

**PA 02342/06 (GF 00121/06)
Master Plan for the Magtab Environmental Complex
Naxxar**

**ENVIRONMENTAL IMPACT STATEMENT UPDATE
RESPONSE TO REVIEW COMMENTS**

Version I: November 2011

adi
ASSOCIATES
ENVIRONMENTAL
CONSULTANTS

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PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

TABLE OF RESPONSES TO EIA REVIEW COMMENTS

Comments on the 1st draft of the Environmental Impact Statement Update –

GF 00121/06 – Master Plan for the Maghtab Environmental Complex

1. MEPA Comments

| | MEPA Comment | Adi Response |
|------------------------------------|---|--|
| General Comment (1) - Plans | <p>(1) EIA Coordinator is to ensure that the Master Plan and any similar plans provided reflect the latest submissions provided to MEPA, especially in the light of TRK 143862 and TRK 143865.</p> <p>(2) EIA Coordinator (through applicant and architect) is to provide a holistic Master Plan of the Maghtab Environmental Complex area (in A2 format). This should include both the MBT and AD covered by the tracking files referred to above, especially in the light of 'open-ended' plans shown in the EIS Coordinated Assessment, Figures 4.39 to 4.53. The Master Plan should indicate the proposed developments holistically (including [i] clarifications with regard to the proposed access arrangements which are currently unclear, [ii] any formation of new roads or realignment of existing roads, [iii] detailed landscaping scheme and their relative location/s, and, [iv] any other implied consequential commitments in relation the construction/operational phase of</p> | <p>A copy of the latest Master Plan is attached, WSM-MBT-001. A hard copy of the requested A2 format will be provided in the Addendum.</p> |

| | MEPA Comment | Adi Response |
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| | <p>both TRK applications).</p> <p>(3) Master Plan submitted as Figure 1 needs to be provided in A2 format. TRK. 143862 and TRK. 143865, and any other relevant development planning applications and permits under discussion in this EIS Update are to be indicated in the said plan.</p> | |
| <p>General Comment (2) – Archaeology and Cultural Heritage</p> | <p><u>Archaeology:</u></p> <p>The Cultural Heritage Technical Report in connection with the EIA submitted for the proposed works at Magħtab Environmental Complex has been noted. The survey has confirmed the archaeological importance in the area in view of the known archaeological heritage (Ta' Ħammut Dolmens and Ta' Żebbuġija megalithic remains) as well as the recording of new potential archaeological sites, namely megaliths and quarrying as recorded in cards MTB011/08, MTB011/09 and MTB011/13. It should be noted that within the immediate area other remains were recorded, such as the Magħtab Covered Way recorded by Evans; its exact location however remains untraced. This further indicates the high archaeological potential of the area.</p> <p>In their recommendations (para 1.62</p> | <p>As a point for clarification, the megaliths and quarrying are recorded in cards MTB010/08 and MTB010/09.</p> <p>It should be noted that as part of the recommendations within para 9.88, the following is stated:</p> <p><i>...there should be further, pre-development archaeological investigations in the area where megaliths are located...</i></p> <p>The archaeological significance of the area has been studied and assessed in the EIA. The EIA recommends a number of mitigation and monitoring measures that also adopt a precautionary approach (see paras 9.88, 9.91 and 9.92), designed to minimise negative impacts on archaeology and cultural heritage within the Area of Influence. This is in line with the scope of EIAs.</p> |

| | MEPA Comment | Adi Response |
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| | <p>of the Archaeology baseline study), the archaeology consultants have recommended that prior to the further processing of the proposal, further investigation within the area in which the above remains have been recorded is required since it abuts the proposed scheme. On the other hand, in the EIS update (paras. 9.88, 9.91 and 9.92) it is being recommended that this same area be only subject to monitoring once permit has been issued.</p> <p>In view of the proven archaeological importance of the area, and the potential of further archeological discoveries, it is recommended that a precautionary approach be adopted and in line with Structure Plan Policy ARC3, the area as identified by the Archaeology consultants is subject to archaeological investigations. Such investigations can only be directed by the SCH and accordingly SCH are to be consulted. Such investigations are necessary in that if the area is proven to have archaeological significance, the proposed scheme may need to be re-designed or re-located to mitigate both physical and visual impact.</p> <p><u>Cultural Heritage:</u></p> <p>According to the EIS Update, a</p> | <p>It is considered that this detail is better managed at a later stage in the planning process including consideration of reserved matters and eventual permit conditions (if granted).</p> <p>The EIA identifies potential risk of damage to this feature. The permit, if issued, should ensure adequate measures are implemented to ensure effective preservation of this structure.</p> <p>SCH has been consulted as part of MEPA's consultation on the EIA.</p> |

