

removed as outlined in the CPA’s decision of July 11, 2018 (CPA/16/18; Item 5.5) – see photos in OPS.

As indicated on the revised site plan, the wall is proposed to be setback approximately 30’ from the HWM.

**2. 8 MARK WOODS Block 43A Parcel 343 (F18-0450) (P18-1081) (CS)**

Application to modify planning permission for an existing quarry to allow an excavated depth of 50’.

**FACTS**

<i>Location</i>	Bodden Town Road, Bodden Town
<i>Zoning</i>	<b>AG/RES and LDR</b>
<i>Notice Requirements</i>	No objectors
<i>Parcel Size</i>	113 acres
<i>Current Use</i>	Commercial Quarry
<i>Proposed Use</i>	Commercial Quarry

**BACKGROUND**

September 3, 2014 (CPA/21/14; Item 2.10) - The Authority granted planning permission for a solar panel farm.

A commercial quarry exists on this site.

**Recommendation:** Discuss the application, for the following reasons:

1. Agency recommendations for a berm along the quarry’s eastern boundary.
2. Determine when the required safety ledge should be installed.
3. Existing excavation encroachments beyond approved limits.

**AGENCY COMMENTS**

Comments from the Department of Environment, Aggregate Advisory Committee, Water Authority and National Roads Authority are noted below.

**Department of Environment**

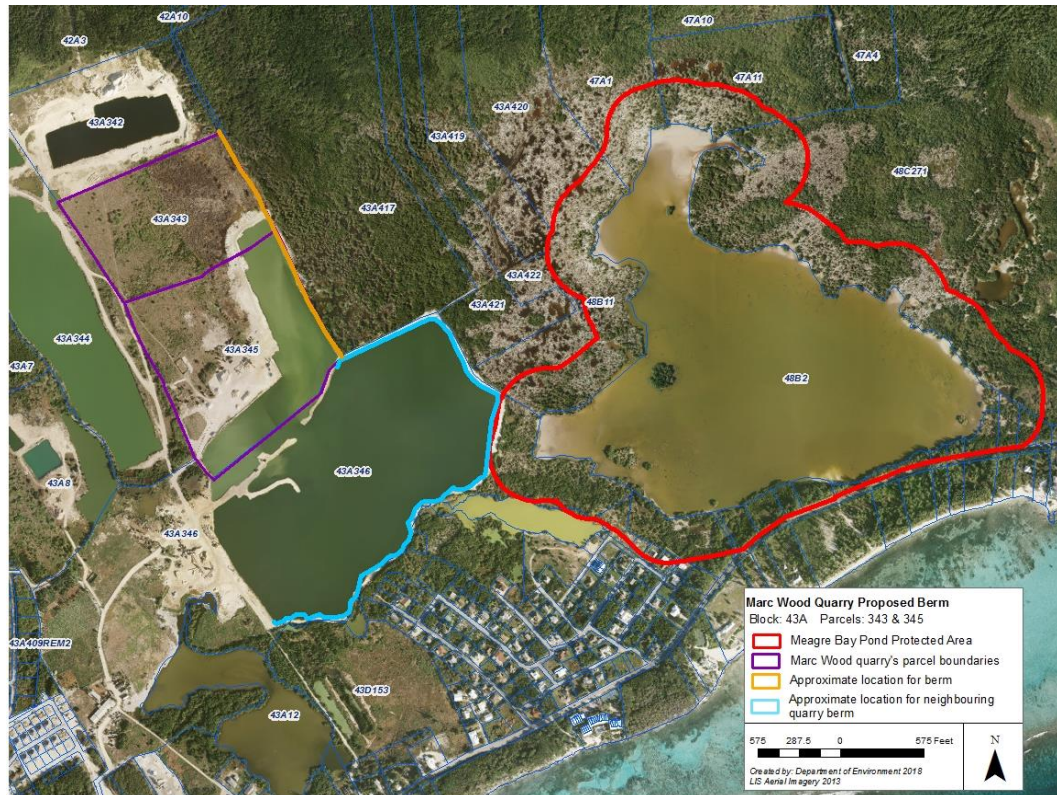
*“Under delegated authority from the National Conservation Council (section 3 (13) of the National Conservation Law, 2013), the Department of Environment offers the following comments for your consideration.*

