

# **VERBATIM REPORT**

# **THE PUBLIC MEETING**

**FOR THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)**

**FOR THE PROPOSED CEMETERY & CREMATORIUM**

**AT MOOR PARK, ST JAMES**

**Sudbury All Age School, Orange, St. James**

**THURSDAY SEPTEMBER 8, 2011, 6:00 PM TO 8:00 PM**

**Submitted to the National Environment and Planning Agency**

**in accordance with the NRCA Guidelines for EIAs.**

## **Table of Contents**

<b>Welcome.....</b>	<b>1</b>
<b>Findings of the EIA.....</b>	<b>2</b>
<b>NEPA Statement.....</b>	<b>13</b>
<b>Question &amp; Answer Session .....</b>	<b>14</b>
<b>Closing Comments &amp; Vote of Thanks.....</b>	<b>24</b>

**Appendix 1 PowerPoint Presentation Outlining the Contents of the EIA**

**Appendix 2 Actual list of attendees present during the meeting.**

**Appendix 3 NEPA's Statement**

## Welcome

**Madam Chairperson:** I am (pause) as I said my name is Valery Lawrence, I live in the Orange community just down the road there, I worked at this school for eight years, I've been a teacher and I've just retired and I've been asked to facilitate your meeting for this evening in the absence of our minister who could not make it. I just want to bring to our attention the reason why we're here, this evening we are here to look at the environmental impact assessment on the proposed cemetery and crematorium at Moor Park, St. James. But this evening we're here to look at the environmental impact so I just want for us before we do anything to invite the lord's presence as we always do and we are going to ask Ms. Stevens just to say a short word of prayer preparing us for a good and lively discussion.

### ***(Prayer)***

Let us be seated... Welcome each and everyone to this beautiful afternoon. It is always important that whatever is happening in your community you become involved, know what is happening and make your input so when it starts you can't say I didn't hear or I didn't know you ought to come out and know and hear and make your input...

I want to also introduce some persons to you and to myself too... I want to introduce Dr. Burrowes...She's the lady representing the impact assessment...we have with us also Mr. Dale Delapenha... That young guy sitting over there...we have Mr. Rammelaere...He's the gentleman sitting there trying to make sure everything works so we can have a wonderful and successful meeting. I see here persons from NEPA... Is there anybody else here from NEPA? Oh yes let me welcome however ....your names ...just tell us your names then...I know the two that I've called... Could you introduce yourselves persons from NEPA...

So let me welcome you here and we are all here for one purpose and that is to make sure we get things going as we ought to and that the end of it all we'll get everything right, so now that we have introduced the person we have some housekeeping matter to deal with so I just want to let you know that you all have the right to speak to issues here but there are ground rules...if you want to speak to an issue you'll have to raise your hand then you'll be identified then you will speak...I have some rules here if you have more than one questions and somebody else has their hand up you'll ask one of your questions and give the chance to somebody else and then at the appointed time you'll ask your second question...I don't anybody to dominate the floor so that nobody else gets a chance to say what they want to say. This is a meeting for all and we will participate accordingly... when you are going to speak you also introduce yourself to say who's on the floor and let me just inform you that whatever you say this evening is going to be taped...is going to be recorded so say what you mean and mean what you say you know that term... alright..

On the agenda I have just the welcoming announcements and introductions then we have the findings of the EIA then we have the question and answers section... short program but we want it to be very interactive everybody must take part...even if you're not so sure what you're asking others will help you to put it into perspective so ask your questions cause this has to do with you at Moor Park cause when a cemetery is coming its coming in to do two things...it highlights the area although it's a cemetery..I understand you've had road there since the land has been purchased..that's the first plus... so and you expect more there will be employment even though it's a cemetery... and it will lively up the whole area... and give some aesthetics although it's going to be a cemetery but even in the cemetery..We have aesthetics.

The other cemetery at (*inaudible*) Hill that I'm so distressed over every time I drive past... the boys play football in the cemetery not even the dead can get a chance to rest in peace... (*inaudible*)and they have been buried but as long as they are building a cemetery it's a new dimension to your community and therefore you embrace it if you are going to embrace it and you play your part in ensuring it becomes a monument that it becomes a history of the Moor park community. Having said all of this I'm going to ask Dr. Burrowes to speak to us on the environmental impact assessment.

