

**PA03607/16 [EA 00003/16]: DEMOLITION OF EXISTING STRUCTURES AND
CONSTRUCTION OF FUEL FILLING DEPOT INCLUDING ANCILLARY OFFICES,
FACILITIES AND WIDENING OF ACCESS ROAD**

SITE AT HAS-SAPTAN, OFF VJAL L-AVJAZZONI, HAS-SAPTAN, GHAXAQ, MALTA.

1. INTRODUCTION AND DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Environmental & Resources Authority (ERA) requested an Environmental Planning Statement (EPS) for the development proposed in permit application PA03607/16 (*Demolition of existing structures and construction of fuel filling depot including ancillary offices, facilities and widening of access road at Has-Saptan, off Vjal l-Avjazzoni, Has-Saptan, Għaxaq, Malta*). The application required the submission of an EPS in accordance with Schedule 1A, Category 7.6.2.6 (*Construction of a new fuel servicing station*) of the *Environmental Impact Assessment Regulations, 2007* (S.L. 549.46). The EPS was coordinated by Rachel Xuereb on behalf of ADI Associates.

1.1 Description of the Proposed Development

The proposed development consists of the relocation of the fuel dispensing station from the 31st March 1979 installation in Birżebbuġa to Has-Saptan, limits of Hal Għaxaq. The development will provide a refuelling service for road tankers supplying fuels to service stations throughout Malta.

Fuels will be dispensed from filling points connected to new prefabricated underground day tanks, which will receive fuel on a daily basis from the existing underground Has-Saptan fuel storage facility via pipelines constructed with a new tunnel to be excavated as part of the development. The day tanks will be double-skinned and will also be equipped with an overfill prevention system consisting of sensors that can automatically shut off the filling process when the tank is full. A motorised double valve system will be installed to regulate the inflow to and outflow from the tanks. The tanks will also be equipped with a leak detection system and will be located underground within an impermeable bund, and buried in sand.

A vapour recovery unit (VRU) will be installed and integrated with the road tanker loading system, to recover gasoline vapours from the road tankers and the day tanks, during transfer from tank to road tanker and during tank-to-tank transfer.

The 31st March 1979 installation at Birżebbuġa is located in close proximity to residential and tourism/recreational areas and to the Malta Freeport Terminal. The tanks in the current location require upgrades, leading to the tanks being out of service for some months, thus the Government decided that the site should be closed down by June 2017. This led to the proposal of relocating the fuel filling depot to the existing underground Has-Saptan fuel storage facility.

The relocation is also in line with Policy MB02 in the Marsaxlokk Bay Local Plan (May 1995), which states that “*The Planning Authority will seek the long term relocation of the 31st March Petroleum Depot, including the dismantling and removal of tanks, structures and the jetty; and the treatment of any oil contaminated areas remaining on site....*”.

The relocation of the fuel filling depot would result in the decommissioning of the 31st March 1979 installation. This decommissioning is expected to benefit Birżebbuġa by: (i) reducing the need for road tankers to pass through residential areas; (ii) reducing the risk of major accidents in the area; (iii) improving the visual amenity of the area; (iv) improving air quality; and (v) reducing oil spill risks in the area.

The proposed development site has an approximate area of 4,600m² with access currently through a narrow country road off Triq Ħal Far. The site is currently a reclaimed agricultural field on the western side, with the eastern side consisting of an afforested area mainly consisting of olive trees and (to a lesser extent) carob trees. The northern boundary of the site, and the area delineating the field from the afforested area, contain rubble walls that divide fields into sections. The walls along the southern and western perimeter of the site are built of masonry block.

1.2 Assessment of alternatives

With respect to the assessment of alternatives in terms of siting, the EPS notes that four site alternatives were taken into consideration. The sites considered are:

- i. Ras Ħanzir installation at Kordin;
- ii. Wied Dalam installation at Birżebbuġa;
- iii. Bengħajsa; and
- iv. Ħas-Saptan.

The zero / 'do nothing' option would imply that the applicant maintains the current fuel dispensing facility at 31st March 1979 installation at Birżebbuġa. However, this option is not being considered favourably for environmental, safety and risk reasons. The following is a summary table of the alternatives proposed and their advantages and disadvantages.