*The subject quarry is located in close proximity to the Meagre Bay Pond which is listed as a Protected Area under the National Conservation Law, 2013 (Schedule 4) and was formerly designated an Animal Sanctuary under the Animals Law. Meagre Bay Pond is an important feeding site for a range of resident and migratory herons, egrets, waders, ducks and other water birds. The hydrological*

*connectivity between the Central Mangrove Wetland and Meagre Bay Pond is very important for both ecosystems.*

*The Department notes that there is an interconnection between the subject quarry and the neighbouring quarry on Block 43A Parcel 346. The neighbouring quarry is located directly adjacent to Meagre Bay Pond. Ongoing research by the Department indicates that the two quarries on Block 43A Parcels 343, 345 & 346 are adversely affecting the hydrological regime of Meagre Bay Pond. In this instance, the Department does not believe that the adverse impact is caused by the quarrying activity itself but rather the access routes between the quarries and the Meagre Bay Pond buffer being regularly inundated with water flowing from the quarries into the adjacent wetland and pond. This regular inundation has prevented Meagre Bay Pond from seasonally drying down to its natural extent and duration; which in turn limits the seasonal food resource which attracts very large flocks of egrets and herons which feed on the pond's fish as they become stranded by low water levels. These large flocks are the reason that this pond was originally protected and are the site's most valuable feature for visitors. It also appears that the mangroves around the pond have not recovered well after hurricane Ivan, probably because they are struggling to adapt to abnormally high water levels.*

*However, the Department believes that this situation can be mitigated by constructing a berm along the boundaries of both the subject quarry and the interconnected neighbouring quarry in the approximate locations indicated in orange and blue in Figure 1 below. The current access road in the subject parcels is between +1.5 to +3 feet above mean sea level, while the quarry water level fluctuates tidally around an average of about +1 foot. By constructing a berm of sufficient height and width along the eastern boundary of the subject quarry which then connects to a berm on the neighbouring quarry on Block 43A Parcel 346, we believe that the pond's natural hydrological cycle can be restored.*



**Figure 1: Aerial imagery showing the general location of the quarry boundaries where a berm is to be constructed to prevent the overflow of quarry water into Meagre Bay Pond and the adjacent wetland. (Source: DoE, 2018 and LIS, 2013)**

Given the importance of this mitigation measure to the future health of the Meagre Bay Pond Protected Area, should the Central Planning Authority (CPA) be minded to grant permission for the quarry modification, under Section 41(5)(b) of the National Conservation Law, the National Conservation Council (NCC) respectfully directs the CPA to include as a condition of Planning approval, the requirement to construct a berm on the eastern boundary of the quarry to a height which is sufficient in preventing the overflow of the quarry water into adjacent lands including the pond. In order to complete mitigation before the height of the next wet season, the NCC further directs that the applicant is required to complete the construction of the berm prior to the start of any works on the expansion of the quarry. The exact specifications (height and width) of the berm should be finalised to the satisfaction of the NCC in consultation with the CPA's Aggregate Advisory Committee (AAC).

In regards to the deepening of the quarry, recently other quarries in the area have been excavated to a depth of 50 feet and so far have not shown any significant detrimental changes from general observation. Though this may require further confirmation, the Department believes that with the mitigation measure of constructing a berm to prevent the overflowing of the quarry water into adjacent lands and consequently the pond, the potential impacts of deepening the quarry to a depth of 50 feet will not be detrimental to local ecology, including the resident

*and migratory birds which are heavily reliant on the Meagre Bay Pond Protected Area. The pond has previously retained a healthy bird population during the excavation of the subject quarry and there is no reason to suspect that deepening the quarry will result in any greater ecological impact. Additionally, creating a berm around the quarry will assist with preventing land-based runoff compromising the water quality in the quarry.*

*However, in addition to the construction of a berm, the Department also recommends the following:*

