests the presence of any marker buoys to indicate the presence of the pipeline, these would only have a minimal impact.

The principle elements constituting this view are:

- Coastal low-lying vegetation;
- Distant views of the sea and Delimara coast;
- Coastal rooms and structures; and
- Rough track.

3.2.7 *Analysis of Vista from viewpoint 3*

Figure 26: Ponta tal-Gidien, Delimara

This view is very similar to the previous one since it is located a few hundred metres away and on the same side of the peninsula. It consists mainly of long views of the sea and the Delimara coast up to Xrobb l-Għaġin. Low lying vegetation growing along the coast dominates the landside features. Various structures along the coast are also evident from this view. The only significant signs of the Scheme along this side of the peninsula will be during the construction period when vessels would be laying down the pipework to reach land. During operation if the Maritime Authority requests the presence of any marker buoys to indicate the presence of the pipeline, these would only have a minimal impact.

The principle elements constituting this view are:

- Views of the sea;
- Low lying coastal vegetation;
- Coastal structures; and
- White cliffs at Xrobb l-Għaġin.

3.2.8 *Analysis of Vista from viewpoint 4*

Figure 27: View from Ponta tal-Ħofra, Delimara

This view consists of a distant view of the landing site of the gas pipeline at Delimara. Therefore, evidence of the Scheme will mostly become dominant during the construction phase and would become less dominant during operation where marker buoys might be the only indication of an unwater pipeline in the area, provided these are requested by the Maritime Authority. The views from this point consist mainly of the sea and the southern coastal areas of the Delimara peninsula. The Delimara lighthouse and radar buildings together with various coastal structures are also evident from this viewpoint. The low-lying cliffs on the opposite side of this viewpoint contrast sharply with the overlying vegetation. Various electricity pylons found along the road bisecting the peninsula are also discernible from this point.

The principle elements constituting this view are:

- Views of the sea;
- Low lying coastal vegetation;
- Coastal structures;
- Electricity pylons and wires; and
- White cliffs.

3.2.9 *Analysis of Vista from viewpoint 5*

Figure 28: Dawret il-Qalb Mqaddsa, Birżebbuġa

This view is another distant one of the Scheme from Birzebbuga across Marsaxlokk Bay. The sea in between dominates the view but the high white cliff face located on the outer part of the Delimara peninsula contrast sharply with the black coloured gas tanker anchored in the proximity. The historic San Lucjan Tower dominates the protruding land in between the viewpoint and Delimara. The chimneys of the Delimara Power Station are also evident from this point. The Scheme would in due course become partially evident once the tanker is removed.

The principle elements constituting this view are:

- Views of the sea;
- Vegetation cover along il-Qajjenza;
- San Lucjan Tower;
- Gas tanker;
- White cliffs along Delimara;
- Power Station chimneys;
- Delimara lighthouse and radar station; and
- Fish farm pens and moorings.

3.2.10 *Analysis of Vista from viewpoint 6*

Figure 29: View from Triq it-Tramuntana, Marsaxlokk

The view from this point consists mostly of the area occupied by the Delimara Power Station and the outer part of the peninsula; however, the latter is hidden by the gas tanker which is currently moored in the area. The land-based gas infrastructure is also hidden by a large mound of rubble found along the coast. The rubble mound is partially covered with vegetation. The foreground is mainly dominated by vessels of various sizes moored in the bay. Part of the Scheme would eventually be partially visible from the viewpoint.

The principle elements constituting this view are:

- Views of the sea;
- Vegetation cover along Delimara peninsula;
- Gas tanker;
- Power Station holding tanks; and
- Boats moored in bay.

3.2.11 Photomontages

A set of photomontages for viewpoints 1-6 was produced.

The following procedure was used in creating the photomontages:

Creating a Model

- The Model was created with 3D software

- It was then drawn to scale from dimensions which were taken from 2D designs given by architects
- Materials and lighting were applied to the model to give a more realistic image of the model
- Virtual cameras in the software were set with same field of view and lens properties which were recorded when the original photos were taken
- These were positioned in place, relative to the object, using coordinates in world space equivalent to the coordinates taken on site.
- Camera angles and heights were also set accordingly.

Merging the model on the photo

- After rendering the model, a 2D image of the structure was created
- This was imported into a 2D photo editor and layered with the photo.
- Alpha channels were used to replace the background of the object with the photo of the site
- Object was positioned in the photo using reference points
- Hidden parts of the structure were erased to fit the object in the environment of the photo

Additional effects and colour correction were used to blend the object with the photo.

Figure 30 to Figure 41 show the images from each viewpoint before and after the proposed development.