Site	Advantages	Disadvantages
31 st March 1979 installation ('do-nothing' option)	Site is operational and close to a port.	<ul style="list-style-type: none"> • Site located within a residential area. • Government commitment to relocate the fuel storage facility.
Ras Ħanzir installation at Kordin	Site is operational and close to a port (only used for gasoil storage, since tankers with low flash point liquids are not permitted to enter the Grand Harbour and these fuels cannot be offloaded here).	<ul style="list-style-type: none"> • This option would have required the upgrading of the existing installation to store gasoline and other fuels. • The construction of new pipelines for gasoline, diesel and kerosene to another site would raise the applicant's costs significantly and potentially render the project unfeasible. • The applicant also considered that the close proximity of residential buildings in the outskirts of Paola and the proposed expansion of the MCAST campus in Paola would shift some of the risks currently associated with the existing 31st March 1979 installation to Paola, both due to the new storage of gasoline and because of frequent road tanker movements close to these receptors. • Therefore because of the vicinity to Paola, to MCAST and to the existing factories this option was discarded by the Applicant.
Wied Dalam installation at Birżebbuġa	Site currently stores Jet A1 fuel and close to a port.	<ul style="list-style-type: none"> • The site is located within a valley. • The site is designated as an Area of Archaeological Importance and a Special Area of Conservation of International Importance.

Site	Advantages	Disadvantages
Bengħajsa	<ul style="list-style-type: none"> • Site close to a port. • The site is located some distance away from residential areas. 	<ul style="list-style-type: none"> • Applicant not the owner of the land. • There are existing facilities in the area, including the Liquigas gas bottling plant and the Oiltanking Malta Ltd installation - these could cumulatively increase the hazards in the area. • Locating the fuel dispensing station at Bengħajsa would also require extensive construction of new pipework to connect the dispensing station to a storage location operated by the applicant, since the applicant currently has no storage facilities at Bengħajsa. Additional pipelines would need to be passed to and from Ħas-Saptan (since Enemed's main storage is at Ħas-Saptan) and the Marsaxlokk Dolphin. • Another alternative would be to also construct storage facilities at Bengħajsa, in which case the site would have to include land to accommodate both the storage of fuel as well as the dispensing facilities; therefore a much larger site would be required.
Ħas-Saptan	<ul style="list-style-type: none"> • Enough storage capacity at the existing nearby Ħas-Saptan installation so no need to construct large storage tanks or lengthy pipework. • Existing Ħas-Saptan installation is already permitted to handle gasoline. 	<ul style="list-style-type: none"> • Loss of agricultural land and part of existing olive grove. • Visual impact from limited views. • Landscape impacts. • The site is located within a valley. • The site lies within an area that either entirely or partly includes the following designations (refer to Chapter 4 of the EPS Coordinated Assessment): <ul style="list-style-type: none"> • Area of High Landscape Value; • Valley Protection Zone; • Aquifer Protection Zone; • Agricultural Area; • Archaeologically Sensitive Areas.

With respect to the assessment of alternatives in terms of layouts and techniques, several layouts and techniques were considered for operations, and a number of refinements in the layout and design have resulted in the current development proposal. Detailed assessment of all alternative layouts and technologies considered are identified in pages 51-52 of the EPS Coordinated Assessment.

2. EIA CONSULTATIONS

2.1 EIA Scoping

During the scoping stage, the Project Description Statement (PDS) was circulated to the following consultees and made available for a 21-day public consultation period between 25 May and 15 June 2016.

- Ħal Għaxaq Local Council
- Environment Health Directorate
- Superintendence of Cultural Heritage

- Transport Malta
- Civil Protection Department
- Malta Tourism Authority
- Regulator for Energy and Water Services (REWS)
- Malta Resource Authority
- Din I-Art Ħelwa
- Environmental NGOs

Comments were received from

- Regulator for Energy and Water Services (REWS) (e-mail dated 30th May 2016)
- Transport Malta (e-mail 31st May 2016)
- Nature Trust (e-mail dated 6th April)

The PDS was also circulated for internal review within ERA.