| | MEPA Comment | Adi Response |
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| | <p>number of cultural heritage features will be impacted. The assessment of these features according to the submitted data cards within the CH Technical Report has been noted. Of particular concern is MTB11/001 since it is a very well kept rural structure (field room) that exhibits traditional methods of construction and material. This feature is prone to damage during construction due to its close proximity to the site.</p> <p>The other features that will be impacted are mainly field rooms that are dilapidated or in ruins, country roads and boundary markers. As stated in the EIS, those features that can be relocated will be relocated sensitively and these include boundary markers.</p> <p>It is suggested that the location of those features to be relocated is to be declared and site plans submitted. Additionally, the method used for the relocation process should also be outlined preferably through a Method Statement.</p> <p>Regarding the field room in MTB11/001 this should be conserved and thus the proposal should ensure (through adequate measures) that this feature suffers no damage.</p> | |
| General | The Ghallis area hosts a number of | Reference is made to the fact that this EIA is an update to the EIA carried out in 2006 as part of PA 4834/04. In |

| | MEPA Comment | Adi Response |
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| Comment (3) – Terrestrial Ecology | protected species/habitats. These are not mentioned in the EIS. Where possible, MEPA requires more information on what protected species/habitats will be affected by the project. | this regard, MEPA issued guidelines (in July 2010) as to which environmental aspects required updated studies. In these guidelines, there was no requirement to carry out studies on protected species or habitats. It is further noted that the area is agricultural land and a detailed agricultural survey has been carried out including a tree survey. |
| General Comment (4) – Soil contamination | <p>MEPA notes that the consultants carried out leaching test to determine soil contamination levels.</p> <p>Leaching tests as per Council Decision 2003/33/EC are not acceptable to determine the level of contamination in soils. In order to determine soil contamination levels, full compositional analysis is required.</p> <p>Leaching tests as per Council Decision 2003/33/EC are applicable following the characterisation of waste (or contaminated soil) as inert, non-hazardous or hazardous in order to determine compliance with the limit values laid down in the Decision for waste to be landfilled in an inert, non-hazardous or hazardous landfill.</p> | <p>In August 2010, MEPA approved and accepted the Method Statement submitted, which included the proposed methodology for determining soil contamination.</p> <p>Moreover, there is no evidence of historical contaminative uses of the site(s) for the MBT plants (the sites are currently agricultural land). One of the reasons for choosing leachate values as far as the potential for environmental impact is concerned is that during the construction phase only, the underlying materials will be potentially exposed to rainfall; hence potential leaching of contaminants. Post construction, the sites will be covered in concrete, hence the potential for leaching or dispersal by other means is lost.</p> <p>It should also be noted that the sites require the ground levels to be altered to achieve the construction platform. Another reason for choosing leachate levels is that the excavated material that cannot be reused can then be classified as inert, hazardous or non-hazardous to determine the type of waste and therefore how the material should be disposed of (as pointed out by MEPA).'</p> <p>In the absence of any evidence to suggest contamination, therefore, for the purposes of the EIA, total levels of contaminants are not considered necessary. The only other reason for testing total levels of contaminants would be to determine site condition as part of an environmental permit, however, given that the ground surface is to be re-modelled, the best time to take those samples for the current condition is post-earthworks, immediately prior to concrete being laid.</p> |

| Detailed Comments | | | | |
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| No. | Page | Para. | Comment | |
| 1 | ix. and 9 | 2.18 | References to an 'Environmental Planning Statement' are to be removed. | Noted. |
| 2 | 29 | 4.32 – 4.34 | Both extensions (Žwejra Cell 1 & 3) have been included in the application for renewal and variation IP 0001/05/A; it is not clear as to under which development planning application this is being submitted. | The development was included in application PA 2342/06. |

| | | MEPA Comment | | Adi Response | |
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| 3 | 30 | 4.38 | The Coordinated Assessment states that CQA reports for both extensions were prepared during the construction of each phase. According to MEPA's records, the CQA report for the extension of Żwejra Cell 1 is still to be submitted to the Authority. | Noted. It is expected that relevant reports will be made available by Wasteserv by week ending 20 November 2011 | |
| 4 | 32 | 4.39 | A finalized Closure Plan is yet to be submitted to the Authority; however since landfill space is still available, this plan can be submitted at a later stage, as part of the IPPC process. | Noted. | |
| 5 | 32 | 4.40 – 4.42 | In this section it is being stated that the capping system will comprise the use of shredded tyres. As per condition 7.10.2 (Closure, Aftercare and Decommissioning) of IP 0001/05/A, the use of shredded tyres is not permitted. | Noted. This information will be amended in the final EIS. Detailed information has been provided as part of the IPPC renewal application. In summary, there will be a regulating layer (of limestone material), to provide suitable protection of the geosynthetic clay layer (GCL) from the underlying waste. Restoration material, comprised of suitable inert, organic, and uncontaminated material with no elements deleterious to the capping system and with no particles greater than 25mm shall be placed over the GCL. Following placement of the restoration material, the area will be cultivated. | |
| 6 | 36 | 4.48 | Applicant is to confirm as to whether this extension is covered by a planning application. The renewal and variation of the current IPPC permit for Ghallis landfill (IP 0001/06/A) will only cater for such extension if all the necessary authorizations/permits have been issued by MEPA. The application for renewal and variation of IP 0001/06 includes the request for use of crushed material as daily cover. WasteServ (Malta) Ltd is yet to submit details on the status of infilling of the landfill, providing details on the amount of remaining void space and estimated lifetime. | The extension of the Ghallis landfill was originally included in PA 2342/06. MEPA however guided that variations to PA 4834/04 were to feature as a separate application. This was submitted and is now PA 964/11. | |
| 7 | 39, 41 - 44 | 4.49; Figure 4.15 – 4.18 | The proposed Radioactive Store will have to be included as part of the integrated IPPC application for the entire hazardous waste treatment facility. As per email correspondence (with Perit Ivan Bartolo and Ms. Daniela Grech) dated 19 th April 2011, MEPA informed WasteServ that an integrated IPPC application for the entire site had | Noted. | |