Figure 30: View from Carpark overlooking Delimara Power Station

Figure 31: Photomontage of Scheme as seen from Carpark overlooking Delimara Power Station

Figure 32: View from Ponta tat-Tawwalija, Delimara

Figure 33: Photomontage of Scheme as seen from Ponta tat-Tawwalija, Delimara

Figure 34: View from Ponta tal-Gidien, Delimara

Figure 35: Photomontage of Scheme as seen from Ponta tal-Gidien, Delimara

Figure 36: View from Ponta tal-Ħofra, Delimara

Figure 37: Photomontage of Scheme as seen from Ponta tal-Ħofra, Delimara

Figure 38: View from Dawret il-Qalb Mqaddsa, Birżebbuġa

Figure 39: Photomontage of Scheme as seen from Dawret il-Qalb Mqaddsa, Birżebbuġa

Figure 40: View from Triq it-Tramuntana, Marsaxlokk

Figure 41; Photomontage of Scheme as seen from Triq it-Tramuntana, Marsaxlokk

3.3 Impact Assessment

3.4 Analysis of the visual impacts

This section will analyse the visual impacts for all viewpoints under consideration. This will be presented in tabular form in order to facilitate reading and for ease of comparison. Each table will be split in three sections, namely the identification and nature of impacts and the assessment of impacts on the surrounding landscape. A table for each viewpoint will be produced.

3.4.1 *Identification and nature of visual impacts*

The nature of development being proposed should limit the impacts within the perimeter of the development area. The impacts will be split between those occurring during construction phase and those during operation. Mitigation measures, which could be introduced, could change the nature of the impact from a negative to a positive one, but the magnitude could either remain the same or change accordingly. Most of the identified impacts are usually of the direct type, however, there are those which occur elsewhere as a result of the development and hence are indirectly linked to it (*indirect impacts*) and there are also potential cumulative ones (*cumulative impacts*) which could occur in the future within the area of influence.

3.4.2 *Assessment of impacts*

The area of influence doesn't include Areas of High Landscape Value.

In order to assess the impacts generated by the proposal, one has to establish a set of criteria to define both the magnitude and the significance of the impacts. The following set of criteria to determine the magnitude of the impacts were adapted from foreign sources in order to determine the magnitude of the impacts[4]

- **Not Significant**: No/Only a very small part of the development is discernible and / or they are at such a distance that they are scarcely appreciated. Consequently they have very little effect on the landscape.
- **Minor:** The development constitutes only a minor component of the wider landscape, which might be missed out by the casual observer or receptor. Awareness of the development would not have a marked effect on the overall quality of the scene.
- **Moderate:** The development may be visible and a recognisable new element within the landscape and may be readily noticed by the observer or receptor.
- **Major:** The development forms a significant and immediately apparent part of the landscape that affects and changes its overall character.

The criteria adopted from a foreign source to describe the **levels of significance** were[5]:

[4] Adapted from Terence O'Rourke plc as cited in Guidelines for Landscape and Visual Impact Assessment (2nd ed).

[5] Adapted from Nicholas Pearson Associates as cited in Guidelines for landscape and Visual Impact Assessment (2nd ed).

Major adverse impact: where the development would cause a significant deteriorate in the existing view.

- **Moderate adverse impact**: where the development would cause a noticeable deterioration in the existing view.
- **Minor adverse impact**: where the development would cause barely perceptible deterioration in the existing view.
- **Minor beneficial impact**: where the development would cause a barely perceptible improvement in existing view.
- **Moderate beneficial impact**: where the development would cause a noticeable improvement in the existing view.
- **Major beneficial impact**: where the development would cause a significant improvement in existing view.
- **No change**: no discernible deterioration or improvement in the existing view.

Other criteria used:

Scale:

- **No change**: No marked change to landscape resource
- **Slight**: Minimal change to landscape resource
- **Moderate**: Denotable change to landscape resource
- **Major**: development is a dominant feature in landscape, hence a significance change to landscape resource

Timing:

- **Temporary**: effect will change over a short period of time
- **Permanent**: the changes to the landscape resource will become an everlasting feature within that landscape

Duration:

- **Short**: change will last less than a couple of years
- **Long**: change will last more than two years

Direct/Indirect:

- **Direct**: an effect that is directly attributable to a defined element or characterisation of the proposed development
- **Indirect**: an effect that is not a direct result of the proposed development but is often produced away from the site or as a result of a complex pathway or secondary association.

Sensitivity:

- **Low**: Development contributes minor change/ effect to the existing landscape value or character

- **Moderate**: Development contributes a discernible change/ effect to the existing landscape value or character
- **High**: Development contributes significantly to the existing landscape value or character and becomes a predominant feature in that landscape.