2.2 EIA Review

The draft EPS was submitted to ERA on the 17 August 2016 and was circulated for review to the same consultees, as well as the Ħal Luqa Local Council and the Local Councils Association, consulted during the scoping stage (see para 2.1 above). The EPS was also circulated for internal review within ERA.

Within the stipulated consultation period, comments were received from:

- Regulator for Energy and Water Services (e-mail dated 02/09/2016)
- Gudja Local Council (e-mail dated 15/09/2016)
- Front Ħarsien ODZ (e-mail dated 16/09/2016)
- Environmental Health Directorate (Email dated 19/09/2016)

Comments made by ERA and its consultees during the review stage were forwarded to the EIA Coordinator, the developer and the architect on 29 September 2016. These comments were addressed by the EIA coordinator and responses were included in the EPS Addendum.

2.3 EIA Certification and Public Consultation

The EPS was certified on the 7 November 2016 and was published for a three-week public consultation period, with a deadline for submissions being the 30 November 2016. These responses were addressed by the EIA coordinator and are included in Appendix II.

3. EIA FINDINGS

The characteristics of the site, assessment of impacts and mitigation measures identified in the EPS are as follows:

3.1 Geo-Environment

The study was based on desktop surveys in relation to geology, geomorphology, and hydrogeology of the site. Figure 5.1 (page 97) in the EPS Coordinated Assessment indicates the extent of the geology area of influence.

GEOLOGY AND GEOMORPHOLOGY

The EPS notes that the site for the proposed development is underlain by the Il-Mara member of the Lower Coralline Limestone Formation. Given that the site is located along the main path of Wied Has-Saptan the rock is expected to be altered by fluvial processes. Such processes could possibly result in the deposition of sediment, left behind by the water flow, and in the development of Karstic geomorphology, where the water dissolves the rock to create cavities. Figure 5.2 (page 101) in the EPS Coordinated Assessment provides the geological map for the site in question.

HYDROGEOLOGY

The groundwater at the proposed development site is the Mean Sea Level Aquifer and can be found at a depth of around 50 to 58 m below the land surface. The site is located within the valley (Wied Has-Saptan), within the Groundwater Protection Zone, and adjacent to the Has-Saptan public borehole with six private boreholes located within 400m (one immediately adjacent). Figure 5.2 (page 107) in the EPS Coordinated Assessment provides the hydrological map including boreholes.

IMPACT SIGNIFICANCE AND PREDICTIONS

The EPS notes that impacts on geology/geomorphology are likely to be of *major significance*, in view of the extraction of mineral resources, which will amount to approximately 7,000m³. In terms of hydrology, the change in the: (i) quality of the aquifer and recharge, (ii) quality of run-off, (iii) surface water runoff; is expected to be *minor* subject that appropriate mitigation measures are adhered to. Rock instability can be drastically mitigated through appropriate engineering interventions which can also prevent rock fall or side collapse (e.g. rock bolting, shotcreting, temporary buttresses in steel or reinforced concrete, etc.).

PROPOSED MITIGATION MEASURES

- Preparation of a Construction Management Plan that also addresses issues of groundwater and surface water pollution arising during the construction phase;
- Construction in accordance with all the appropriate industry standards, including the installation of the underground fuel storage tanks with double skins, leak detection systems, and surrounded by impermeable bunding, and the installation of an impermeable forecourt and oil-water interceptor.
- Operational management practices designed to monitor the performance of pollution control measures will also need to be adopted, including leak detection systems for the tanks, pipework and dispensers, regular emptying of the oil-water interceptor chamber, and regular inspections of the surface water drainage system (particularly after storms) to avoid contaminated surface water run-off reaching the groundwater.

RESIDUAL IMPACTS

With the implementation of the appropriate mitigation measures proposed above, residual impacts on the aquifer and on surface water are considered to be *minor*. In terms of impacts on geo-environmental resources, residual impact is still identified as being of *major significance*.

3.2 Ecology

The Ecological Assessment considered the likely environmental impacts on the habitats, fauna, and flora as a result of the proposed development. Figure 7.1 (page 147) in the EPS Coordinated Assessment illustrates the area of influence of the ecological study.

