PA 5925/05 – Construction of industrial park in quarry, at, Tal-Qormija, Mġarr, Malta.

1. INTRODUCTION AND DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Malta Environment and Planning Authority (MEPA) requested an Environmental Planning Statement (EPS) for the full development application PA 5925/05, for the construction of an industrial park in a quarry at Tal-Qormija, Mġarr, Malta. The application required the submission of an Environmental Planning Statement (EPS) in accordance with Schedule IA, Category 5.3.2.1 of the Environmental Impact Assessment Regulations, 2007 (Legal Notice 114 of 2007). The EPS was coordinated by Dr. Paul Gauci for ERSLI Consultants.

The proposed development constitutes the development of a micro-enterprise park (SME park) within a quarry at Tal-Qormija, Mġarr, that covers an area of 8408m^2 (Figure 0.1 in Volume 1 of the Coordinated Assessment refers). The proposed park consists of 33 units on two levels, which are designed for use by micro-enterprise businesses, which are active in manufacturing, vehicle repair, and cargo handling, together with a central building, which houses an administration office, a recreation room, a temporary waste storage facility, a security guard station, and a substation. The units shall be designed as follows:

- 18 of the units covering 3560m^2 in all, would be located in the lower level, and
- 15 units covering 2063m^2 in all would be located in the upper level.

The footprint of the whole scheme is 4460m^2, and it also includes 130 parking spaces for light vehicles.

Each of the proposed units would occupy between 120m^2 (mainly in the upper level) and 200m^2 (mainly in the lower level), with the average employment level expected to be around three full-time employees per unit.

The site in question is one of the 15 sites in Malta and Gozo, which lie outside the development zone (ODZ) and are officially designated for the construction and operation of Micro-Enterprise Parks in the final draft of the 'SMEs (Micro-Enterprises) Site Selection Exercise' (SSE), approved in January 2005.

2.0 EIA CONSULTATION

2.1 EIA Scoping

As part of the EPS process, consultation with various consultees was carried out during the scoping stage. Entities consulted included:

- Mġarr Local Council;
- Malta Resources Authority (MRA);
- Environmental Health Directorate (EHD);
- Superintendence of Cultural Heritage (SCH);
- Nature Group (environmental NGOs);
- Ministry for Rural Affairs and the Environment (MRAE);
- Din l-Art Ħelwa (DLĦ);
- Civil Protection Department (CPD); and,
- Operational Health and Safety Authority (OHSA).

The Project Description Statement (PDS) associated with the proposed development was also circulated for internal review within MEPA and was available for public inspection.

The consultation period spanned from 19th November to 10th December 2007. Comments received within the stipulated timeframes were as follows: Flimkien għal Ambjent Aħjar (email dated 26th November 2007)

and the Malta Resources Authority (letter dated 4th December 2007). A collation of these comments is included in Appendix 1 to this Report. The final Terms of Reference were communicated to applicant and architect on the 14th January 2008.

2.2 EIA Review

As part of the EIA process following the submission of the EPS, consultation with various consultees was carried out during the review stage. Entities consulted included:

- Mġarr Local Council;
- Malta Resources Authority (MRA);
- Environmental Health Directorate (EHD);
- Superintendence of Cultural Heritage (SCH);
- Nature Group (environmental NGOs);
- Ministry for Rural Affairs and the Environment (MRAE);
- Din l-Art Ħelwa (DLĦ);
- Civil Protection Department (CPD); and,
- Operational Health and Safety Authority (OHSA).

The EPS was also circulated for internal review within MEPA.

The consultation period spanned from 11th November to 14th December 2010. Comments were received from the Superintendence of Cultural Heritage (email dated 12th December 2010), the Environmental Health Directorate (email dated 15th December 2010), the Civil Protection Department (email dated 2nd December 2010), the Operational Health and Safety Authority (Email 16th November 2010), and the Malta Resources Authority (MRA – Minerals and Energy Directorate – Email dated 12th and 22nd November 2010).

Comments made by MEPA and its consultees during the review stage were forwarded to the EIA Coordinator, the developer and the architect on the 13th January 2011. These comments were addressed by the EIA Coordinator and responses were submitted to MEPA, all of which are included in Appendix Four of the EPS. Comments received during the consultation period are included in Appendix 2 to this Report.

2.3 EIA Certification

The EPS was certified on the 9th August 2011 and was published for a three-week public consultation period on 20th August 2011. Deadline for submissions was 10th September 2011. No comments were received during this consultation period.

3.0 EIA FINDINGS

The following characteristics of the site, assessment of impacts and mitigation measures were identified in the EPS (summary found in Volume Seven of the Coordinated Assessment Report):

3.1 LAND USE

The EPS states that the quarry is located in an area where, like in many parts of rural Malta, the 'natural' and the 'anthropogenic' have interacted for hundreds of years, as is evidenced in the archaeological/cultural heritage findings in the area. The parts of the surrounding area which are subject to human intervention are essentially of an agricultural nature, as illustrated in Figure 2.1 of the Coordinated Assessment report.

The area immediately to the south and to the south-west of the quarry is characterised by a degraded semi-natural habitat, consisting of low-lying shrubs on rock outcrop and further south, of maquis type of vegetation, including larger shrubs and low-lying trees. Further to the south of the quarry, and along the distance from the quarry to Triq Għajn Tuffieħa, lies an expanse of trees, mainly consisting of olive trees

and pine trees. This area is also rather degraded as a result of the significant amount of litter and waste covering the soil surface.

The area to the southeast of the quarry consists of agricultural land and forms part of a larger area extending further to the east of the site characterised by medium to highly productive agricultural land. The part of this area immediately to the south of the spent quarry includes a number of greenhouses. These greenhouses are situated immediately adjacent to the path that leads from Triq Għajn Tuffieħa to the quarry, and extend until approximately 30m to the east.

To the east, the quarry is flanked by an area that is highly degraded and covered by litter and hardy species of plants. Further to the east of the path that leads to the quarry and to the southeast of the quarry per se, the area is characterised by a number of fields in agricultural use. Some of these fields are irrigated and used for production of summer crops.

IMPACTS ON SURROUNDING LAND-USES

The EPS states that the proposed development will evidently have a significant impact on the quarry, and on the surrounding land uses. The micro-enterprise park will be built within the quarry area, surrounded by the quarry walls, and its presence is not expected to affect the day-to-day work of the farmers working in the surrounding areas.

3.2 ECOLOGY

The ecology study comprised wet and dry season surveys in February 2009 and June 2009, respectively, for the area of influence as identified in Figure 2.4 of the EPS Coordinated Assessment. This area is situated on the western section of Wardija ridge.

Wet season survey (Figure 2.5 in the EPS Coordinated Assessment refers)
The following vegetation assemblages were identified as follows:

(1) *Quarry:* The base of the quarry was colonised by a sparse, largely herbaceous mosaic comprising species that are, in part, indicative of medium-term ecological stability. Species of conservation significance in terms of Legal Notice 311 of 2006 include Mediterranean Heath (*Erica multiflora*) and Maltese Spurge (*Euphorbia melitensis*).

(2) *Communities of steppe/garigue:* Much of the land along the western, northern and eastern margins of the quarry was colonised by assemblages consistent with garrigue communities that were, in places, transitional with steppe. The area comprised a matrix of Mediterranean Thyme (*Thymbra capitata*), which was locally interrupted by patches dominated by other shrubs including Mediterranean Heath and Maltese Spurge (*Euphorbia melitensis*). The vegetation colonising the karstified areas was generally indicative of prolonged stability of ecological conditions and probably represents a local edaphic subclimax. Species of conservation significance in this area in terms of Legal Notice 311 of 2006 include the following: *Anthyllis hermanniae* (Shrubby Kidney-Vetch), *Carlina involucrata* (Carline Thistle), *Erica multiflora* (Mediterranean Heath), *Euphorbia melitensis* (Maltese Spurge), *Orchis conica* (Milky Orchid), *Phagnalon greacum ssp. ginzbergeri* (Eastern Phagnalon),, *Thymbra capitata* (Mediterranean Thyme) and *Urginea pancration* (Seaside Squill).