| | | MEPA Comment | Adi Response | | | | | | | | | |
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| | | | <p>to be submitted at the earliest opportunity and by not later than end of January 2012. The application should primarily seek to cover operations to be carried out in the proposed hazardous waste storage facility (PA 4787/09) and spent solvent storage area (PA 4789/09). Should details of activities to be carried out in installations covered by PA 4790/09 and PA 4791/09 remain unclear at submission stage (of the IPPC application), an application for variation may be requested at a later date.</p> <p>The site shall not be brought into operation until an IPPC permit is issued for this site. The actual regulation of this activity would fall under the remit of the Radiation Protection Board.</p> <p>Resubmission of Figures 4.15-4.18 in A3 format is required as these are illegible.</p> | | | | | | | | | |
| 8 | 51 | 4.61 onwards | <p>Submission of list of EWC codes proposed to be accepted at the facility, and produced from the facility, together with annual quantities is required.</p> <p>Drawings will be submitted in A3 format.</p> <p><u>EWC CODES</u></p> <p>MECHANICAL TREATMENT PLANT</p> <p><u>Inputs:</u></p> <table border="1"> <thead> <tr> <th>Waste type</th> <th>EWC</th> <th>Annual Quantity (approx) t/a</th> </tr> </thead> <tbody> <tr> <td>Mixed municipal waste</td> <td>20 03 01</td> <td>100,000</td> </tr> <tr> <td>Bulky waste</td> <td>20 03 07</td> <td>47,000</td> </tr> </tbody> </table> <p><u>Outputs:</u></p> | Waste type | EWC | Annual Quantity (approx) t/a | Mixed municipal waste | 20 03 01 | 100,000 | Bulky waste | 20 03 07 | 47,000 |
| Waste type | EWC | Annual Quantity (approx) t/a | | | | | | | | | | |
| Mixed municipal waste | 20 03 01 | 100,000 | | | | | | | | | | |
| Bulky waste | 20 03 07 | 47,000 | | | | | | | | | | |

| | | | MEPA Comment | Adi Response | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | MEPA Comment | Adi Response | | | | | | | | | | | | | | | | | | |
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| Waste type | EWC | Annual Quantity (approx) t/a | | | | | | | | | | | | | | | | | | | | |
| liquor from anaerobic treatment of municipal waste | 19 06 03 | 9,000 | | | | | | | | | | | | | | | | | | | | |
| digestate from anaerobic treatment of municipal waste ¹ | 19 06 04 | 22,,000 | | | | | | | | | | | | | | | | | | | | |
| Liquor from anaerobic treatment of animals & vegetable waste | 19 06 05 | 130,000 | | | | | | | | | | | | | | | | | | | | |
| digestate from anaerobic treatment of animal and vegetable waste | 19 06 06 | 15,000 | | | | | | | | | | | | | | | | | | | | |
| Concentrate from evaporation) | 19 08 13* or 19 08 14 ² (see footnote) | 4,000 | | | | | | | | | | | | | | | | | | | | |

¹ EWC code does not apply for digestate used as compost

² Applicable Code shall depend on final analysis of the material

| | | | MEPA Comment | Adi Response |
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| 9 | 51 | | 4.63 Will the storage capacity of the hall of 1.5 days be sufficient to ensure adequate storage capacity during the periods of breakdown and/or maintenance? Applicant is also to indicate whether temperature control (to minimize odours) is contemplated in waste storage areas. | REF : to MTP response to screening letter - Annex D, section 5(xi) |
| 10 | 51 | | 4.67 What provisions (containment, capacity, etc.) will be in place for the storage of rejected materials? Is there already an area identified/designated for the storage of such material? How frequent will these materials be removed/ disposed of from the site? | Rejects will be collected in containers (max 15 tonnes) and disposed to landfill. It is assumed that on average 1 to 2 containers /day will be generated. It is to be noted that the quantity of rejects effectively depends on the quality of the waste delivered. |
| 11 | 57 | | Figure 4.21 Applicant is to confirm that containment for the MBT plant, particularly areas including the mixing tank, aeration tank, dewatering areas, process water tank, digester tanks, etc. includes a bund capacity with a minimum of 110% of the largest tank/container within the bund or 25% of the total volume of all the tanks/containers within the bund, whichever is the greater. | REF to AD/ Manure Plant response to screening letter, Annex D,section 5 (ix) |
| 12 | 58 | | 4.112-4.115 Applicant is to indicate the number of mixers to be installed and the capacity of each; stating how the capacity of each mixer/s is sufficient to ensure no overflows or jamming of process, i.e. ensuring a continuous undisturbed flow. | 3No mixers with a net volume of 12m ³ each shall be installed. Mixing Cycle Max. 30 min, average 20min Per net operation hour: approx.17 to/h organic fraction mixed with approx. 51 m ³ /h process water = 68m ³ /h suspension. Normal operation conditions : 3 mixing cycles /mixer*h: min.capacity = 12m ³ *3*2 = 72 m ³ It is to be noted that final dimensioning and process guarantee shall be provided by the D&B contractor. |
| 13 | 61 | | 4.128 Applicant is to state what measures will be in place to ensure adequate storage capacity (of mixing tank) during periods of breakdown or maintenance that exceed 3-4 days. | It is to b noted that the storage capacity in the mixing tanks is only intended to cater for operational purposes, necessary to ensure continuous feed to the digestors. The mixing tanks allow for storage over weekend when no waste is delivered. . In case of breakdown or requirements for |