An ecological baseline survey was carried out in June 2015 and in June 2016 and it has resulted that although the area was originally planted as part of a rehabilitation project, the ecological value of the area today is noted in particular in relation to the maquis species that has become established. Some of the

species recorded include: *Ceratonia siliqua* (Carob), *Crataegus monogyna* (Hawthorn), *Olea europaea* (Olive), *Rhamnus oleioides* (Lesser Buckthorn).

IMPACTS ON ECOLOGY

The EPS indicates that the direct habitat loss (approximately 10% of the olive-carob grove) as a result of site clearance and excavation will not largely affect the overall integrity of the habitat and the avoidance of habitat fragmentation also means that the overall integrity will be retained thus considered to be of *minor significance*.

Disturbance and/or damage to habitats and wildlife from: (i) dust generated and (ii) noise and vibration during construction is expected to be of *minor significance* given its temporary nature while damage from construction machinery, depending on the extent of damage, the impact could be *minor to major significance*.

During operation, noise and vibration impacts on the habitats and wildlife is unlikely to be significant given that the new pumps will be housed in a pump-room situated below ground level and the low volume of traffic expected to be generated. Risks from spillages and accidents in the area could result in a minor to major impact on habitats of conservation interest, including the olive-carob woodland and the valley system beyond.

PROPOSED MITIGATION MEASURES

Mitigation measures as proposed by the EPS include:

- Transplanting trees of interest that will be removed, and addition of trees;
- A Construction Management Plan and method statements, identifying good site working methods to minimise dust emissions and noise pollution;
- Surfacing and maintenance of internal haul roads (access ramps);
- A lighting plan that includes design measures to minimise light pollution;
- Environmental monitoring to ensure potential impacts are minimised;
- Construction in accordance with all the appropriate industry standards as identified in previous section.

RESIDUAL IMPACTS

Habitat loss as a result of the proposed development will remain (*minor significance*) while appropriate mitigation and monitoring during construction should ensure that the residual impact is of *minor significance*. With respect to operation, the risk of impact is considered low with mitigation in place, however, should an accident occur, residual impact remains minor to major depending on the scale of the accident.

ERA Comments

ERA is concerned with regards to the overall habitat loss (approximately 10% of the olive-carob grove) as a result of site clearance and excavation and the overall integrity of the ecosystem, of which the trees are keystone species, and not just the nominal protection of the individual trees. As a result, ERA is of the opinion that the applicant should seek a new/extended conservation area wherein the re-establishment of the affected maquis as a whole (and not just the transplanting/addition of individual trees) will be sought. The land area should be equivalent to, or greater than, the affected 10% of the habitat.

3.3 Agriculture

The agricultural study was carried out through a preliminary desk study of existing maps and surveys and retrieval of existing baseline data followed by a standard compilation of data (surveying, photography, and mapping). Figure 6.1 (page 119) in the EPS Coordinated Assessment illustrates the agricultural area of influence.

The predominant soil landscape type is of moderately steep terraces on Globigerina Limestone having a combination of Calcisols and Luvisols with an average soil depth of between 30 and 50 cm. The main crops grown are cereals and almost all of it is grown on dry agricultural land (*raba' bagħli*).

IMPACTS ON AGRICULTURE

Agricultural land will be lost as a result of the development resulting in a *major negative impact* even though the proposed site is not currently cultivated. Road works are expected to be minor and widening will be minimal and the removed soil will be reutilised elsewhere. Since the existing grove is the result of a tree planting project, this aspect was also considered in this section of the EPS, albeit focusing on the individual trees per se. The proposal will also result in the loss of a number of protected trees namely olive (*Olea europaea*) and carob (*Ceratonia siliqua*) trees that are part of a planted woodland that has since developed into a high maquis and is considered to be of *major* impact significance. During construction, given its temporary nature, dust impacts on agricultural land surrounding the site are expected to be of *minor significance*. During operation, should no mitigation measures be implemented, accidental spills of oils or fuels may impact the surrounding agricultural land resulting in soil contamination having a *minor to major* significance.