## Findings of the EIA

**Dr. Burrowes:** Good evening everyone, thank you all for coming. I'm just going to head straight into the discussion. I'm just going to invite everyone standing outside and at the door to try and squeeze in, I think we have enough chairs, You guys want to come inside?

Ok so this is basically an outline of the presentation I want to give first I'll just tell you what EIA process is about, and introduce you to the development proposal, tell you a little bit about what the law of Jamaica requires, and then go into the impacts that were found look a little bit at monitoring what was recommended and then I'll finish up by telling you what are some of the potential positive impacts of the project.

- So this EIA was conducted by an independent company which was contacted by Delapenha funeral home, The company is called Environmental Management consultant Caribbean Ltd., and it's an environmental company that's based on the north coast. The EIA was conducted, after the terms of reference were approved, during the period February to June of this year and this meeting is a part of the environmental process. Even though a report has been submitted to NEPA, the public now has an opportunity to view it. A copy of it was lodged at the HEART in Adelphi and after this meeting, you'll have 30 days to send any comments you need to send or if you wish to express it here in the meeting or if you go and read the document and something else occurs to you, can write into NEPA within the 30 days.

- Ok in terms of the proposal Delapenha Funeral Home has acquired 42 Acres of land at Moor Park. They have submitted an application to NEPA for an environmental permit as required by the NRCA act to construct and operate a cemetery and crematorium at the site. The cemetery will serve the greater Montego Bay area as well as other areas surrounding the site.
- Just to give you an idea of where exactly it is our meeting is somewhere right here. OK so the Moor park cemetery is further down where the Shiloh Apostolic church is and this is the corner going up into that road, and it is about five minutes in about seven hundred yards. From the main road and you can see it's relatively close to Dovecot and there is a couple other cemeteries that are relatively close as well in content and another one in Adelphi and that's the boundary between St. James and Trelawney.
- This is pretty much the site boundary overlain on a Google satellite aerial image. This are the high points of the site, these patterns here and these are the contour lines that shows you the height of the land and these little arrows show how water will flow when rain falls, so you have one little valley inside here and then you have a dry gully that's on the other side of this ridge that empties into this gully which is the Moor Park gully which enters into the Barnet River on the main road.
- (*Showing series of 7 site photos*). Ok so some of you who aren't familiar with the site this is what it looks like at the entrance. Just to show you this if you've not seen it, very stony rocky land with some tree lines that were planted to separate the pastures, it's a really clayey stony soil, as you can see very very stony, low gradient for most of it, very flat. This is one of those dry gullies and you will find a lot of trees in the area near the gully because it will tend to get more water there, and you have these walls of rocks on property in various places.
- Ok so to move into the master plan now. Essentially what's been planned for is the little valley on this side of the property and a lot of what is on this side of the property is being left alone. Although the master plan does extend 50 - 60 years in the future it didn't (*inaudible*) to utilize these areas. So for the sake of completeness we've provided everything to NEPA, but for the next 50 years or so the focus will be in this area here where there's no actual outfall or gully connection to the Barnet River or to the Moor Park River. I have a detailed... ok just look at it...
- Of the 42 acres 15 and a half will not be touched, that's most of the land on the side with the big dry gully, 5 acres will be landscaped with lawns and trees and so-on, and just over 18 acres will be put under burial lawns and just over 4 acres will be built space which will include the road, buildings, parking lots, and so on so what we find is that 90% of the land will not be built up in terms of buildings and roads and so on.
- So you'll have this large green space that will be kept intact as green space for a very long time. The developer has made a commitment to retain as many of the mature trees

as possible and will be planting a lot more trees because trees enhance the cemetery, you will always need shade and so on and people prefer to be buried close to the large trees. In addition, the place will be landscaped, planted out with flowers and lawn grass and made to look very pretty so that when you go to bury your relatives or you go there to clean up the graves or whatever, you're not going to find people playing football, weed grow over everything and so on. This is the little valley where basically all of the development is going to be focused, there is a plan for a chapel at the top, the crematorium is planned for this area and as you come into the area you'll have a little reception hall where you can have a meal or so after the ceremony. This is going to be a water feature which will be completely self-contained, and all of the run-offs from the sides from the roads, everywhere will be routed to this feature which is not going to be connected to the river, it's all going to be completely impounded on the site this central area, burial in this area will be in the far distant future cause this area is kind of seen as a garden area, and is going to be kept as a sort of central arena so most of the burial will focus on the outer areas first and then the last resort, the last area to be a cemetery will be this building out.