(3) *Freshwater rockpools:* Two solution basins that were functioning as a freshwater rockpool environment were noted from the eastern and north-western parts of the area of study: (1) the eastern basin was colonised by Grass-Poly (*Lythrum hyssopifolia*), Lesser Arrow-Grass (*Triglochin bulbosa spp. laxiflora*) and filamentous algae, while, (2) the northwestern basin comprised Pennyroyal (*Mentha pulegium*) and Grass-Poly (*Lythrum hyssopifolia*). No crustaceans were observed in either pool; however the ostracod *Eucypris virens* was present, with the species of conservation significance being *Sedum caeruleum* (Blue Stonecrop).

(4) *Communities of disturbed fringes:* These assemblages are associated with ecologically-relevant disturbance and were noted from various parts of the area of study. Such assemblages were recorded from patches in the southeastern portion of the area of study, in the vicinity of greenhouses situated just outside the area of study. Disturbed fringes were also noted from the immediate margins of the quarried area and along the borders of the pathways to its north. The vegetation in these areas comprised: Crown Daisy (*Glebonis coronaria*), Boar Thistle (*Galactites tomentosa*), and Sow Thistle (*Sonchus oleraceus*), Fennel (*Foeniculum vulgare)* and Tree Mallow (*Lavatera arborea*).

(5) *Olive plantation:* The southern portion of the area of study was characterised by part of a large olive plantation that appears to have been established in 1958. Species of conservation significance found in these areas include: *Anthyllis hermanniae* (Shrubby Kidney-Vetch), *Erica multiflora* (Mediterranean Heath), *Olea europea* (Olive), *Thymbra capitata* (Mediterranean Thyme) and *Uriginea pancration* (Seaside squill).

(6) *Fauna:* Fauna was not specifically surveyed but were noted as encountered during the survey. These included a number of insect species, terrestrial snails, and a number of birds, namely Spanish sparrows (*Passer hispanoliensis*), Robin (*Erithacus rubecula*) and two Starlings (*Sturnus vulgaris*).

Dry season survey (Figure 2.6 in the EPS Coordinated Assessment refers)
The following vegetation assemblages were identified as follows:

(1) *Quarry:* The vegetation within the quarried area was largely unchanged relative to that noted during the wet season survey. The same species of conservation significance found in the wet season survey were noted in the dry season survey, namely *Erica multiflora* (Mediterreanean Heath) and *Euphorbia melitensis* (Maltese Spurge).

(2) *Communities of steppe/garigue:* The framework of dominant shrubs in the steppe/garigue communities on karstic terrain was unchanged relative to February 2009. Species of conservation significance that were found during the dry season include: *Anacamptis pyramidalis* (Pyramidal Orchid), *Ceratonia siliqua* (Carob), *Chiliadenus bocconei* (Maltese Fleabane), *Pinus halepensis* (Aleppo Pine) and *Satureja microphylla* (Maltese Savory).

(3) *Freshwater rockpools:* All rockpools noted during the wet season survey were desiccated during June 2009 survey and no obligate hydrophytes were therefore present. Pennyroyal (*Mentha pulegium*), a species associated with wetland was flowering during the dry-season survey.

(4) *Communities of disturbed fringes:* Most species recorded from the disturbed fringes during the wet-season survey were herbaceous annuals that were not present in a vegetative form during the June 2009 survey. Species recorded from disturbed fringes in June 2009 and that were not recorded in February 2009 included Southern Scabious (*Scabiosa maritima*), Southern Aster (*Aster squamatus*) and Yellow Mustard (*Diplotaxis tenuifolia*).

(5) *Fauna:* As in the wet-season survey, fauna was not specifically surveyed but were noted as encountered during the survey. In contrast with February 2009, invertebrate life was much more abundant in June, particularly dragonfly and butterfly species. The same species of snails were still present, with large aggregations of *Theba pisana*. As for the wet season survey, no reptiles or amphibians were noted in June. The only birds noted were Spanish sparrows (*Passer hispanoliensis*) and a Black Redstard (*Phoenicurus ochruros*).

The EPS notes that the quarry itself presents little biological or conservation interest. The quarry walls are practically devoid of vegetation and piles of loose material, mainly quarry debris have become colonised by mainly ruderal and alien species. The exceptions to this are some isolated shrubs of Mediterranean Heath and the endemic Maltese Spurge on the sides of the quarry. In this regard, the consultants conclude that overall the most important ecological resources in the area of study are the exposed karstic areas with a

steppe/garigue vegetation north to west of the quarry, away from the fringe of disturbed and degraded land around the quarry.

IMPACTS ON ECOLOGY

The EPS identifies that the following project actions will create a number of impacts:

(1) Excavation of rock and construction of industrial units: This is likely to create the following impacts:
   - *Obliteration of habitat:* The plant assemblages within the extended footprint have colonised the area within the time interval during which the quarry has been in disuse, and, as such, mainly comprises ruderal species. Obliteration of the ruderal assemblages within the proposed footprint is not expected to exert effects of considerable significance as far as loss of biological diversity is concerned, as the plant assemblages in this area generally comprise species of widespread distribution in the Maltese Islands and with relatively brief regeneration times. The fauna (excluding avifauna) noted within the footprint comprises species with a widespread distribution in the Maltese Islands and with relatively brief regeneration times. The fauna (excluding avifauna) noted within the footprint comprises species with widespread distributions in the Maltese Islands, suggesting that impacts on fauna of conservation significance will probably be *minor*.
   - *Generation of particulate matter:* Although the proposed excavation and subsequent rock crushing are expected to generate considerable amount of particulates, transport of such sediments by surface runoff following rainfall is not expected to be a significant factor since the quarry itself would function as a sink for flows originating within its margins. Sediment transported outside the margins of the quarried area by wind and subsequently deposited on the surface may be subject to further transport and re-deposition by stormwater. Impact is expected to operate throughout the excavation phase and would impact areas downslope of sites of deposition of particulate. Windborne particulate emissions would enter adjacent habitats and may result in increased soil alkalinity.

(2) Storage of excavated rock: Excavation of the quarry floor to formation level is expected to generate approximately 4000 cubic metres or rock. Possible impacts are as follows:
   - *Redistribution of particulates:* Temporary storage of construction debris, rubble, and construction material on the site and its environs would obliterate all habitats and biota under the footprint of the stockpiles and may provide opportunities for winnowing and erosion of particulates. Unprotected stockpiles would provide surfaces exposed to redistribution of dust by wind.
   - *Proliferation of ruderal species:* Adjacent assemblages may be at increased risk of immigration from ruderal species exploiting stockpiles.

(3) Storage of possible contaminants: Possible impact is as follows:
   - *Leakage of contaminants:* Any impacts arising from these sources would be dependent on the materials and chemicals involved, on the volume of leakage and on specific weather conditions at the time of leakage. Any such leakages are likely to exert toxic effects on vegetation and other biota along their route of redistribution. Impacts also depend on the location of storage sites.

(4) Use of heavy machinery and heavy vehicles: Predicted impact is related to the spillages of fuel and fallout from exhaust streams.

(5) Site illumination: Possible disturbance of sensitive receptors since artificial lighting of the area would cause disturbance of wildlife due to elevated light levels and impacts arising from longer period of illumination of habitat patches.

(6) Noise and vibration: This is likely to disturb birds, bats and small mammals, particularly during excavation and construction, and may cause these to relocate from the area of study and from adjacent areas since vibrations in particular, travel well through rock.

(7) Introduction of species for landscaping: Any potential impact would be dependent on the species utilised in the landscaping scheme. Utilisation of potentially invasive species would increase the probability of infiltration of these species into the area of study and its environs.

(8) Use of pesticides and fertilisers for maintenance of landscaped areas: Fluid flows of leachate from the area of study are likely to be contained within the quarried area. It is unlikely that biocide aerosol would exert any significant effects on surrounding assemblages.