PROPOSED MITIGATION MEASURES

Mitigation measures as proposed by the EPS include:

- Re-use of any removed soil;
- Transplanting of the protected olive and carob trees and additional planting of trees;
- Implementation of good construction practices in accordance with the Environmental Management Construction Site Regulations, 2007 (S.L. 552.09); and
- Containment of any oil spills and measures for the reduction in the likelihood of fire.

RESIDUAL IMPACTS

Loss of agricultural land remains a major significant impact. Following implementation of mitigation measures identified in the EPS, residual impacts include impacts from accidental spills (minor to major significance depending on the extent of spill) and dust during construction (minor significance). The residual impact of the loss of trees would depend on the success rate of the transplanting of the trees and the survival of the new plantings.

ERA Comments

See earlier note vis-à-vis the Ecology section.

3.4 Cultural Heritage

The cultural heritage baseline study involved the identification and documentation of known archaeological and cultural heritage features and an evaluation of the significance of impact from the proposed development on such remains. Figure 8.1 (page 171) in the EPS Coordinated Assessment illustrates the cultural heritage area of influence studied in the EPS.

Cultural heritage features

The site is located in an area known for agricultural and funerary archaeological discoveries however there are no scheduled cultural heritage sites or features situated within the site or in its immediate vicinity. Part of the proposed site lies in an area designated as an Archaeologically Sensitive Area. A detailed description of each of the cultural heritage features is given in Technical Appendix 5: Cultural Heritage Baseline Report and their locations illustrated in Figure 8.2 (page 175) in the EPS Coordinated Assessment. Cultural heritage features identified include cart ruts, rubble walls, ruins, a Maltese corbelled stone hut (*girna*), a dolmen located within the field walls approximately 120m away, and a medieval niche on a rural building located further away.

IMPACT SIGNIFICANCE AND PREDICTIONS

According to the EPS the cultural heritage features identified are situated outside the proposed development site, therefore impacts on cultural heritage may arise from possible loss of or damage to unrecorded archaeological artefacts during excavation. The extent of the impact is uncertain, as it will depend on whether artefacts are present, their importance and the extent of any loss or damage. No significant adverse impact on rubble walls identified in the area of study given the condition of these walls, which show frequent interventions with the introduction of larger sized blocks. Vehicle movements during operation are not expected to cause a significant impact on the cultural heritage features identified in the area given that these features are not located along the proposed routes.

PROPOSED MITIGATION MEASURES

Mitigation measures as proposed by the EPS include:

- Supervision of works in particular where there are cultural heritage features by qualified archaeologists who would report to the Superintendence of Cultural Heritage in the eventuality that uncharted artefacts are encountered; and
- Implementation of a Construction Management Plan that ensures that heavy vehicles do not damage of cultural heritage importance.

RESIDUAL IMPACTS

The EPS notes that the loss of cultural heritage features will result in a residual impact that is *uncertain* as it will depend on whether undiscovered artefacts are present, as well as on their importance and the extent of any loss or damage. The implementation of the mitigation measures may reduce the scale of the impact.

3.5 Landscape and Visual Amenity

The landscape assessment and visual amenity assessment was based on a desk study and field survey. The visual amenity assessment was also based on the assessment of related viewpoints. The Zone of Theoretical Visibility (ZTV) is illustrated in Figure 9.2 (page 195) of the EPS Coordinated Assessment.

GENERAL LANDSCAPE DESCRIPTION

The development site is located northwest of the Malta International Airport, which is a dominant feature in the landscape (in particular, runways and taxiways) and especially along the access road to the existing Has-Saptan fuel storage facility. The remainder of the landscape around the site is largely rural (well maintained agricultural land) although other features such as residences sporadically occur. The eastern part of the site is dominated by the already-mentioned afforested area and to the north is the existing fuel storage facility.

Landscape characterisation¹

The following are the landscape character types and landscape character areas as identified in the EPS:

- *Malta International Airport*: MIA footprint, runways and airport related structures and buildings, with moderate landscape sensitivity.
- *South Airport Hinterland*: Dry farming, cultural heritage features, and large carob trees, with high landscape sensitivity.