- To just look at the phasing, Phase One is the green, Phase Two will be the blue, Phase Three is that mustard, Phase Four is the brown at the top there and phase five is that central area and the area on the other side of the river. Now what you will see is that up to phase three will probably take us close to 50 years, so it's possible that after that plans may have to changed and modified and so on, so for instance Phase Four, that whole area is going to be turned... there's a woodland area at the top and that is going to be allowed to extend down to the gully area, over the next 50 years or so, this area also is going to be left as it is for another half of a century, so again just to emphasize, we will start in the green, move to the blue around the **(inaudible)** and then develop this back ridge, and the last area will be the actual **(inaudible)** which would probably come in phase four and five.
- External Works, some of you referred to it... refers to the upgrade of parochial roads, the road between the main road and the entrance, which many of you walk to get to the community and back, How many of you are from the Moor Park community? Ok So that road is going to be repaired in conjunction with the St. James Parish council and the gully that sometimes you have flooding in there that gully is going to be cleared and fixed up so that the road doesn't get over flooding of the water and damaging the road surface, for the length of the property there is going to be lighting to the front, you all have some street lights but I don't think they work all the time, so at least this section will have lighting, and there's an extension of the pipeline from where the last spot is to the cemetery, and I know it hasn't... I believe it hasn't reach as far as the Shiloh church is yet, so basically Mr. Delapenha is going to carry it beyond to the edge of his property.

- In terms of compliance the NRCA permit is what is being sought at this time, a part of that will be comment and approval from the Environmental Health Unit (the Ministry of Health), the Water Resources Authority also commented in terms of their guidelines which includes buffer zones in respect of springs, wells, water courses, shore lines, estuaries, flood plains the water table and all of those things. The Rural Physical Planning unit also makes sure that the whole land use is appropriate. Of course Parish Council for planning and building approval which usually comes after the environmental permitting. And NRCA also has requirements in respect to air emissions and noise emissions effluents and so on. So all of these will have to be in line with the requirements and standard established by NEPA before the permit is granted so this is part of what the EIA was looking at to see and make some scientific predication to try and understand whether or not the project is going to exceed any of these limits and if they are, what are we going to do to bring them back to an acceptable level.
- So we looked at the construction and operational phase we have to separate it just for the purpose of analysis but I am sure you will understand that with cemetery construction goes on ..... you're always constructing graves. You are not going to build out all thousand of graves at one time so we are going to expect some low level of construction to be always going on, at times you will see concrete blocks or stone or digging up going on for construction purposes.
  - Construction noises found to be negligible the noisiest equipment that will be used when we order it we found out that it reaches conversational level was 200 feet of the site, within 210 feet of the site and there are no noise sensitive receptors within that area. However, we do make a recommendations because for instance trucks and so on might pass and disturb you so the recommendation is to limit all construction in normal working hours and to use the equipments as specified by the manufacturer.
  - Air quality we have made a number of recommendations to limits dust been generated which would be to phase and clear asses, you don't clear large areas of land at one time, cover up any earth material and soil and so on ,if you are mixing concrete on site it has to be properly control. Stabilized construction exits; because sometime you have trucks coming in and out and they are tracking the mud right up and down the corridor of the road way and dusting up the place. The stabilized construction exit is basically a gravel pad. All the vehicles, when they are leaving the property, they have to pass on it and scrape off a lot of the mud. Screening around the building site which will visual reduce the intrusion and also intercept some of the dust and of course covering the vehicles

making sure if possible if available equipment using low sulphur diesel and of course prohibiting any burning of rubbish on site so you don't have to have a lot of smoke and such.