PROPOSED MITIGATION MEASURES

- Interception of dust during excavation phase, with possible measures including: restriction or cessation of excavation in windy conditions, wet suppression of dust, using sprinklers, at points of transfer of limestone debris.
- Settling tanks in the lowers part of the excavation.
- Minimisation of stockpiles within the site.
- Use of wind breaks around the stockpiles, together with limitation of their height and slope in order to reduce wind erosion. Insulation of stockpiles through a protective covering should also be carried out.
- Material should be cleared from the site within the day of its being excavated.
- Secure storage of potential pollutants within the quarried area would contain fluid spills.
- Minimization of application of biocide aerosol.
- Containment of spillages.
- Minimisation of on-site servicing.
- Use of downward facing lights, with lateral spillage of light fro downward-facing lights within the quarry to be restricted by the quarry sides. No lighting should be positioned outside the quarry.
- Use of damping mechanisms to reduce effects of vibrations.
- Use of indigenous, non-invasive species.

RESIDUAL IMPACTS

With respect to site illumination, the EPS notes that the impact associated with site illumination can be of high significance, with a high residual impact vis-à-vis avifauna. However, as indicated above, the use of downward facing lighting may increase the exposure of micro-mammals and invertebrates to predation. In this regard, lights with movement-sensors that will not detect small animals should be used instead. The EPS also notes that impacts associated with general disturbance during excavation and construction phase vis-à-vis vibration impacts, are considered to be of high significance unless appropriately mitigated and thus residual impact is considered to be of high significance in the case of avifauna. Appropriate mitigation measures, i.e. damping mechanisms to reduce effects of vibrations, should be in place to decrease the magnitude of this impact as possible. Impacts associated with the introduction of species for landscaping is considered as being of high residual significance, should the mitigation measure not be as effective as indicated.

3.3 GEO-ENVIRONMENTAL RESOURCES

The study was based on field surveys and subsurface investigation in relation to geology, geomorphology, hydrology and hydrogeology of the site.

Geology

The stratigraphic sequence for the Maltese Islands is visible in the quarry in question. The base of the Tal-Pitkal Member, of the Upper Coralline Limestone Formation, can be seen at the floor of the quarry, under which the yellow limestone with algal rhodoliths of the Mtarfa member which is soft clayey limestone is found and is unsuitable for the production of aggregate and thus is not quarried.

A very thick layer of Greensands (around 30cm) was noted in the north-east and south-west of the quarry, followed by the Blue Clay stratum.

A fault line is also shown running NEE-SWW direction in close proximity to the quarry, and some degree of fracturing is thus expected within the quarry.

Geo-technical investigation
Investigation consisted of inspection of the quarry faces and of the drilling of four boreholes, located within the four corners of the quarry, and reaching different depths. The EPS states that the results of the geotechnical analysis indicated that the rock remaining at the base of the quarry is generally of inferior quality and would be unsuitable for further production of hardstone aggregate. A limited amount of strong rock was encountered in the second borehole, but this is limited in extent and in thickness, and is likely to be completely excavated when trimming the floor of the quarry to obtain the desired foundation levels of the proposed project.

Structural geology
With respect to structural geology, the site lies within the Wardija ridge, a horst bounded in the south by the Għajn Tuffieħa fault, which traverses the southern sector of the quarry. In addition to faulting and jointing, it has also been noted that the strata dip gently (around 15 degrees) to the northeast.

Soils
The quarry *per se* does not contain any soil however it is surrounded by a limestone pavement.

Geomorphology
The geomorphology of the area is dominated by the southern extension of the Wardija ridge and the valley of Għajn Tuffieħa.

Hydrology and hydrogeology
The hydrological and hydrogeological features identified within the area of influence included (Figure 2.17 in the EPS Coordinated Assessment refers):

- *Aquifers* – The rock formations identified at the surface and in the subsurface of the study area area: Upper Coralline Limestone formation and the Blue Clay. The Upper Coralline Limestone above is permeable. Rainwater which infiltrates the subsurface percolates through the rock down to the top of the Blue Clay forming the perched aquifer which discharges its water through gravity springs.
- *Valleys and watercourses* – These features include: (1) a single dry valley – Il-Wied ta' Għajn Tuffieħa, , (2) Il-Fawwara gravity spring, (3) Għajn Tuffieħa proper (i.e. gravity spring near Roman baths on the side of Il-Wied ta' Għajn Tuffieħa) and (4) Large open reservoir that lies along Triq Għajn Tuffieħa opposite the entrance to the quarry filled by run-off during the wet season.
- *Water catchments*: No extensive drainage network is developed in the area of study and the catchment of Il-Wied ta' Għajn Tuffieħa is rather small and no proper watercourse is developed in the terraced valley. Surface run-off occurs only in exceptional cases (i.e. flash floods) and the catchments are listed below: watershed of the quarry and watershed of Il-Wied ta' Għajn Tuffieħa.

Environment Protection Directorate Note (1): Wied ta' Għajn Tuffieħa is not a small valley in the local context, since it extends all the way from the edge of Mġarr village (at Ta' Mrejnu/Ta' Darrenzi), passes through Ħal Ferħ, and then ends further down at Ir-Ramla tal-Mixquqa, below the Apple's Eye restaurant.

The watershed of the quarry is practically equal to its footprint which runs close to Tal-Qormija and covers a total of 12,300m^2 and lies on Upper Coralline Limestone.

IMPACTS ON THE GEO-ENVIRONMENT
The EPS states that the proposed development will not have any impact on geology and palaeontology, presumably because no further major excavations would be required in the event that the development permission in question is approved. Basically, the quarry floor needs to be levelled before construction works commence. The main impact predicted by the EPS is the contamination of aquatic environments if

hazardous liquids are not managed/handled competently during both the construction phase and operational phase.

PROPOSED MITIGATION MEASURES

- Secure storage of potential pollutants within the quarried area would contain fluid spills.
- Minimisation of application biocide aerosol.

RESIDUAL IMPACTS

The EPS states that impacts related to the excavation works are considered to be of *high significance* given the use of natural resources and particularly since no mitigation measures can be implemented in this regard. Furthermore, with respect to impacts on potential contamination of aquifers during both construction and operation, impact significance is considered be *high residual* only should the mitigation measures set by the operational permit not be effective.

Environment Protection Directorate Note (2): The residual impact associated with excavation can be considered to be of medium to low significance, rather than high as indicated in the EPS, given that the amount of excavation waste to be generated is not considered to be significantly large.

3.4 CULTURAL HERITAGE

The cultural heritage study involved: (1) the consultation of documentary sources and place-name evidence, and (b) fieldwork in the area of influence of the project under consideration (Figure 2.18 in the EPS Coordinated Assessment), which consisted of a site-surface survey meant to locate and record the whereabouts of sites and features.

Cultural landscape assessment and Historical Importance of the area

A number of place-names were identified from the survey sheet or other literature in the proposed area of development and its immediate surroundings, including: 'Mġarr', 'Tal-Qormija', 'Il-Ballut', 'Il-Ballut il-Ġdid', 'Ras il-Ġebel', 'Għajn Tuffieħa and 'Il-Ħamra'. The following indicates the historical importance vis-à-vis the chronology of the site:

(1) Prehistoric period: According to the EPS, the valley leading to Għajn Tuffieħa must have been an important location for the supply of fresh spring water. As early as the Temple Period, pottery shards were recorded near the later location of the Roman baths. The Wardija ridge, on which the quarry is located, was a defensive position typical of Bronze Age settlements.

(2) Classical period: The location of the spring at Għajn Tuffieħa was chosen as an ideal location for a complex of baths in Roman times dating from the second half of the first century to the first half of the second century AD. The complex was located near an abundant fresh water spring and contained an artificial heating system. Furthermore, Mġarr has yielded a number of rock-cut tombs, one of which as been recorded within the area of influence of the proposal (QRM10/010). Table 2.8 in the EPS Coordinated Assessment provides details vis-à-vis rock-cut tombs in the vicinity of the quarry area. The area also included a pair of cart-ruts (QRM10/005) which have been recorded in the study, together with a number of cart-ruts recorded in the surroundings.

(3) Medieval period: In spite of the fact that no cultural heritage features were dated to the medieval period in the study, the land holdings in the area, consisting of fiefs, included that of Għajn Tuffieħa, located to the south of the proposed area of development, and which existed since 1299, and was created by the Aragonese Crown.