| | | | MEPA Comment | Adi Response |
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| | | | | <p>maintenance, storage capacity shall be provided as follows:</p> <p>Liquid Manure reception tank: This tank shall be located underground at the reception hall and has a capacity of 2700 m³ and provides sufficient reserve capacity for 6 days</p> <p>Solid Manure at reception hall. The reception hall has a capacity of 120 m³ and provides sufficient reserve storage capacity for 5 days.</p> <p>Maturation Hall. This has a capacity of 2000m³, and provides sufficient reserve capacity for 6 days.</p> <p>Duration of maintenance works : normally one (1) day.</p> |
| 14 | 64 | 4.151 | Applicant is to specify details regarding the content and monitoring, if any, of the pre- and post- treated exhaust air. | Refer to Table 1:Point Source Emissions to Air in attached Monitoring section. |
| 15 | 65 | 4.155 (and Fig. 4.57) | What are the physical and chemical properties of the dewatered digestate? EWC codes for this material are to be quoted to enable assessment of whether acceptance to Għallis landfill is authorized by the current IPPC permit. | <p>Typical analysis based on output at St. Antnin Facility . See Annex A1</p> <p>Digestate from anaerobic treatment of municipal waste : EWC 19 06 04</p> <p>Digestate from anaerobic treatment of animal waste (manure) : EWC 19 06 06</p> |
| 16 | 67 | 4.160 | Will the storage capacity of the hall be sufficient to ensure adequate storage capacity during the periods of breakdown and/or maintenance? Applicant is also to indicate whether temperature control (to minimize odours) is contemplated in this area. | <p>The maturation hall has a capacity of over 400m³ meaning that it has an adequate reserve storage capacity for at least 5 days.</p> <p>The maturation shed is open on all four sides and no temperature control measures are necessary.</p> |
| 17 | 67,68 | 4.163-4.168 | Applicant is to clarify whether the wastewater treatment plant is enclosed or open to elements, and whether there is a potential for the generation of ammonia or other odoriferous emissions. If so, kindly specify abatement measures for such emissions. | The waste water treatment tank is of open type typical of municipal waste water treatment plants. The potential for generation of ammonia or other odoriferous emissions is very low due to the deammonification process. For this reason, limited aeration of the tank shall be necessary. |
| 18 | 68 | 4.167 | Applicant is to identify potential malodorous emissions resulting from the evaporation of RO concentrate and how | There are no emissions to air from the designated evaporation plant which is a closed system with only liquid outputs. Attached (Annex A2) is an |

| | | MEPA Comment | Adi Response |
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| | | | these will be abated. Applicant is also to specify associated emission levels (AEL) for effluent discharge from RO plant. In this regard, consultation with the WSC may be required. |
| 19 | 71 | 4.187, 4.188 | Applicant is to specify residence time of gasses in flare. |
| | | | example analysis of RO permeate from an other project. Assumed effluent quality for Malta North Project is also attached (Annex A3). |
| 20 | 72 | 4.190, 4.191 | Applicant is to specify the (i) efficiency, and (ii) thermal capacity of the CHP plant. In addition, applicant is also to clarify whether any monitoring of the pre-treated and/or exhaust gas is envisaged. |
| | | | Residence Time of gasses in flare : 0.3 sec |
| 21 | 73, 74 | 4.195- 4.199 | Applicant is to provide details as to whether the proposed exhaust air treatment system would cater for emissions from aeration and maturation processes. In addition, applicant is also to provide details on associated emission levels for this system. Applicant is also to provide details (specifications such as type, model, etc.) on the dust filter, acid scrubber and the biological waste air treatment system (biofilter), stating what fractions of air will be treated in each. |
| | | | See attached Data sheet (Annex A4) for Jenbacher engine (JMC 320), Monitoring of Exhaust acc. Attachment. Frequency : 1 x per year |
| | | | The aeration tank will be connected to the acid scrubber because ammonia emissions are possible. The maturation area is an open hall and is not connected to the exhaust air treatment system. The function of this area is for storage and maturation of the compost without active aeration. The emission level is estimated to be lower than 500 OU in more than 95% of hours /year. Details (type, model) of the exhaust air equipment cannot be provided at this stage,as these shall be subject to eventual D&B tendering process. The emission levels will be specified in the tender specifications. It shall then be up to the tenderers to identify the preferred equipment that would guarantee the specified emissions levels (see Annex A5). Exhaust Fractions to be treated include the following : Exhaust air from the manure reception tank and manure reception hall (this will be treated by acid scrubber and biofilter); and Exhaust air from aeration tank and dewatering area (this will be treated by an acid scrubber). |
| 22 | 76 | 4.215 | Applicant is to ensure that prior to discharge of effluent into sewer, emission limit values, that are to be stipulated by the Water Services Corporation (WSC), are met. |
| | | | Prior to discharge to sewer, discharge shall comply with limit values set out in LN 139 of 2002. |
| 23 | 77 | Figure 4.35 | Applicant also to confirm that the waste reception hall is sufficient to ensure adequate storage capacity during the periods of breakdown and/or maintenance. |
| | | | Refer to response above. |
| 24 | 78 | 4.218 – 4.225 | Applicant is to submit details regarding bunding for all the tanks within the manure treatment plant, including the manure storage tank, mixing tank, pasteurization tanks, |
| | | | Refer to response above. |