¹ Landscape types and character areas that provide the landscape context to the development site are listed in this section. The distinction between the types and areas is defined as follows:

- Landscape Character Types: describe distinct and homogenous generic landscape units that share common combinations of elements.
- Landscape Character Areas: single unique areas that represent the discrete geographical areas of a particular type. Each of these areas can be divided into Local Landscape Tracts (LLT) that describe potential problems and pressures affecting the landscape character (illustrated in Figure 9.3 of the EPS Coordinated Assessment).

- *Hal Għaxaq/Gudja Hinterland*: Area comprises of two local landscape tracts:
 - Settlements – Traditional villages, with moderate landscape sensitivity.
 - Agricultural land – Dry farming, cultural heritage and large carob trees, with high landscape sensitivity.
- *Birżebbuġa Valleys & Hinterland*: Valleys leading to Birżebbuġa dominate this character area and are designated AHLVs in accordance with the Local Plan, with high landscape sensitivity.

VISUAL AMENITY

Three viewpoints (Figure 9.2 (page 195) of the EPS Coordinated Assessment) were identified to assess the visual impact of the proposed development as follows:

- Viewpoint 1: Triq ta' Loretu, il-Gudja
- Viewpoint 2: Vjal L-Avjazzjoni, Hal Luqa (285 meters from site).
- Viewpoint 3: Lane off Vjal L-Avjazzjoni, Hal Luqa (140 meters from site).

Impacts on landscape character

Given the construction of a new building and the regular arrival of road tankers, the proposal is expected to adversely affect these character areas, as follows: (i) Għaxaq-Gudja Hinterland: Agricultural land (*major significance*), and (ii) Birżebbuġa Valleys & Hinterland (*major significance*). The remaining landscape character areas will experience no changes as a result of the proposed development.

Impacts on visual amenity

Impacts for each of the viewpoints analysed in the EPS are as follows:

- Viewpoint 1: Triq ta' Loretu, Gudja – *Not visible*.
- Viewpoint 2 (view for car passengers): Vjal L-Avjazzjoni, Hal Luqa (285 meters from site) - *Minor to moderate significance*.
- Viewpoint 2 (view for drivers): Vjal L-Avjazzjoni, Hal Luqa (285 meters from site) - *Minor significance*.
- Viewpoint 3: Lane off Vjal L-Avjazzjoni, Hal Luqa (140 meters from site) – *Moderate to major significance*.

The EPS notes that the impact of the proposal on the visual amenity from the viewpoints identified above ranges from minor to moderate/major significance, with significance dependent on the scale of change to the landscape and the visual amenity of the area, the intrinsic value of which was classified as low to moderate and the sensitivity of the receptors that will view the proposed development.

PROPOSED MITIGATION MEASURES AND RESIDUAL IMPACTS

No mitigation measures were proposed in terms of landscape and visual amenity impacts resulting from the proposal and therefore residual impacts will remain the same as the pre-mitigation scenario..

3.6 Air Quality

The air quality assessment carried out for the EPS focuses on the potential impacts on air quality as a result of emissions during gasoline delivery from the existing Has-Saptan fuel tanks to the proposed site and emissions during road tanker refuelling. Impacts on air quality arising during construction (given it is temporary and short-term) and from operational traffic emissions (given that legal air quality thresholds (1000AADT) were not exceeded) were scoped out. The sensitive receptors for the benzene assessment include residences, schools, and a home for the elderly in a 3 km radius around the site (Figure 10.1 of the EPS Coordinated Assessment refers). For the odour study, two residences indicated in Figure 10.2 of the EPS Coordinated Assessment, each located around 200 m from the site, were identified as sensitive receptors.