(4) Order of St. John: This area was not given much interest by the Order since it was highly prone to invasion, and the main cultural remains linked to this period are watch towers erected to defend the coast. The nearest tower to the proposed development is It-Torri ta' Għajn Tuffieħa.

(5) British Period: The area surrounding the quarry is also linked to the British period, and includes a World War II room and adjacent 'caterpillar shelter' at the entrance of the road to the Roman Baths (QRM10/013 and QRM10/014).

Description of Cultural Heritage in the area

The EPS states that the cultural heritage of the area either consists of vernacular features related to the agricultural nature of the area or wells or water channels that are also related to farming. Despite the variety of archaeological features in the surrounding area, the only recorded feature in the area of influence is a rock-cut tomb (QRM10/010). The recorded features during this study and their proposed or present protection are listed in Table 2.9 of the EPS Coordinated Assessment.

Most of the recorded features are vernacular features, some of which are classified as rock-cut since they are wells dug into the Upper Coralline Limestone plateau. QRM10/001 is a farmhouse (Ir-Razzett tal-Magna) which has been converted into a residence, together with another farmhouse (QRM10/008) also converted into a residence. QRM10/009 is a flight of steps partly hewn out of the rock and built in dressed stone slabs. Another farmhouse (QRM10/011) is a farmhouse which is in a bad state of preservation, and includes a well (QRM10/012).

Rubble walls: In the area around the quarry, rubble walls are found in the agricultural part of the area of influence together with the remains of rubble walls at the northern boundary (Figure 2.22 of the EPS Coordinated Assessment). 46.5% of the rubble walls are in good condition (744.51m), 32.8% are of fair quality (525.08m) while 20.7% (331.18m) are in a rather bad condition.

Rock-cut features: A number of wells (QRM10/002, QRM10/004, QRM10/006 and QRM10/012) were recorded during the survey. Apart from QRM10/002, the wells were all covered and it was not possible to record their shape according to the EPS. A pair of modern cart ruts is visible in the country road to the north of the quarry. In the area of QRM10/007, there are number of marks indicating the presence of surface quarrying. QRM10/010 is a shaft and chamber tomb.

Military features: There are two military features in the area of influence that have been scheduled. The room, QRM10/013 and the 'caterpillar shelter' QRM10/014, formed part of the British defences against enemy attack and invasion of the Maltese Islands.

Cultural landscape

The main value of the cultural heritage in the area lies in the information it can yield regarding past settlement patterns, as well as the indications regarding land-use patterns. The area affected by the proposed development is a typical rural area of the north-west part of Malta. Ridges like Wardija ridge have been inhabited or exploited since antiquity. Although the majority of the features could not be dated, the presence of the rock-cut tomb marks the utilisation of the ridge during Classical times, or even preceding the Roman baths at Għajn Tuffieħa. Some areas have been quarried away, while others were covered in soil to reclaim land for agriculture. This was further extended to the garrigue on the summit of the plateau with the excavation of a number of wells. The presence of three farmhouses also makes part of this rural character of the area.

IMPACTS ON CULTURAL HERITAGE

The EPS notes that there are no envisaged direct impacts on the surrounding features, which are all inside the area of influence but outside the quarry in question. The only feature which may be directly affected is a well (QRM10/002). This feature, however, was already damaged in the past presumably by works pertaining to the quarry, and is considered to be one of the best examples of the wells found in the area since the rock-cut channels still lead to other water channels feeding into the agricultural area to the south-east of the quarry.

The other features discussed above are considered to be too distant from the proposed development, and and therefore the overall impact on such features is considered to be of *moderate significance.*

PROPOSED MITIGATION MEASURES

Monitoring of works and preservation of features, where possible.

RESIDUAL IMPACTS

No residual impacts are envisaged.

3.5 LANDSCAPE, TOPOGRAPHY AND VISUAL ASSESSMENT

The assessment of visual impacts was based on computer-generated models of the proposed development, superimposed on base photographs taken from viewpoints (VPs) located within the zone of visual influence (ZVI) as approved by MEPA. Base photographs were taken from a height of 1.7m above ground level. The ZVI and the locations of the viewpoints are shown on Figure 4.16 of the EPS Coordinated Assessment.

Landscape and visual components of the Għajn Tuffieħa area

The present landscape of the Tal-Qormija area is comprised of several diverse elements – key visual features within the site and environs include:

- The quarry itself, which occupies a significant land area. Its visual influence is, however, mitigated to some extent by the topography of the land area (notably the lie of the land around the quarry itself) and by the screening effect of the surrounding land uses.
- Triq Għajn Tuffieħa, as well as agricultural access tracks.
- Agricultural fields, including some that are presently cultivated, as well as others that seem to be abandoned.
- Rubble walls, including some that are in a good state of repair, as well as others that do not appear to be maintained.
- Greenhouses, most notably two clusters of greenhouses in close vicinity to the site, as well as others further in the distance.
- Isolated buildings (residential dwellings and farms) in the vicinity of the quarry site.
- The settlements of Manikata and Mellieħa, both clearly visible from the site.
- The Radisson SAS hotel at Golden Sands, which is also clearly visible from the site, as is the Golden Sands beach (Ir-Ramla tal-Mixquqa).
- Karstic terrain in various parts of the landscape, most notably in the areas of Ix-Xagħra tat-Torri, Ix-Xagħra ta' Għar is-Sienja and Ta' Garibaldi.
- Trees and clusters of trees (notably the planted grove of *Olea europaea* to the south of the site) and shrubs.
- Coastal boulder screens to the west of the site in the Ras il-Qarraba/Għajn Tuffieħa area.
- The lantern and part of the dome of the Mġarr Parish Church is visible (albeit barely) in the distance.
- A number of pylons for overhead utility cables.
- Miscellaneous dumped/discarded material in close proximity to the site (including spoil tips, rusty metal drums, blocks of stone, and other remnants of quarry equipment).

The EPS states that the landscape may be considered to be of low to moderate diversity. Whilst the area has a predominantly rural character, there is a juxtaposition of agricultural and natural landscape features, together with urban elements. As a result, there is some variation in texture, form and colour across the landscape.

With respect to the non-visual landscape, whilst having a predominantly agricultural character, the landscape is subject to the sound of (largely constant) traffic on the main thoroughfare. At the time of the

field surveys, almost constant shooting was heard given that the survey took place during the open hunting season.

Overall, the EPS concludes that the landscape in question is of high value, with limited potential for substitution. This judgement is based on the integrity of the general landscape of the area and not merely on the qualities of the development site itself, since the latter can only be reasonably considered in its wider context.

Visual Amenity

The zone of visual influence (ZVI) for the proposed development (Figure 4.1 of the EPS Coordinated Assessment) is mostly restricted to the immediate environs of the site. The limited visual extent of the development is primarily due to the fact that the development lies almost completely within the quarry itself, and thus does not protrude to a significant extent above ground level.

Potential sensitive receptors include: farmers in the immediate environs of the site, residents living close to the site, users of Triq Għajn Tuffieħa, hunters and trappers and ramblers/walkers.

The viewpoints assessed in the study were the following:

- Viewpoint VP1: View towards the north-western corner of the quarry – *High significance*, given that there will be a substantial change associated with the complete change of use of the site in question and its characteristics. However, since the development will be embedded almost entirely into the existing quarry, long-distance views will be maintained.
- Viewpoint VP2: View towards the east of the site – *Moderate significance*, change will be noticeable and will encompass the part of the building complex which will protrude above ground level;
- Viewpoint VP3: View towards the north-eastern corner of the quarry – *Low significance,* change in significance from viewpoint 3 is not of significant magnitude. The change is not visually prominent and will thus not interfere significantly with the views presently enjoyed.

IMPACTS ON LANDSCAPE AND VISUAL AMENITY

The EPS states that the landscape in question is considered to be of high sensitivity in general, on the basis of the suite of landscape elements present within it, and on the basis of its topographical characteristics which permit expansive long-distance views. The magnitude of impacts resulting from the proposed development (operational phase) is considered to be moderate, given that the changes are mostly localised on the quarry site. At the level of the site, the changes will be substantial; however the new development will not be widely visible. Substantial impact magnitude may occur during the construction phase of the proposed development, when the complex is being built, as there will necessarily be the need for transport of equipment and materials to and from the site.