| | | MEPA Comment | Adi Response |
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| | | | storage tanks (pre-dewatering) and digesters. |
| 25 | 83 | Table 4.2 | The source of the Sewer Discharge Control levels for BOD and COD stipulated in this table is to be clarified. |
| 26 | 85 | 4.277 | What is the fate disposal of the concentrate sludge? EWC code for this material is to be specified. |
| 27 | 95 | Figure 4.43 | Containment and method of construction for underground wastewater tank (wheel wash) are to be specified. |
| 28 | 127 | 4.282 | <p>With respect to technical alternatives, it is being suggested that the EIS Update should include an annex with the evaluation matrix for each of the technologies referred to in Table 4.3. This would be required to review the weighting for the evaluation criteria for each of the identified technologies and how the conclusion of the preferred option was reached:</p> <ul style="list-style-type: none"> • A2-2-1: Mechanical biological treatment with wet anaerobic digestion of MSW, 'light' equipment for the bulky waste line; and • B3-1: Anaerobic digestion of animal husbandry waste at Għallis or biogas plant with dewatering, biological nitrogen removal, sewage disposal or irrigation or liquid fertilizer and production of compost. <p>Moreover, Table 4.3 only identifies 3 possible technological solutions and no reference is made to technologies adopted to source separated bio-waste as input.</p> |
| 29 | 131 | Figure 4.59 | Since it is indicated that the site will be brought in operation after 7 January 2013, an IPPC permit shall be required prior to commencement of operations. In this regard, an application for an IPPC permit (for MTP, MBT & BGP) shall be submitted with MEPA by end of January 2012, to allow sufficient time for processing. |
| 30 | 180 and 182 | 6.61 and Table 6.3 | Given that the EIS Update indicates that the impact arising from the excavations to be carried out on site to accommodate the AD plant shall produce 105,000m ³ of |
| | | | Data relative to control levels for BOD and COD were provided by Water Services Corporation and relate to design concentrations adopted at the Malta North Sewage Treatment Plant (STP) |
| | | | Concentrate shall be treated accordingly depending on final analysis of the material . EWC codes shall either be 10 08 13* or 19 08 14 |
| | | | The underground wastewater tank at the wheel wash shall be constructed in reinforced concrete. Final design including capacity will eventually be determined by the D&B contractor. |
| | | | Refer to MTP Plant response to screening letter Section 4 |
| | | | Noted. |
| | | | If the project is to go ahead, excavation is a necessary part of the project and therefore there is no avoiding the identified impact on the underlying geology. |

| | | | MEPA Comment | Adi Response |
|----|-------------|---------------|---|--|
| | | | <p>material from the site and is identified as being an impact of 'major significance', it is not clear as to why no mitigation measures are being proposed by the EIS Update.</p> <p>Is there any indication as to where such material shall be disposed of?</p> | <p>The figure of 105,000m³ is composed of approximately 50,000 agricultural soil and 55,000m³ of bedrock. Agricultural soil will be re-used in conjunction with the Maghtab rehabilitation project. It is estimated that at least 65% of the excavated rock will be utilized as backfilling / leveling works on the project, while the remaining 35% or 19,000m³ possibly used in conjunction with the Maghtab circulation routes or otherwise disposed to authorized dumping sites.</p> |
| 31 | 180 and 181 | 6.62 and 6.64 | Can any details of the measures that are likely to be included in the Environmental Management Plan to be prepared in association with this proposal? | Preparation of an Environmental Management Plan will provide detail of how to manage the site in such a way as to minimize potential negative impacts and risks. This Plan (relevant to the operational stage of the project) and what it should contain is referred to throughout the EIA where relevant. Reference should also be made to the Risk Assessment (Chapter 13). |
| 32 | 218 | 7.55 | Cross-reference to Appendix 3 needs to be included in the main text. | Noted. |
| 33 | 228 | Table 7.5 | In the light of the major significant impacts in Viewpoints 8, 12 and 13, would there be the technical possibility of lowering the height of the plant to reduce the overall visual impact? | <p>Provisions in design to limit visual impact include :</p> <p>Grouping and positioning of the highest tanks (Nos 5,7,8,10) at the rear landfill side (west) of the site, and tanks 21 to 26 banded at the North side of site in order to reduce exposure / visual impact.</p> <p>Lowering of banded areas of the above tanks to a level of +37.50 or max. 12.50m below the existing level of the access road at west side of the site. Further excavation and lowering of the formation levels is not recommended for geotechnical reasons related to structural stability of the bedrock supporting the overburden landfill material.</p> <p>Setting circulation routes (internal and external) have been set at lowest permissible level in relation to adjacent agricultural land. Variations in levels limited due to constraints in plant installation, surface drainage requirements and circulation by mobile plant.</p> <p>As opposed to viewpoints 8, 12 and 13, which are located at significant elevated levels, the impact from the North, south and east area is in fact very much reduced.</p> |