- 1. We note that the subject quarry excavation area has encroached into the right-of-way to the north of Block 43A Parcel 343, should the CPA be minded to approve the quarry extension the applicant should be advised to reinstate the right-of-way which has been over-excavated. The reinstatement of the right-of-way should be done to an elevation which is equal to the berm highlighted above.*
- 2. Although a safety ledge (10 feet in width graded from 0 feet on the outer edge to -3 feet on the inner edge) was a condition of the original Planning permission for the subject quarry, the bathymetric survey included in the applicant's submissions show that there is currently no safety ledge around the perimeter of the quarry. Without a safety ledge, should quarry equipment, public vehicles, people or wildlife fall into the quarry lake the likelihood of a safe retrieval is significantly decreased. In addition to public and quarry employee safety, a safety ledge may also encourage the establishment of natural vegetation around the lake. Additional vegetation could provide a buffer for untreated run-off which has the potential to contribute to reduced water quality in the lake and provide habitat for wildlife, which is particularly important in this instance as the subject quarry has the potential to impact a Protected Area. The Department supports the safety ledge condition of the original Planning permission and recommends that the applicant is required to fulfil the safety ledge condition prior to the start of any works on the expansion of the quarry.*
- 3. Lastly, we recommend that the quarry extension and re-excavation is approved in phases, with proof of Planning Permission compliance demonstrated at the end of each phase and before a subsequent phase begins to ensure that quarry fees and the mitigation measures mentioned above are satisfactorily adhered to."*

#### **Aggregate Advisory Committee**

*"The Aggregate Advisory Committee met with the applicant's agent, Eric Cronier, on 1 November 2018 to discuss the proposal to expand his area of excavation and to increase the depth of excavation from -30 feet to -50 feet.*

*In principle, the AAC supports optimizing quarry productivity by excavating to the greatest depth that conditions allow in order to continue the supply of aggregate without the need to sacrifice additional land area. One of those conditions is the perpetual maintenance of acceptable water quality in the quarry lake to avoid the risk of a public nuisance to neighbouring residential properties.*

*Deeper lakes have a higher likelihood of oxygen depletion resulting in objectionable odours.*

*The original closure plan submitted by the applicant in 2005 proposed cattle grazing and sod farming on the portion of the two parcels west of the quarry lake. The AAC does not believe that agriculture is appropriate adjacent to deep quarries due to the potential for nutrient runoff resulting in unacceptable water quality. We therefore agree with the proposal to use all of the parcels as quarry.*

*During the pilot study for deeper quarry excavation the AAC had recommended a maximum depth of 30 feet for quarries in close proximity to residential areas. Subsequently the CPA granted approval for -50 feet to a quarry in the same vicinity. As we have seen no evidence to date of unacceptable water quality in that quarry, we are in agreement with allowing excavation to -50 feet in the applicant's quarry with the following conditions.*

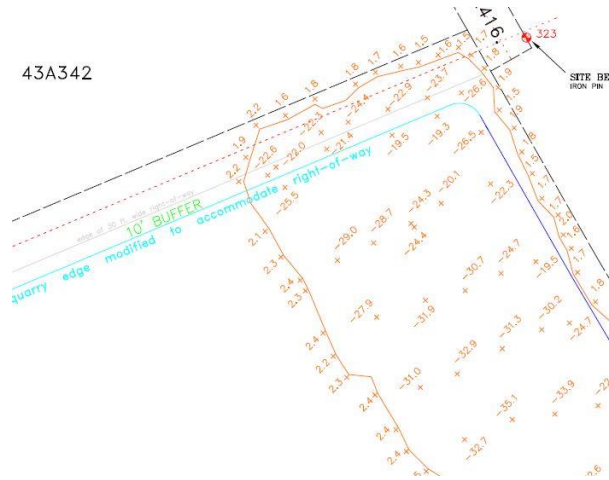
- 1. A berm will be constructed to the satisfaction of the AAC around the perimeter of the quarry to prevent runoff containing pollutants and nutrients from entering the quarry lake.*
- 2. No fish or waterfowl will be introduced into the lake.*
- 3. A new closure plan should be submitted and agreed by the AAC.*

*In the opinion of the AAC, an applicant should demonstrate compliance with previous Planning conditions before receiving approval for additional work. Restitution for breaches of existing conditions should be required in subsequent permission and include the timeliness of restitution. In the case of the applicant's quarry there are two issues that must be corrected.*

- 4. A safety ledge 10 feet in width graded from 0 feet on the outer edge to -3 feet on the inner edge was a condition of the original Planning permission. This condition has not been fulfilled along the eastern and northeastern sides of the quarry lake. The ledge along banks of the lake should be constructed prior to the commencement of excavation in the expanded quarry area. The berm along the eastern side of the lake should be constructed simultaneously using aggregate excavated from the ledge.*
- 5. The private right-of-way which served to grant access to nine parcels northeast of the quarry and the 10 foot buffer between the quarry lake and right of way has been excavated to a depth of 20 feet. The right of way and buffer must be restored prior to the commencement of excavation in the expanded quarry area.*