PROPOSED MITIGATION MEASURES AND RESIDUAL IMPACT

With respect to mitigation measures, the EPS states that the proposal would require a detailed landscaping scheme, resulting in low residual impact if properly implemented.

3.6 AIR QUALITY

The air quality assessment comprised monitoring of the PM_{10} faction in ambient air that was carried out continuously for six weeks (42 days) between 26th May 2010 to 18th July 2010, from a monitoring station located to the south-east of the project site, sited along the prevailing wind direction (Figure 2.31 of the EPS Coordinated Assessment refers).

Details vis-à-vis the levels of PM_{10} can be found in Table 2.13 of the EPS Coordinated Assessment. The average obtained was 37.3µgm^{-3} which is just below the annual limit value of 40µgm^{-3}. With respect to the

daily limit values (50µgm^{-3}) which should not be exceeded over 35 days; there were seven exceedances of this value. Six of these were recorded between the 13th and 18th June 2010, and the EPS states that there is the possibility that this could be due to meteorological factors.

IMPACTS IN AIR QUALITY

The EPS argues that the greatest possible impacts arising from the proposed development are those that may occur during the construction phase with the major possible pollutant being PM_{10}. Dust is likely to be generated during excavation, digging, vehicular movement on unpaved roads and during stone dressing. The receptors most likely to be affected are the glasshouses to the southeast and possibly the farmhouse in an east by southeast direction from the proposed development.

During the construction phase, the annual recurrent gas emissions once the micro-enterprise park is in full use (assuming no renewable energy sources are installed) are estimated to amount to around 0.02% of the present emissions from Malta's power station stacks. The onetime total emissions resulting from construction-associated activities are estimated at 0.005% (CO_2), 0.002% (SO_X) and 0.026% (NO_X) of the annual emissions from the power stations. The EPS states that there percentage emissions however will be lower when compared to the overall emissions discharged in Malta when transport is taken into consideration. Therefore, the significance of the impact on the overall local current emission levels resulting from the project is considered to be *low*.

Environment Protection Directorate Note (3): At review stage, the Environment Protection Directorate had its reservations vis-à-vis the assessment of impacts related to the operational phase of the proposed development. However, the EIA Coordinator indicated that, during the operational phase, traffic will be the only activity generating particulate matter. The expected traffic flow is 2663 movements per day, leading to an expected annualised daily average of 31.2 micrograms per day and a total of 32 exceedances. In this regard, it is being suggested that the developer monitors the ambient levels of PM_{10} throughout the duration of the operational phase given that the baseline levels are close to the EU limit values.

PROPOSED MITIGATION MEASURES

- Interception of dust during excavation phase, with possible measures including: restriction or cessation of excavation in windy conditions, wet suppression of dust, using sprinklers, at points of transfer of limestone debris.
- Settling tanks in the lowers part of the excavation.
- Minimisation of stockpiles within the site.
- Use of wind breaks around the stockpiles, together with limitation of their height and slope in order to reduce wind erosion. Insulation of stockpiles through a protective covering should also be carried out.
- Material should be cleared from the site within the day of its being excavated.
- Containment of spillages.
- Minimisation of on-site servicing.
- Vacuum collection of pollutants.
- Use of water jet for stone cutting.

RESIDUAL IMPACTS

During construction, a residual impact of high significance may occur only if the proposed mitigation measures are not effectively implemented. Same applies during the operational phase.

3.7 NOISE AND VIBRATIONS

Assessment of noise was based on the six (6) monitoring stations as indicated in Figure 2.32 of the EPS Coordinated Assessment. The background noise levels were measured for an average of 10 minutes at each station. Detailed results for both noise and vibration levels can be found in Table 2.14 and Table 2.15

of the EPS Coordinated Assessment. The highest noise levels were recorded at Location 5 with the LA_{eq}dBA being 58.5 and the lowest noise levels were recorded at Location 1 with the LA_{eq}dBA being 40.7.

IMPACTS IN TERMS OF NOISE AND VIBRATIONS

The EPS states that given that the area is secluded from residents with a possible exception on the east side of the quarry. The surrounding area has a number of trees on the lower western side rising up to the top of the quarry. The EPS concludes that there will be no further increase in vibrations which could be of concern. As regards noise, depending on the actual industry, it will be imperative to maintain the 50 dBA at the surrounding area defined by the monitoring locations.

PROPOSED MITIGATION MEASURES

Use of modern equipment and, in case of complaints, use extra silencers.

RESIDUAL IMPACTS

With respect to noise during construction, a residual impact of high significance may occur only if the proposed mitigation measures are not effectively implemented. Same applies during the operational phase. As for vibrations, no residual impacts are envisaged for the construction and operational phases.

3.7 INFRASTRUCTURE AND UTILITIES

The EPS has indicated that the quarry can have access to infrastructural networks. However, given that the proposal will be located within a spent quarry, there are no infrastructural installations within the site which could be damaged during works.

In addition to the above, the electricity requirements of the development will have a negligible effect on Enemalta's supply network to the north-east of Malta and Gozo since the power demand is negligible when compared to the capacity of the 33kV and 11kV distribution networks serving the district in question.

With respect to water, each unit in the proposed development will have its own washing facility, and the average consumption of water from the facilities of 100 employees (approximately 3 per unit) will be around 800 litres per day.

IMPACTS ON UTILITIES

The EPS indicates that the proposed park will not have a significant impact on utilities, mainly because the relative demand for energy and water is on the low side, both in terms of electricity and water.

3.8 EXTERIOR LIGHTING

The EPS states that exterior lighting should be given very careful attention considering that the development is located in a sensitive area. The main advantage is that the internal roadways, which may need to be illuminated, are located below the level of the surrounding area and this will help to contain light spill and sky glow. It should be ensured that the height of the luminaires used for the internal road lighting is kept as low as possible and that the luminaires are of such a type to ensure that no lighting is directed in an upward direction.

3.9 ENVIRONMENTAL RISK ASSESSMENT

The EPS includes an environmental risk assessment carried out with the framework of the MSA EN ISO14001:2004, Environmental Management Systems standard. Out of the maximum rating of 256, representing a very high environmental risk according to the criteria utilized in the risk assessment; the micro-enterprise park has a maximum risk rating of 48 for five processes (relating to the disposal of asbestos, surface water management, and traffic) that have a direct impact on the environment. All other operational processes score less than 48, and 55% of the processes are in the low-impact range. The overall average is around 14, meaning moderate environmental risk.

The most significant risks in the park that have a direct impact on the environment are related to the following:

- Use of the public sewer and surface water management;
- Traffic impact from the operations;
- Disposal of asbestos spares;
- Disposal of used electrical parts and electronics;
- Disposal of used spill kits;
- Disposal of used vehicle batteries;
- Disposal of styrenated resinous produces;
- Disposal of packaging waste; and,
- Other issues such as noise pollution.

In light of the above, the EPS states that the issues identified shall be strictly controlled and monitoring through the Environment Management System (EMS) system and ISO 140001 that is to be implemented by the developer. Furthermore, the requirements emerging from the environmental/operational permitting regime shall ensure that no such risks are encountered through the operational phase of the proposed development.

3.10 CLIMATE CHANGE

The EPS states that the energy demands and transport of the proposed development will produce greenhouse gases mainly in the form of carbon dioxide (CO_2). During the demolition and construction phase, 101 tonnes of CO_2 and 1.1 tonnes of potential NO_2 are expected to be generated. The value of carbon dioxide represents 0.0038% of the national total CO_2 emissions in 2008. The NO_2 value represents 0.014% of the national emission ceiling for the gas. These values are one-time emissions and their significance is low.

During the operational phase, the project will generate 477 tonnes of CO_2 and 1.03 tonnes of potential NO_2 from the power plants. The value for carbon dioxide represents 0.0178% of the national total CO_2 emissions in 2008. The NO_2 value represents 0.013% of national emission ceiling for the gas, thus being of low significance also in this case.