- Site runoff, we found is very negligible and this is one of the easiest things to manage because it is a matter of stockpile management, because ..... you can't put it in the middle of where water is going to flow, you want to make sure its properly covered and managed and of course you have to make sure the area and managing your vehicle and equipments on the site.
- Ground water, on the construction site the biggest source of contamination of any kind of water supply is usually from the pit latrines for the workers, the water table in this area is more than 50 meters below the ground so it's very far, and it's unlikely that any such pit latrine will impact on the water table, however we have made another recommendation that are US army standards for constructions and decommissioning of pit latrines.
- The environmental effects of transportation corridors. This is not on the site but off the site and this is usually where we have a potential to have a serious construction impact because there's wear and tear on the roads which is easily fixed by having the appropriate configuration of the axel, of course a simple thing like covering and securing the loads so that it's not dropping a lot of marl or whatever. I want to say that the site is very rich in stone and marl so I don't think a lot of it will be driven to the site. The main thing that would be transported to the site would be prefabricated concrete blocks which we're going to source them right here in the area I think one of the block factories...

**Mr. Delapenha:** Moorland's!

**Dr. Burrowes:** Moorland's right.

Of course if you have dirty vehicles driving along the road it tends to create a lot of dust so anybody working at the construction site bringing materials they will have to make sure that their vehicles are maintained properly so that they are not noisy, getting a lot of smoke and dust when you drive through the community.

- Ok still looking at construction impacts this is relatively minor, we're recommending that all of the vegetation on site that has been disturbed be chipped up and used back on the site.



- There's a small house that's going to be demolished, most of the demolition debris will have to go to a landfill, however because it is a very old house we are not certain if there is asbestos in it and we won't know until demolition,

**Mr. Delapenha:** The house is not being demolished.

**Dr. Burrowes:** It's not?

**Mr. Delapenha:** No.

**Dr. Burrowes:** Ok, Alright, well if it was.

So they will probably build and renovate over the existing structure. At the construction phase we are recommending that proper skips be put in place and a publicly license and equipped contractor will collect and dispose if any garbage and so on as produced, during construction, boxes and packaging materials and paint boxes and tins and those kind of things all of that will be put into the skip and hauled off so nothing really... you won't be getting a lot of garbage from the operation And (inaudible) Possible where recommending just in case of the debris that if there are any concrete wastes, stone and marl, will be used back on site and in fact the master planner, his design is very sensitive to profit because he has very good quality stones on the site and he's design esthetically to have a lot of low stone walls making little terraces that you can sit on, just low and kind of defines the space.

- In terms of the operations these are the impacts which we have identified which I'm going to go through with a little bit of details.
  - The particular unit, like most modern cremation units, the actual device that burns the body, has very low emissions and the reason for this is because they have two chambers. The first chamber that burns the body and then there is a second half chamber that burns the smoke and whatever is in the smoke. So this two chamber system in modern crematorium basically allows very low pollutant emissions and we have gotten test data from the manufacturer who actually gave us, if it's operating continuously what emissions would be like and they are way below our standards. What you will have is a lot of hot air, because this thing is filled with a lot of oxygen to make sure that all the particulates and compounds burn off so you will get the emission of hot air for a maximum of about 800 hrs. per yr. Not continuously, it might be six hours a week or something like that and hot air rises and dissipates at a high level. If you have situation where you have fast wind, you may get the hot

air shearing off before it rises high enough so we are recommending a... this is easily mitigated, you can change the site make it a little higher, or the stack elevation... make that a lot taller. That acts as a visual intrusion. Or you can have a secondary cooling system that the hot air runs into and is cooled down by water or some other means and then dissipated. We are recommending that whenever they are operating under fast wind condition that we need to have in some sort of secondary cooling going on.

- In terms of noises the loudest noise that you will be getting is the lawn mowers on site because the crematorium is in a concrete building and outside of the wall of that building you will be able to have a normal conversation without hearing the noise of the unit whilst it's in full operation. The loudest of the noises within 64 meters of the fence line will be well below conversational level, and certainly the noise is going to fall off long to very low levels before it reaches the school or dwelling houses in the area so no mitigation is necessary.
- In terms of traffic, funerals will be held between 3 and 6 on weekends so jointly expect traffic from Montego Bay. Funerals will be held on the weekends and we're not expecting 300 vehicles is an extreme state funeral or something, very large, most funerals will have about fifty cars and that can easily be accommodated on the roads because you don't have the traffic and the school traffic and the normal workday traffic competing so more of that number of vehicle will be off the road at the time when funerals are in process, so we classify that as a minor impact because of the scheduling.
- I have this big word here monoculture, it just means that .... now there are five or six different pasture grasses at the site... burial lawn will be converted to one main grass like a golf course, in order for it to look pretty you have to have one grass. That grass is zoysia, which is a very tolerant grass to drought, it doesn't need a lot of watering and a lot of studies have found that even though you are reducing a number of species in terms of plant species, research has shown that you also get a lot of birds and so on, more so than the surrounding pastures. We have not found any rare, protected or endangered species as those of you who are familiar with site knows that it's been under pasture for many many years probably hundreds of years, and it is now in the process of reverting the forestry, so the level of disturbance, we don't expect any serious environmental species or habitat. The trees will be contained and