| | | | MEPA Comment | Adi Response |
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| | | | | In view of constraints noted above, we consider that further lowering of the height of the plant is not technically feasible . |
| 34 | 283 | 9.91 | What kind of details may be included in the 'watching brief', given that this is considered by the Coordinated Assessment as one of the mitigation measures for archaeology/cultural heritage impacts? | A watching brief includes archeological monitoring of all relevant construction works in order to identify and record any previously unknown archaeological remains, which may be revealed. Sufficient time must be allowed for adequate recording of any remains that are encountered, and in the case of assets considered to be of medium, high, or very high value, their continuing preservation may need to be considered by the SCH, and a programme of excavation works would likely be developed. If the archaeology falls within a discrete area it may be possible to temporarily fence it off from the mineral extraction process to allow the required archaeological investigations to be complete. For more detail, refer to the Institute for Field Archaeologists, UK. The watching brief is expected to be secured by a condition should planning permission be granted. |
| 35 | 297 – 300 | Table 10.7 and Table 10.11 | More details vis-à-vis the methodology of how the values were estimated and predicted is required. | The methodology used is similar to that used in all EIAs. The noise from equipment is combined and then the attenuation due to distance is estimated. As stated in the EIA the only factor attenuating noise is distance, where noise decreases by 3dBA as the distance doubles. |
| 36 | 301 | 10.56 | Further details in relation to this statement are required. | Estimates of noise levels show that because the sensitive receptors are so far away, using just distance as attenuation for noise is enough. The operational noise is such that at the sensitive receptors it is attenuated completely. |
| 37 | 308 and 310 | 10.72 and Table 10.12 | Is there any indication of what measures are likely to be included in the Construction Management Plan in order to mitigate the noise related impacts? | <p>Earthwork, particularly rock excavation is identified as the main source of noise during the construction stage. For this reason, the CMP shall incorporate provisions for control of noise generated by the excavation plant / equipment such as those related to:</p> <ul style="list-style-type: none"> the type and efficiency of the plant to be utilized . plant conforming to approved EU Directive 84/553/EEC limiting peak noise events siting of noisy equipment from sensitive areas practical operational considerations working hours |

| | | MEPA Comment | | Adi Response | |
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| 38 | 316 | 11.22, 11.23 | Details regarding the biofilters to be installed in the proposed facility (A1 and A3) and their efficiency for odour abatement or re-characterization are to be provided. | <p>Design drawings indicate proposed area for installation of the biofilters. Details relative to type, model and dimensions of the biofilters cannot be provided at this stage, as these shall be subject to final design which will be produced by the D&B tenderer.</p> <p>Relevant Design Specification as follows:</p> <p>Emission Levels : shall be < 500OUe Efficiency : 90 – 95% (note : this is considered to be realistic for a combination of scrubber and biofilter)</p> | |
| 39 | 330 | / | Page is missing. | The page is blank. However, no text is missing (refer to paragraph numbering). | |

2. Consultees' Comments

A. Malta Tourism Authority – 13/10/2011

| Comments |
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Your Ref: GF 00121/06

**Ms Charlene Smith
Malta Environment & Planning Authority
St.Francis Ravelin
Floriana**

5th October, 2011


**MEPA Reference No: GF 00121/06
Location: Site at il-Ghallies ta Gewwa, Naxxar
Proposal: Masterplan for Maghtab Environmental
Complex**

Dear Ms Smith,

Masterplan for the Maghtab Environmental Complex

With reference to your e mail dated 20th September 2011 requesting this Authority's comments on the abovementioned proposal.

Please be informed that there are no adverse remarks to the request provided that all the relevant permits are obtained prior to commencement of work.



Perit Kevin Fsadn
Senior Manager
Product Development to the Directorate

Adi response: Noted

B. Environmental Health Directorate

Comments

APPLICATION NUMBER : GF 00121/06

LOCATION : Site at, Il-Għallies ta' Ġewwa, Naxxar

PROPOSAL : Masterplan for the Magħtab Environmental Complex

With reference to your e-mail dated 20th September 2011 regarding subject indicated in caption and following review of the Environmental Impact Statement forwarded, please be informed that the following issues and impacts which may have an adverse effect on public health should be taken into consideration by Applicant regarding this proposed development:

- Health impact assessments (HIA) on the operations (including transportation and storage of materials and traffic generation) should be carried out prior to the permitting (including IPPC if applicable) of the
 - Micro-wind turbines
 - Pre-land filling mechanical and biological treatment plants and hazardous waste stores.