Traffic will also generate CO_2 and NO_2. The amount of daily traffic that is envisaged for the project is 248 journeys. This is a very low number and is not likely to increase the national emissions of either CO_2 or NO_2 significantly.

3.11 SECONDARY AND CUMULATIVE IMPACTS

The EPS states that the additional consumption of electricity inside the park will imply additional emissions from the power stations, thus the energy requirements of the development are considered to have a secondary impact on the power stations' emissions. The same applies to the use of fuels and water requirement during the construction stage. Another indirect impact, according to the EPS is the emission of SO_2, with 0.13 tonnes to be generated by the development (0.014% of the national emission ceiling). The level of increase due to the development is unlikely to increase the ambient SO_2 concentrations near the power station to levels high enough to impact both human health and vegetation.

With respect to cumulative impacts, the EPS indicates that both the indirect effects from the proposed development and its energy requirement at the power stations are considered to be of minimal impact.

4. PLANNING POLICIES AND LEGISLATION

4.1 MALTESE LEGISLATIVE AND REGULATORY FRAMEWORK

- Environment and Development Planning Act, 2010, superseding the former Development Planning Act, 1992 and the Environment Protection Act, 2001;
- Waste Management:
  - Legal Notice 184 of 2011: The Waste Regulations, 2011, superseding Legal Notice 337 of 2001: Waste Management (Permit and Control) Regulations; and Legal Notice 161 of 2002: Waste Management (Waste Oils) Regulations.
  - Legal Notice 797 of 2004: Waste Management (Activity Registration) Regulations;
  - Legal Notice 106 of 2007: Waste Management (Activity Registration) Regulations;
  - Legal Notice 168 of 2002: Waste Management (Landfill) Regulations;
  - Legal Notice 158 of 2002: Waste Management (Batteries and Accumulators) Regulations;
  - Legal Notice 161 of 2002: Waste Management (Waste Oils) Regulations;
  - Legal Notice 277 of 2006: Waste Management (Packaging and Packaging Waste) Regulations; and,
  - Legal Notice 205 of 2000: Environment Protection (Control of Transboundary Movement of Toxic and other Substances) Regulations, 2000.
- Air Quality:
  - L.N. 478 of 2010: Ambient Air Quality Regulations, 2010, superseding the following legal notices: Legal Notice 216 of 2001: Ambient Air Quality Assessment and Management Regulations, 2001; Legal Notice 291 of 2002: National Emission Ceilings for Certain Atmospheric Pollutants Regulations; Legal Notice 224 of 2001: Limit values for Sulphur Dioxide, Nitrogen Dioxide and Oxides of Nitrogen, Particulate Matter and Lead in Ambient Air Regulations; and Legal Notice 163 of 2002: Limit Values for Benzene and Carbon Monoxide in Ambient Air Regulations.
  - Legal Notice 225 of 2001, as amended by Legal Notice 151 and Legal Notice 426 of 2007: Limitation of Emissions of Volatile Organic Compounds Regulations.
- Water:
  - Legal Notice 194 of 2004: Water Policy Framework Regulations, as amended by Legal Notice 24 of 2011.
- Noise:
  - Legal Notice 193 of 2004: Assessment and Management of Environment Noise Regulations.
  - Legal Notice 64 of 2002: Noise Emission in the Environment by Equipment for Use Outdoors Regulations.
- Nature Protection:
  - Legal Notice 1 of 1994: Environment Protection (Preventive and Remedial Measures) Regulations;
  - Legal Notice 200 of 2011: Trees and Woodland (Protection) Regulations, former Legal Notice 12 of 2001; and
  - Legal Notice 311 of 2006: Flora, Fauna and Natural Habitats Protection Regulations.
- Malta Resources Authority Act, 2001:
  - Legal Notice 194 of 2004: Water Policy Framework Regulations;
  - Legal Notice 203 of 2002: Protection of Groundwater against Pollution caused by certain Dangerous Substances Regulations, 2002;
  - Legal Notice 108 of 2009: Protection of Groundwater against Pollution and Deterioration Regulations.
  - Legal Notice 213 of 2001: Pollution Caused by Certain Dangerous Substances Discharged into the Aquatic Environment Regulations.
- Cultural Heritage Act, 2002:
  - Legal Notice 160 of 1997: Rubble Walls and Rural Structures (Conservation and Maintenance) Regulations, as amended by Legal Notice 169 of 2004.
- Other
  - Legal Notice 217 of 2001: Freedom of Access to Information on the Environment Regulations.
  - Legal Notice 295 of 2007: Environmental Management Construction Site Regulations.
  - Legal Notice 126 of 2008: Prevention and remedying of Environmental Damage Regulations.
  - Malta Standards Authority Act, 2000 and Product Safety Act.

4.2 LOCAL PLANNING POLICY

- Structure Plan Policies applicable to this project fall within the following policy areas:
  - Built Environment BEN 1, BEN 2, BEN 3, BEN 5, BEN 7, BEN 9, BEN 12, BEN 14, BEN 15, BEN 20, BEN 21;
  - Settlement: SET 1, SET 11;
  - Minerals: MIN 7, MIN 13;
  - Transport: TRA 2, TRA 3, LEM 6;
  - Conservation: UCO 7, RCO 1, RCO 2, RCO 3, RCO 4, RCO 5, RCO 12, RCO 28, RCO 29, ARC 1, ARC 2, PUT 7, PUT 8.
  - Industry: IND 6, IND 7, IND 8.
  - Waste policies: SWM 3, SWM 4, SWM 7, SWM 11, SWM 12, SWM 12, SWM 15.
- The National Environment Policy, 2012;
- North West Local Plan, 2006;
- Waste Management Plan for the Maltese Islands 2008-2012,
- Policy and Design Guidance, 2007.

5 ENVIRONMENT PROTECTION DIRECTORATE COMMENTS AND CONCLUSIONS

The Environment Protection Directorate acknowledges that the site *per se* is a disused quarry and is located in an area officially zoned for the construction and operation of a micro-enterprise park.

However, the Directorate also notes that:

- This proposal will introduce a free-standing industrial development within an area that is essentially open countryside, as the site is not contiguous to any committed development zone or industrial area;
- It is not sufficiently clear whether (from operational and road-junction safety points of view) the existing access to the site is considered adequate, or whether the proposed industrial development will eventually necessitate any significant rerouting, upgrading or alteration of the access, thereby resulting in unacceptable environmental impacts; and,
- The establishment of development commitments on the site may lead to eventual pressures for future expansion onto the surrounding land, unless adequate safeguards are put in place to ensure longer-term containment.

These issues are considered important for the purpose of determining the general acceptability of the proposed development. Furthermore, several ad hoc permits have been issued in recent years for extensive garage industry complexes, both within and outside areas officially designated for this type of development. In this regard, it is unclear whether at this stage the further supply of ODZ land to accommodate such development is still justified at a national or regional (northwestern Malta) level, or whether the current situation on the ground warrants a review of the SME development plan that had originally committed this and other sites for development. The Environment Protection Directorate also notes that the Minerals Directorate at the Malta Resources Authority has stated that it is against the development in the disused quarry.

The environmental assessment carried out for this development proposal identified a number of other potential impacts on the environment, some of which are of *high significance* if not sufficiently mitigated. Subject to the overriding considerations raised above vis-à-vis the general principle of the proposed development, the impacts in question can be addressed through stringent implementation of the measures identified in the EIA process. In particular, impacts associated with wastes generated during construction, particularly those related to re-use and disposal, are to be addressed through a detailed Construction Management Plan (CMP), whereas wastes generated during the operational phase are to be addressed through the requirement for a comprehensive operational permit covering the entire industrial park. As the amount of excavation waste to be generated is not considered to be significantly large, the Environmental Protection Directorate is of the opinion that the residual impact associated with excavation is of medium to low significance. The Environment Protection Directorate recommends that if a development permit is

issued it should be tied to various mitigation measures and conditions, as proposed in a separate document.