BASELINE DATA

Existing baseline benzene data is provided in Table 10.7 (page 235) of the EPS Coordinated and are well below the limit value of $5 \mu\text{g}/\text{m}^3$. Results of the baseline odour survey (Table 10.9 on page 235 of the EPS Coordinated Assessment) did not indicate any unpleasant odours at the nearest sensitive receptors or close to the existing fuel storage facility

IMPACT SIGNIFICANCE AND PREDICTIONS

The highest predicted annual average change in benzene concentrations resulting from the proposal at Has-Saptan is $0.00640 \mu\text{g}/\text{m}^3$. Therefore, results show that the impact from the development on benzene annual ambient air concentrations is negligible at all sensitive receptors in a 3 km radius. A sniff test odour was observed around 20% of the time at a site 80m downwind of the 31st March 1979 installation. However, given that the proposal will include vapour balancing installations and the fact that fuel storage activities would not generate significant odours, similar odours would be expected to occur less than 10% of the time corresponding to a 'small' odour exposure. Therefore, the combination of small odour exposure coupled with high receptor sensitivity would therefore result in a slight adverse impact with regard to odour effects from the development.

PROPOSED MITIGATION MEASURES

The Best Available Technique (including vapour recovery unit and vapour balancing) for fuel stations will be installed. Monitoring of hydrocarbon emissions at the VRU outlet is recommended and applicant should ensure that the VRU and vapour balancing system are checked and maintained regularly in accordance with manufacturer specifications and permit conditions to ensure their continued effective operation.

RESIDUAL IMPACT

Following the above, the residual impacts would remain unchanged, i.e. *minor to not significant*.

3.6 Environmental Risk Assessment

The aims of the detailed environmental risk assessment include:

- A description and an evaluation of the risks to the environment associated with the decommissioning, including risks arising due to the nature of the materials being handled, risk associated with the equipment being used, and risk associated with the and the risks associated with the activities to be undertaken on site; and
- A description of the measures which will be undertaken to mitigate such risks, and evaluating the residual risk levels.

Environmental risk assessment is the process by which source-pathway-receptor linkages are identified and evaluated, and should any of the three elements be absent there would be no complete linkage and thus no unacceptable risk (Figure 11.1, page 247, in the EPS Coordinated Assessment provides an illustration of source-pathway-receptor model for underground storage tanks).

The proposal will involve the significant storage of fuel, and extensive activities related to fuel dispensing, which, without mitigation, could present a risk to the environment through underground, surface and airborne pollution. Table 11.4 (pages 249-251) in the EPS Coordinated Assessment identifies potential sources of pollution and the respective pathway to the relevant sensitive receptor, together with the relevant mitigation measures.

Risk evaluation

Risks associated with both the unmitigated and mitigated scenarios were evaluated and assessed. As illustrated in Table 11.6 (page 262) of the EPS Coordinated Assessment, the highest resultant risk levels without any mitigation measures are associated with: (i) VOC emissions from gasoline transfer / dispensing;

and (ii) fire / explosion; both of which lead to an extreme resultant risk level. High resultant risk levels are expected on remaining risk levels should no mitigation measures be in place.

With the appropriate mitigation measures in place, the resultant risk levels all are reduced to *low*. Appropriate mitigation measures include tanks having double-skinned tanks with additional protection, leak detection system monitors, spill kits, appropriate containment, and automated and manual emergency shutdown systems.

3.6 *Indirect and Cumulative Impacts*

Limited and localised impacts (noise and dust, ecological/habitat loss), mainly overspills, during the excavation phase are envisaged; however can be mitigated through the implementation of a Construction Management Plan and monitoring of works.

In terms of cumulative impacts, the EPS notes that given that no other major developments are planned in the area or otherwise foreseeable, no particular cumulative impacts are envisaged.

4. ENVIRONMENT RESOURCES AUTHORITY COMMENTS AND CONCLUSIONS

The former EPD (refer to min. 18 in PA 03607/16) had objected to the project, however this position was subsequently reconsidered in the light that the proposal seeks to relocate the existing 31st March 1979 installation at Biržebbuğa which lies within a residential area. The installation requires an upgrade to the existing tanks, however given that such upgrade would need to take the installation out of service for some months), the Government has made a decision for the installation to be closed down. The decommissioning of the existing plant at Biržebbuğa is expected to; (i) reduce the need for road tankers to pass through residential areas, (ii) reduce the risk of major accidents in the Biržebbuğa area, (iii) improve the visual amenity of the same area, (iv) improve the air quality, and (v) reduce oil spill risks. A detailed alternative site assessment was carried out (refer to section 1.2 of this report) and identified four alternatives including the do-nothing option. The proposed location for relocation is being considered favourably given that: (i) there is enough storage capacity at the existing nearby Has-Saptan installation therefore there is no need to construct large storage tanks or lengthy pipework, and (ii) the existing Has-Saptan installation is already permitted to handle gasoline.