It may be strategic to demand a HIA at this stage i.e. as part of the EIA as originally requested by the Environmental Health Directorate during first consultation phase (23rd June 2010, DH 54/2010/227, GF00121/06, PA 02342/06) for these at the master plan stage to avoid any later controversies from stakeholders.

- Survey area for assessments should include all Bahar ic-Cagħaq area (as was carried out for Social Assessment). What was the reason to arbitrarily divide this residential area and include less than half? This whole area is most affected by the prevalent wind (NWW), the residential area of Bahar ic-Cagħaq being roughly SE to site.
- Strict regulation and enforcement of all proposed mitigation measures including heavy vehicles carrying manure and municipal waste, MBT input and output material to site with regard to noise, odours and air quality including dust dispersed by wind, moving vehicles and from unwashed vehicles must be put into practice. Such mitigation measures and method of their regulation and enforcement should be accessible and transparent to stakeholders including local residents, resident organisations, concerned local councils and other stakeholders.
- Arrangements must be made to cater for muddy runoff (as seen with present facilities causing nuisance in Salini Road) for the new exit/entry access. Affects of muddy and possibly contaminated run-off including spilling of lubricants during containment and handling (likelihood rated as fairly probable in risk assessment) to the sea from new and old access roads to facility have not been assessed.

It is pertinent that all proposed mitigation measures are to be strictly implemented to mitigate all possible adverse impacts on the Area of Influence and the general public. Moreover any other necessary mitigation measures are also to be taken by applicant to prevent, minimise and where possible offset any other significant/adverse and unpredicted health effects and nuisances which may arise from this proposal. The possible health effects of any residual impacts that cannot be mitigated should also be taken into consideration.

Complaints lodged by the public regarding any adverse impacts/nuisances should be immediately addressed by the applicant. All complaints lodged and actions taken are to be recorded and such records are to be readily available to the Competent Authorities when requested.

It is also pertinent that proposed environmental controls/monitoring are implemented.

Adi Response: Noted. It is to be noted that MEPA did not request a HIA as part of the guidelines. It is not considered within the scope of EIA. However, a number of issues relevant to the comments listed above have been included as part of the EIA including noise, odours, and other emissions. It should be noted that the project is also subject to an environmental permit, which together with the planning permit should include conditions related to the issues mentioned in these comments and the EIA.

C. Malta Resources Authority (MRA) – Water Resources Directorate

Comments

The Water Resources Directorate has no objection with regards to EIS update being made public.

Adi Response: Noted.

D. Malta Resources Authority (MRA) – Energy Directorate

Comments

The Energy Directorate has no objection that the EIS update is made public.

Adi Response: Noted

Comments received from Superrintendence of Cultural Heritage following the closing date for consultation:

| Comments | Adi Response |
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| <p>1. The area of study chosen for cultural heritage in the EIS update:</p> <p>1.1 The 2011 EIS update does not follow the area of study suggested by the Superintendence in the Terms of Reference sent to MEPA on 25 June 2010. In Technical Appendix 1 page 31 it is noted that “As this is an update to an existing EIA, MEPA has not issued formal Terms of Reference”.</p> <p>1.2 The area of study for the Cultural Heritage baseline study does not include the entire area for proposed development (refer to Technical Appendix 1 page 36, Technical Appendix 4 part 1.2). Therefore the reasoning</p> | <p>A method statement was issued to MEPA including the Area of Influence as per standard practice. MEPA gave its approval to the Aofl. This is in line with EIA procedure. The EIA consultants consider that this Area of Influence is sufficient to study the impacts of the proposed development on cultural heritage assets.</p> <p>The Area of Influence does indeed include the entire area for proposed development and also goes beyond the site boundary, as illustrated in Figure 9.1, page 255 of the EIS. This EIA update surveys those areas that were not</p> |

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| <p>behind the choice of extent of the area of study is unclear, and appears to be erroneous.</p> | <p>studied in the original EIA.</p> |
| <p>2. The methodology of the cultural heritage study in the EIS update</p> <p>2.1 Technical Appendix 4 part 1.1 states that the cultural heritage study report “follows the Method Statement submitted to MEPA in June 2010 by ADI Associates”. This method Statement was never sent to the Superintendence of Cultural Heritage for approval.</p> <p>The Superintendence would have readily instructed and guided the persons conducting the cultural heritage study with regards the best methods and practices for the survey and the study had the method statement been sent to the Superintendence.</p> <p>2.2 The cultural heritage study included three baseline surveys which are defined as “physical survey(s)” in Technical Appendix 1 page 33. No further specifications on the methodology used for this survey is noted.</p> <p>2.3 The EIS update states that the first field survey carried out south of the former Maghtab dump, was done on 14 August 2010, 18 August 2010, and 27 August 2010 (refer to EIS Update Technical Appendix 4, September 2011, part 1.6). During this survey no traces of pottery were found or noticed (Capture data sheets MTB10/008 and MTB10/009).</p> <p>On 14 March 2011 a second field survey took place in two smaller areas northwest of the Ghallis restored landfill and southeast of the Ghallis Tower. These areas are not outlined in the method statement in Technical Appendix 1. For these two areas it is noted that “During the time of survey the areas to be studied where overgrown with vegetation making it difficult to read the ground surface and identify any pottery scatters”.</p> <p>In September 2011 two further areas where studied; site A located between the areas studied in March 2011 at the northwest of the Ghallis restored landfill; site B located south of the former Maghtab complex next to the area south of the former Maghtab dump. The report remarks that “Area B is mostly either covered with debris from</p> | <p>It should be noted that MEPA is the Competent Authority for EIA and therefore all correspondence, reports and documentation is always submitted to MEPA. There is no requirement to provide method statements, however, the Consultants do this to exercise good practice.</p> <p>The persons carrying out the cultural heritage study are qualified archaeologists, and have extensive experience in carrying out such studies for EIAs. The consultants were also approved by MEPA prior to conducting the work.</p> <p>Refer to Chapter 9 of the EIA, para 9.6 – 9.9 and Technical Appendix 4.</p> <p>During the process of the EIA update changes were made to the boundary area for the Master Plan. As a result, the Consultants decided to extend the cultural heritage survey area to ensure these additional areas were also studied.</p> |