APPENDIX 1 – Comments received during EIA Scoping Stage (19th November – 10th December 2007) – Identification of issues to be included in the Terms of Reference for the Environmental Planning Statement (EPS)

Entity	Comment	MEPA Response
Flimkien għal Ambjent Aħjar (FAA) **Email 26/11/07**	**FAA would like to put forward the following guidelines for the Environmental Planning Statement of PA 05925/05:** ▪ A valid Environmental Planning Statement (EPS) for PA 05925/05 would assess the environmental impact on a site that is both acquifer and archeologically sensitive. It is essential to carry this out given the archaeologically-sensitive works approved in advance by the Superintendence of Cultural Heritage since it is an area of archaeological importance. ▪ Even though the Project Description Statement states that the impact on the ecology of the site is minimal because the land is already disturbed. This in itself is no justification for such a project, as rehabilitation of the disturbed land is the responsibility of the exploiting party, ie. the quarry operator. In the light of this a valid Environmental Planning Statement would assess the impact of the project on the ecology of the surrounding area that is of great ecological importance, at both the construction and operation stages. The project will bring industrial activity in an area of high ecological and agricultural value. In this way, a valid Environmental Planning Statement would assess the impact of this industrial activity on the ecology and agriculture of the surrounding area. ▪ The Project Description Statement states that the industrial working community and the new development will relate well to its surroundings. Yet a valid EPS would assess the validity of such a statement since it is describing a project that is planned in an area that is mainly agricultural and archaeological in character; it will need to assess how such a development can relate well to a village that is mostly farm-based and agricultural. ▪ The Project Description Statement states that such a project will add substantial value to the assets and amenities of the area of Mgarr, increasing also in value the properties in the vicinity. Once again, a valid EPS will assess how such a project intends to do this, and whether this project description can make such a claim. ▪ The Project Description Statement states that the proposed development has the potential to resolve numerous problems in the area such as lack of facilities, namely car parking. A valid EPS would assess whether there is such a problem and whether such a development proposal can therefore make this claim.	Noted; the issues related to archaeology, ecology, and landscape and visual impacts were discussed in detail in the EPS.

	▪ The Project Description Statement states that the project will also benefit the economic units in the Mgarr Area. A valid EPS would investigate the validity of such a claim by checking which economic units would benefit, considering the fact that Mgarr is mostly a farm-based agricultural community. Even though the project could benefit the economy of the country, the choice of another site that is not right in the centre of an agricultural area, but closer to an industrial one, it can still be argued as better suited to such an industrial project. ▪ The Project Description Statement describes how the project will include 130 parking spaces and an increase in local activity – both pedestrian and vehicle activity. A valid EPS would need to assess both the impact of noise, pollution and human activity on the surrounding area that is of ecological and agricultural value. ▪ A valid EPS will investigate the visual impact and the impact on the landscape of the architectural style, building structure and use of materials of the development project. It is true that this is replacing a quarry which is an eye sore and a scar in the landscape. However, in FAA's opinion, this does not need to justify the construction of another development which may still jar with the surrounding landscape. A valid EPS will also consider alternative uses of the land that might be less jarring to the surrounding landscape: i.e. a man-made natural park. ▪ The Project Description Statement states that the commercial element of the project needs be established in more detail and the actual operation of the project cannot be predicted. A valid EPS would require that this commercial element is described in more detail so that the actual operation of the project can be evaluated and its impact on the environment could be assessed.	
Malta Resources Authority (MRA) Minerals Directorate **Letter** **04/12/07**	Your letter of 19th November 2007 refers. You may wish to note that the Minerals Directorate has no comments regarding the PDS of the proposed development. However we await the full report of an EIA.	Noted.

APPENDIX 2 – Comments received through EPS Review period – 11th November – 14th December 2010

2. Consultees' Comments

A. Superintendence of Cultural Heritage (SCH) – Email dated 12th December 2010

Comments
Ref. Cultural Heritage Act 2002, (CAP 445) **Environmental Planning Statement i.c.w. PA 05925/05 – Industrial Park in Quarry at Ta' Qormija, Mgarr** The Superintendence is assessing Environmental Planning Statement (EPS) as received in November 2010. Without prejudice to the eventual approval or otherwise of the application, the Superintendence notes the following: The site of the proposed works lies approximately 300 metres to the north-east of the Ghajn Tuffieha Roman Baths. These are a major archaeological monument scheduled at Grade A for their protection. The baths, as currently defined, are an extensive site and are very indicative of the archaeological potential of the area. Reference is made to these Roman Baths in the general description of the area, yet they are not listed or described on the data capture cards. It appears that the study area stops just short of the Roman Baths, although it includes the World War II structures in their immediate vicinity. This is not satisfactory, given the significance of these Roman Baths and given that they are accessed through the same main road as is the site of the proposed development. The applicant should be directed to augment the EPS to include the Roman Baths and their immediate surroundings, assessing the possible impacts on the integrity and valorization of this archaeological site.

ERSLI response: *ASC have prepared a revised report as requested by the Superintendence. This report is included in Annex Three to this document.*

MEPA Response: *Noted.*

B. Environmental Health Directorate (Email dated 15th December 2010)

Comments
With reference to your e-mail dated 11 November 2010 regarding subject indicated in caption and following review of the EPS submitted, please be informed that this Directorate would like to submit the following comments/recommendations regarding this proposed development : **Air Quality** A dust management plan should be included in the construction management plan and adhered to. This should include, but not be limited to, mitigation measures as listed in Appendix Two B of the EIA Consultant's Report "Baseline Report on Air Quality Monitoring" page 8. All proposed mitigation measures to mitigate: • dust impacts during excavation works and during construction phase, including the storage, handling, loading and transport of loose construction material and other dust laden materials, vehicular movements on unpaved roads and stone dressing • and emissions from heavy equipment/vehicles are to be strictly implemented by developer to mitigate adverse impacts and nuisances on the Area of Influence and on nearby sensitive receptors. Special attention should be given to dust dispersion during excavation and construction works and during

transportation of excavated material.

Should significant negative impacts and nuisances arise from wind borne dust (including complaints by residents and sensitive others), the proposal that excavation works should stop or be restricted during strong prevailing winds is to be enforced.

Noise and Vibration

Effective noise and vibration control measures are to be implemented by developer to protect on-site workers and nearby receptors. The proposal that during excavation works, noise generating machinery is used during limited periods during the day is highly recommended so to avoid nuisances and complaints.

Although as stated in EPS, during construction works vibration would not be an issue in view of the quarry location and the little excavation work that is required, immediate and effective measures should be implemented by developer should vibrations pose a nuisance and complaints arise.

Monitoring during construction and operations is highly recommended if the need arises.

Consideration should also be given to routes followed by heavy vehicles so as to minimize inconveniences and traffic related impacts.

During operational phase, noise and vibrations from the possible industries which will be hosted in this park, including the use of air conditioning and filtering units, should be kept within the set limits to protect workers and any other sensitive receptors.

Aquifer protection and Storm Water run-off

Surface water management during the operation of the Park is also of utmost importance and adequate mitigation measures should be taken by the developer as to prevent any possible negative impacts from this development on the underground water supplies.

The secure storage of all chemicals, hazardous material and other pollutants and adequate measures to avoid potential spillages is of utmost importance to avoid contamination of aquifers during all phases of this development and operation of industries within the park.

The proposal that settling tanks are located in the lowest part of excavation is recommended to prevent redistribution of particulates by storm water.

Waste Management including hazardous waste

A Waste management strategy should be adopted and implemented during the excavation/ construction and operational phases so that all generated waste will be contained, separated and disposed of safely through the appropriate facilities and according to the necessary permits/licences

With regards to removal and disposal of hazardous waste, adherence to regulatory codes and procedures and due diligence is important in view of the heath and safety of on-site workers and any adverse impacts on nearby sensitive receptors.

Generated wastes, cleaning chemicals, etc from the proposed portable sanitary facility which will be located at the Site Offices should be properly disposed of.

Water storage

It is pertinent that water collected in proposed underground reservoir is *not* to be used for human consumption and/or personal use.

Wash hand basins and sinks in proposed canteen for workers, proposed showers and wash hand basins of each unit are to be provided with an adequate supply of potable water at all times.