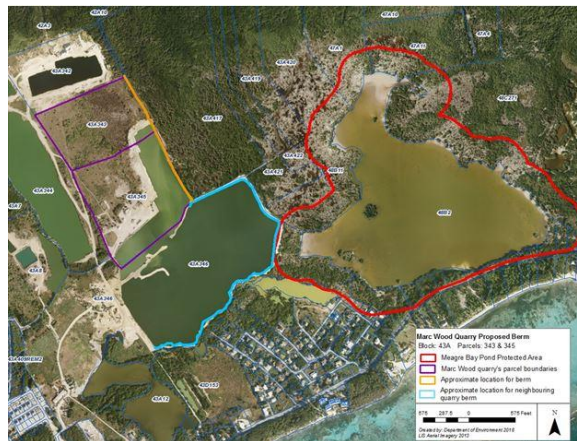


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Figures 1 and 2 above illustrate the breach of Right of Way and buffer.

The Department of Environment has identified degradation to the protected area, Meagre Bay Pond, which has resulted from spill over from the quarry lakes into the pond. Mitigation has been directed by the National Conservation Council by constructing an earthen berm along the perimeter of the lake in the location shown in the figure below.



*In addition to expanding the footprint of the quarry the applicant has expressed interest in re-excavating portions of the existing quarry lake which are at a depth of -20 feet or less. The AAC is generally in agreement with this proposal but no information has been available on the location of deeper excavation, the quantity of aggregate or the method of excavation. If the modification to the existing quarry is to be part of this application then this information should be submitted prior to the CPA's decision on approval.*

*Monitoring compliance with Planning conditions has been a frequent problem with some quarries. The CPA Aggregate Policy recommends dividing large quarry projects into phases of no more than ten acres to enable Planning Department to conduct periodic assessment of adherence to terms of the Planning permission. Works should not be permitted to continue into subsequent phases until the quarry operator demonstrates compliance with all conditions of approval.*

- 6. The applicant should submit a site plan indicating phases of the quarry operation and include the area of each phase, estimated time of completion, and the quantity of aggregate to be excavated in each phase.*
- 7. Bathymetric surveys should be submitted annually to Planning Department, Water Authority, and the Aggregate Advisory Committee.*
- 8. Non-compliance with any Planning Condition should result in the temporary cessation of works until the issue has been resolved.*

*Please advise if further information is required.*

- 9. Two private right-of-ways which served to grant access to parcels northeast of the quarry have been breached. The route of the southeast access road now runs through sections of property not owned by the applicant. The northwest access road has partially been excavated leaving a 100 foot gap approximately 20 feet deep. This issue should be resolved to the satisfaction of the beneficiary of the registered private access.*
- 10. The existing excavation extends beyond the applicant's property boundary in some areas on the south-eastern side of the lake and encroached into parcels 43D140REM1, 43A14, 43A13, and 43A15. Those areas of the lake must be backfilled in order to construct the berm surrounding the lake (condition 1 above) and to route the registered access through the applicant's property (see condition 6 above).*

*The Department of Environment has identified degradation to the protected area, Meagre Bay Pond, which has resulted from spill over from the quarry lake into the pond. Mitigation has been agreed with the quarry owner as described in the memorandum of 6 November from the Director of Environment on behalf of the National Conservation Council. The AAC agrees with the proposed mitigation and recommends the following.*

- 11. The private right-of-way will be realigned to exist completely on the quarry owner's property and the road will be elevated to a sufficient height to act as a berm to prevent spill over from the quarry lake into Meagre Bay Pond. All*

*works in completing the berm should be finished within six months of Planning approval. Design and construction of the berm should be approved by the National Conservation Council.*

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- 12. The applicant should submit a site plan indicating phases of the quarry operation and include the area of each phase, estimated time of completion, and the quantity of aggregate to be excavated in each phase.*
- 13. Bathymetric surveys should be submitted annually to Planning Department, Water Authority, and the Aggregate Advisory Committee.*
- 14. Non-compliance with any Planning Condition should result in the temporary cessation of works until the issue has been resolved.*