Probability:

- **Definite:** Certain that such impacts will occur
- **Probable**: there is a 50/50 chance that such impacts will occur
- **Uncertain**: there is a low level of certainty (<25%) that such impacts will occur

Confidence level:

- **High**: Assessor is confident in his predictions
- **Moderate**: there is a level of doubt in the predictions
- **Low**: There is a high level of doubt in the predictions made.

3.4.2.1 Sensitivity of visual receptors

The sensitivity of visual receptors depends on:

- The location and context of the viewpoint;
- The expectations and occupations or activity of the receptor; and
- The importance of the view which may be determined by the popularity of the site.

The most sensitive receptors include:

- Residents in the immediate vicinity who have a sense of belonging to the locality;
- Commuters who frequent the area; and
- People who work in the surrounding farms, fields and work places.

The least sensitive receptors are likely to be people at their place of work or engaged in similar activities, whose attention is focused on their work and who are therefore less susceptible to changes in the view.

3.5 Impact assessment

Table 3 shows the results of the impact analysis from each viewpoint.

Table 3: Summary of visual impacts

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	**Extents**	**Scale**	**Timing**	**Duration**	**Adverse/ beneficial**	**Direct/Indirect**	**Cumulative**	**Magnitude**	**Significance**	**Reversibility**	**Sensitivity**	**Probability**	**Confidence level**	**Scope for mitigation**	**Mitigation measures**	**Residual impacts**
VP1: Carpark overlooking Delimara Power Station	Presence of construction machinery/ cranes; Land reclamation and associated works	Development area and beyond	Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate	Moderate	Limited	Moderate	Definite	High	None	None	None
	New structures contrasting with background and original ones	Limited to development area	Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Moderate	Moderate	Irreversible	Moderate	Definite	High	Yes	Choice of colours of structures should blend as much as possible with surroundings; Landscaping of exposed cliff face. The above mitigation measure would still retain the impact significance level however wrong choice of colours could increase impacts rather than attenuate them.	Moderate (slightly reduced)
VP2: Pontat-Tawwalija, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Moderate to major	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate to major	Moderate to major adverse	Reversible	Moderate to High	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce turbidity and coastal water pollution	Minor to major depending on extent and resulting impacts in case of any accidents

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	Extents	Scale	Timing	Duration	Adverse/ beneficial	Direct/Indirect	Cumulative	Magnitude	Significance	Reversibility	Sensitivity	Probability	Confidence level	Scope for mitigation	Mitigation measures	Residual impacts
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor
VP3: Pontatal-Gidien, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Moderate to major	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Moderate to major	Moderate to major adverse	Reversible	Moderate to High	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce turbidity and coastal water pollution	Minor to major depending on extent and resulting impacts in case of any accidents
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor
VP4: Pontatal-Ħofra, Delimara	Presence of construction machinery/ vessels and turbidity and pollution of sea water	Coastal area/waters	Minor to moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to moderate	Minor to moderate adverse	Reversible	Low to Moderate	Definite	High	Yes	Containment measures during drilling operations to prevent and reduce turbidity and coastal water pollution	Minor to moderate depending on extent and resulting impacts in case of any accidents
	Beacon / marker lights (if requested by the Maritime Authority)	Coastal area/waters	Minor	Permanent (operational)	Long	Adverse	Direct	Yes if additional development is built within field of view	Minor	Minor	Reversible	Low	Definite	High	no	NA	Minor

Viewpoint	Sources of impacts					Nature of impacts			Assessment of Impacts								
	Description	Extents	Scale	Timing	Duration	Adverse/ beneficial	Direct/Indirect	Cumulative	Magnitude	Significance	Reversibility	Sensitivity	Probability	Confidence level	Scope for mitigation	Mitigation measures	Residual impacts
VP5: Dawret il-Qalb Mqaddsa, Birżebbuġa	Presence of construction machinery/ cranes; Removal of vegetation and existing structures	Limited to development area	Minor to Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to Moderate	Slight adverse	Limited	Low	Definite	High	None during construction	None	None
	New structures contrasting with background and original ones	Limited to development area	Minor to Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Minor to Moderate	Slight adverse	Irreversible	Low	Definite	High	Yes	Removal of Gas tanker and / pier	Minor to moderate beneficial depending whether both tanker and pier will be removed or only tanker will be removed
VP6: Triq it-Tramuntana, Marsaxlokk	Presence of construction machinery/ cranes Removal of vegetation and existing structures	Limited to development area	Minor to Moderate	Temporary (construction)	Short	Adverse	Direct	Yes if additional large structures are present during this period	Minor to Moderate	Slight adverse	Limited	Low	Definite	High	None during construction	None	None
	New structures contrasting with background and original ones	Limited to development area	Minor to Moderate	Permanent (operational)	Long	Adverse	Direct	Yes if the development is enlarged or additional development is built within field of view	Minor to Moderate	Slight adverse	Irreversible	Low	Definite	High	Yes	Removal of Gas tanker and / pier	Minor to moderate beneficial depending whether both tanker and pier will be removed or only tanker will be removed

3.6 Discussion

One of the main problems associated with assessing the impacts for this development was that at the time of writing it was not yet clear at what stage would the FSU tanker would be removed so one had to leave this as a potential mitigation measure which could materialize in due course. Furthermore, the assessment had to consider the worst case scenario for any impacts which could take place in due course.