Light pollution

Any external lighting should be directional and sufficient for safety and security while minimizing light pollution in this rural area.

Other

It is also recommended that pest control management, especially with regards to rodents on site and the surrounding areas be taken into consideration.

Kindly note that 'Cap 210 Code of Police Laws, 1854' referred to in Coordinated Assessment Report Volume One Table 3.1 Chapter 3 , page 137 should read Cap 10 Code of Police Laws, 1854

Applicant is also requested to carry out specific discussions with the various units within the Environmental Health Directorate regarding the canteen for workers, any food/beverage handling activities within the park although none other than the canteen for workers have been proposed and any other facilities (such as R.O. plants, solar energy, cesspits/sumps etc.) in view of specific regulations under the Food Safety Act and the Public Health Act.

The drawing up and implementation of a Construction Management Plan for all phases of the project thus ensuring adherence to proper site management practices is of utmost importance in mitigating adverse impacts and nuisances (such as dust dispersion, transportation of loose material, etc.) on sensitive receptors in the Area of Influence.

It is recommended that all proposed mitigation measures identified in EPS are to be strictly implemented by the applicant to mitigate any significant adverse health effects and nuisances on the Area of Influence should development permission be granted. The possible health effects of any residual impacts that cannot be mitigated should also be taken into consideration.

Mitigation measures related to operations phase should be covered by an Environmental Permit normally issued by EPD within MEPA.

Moreover any other unpredicted impacts and nuisances which may arise from this project and that may have a significant adverse effect on public health should be immediately addressed by the applicant and the necessary mitigation measures taken. All relevant complaints should be recorded, investigated and remedial action taken immediately. Such records are to be readily available to the Competent Authorities when requested.

The necessary monitoring should also be carried out throughout all stages of the project.

ERSLI response: *The points raised by the Environmental Health Directorate have been noted, and they should be taken into consideration in the preparation of the Construction Management Plan of the project and in the Industrial Park Management System that will be adopted during operations.*

MEPA Response: *The concerns raised by the EHD shall be taken into considerition in the proposed development permit conditions.*

C. Civil Protection Department (CPD) – Email dated 2nd December 2010

Comments
Kindly be informed that PA 5925/05 is being processed. No Objection by the Civil Protection Department is only granted by a No Objection reply.

ERSLI Response: *Noted.*

MEPA Response: *Noted; no further comments.*

D. Malta Resources Authority – Minerals Directorate (Email dated 22nd November 2010)

Comments
The Minerals Directorate went through the report and we have no objection that the EPS is made public. Furthermore please note that the Minerals Directorate is against the development in the disused quarry.

ERSLI response: *The position of the MRA is to say the least 'strange'. In the first place, as far as this EIA Coordinator is aware, the MRA does not enjoy veto powers with respect to the issuing of EISs/EPSs for public consultation under LN 114/07. He stands to be corrected. Secondly, the objection to the development should have been stated together with a substantiation of MRA's position. It should be pointed out that the quarry was identified as a potential location for a micro-enterprise park in the first draft of the Subject Plan, which was issued for public consultation in 2002. Once the Subject Plan was approved, in 2005, by the Minister responsible for development planning under Article 27(2) of the Development Planning Act (which was in force at the time), the Subject Plan was no longer a MEPA document, but a formal Government of Malta policy statement, which the MRA (a public agency) is bound to recognize.*

MEPA Response: *Noted; there are no further comments from an EIA perspective. However, the reply from the Malta Resources Authority is being brought to the attention of the Planning Directorate in order for this to be included as part of the assessment of the development planning process.*

E. Operational Health and Safety Authority (Email dated 16th November 2010)

Comments
Reference is made to your communication with the Occupational Health and Safety Authority (OHSA) of the 11th November 2010 and to EPS submitted by ERSLI Consultants to the OHSA. Having gone through the documents contained in the CD made available, the OHSA notes that measures to protect workers from occupational risks are barely mentioned and the few exceptions contained mainly make reference to British standards. The applicant's attention should be drawn to the need to make use of local legal notices when drawing up health and safety documentation and also on the need to eventually enforce them. Apart from the above, the following comments are being sent for inclusion in the eventual conditions issued to the applicant: 1. The contractor /s and / or self employed persons entrusted with the various works required to execute this project shall ensure the health and safety of themselves, their workers and any third parties as stipulated in Act XXVII of 2000 and in various subsidiary regulations, particularly LN 36 / 2003 and LN 281 / 2004; 2. The anticipated works required to execute this project shall be carried out in conformity with the requirements of the Work Place (Minimum Health and Safety Requirements for Work at Construction Sites) Regulations, 2004 (LN 281 / 2004) in particular: (a) The appointment by the client of a Project Supervisor for the Design Stage and a Project Supervisor for the Construction Stage (vide reg. 3) to oversee the development; (b) The prior notification to the OHSA by the appointed Project Supervisor for the Design Stage of the works required (vide reg. 4) at last four calendar weeks before work commences; (c) The maintenance of a health and safety file by the client, appropriate to the characteristics of the project containing relevant health and safety information to be taken into account during any subsequent works (vide regs. 3 & 4) and (d) The drawing up of health and safety plan by the Project Supervisor for the Design Stage prior to the setting up of the planned construction works (vide regs. 4 & 5); 3. The employer/s at the finished place of work shall ensure that that all work activities carried out at the finished workplace are covered by a suitable, sufficient and systematic risk assessment carried out by a person competent in OHS matters, as per LN 36 / 2003 and other relevant OHS regulations; 4. The finished buildings shall comply with the various provisions of the Workplace (Minimum Health and Safety Requirements) Regulations 2002 (LN 44 / 2002). The applicant shall ensure that at the planning stage a *Perit* is appointed to declare that the finished place/s of work will be built according to the various provisions of these Regulations, particularly with respect to suitable emergency preparedness and response arrangements, fire detection

and fire fighting equipment. This declaration shall be retained by the applicant and made available for inspection by OHS Officers from the OHSA;
5. If at the finished place/s of work there will be a sufficient number of workers, the employer/s shall ensure that there has been elected, appointed or otherwise designated by workers, a Workers' Health and Safety Representative/s as per requirements of Art. 6 (4) of Act XXVII of 2000 and Reg. 13 of the LN 36 / 2003, who shall be duly consulted on OHS matters according to prevailing OHS legislation and;
6. All machinery, equipment, plant and installations used on this project and at the finished place of work shall comply with the relevant OHS regulations on this area particularly, but not limited to the Work Equipment (Minimum Safety and Health Requirements) Regulations, 2004 (LN 282 / 2004).
You may wish to contact the undersigned for further clarifications. Kindly note that electronic copies of the various legal notices referred to in this communication may be downloaded free of charge from the OHSA's website http://www.ohsa.org.mt. Official copies of these regulations may be obtained from the Department of Information.

ERSLI response: *The OHSA reviewer should be informed that this EPS is not concerned with Occupation Health and Safety (OHS) but with Environmental Impact Assessment. Had the Terms of Reference concerning this EPS, requested a discussion/assessment on OHS, this EIS Coordinator would have done so. An expert on OHS would have been included in the EIA Team, and OHS issues would have been discussed in the Coordinated Assessment Report. The OHSA should have made their recommendations (as written in Comments Column), when the draft Terms of Reference were issued for consultation during the Scoping process. Contrary to what the OHSA reviewer seems to think, this EIA Coordinator is aware of the OHS obligations on the work place, and in this respect the OHSA statements in the Comments Column are superfluous. On the other hand, the comments made the OHSA reviewer regarding the references in the Coordinated Assessment Report to British Standards, reflects confused thinking regarding the role of legally binding Regulations and Standards.*

MEPA Response: *Noted; there are no further comments from an EIA perspective. However, the reply from the Malta Resources Authority is being brought to the attention of the Planning Directorate in order for this to be included as part of the assessment of the development planning process.*

F. Malta Resources Authority – Energy Directorate (Email dated 12th November 2010)

Comments
The Energy Directorate of the Malta Resources Authority has no objection that the EPS is made public.

ERSLI response: *Noted.*

MEPA Response: *Noted.*