The EPS has predicted a number of potential impacts on the environment as a result of the proposed development. Whilst the EPS proposes mitigation measures to minimise these impacts, it still identifies potential adverse residual impacts (that is, impacts that are still likely to prevail after all mitigation measures have been exhausted), namely:

1. Impacts of major significance in terms of excavated rock waste which however may be re-used;
2. Impact on the aquifer and on surface water considered to be of minor significance;
3. Loss of agricultural land with a major significant impact while habitat loss is of minor significance;
4. Construction impacts particularly from accidental spills and dust which are considered to be of minor significance;
5. The loss of trees which depend on the success rate of the transplanting of the trees and the survival of the new plantings;
6. Operational accidental spills being minor to major significance subject to the extent and scale of the spill. However, the likelihood of such an impact is unlikely;
7. Potential loss of undiscovered features will result in a residual impact that is also uncertain;
8. Impacts (major significance) on landscape vis-à-vis the Għaxaq Gudja Hinterland Character Area (LLT: Agricultural land) and the Biržebbuğa Valleys & Hinterland; and,
9. Impacts on visual amenity, ranging from residual impacts of moderate to major significance (Viewpoint 3 - Lane off Vjal l-Avjazzjoni) to minor to moderate significance (Viewpoint 2 Vjal l-Avjazzjoni- car passengers).

Concerns are still being raised by ERA regarding the siting and location given the proposal will result in the proliferation and intensification of additional large-scale physical developments in this sensitive environment. ERA queried on the possibility that the obliteration of the managed woodland is avoided as much as possible and the project is shifted upon the agricultural parcel of land situated to the west of the site (refer to Figure 6.6, page 133, of the EPS Coordinated Assessment). In the light of the findings, ERA acknowledges the need for the relocation of the 31st March 1979 installation from Biržebbuğa to the said site given that no other sites are suitable to accommodate such development, and also notes that there are limitations as to alternative designs to avoid the obliteration of the managed woodland. In this regard, ERA requires that: (i) the best available technology and equipment is used on site, to avoid spillages and risk during operation; and (ii) disruption to the adjacent woodland during construction is stringently minimised. Additionally, it must be ensured that the proposed development and design will not require any additional infrastructure or land uptake through potential future extensions of the proposed development.

With regard to the EPS recommendations for the transplanting of affected trees, ERA is concerned that this would only address the nominal protection of the individual trees, whereas the environmental concern is wider and also relates to the overall habitat (approximately 10% loss of the olive-carob grove as a result of site clearance and excavation) and the overall integrity of the ecosystem. As a result, ERA is of the opinion

that the applicant should seek a new/extended conservation area wherein the re-establishment of the affected maquis as a whole (and not just the transplanting/addition of individual trees) will be sought. The land area should be equivalent to, or more than, the affected 10% of the habitat.

ERA is also concerned with the various possibilities for the after-use of the 31st March 1979 installation site following its decommissioning in light that an undeveloped tract of land at Has Saptan will be industrialised to make space for the newly proposed fuel filling depot. In this regard, it is noted that a letter from Enemalta that confirms that the site will not be used for fuel handling activities was included in Appendix 1 of the EPS Coordinated Assessment. ERA is of the opinion that the decommissioning of the 31st March 1979 installation is ultimately the main overriding justification for the commitment of the Has-Saptan site, which on its own would remain objectionable from an environmental perspective. Thus, ERA is requesting that the Has-Saptan development be tied to a firm and time-bound commitment toward the full decommissioning of the 31st March 1979 site and its industrial operations.

Furthermore, the Environment & Resources Authority's is requesting the inclusion of various mitigatory and compensatory measures as conditions in the development permit to address the identified environmental concerns.