Viewpoint 1: Carpark overlooking Delimara Power Station

The changes which will take place on the land based side will be clearly evident from this viewpoint since it overlooks the Scheme. The amount of land reclamation taking place will be limited to a corner of the site and will be small compared to the whole site occupied by the Delimara Power Station facility. There will be limited mitigation measures which could be taken during construction phase however, one could limit impacts during the operational phase through the use of a suitable colour scheme which blends with the surroundings. The cliffs will also be landscaped to reduce impacts from the resulting exposure from rock cutting. Impacts from this viewpoint are considered to be moderate during both construction and operational phases.

Viewpoint 2: Ponta tat-Tawwalija, Delimara

The impacts resulting at this viewpoint will be mainly limited to those taking place during construction. These will result from the presence of construction vessels at sea and also the potential of turbidity at sea resulting from leakages of mud and other sedimentary material, the extent and duration of which cannot be determined. Such impacts could range from moderate to substantial. During operation if the Maritime Authority requests the presence of any marker buoys to indicate the presence of the pipeline, these would only have a minimal impact.

Viewpoint 3: Ponta tal-Gidien, Delimara

The impacts from this viewpoint are practically the same as those from viewpoint 2 since the two points are very close to each other.

Viewpoint 4: Ponta tal-Ħofra, Delimara

The impacts resulting at this viewpoint are once again similar to the previous two but a degree lower mainly due to the distances involved.

Viewpoint 5: Dawret il-Qalb Mqaddsa, Birżebbuġa

Most of the Scheme will be hidden from this viewpoint mainly due to a large mound of rubble and also the pier and FSU gas tanker, the latter dominating the view and resulting in a major impact. This minimizes the impact created by the proposed Scheme which will be slightly adverse. Removal of the tanker will result in a positive impact on the surroundings.

Viewpoint 6: Triq it-Tramuntana, Marsaxlokk

Similarly, to the previous viewpoint the Scheme will be partially visible from this viewpoint and the impacts will be practically the same.

3.7 Recommended mitigation measures

The recommended mitigation measures can be split between those taking place during the construction phase and those during the operational or post operational phase.

During construction it is being recommended that protection measures are undertaken around vessels during drilling and pipe laying operations in order to prevent the dispersion of sediments in open waters. The built structures should be painted in colours which blend well with the surroundings.

Furthermore, the eventual removal of the FSU gas tanker (which does not form part of this application) is likely to have a beneficial impact on the visual amenity of the site.

3.8 Residual impacts

The residual impacts resulting during the construction phase could vary in significance depending much on the extent and duration which could result.

The resulting residual impacts as a result of the eventual removal of the FSU gas tanker will be positive mainly due to the fact that this dominates the area due to its size and location albeit the removal of both pier and FSU will have a higher order of positive impact.

3.9 Conclusion

The area under consideration is not considered as an Area of High Landscape Value. The Visual Assessment showed that the Scheme would have a moderate impact from Viewpoint 1 whereas the main impacts for viewpoints 2-4 are mainly during construction and these could arise from the dispersion of sediments in the sea, the extent and duration of which remain unknown hence their impact could vary from moderate to substantial. The impacts arising from viewpoints across the bay are mainly minor to moderate adverse which could become minor beneficial if and when the FSU tanker is removed.

APPENDIX I

Viewpoint Number…… Project……

1. Opinion of existing landscape (*pajsaġġ*) (score 1-10) (1- lowest; 10 –highest).

.....

2. Key elements which made you give such a score:

Visual.....

.....

Non-visual.....

.....

3. Would you add or remove any elements from the existing landscape?

ADD	**REMOVE**
.....	.....
.....	.....
.....	.....
.....	.....

Part B

4. Use photomontage.

Is scheme visible?

Yes..... No.....

5. If yes, indicate the differences noted.

.....

7. Opinion of post development landscape (*pajsagg*) (score 1-10) (1- lowest; 10 –highest).

.....

8. Other relevant comments:

.....

.....

.....