### **Water Authority**

*“The Water Authority is charged under the Water Authority Law (2018 Revision) to protect groundwater. Section 34 (1) of the Law requires that anyone who undertakes quarrying is required to obtain a permit from the Authority, which, if issued, is subject to such terms and conditions as the Authority deems fit. Section 22 (1) of Water Authority Regulations (2018 Revision) states that a permit to quarry shall be required whenever it is intended to remove any geological stratum from its natural environment and export it to another location, whether for sale or not.*

*The original quarry on this property was carried out under a 5 year Quarry Permit granted in 2005, which has been renewed twice for 5 years, the current Quarry Permit will expire in January 2021. The 3 consecutive Quarry Permits permitted excavation to 20 ft below the water table.*

*The Water Authority has no objection in principle to the proposed excavation to 50 ft below the water table and expansion of the proposed footprint of the quarry, however it is imperative that specific Water Authority requirements are met to ensure that ground water and surface water are not negatively impacted during quarry operations and upon completion of the quarry. The Quarry Permit will include these specific conditions. The Water Authority recommends that the CPA adopts these conditions in its Planning Permission:*

#### **1. Perimeter Berm around the Quarry**

*To ensure that excess stormwater from the quarry does not affect nearby properties and especially Meagre Bay Pond, located south-west of the quarry, the developer shall provide a perimeter berm around the entire quarry. The berm also functions as a barrier to avoid direct run-off of stormwater into the quarry lake. Specific details of this berm (i.e. width, height and construction*



method) may be agreed later on with the Water Authority and the Aggregate Advisory Committee, but prior to quarry operations commence. The portion of the berm located around the existing quarry (east and north side) shall be completed within 6 months of the grant of the Quarry Permit.

## **2. Sloped Shelf around the Quarry**

In addition to the berm, the shoreline of the entire quarry shall be graded to include a shallow sloped shelf (10 ft wide, sloped from 0 to 3 ft below the water table) for the establishment of native wetland plants beneficial to water quality in the lake. The shelf will also serve as a safety ledge for the public and vehicles. Alternatives for the sloped shelf can be agreed later on with the Water Authority and the Aggregate Advisory Committee, but prior to quarry operations commence. The sloped shelf around the existing quarry (east and north side) shall be completed within 12 months of the grant of the Quarry Permit.

## **3. Water Quality Maintenance Plan**

The Permit Holder shall establish and maintain a Water Quality Management Plan that includes Best Management Practices for the long term maintenance of the lake during and upon completion of the excavation. The Water Quality Management Plan shall be agreed by the Water Authority and the Aggregate Advisory Committee prior to commencement of quarry operations. In addition to physical and practical measures, the plan needs to include a provision for water quality management of the lake once the excavation is completed and in the event the ownership of the property changes.

## **4. 1,000 ft Bufferzone from Existing Effluent Disposal Wells**

Quarrying to 50 ft depth is prohibited, until and unless the Water Authority has verified that all existing wastewater effluent disposal wells or soak-aways within 300 m (1,000 ft) from the proposed quarry boundary have been reconstructed in such a manner to discharge at least 9.1 m (30 ft) deeper than maximum depth of the proposed quarry, and/or have been properly abandoned and sealed. Alternatively the developer shall modify the quarry plans in such a manner that a 300 m (1,000 ft) buffer is observed between the sections of the quarry that will be excavated to 50 ft depth and existing wastewater effluent disposal wells or soak-aways.

Further details to obtain a quarry permit can be found on the quarry permit application form on the Water Authority's website."

## **National Roads Authority**

"Based on the information on the submitted application, please have the application revise the shelf (edge of the pond) to 10ft wide at 3 ft deep as shown below."

## **PLANNING DEPARTMENT ANALYSIS**

### **General**

The applicant is requesting to modify planning permission to allow a 50' excavated depth.

### **Zoning**

The property is zoned Low Density Residential and Agriculture/Residential.

### **Specific Issues**

#### **a) Excavation Limits**

Through review of aerial photographs, it is apparent that excavation works have extended beyond the applicant's property line.

The Authority may wish to require these encroachments be rectified through transfer of ownership, parcel reconfiguration or filling of land prior to any continued excavation works being approved.

#### **b) Edge Conditions**

The applicant has incorporated NCC's and AAC's comments regarding phasing, installation of a safety ledge, and providing a perimeter berm in to their proposal.

The CPA is asked to consider the AAC comments regarding the appropriate time to install the safety ledge and berms.