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| <p>Maghtab and its ring road or covered in thick vegetation, mostly consisting of carob trees. This obviously hinders visibility”.</p> <p>2.3.1 A good survey would have identified the different degrees of visibility for each field in the study, and outlined the methodology used for identifying the presence of archaeological features and pottery scatters. This documentation is missing in the EIS update.</p> <p>2.3.2 The Superintendence noticed that some fields of which photos have been included in the report, show good visibility for a surveying exercise.</p> <p>2.3.3 In addition the report repeatedly points out the lack of visibility in certain areas explored. The Superintendence is concerned that the survey may have missed out identification of archaeological features. It is important to remember that the location of Maghtab and its surroundings have been significant since prehistoric time to recent history, and therefore the area is bound to be rich in cultural heritage features. Therefore the study seems incomplete.</p> | <p>Refer to sections on Field Survey Methodology in Technical Appendix 4, also presented in Chapter 9 paras 9.6-9.9 for detail on methodology adopted. Following initial desk planning, there are often unforeseen difficulties encountered when surveyors actually go on site. A ‘good’ survey should point out these difficulties as has been done in this report.</p> <p>All fields were surveyed within the A of I to the degree of detail possible depending on site circumstances.</p> <p>Refer to para 9.88 – 9.92. The study cannot be considered incomplete because all parts of the Area of Influence were visited and where visibility was hindered this was highlighted as per good practice. At this stage, it is neither possible nor practical to do anything further – surely SCH is not suggesting to remove vegetation at this stage in the process where there is no guarantee that a permit will be issued in order to carry out further investigation.</p> |
| <p>3. Authorization for conducting explorations and investigations for the Cultural Heritage Study</p> <p>3.1 Notwithstanding recognition of the provision of the Cultural Heritage Act in section 1.9, 1.10, 1.11, 1.12 of the EIS Update Technical Appendix 4, the persons carried out explorations and investigations without requesting authorization from the Superintendence. Therefore the explorations and investigations carried out are in breach of the Cultural Heritage Act 2002.</p> | <p>Refer to paras 9.6 – 9.9. The survey work simply involved walk over surveys.</p> |
| <p>4. Format of the EIS Update Technical Appendices</p> <p>4.1 The EIS Update Technical Appendices is very fragmented and is not clearly presented.</p> <p>4.1.1 Technical Appendix 1, which describes the area of study and methodology, does not mention all the areas of study for the Cultural Heritage Study as referred to in Technical Appendix 4 which describes more than one area of study for the cultural heritage baseline survey.</p> <p>4.1.2 The pagination is also fragmented; the technical appendices document</p> | <p>The Consultants do not agree. As pointed out in SCH’s previous comments, there are three reports that were carried out at separate stages of the EIA process and each report is presented separately in Technical Appendix 4. Chapter 9 of the EIS consolidates the findings of the three reports.</p> <p>See comment above.</p> <p>The Technical Appendices document is a series of all the baseline survey</p> |

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| <p>does not follow any form of continuous pagination.</p> <p>4.1.3 Technical appendix 4 is not divided in a comprehensive way making it difficult to follow and to make reference to.</p> | <p>reports carried out for the report, as indicated clearly in the Table of Contents. Each report includes a cover page with clear detail including the title of study and who carried out the study.</p> <p>Refer to comments above.</p> |
| <p>The Superintendence recommends the following:</p> <ol style="list-style-type: none"> 1. The Superintendence will be verifying the results of the EIS Update and will be commenting on these shortly. 2. Independently the Superintendence would like to be consulted on the Development Application PA 02342/06 and on any other development application in the area and its surroundings. | <p>Noted.</p> <p>Consultation on development applications is MEPA's remit.</p> |

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

MASTER PLAN

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

RESPONSE TO MEPA SCREENING LETTER

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

ANNEX AI: COMPOST ANALYSIS

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

ANNEX A2: RO PERMEATE ANALYSIS

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

ANNEX A3: ESTIMATED EFFLUENT DATA

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

ANNEX A4: CHP DATA SHEET

PA 02342/06

Master Plan for the Maghtab Environmental Complex, Naxxar

ANNEX A5: EMISSION MONITORING