some of the areas that are now under pastures some of those that are on phase two and phase five will be allowed to revert for forest cover and in fact throughout the cemetery and burial lawns you will have new trees being planted to create nice little shade areas and to create the appropriate level of ambiance.

- We found out also that there will be some fragmentation of the pasture as a result of the placement of the roads. Basically this area here, this is going to be separate, this is going to be separate, as I said, again, no real endangered species are found in this area and most of these birds and insects will be able to move across the road. The site will be protected from predatory animals like dogs and cats, and grazers...grazers like cows and goats so it will be a long term positive effect and you'll have some new ecological niches ....new habitats like expanded wooded areas, water area and at the end of phase 2 this road here is going to be taken out.
- In terms of pests .... usually when you're putting in anything with food or restaurants you have to look at the potential for rats and cockroaches and so on. It's a matter of public health. There is a house at the site and usually wherever there's human dwelling and garbage you'll expect to find something. This can be effectively managed with proper food storage and waste management in place.
- In terms of site drainage, this dashed line shows the water shed and we have two basins, this one and this one. As you can see most of the site, the built up area is actually in the smaller basin. There's going to be a west basin which is the smaller basin around 18% of it is impervious, and 26% is going to be converted into burial area. Now the conversion to burial normally offsets the impervious because right now there's a high level of runoff in the area now, that as the rain falls it run off and that's because the rock type doesn't allow water to soak in but when you dig the graves and you disturb it and you dig out the rocks and you pack it back with a soil when water falls on it's just going to stay so it's going to save more than how it is now than runoff. So the 26% of burial area actually offsets the negative change of the impervious area. In the east basin, which is the deep basin on this side there's going to be very little change less than 2% and that's really just this parking lot and this roadway and later on in Stage Five you're going to have probably another roadway and there's only 6% burial area so calculations were made to find out what's the change in the runoff, what to expect. It was found to be very marginal in

fact, most of it can be impounded in this water feature if quite effectively kept on property which is the intention.

We found that keeping storm flows on property was a positive effect. We needed to be able to about store 756 cubic meters in case of a very bad storm and that can easily be accommodated in the 2 step pond system that's been planned. This is expected to mitigate any flash flooding you had from the water in the gully.

- In terms of ground water effects we found that there is very unlikely that there will be any negative effect because fluid moving in this rock moves very slowly this is why we have the flooding problems. In a hundred days it would not travel more than seven meters assuming its moving in a straight line. Scientists have found that in a hundred days anything that is harmful from the grave tends to be broken down so it's just a salt plume that's coming out and at that point it's harmless so that seven meter confirmation is very important. Ground water is more than 50 meters below the surface of the ground so by time anything reaches to 50 meters it's going to be reduced to very harmless. Buffer zones will be enforced around the fence lines and around the gullies and anywhere else that Nepa suggests and we're recommending that the 7 meters be enforced especially in dry gullies where no water is there now. In high rains you might get water so 7 meters on either side will be fine. Based on the geology we needed to know what (*inaudible*) ..... groundwater.
- Carbon Footprint, this sounds like a very fancy technical term but it really means how much electricity they use and how much gas you use. And cremation, the burning of bodies uses a lot of LPG. Importing of manufactured items, particularly cement also has a high carbon footprint because there is high carbon emissions during the processing of the cement. We cannot mitigate carbon footprint but we can offset it so for instance when Mr. Delapenha is operating his crematorium it will work more efficiently if he has oxygen gas injecting. Oxygen causes the burning process to use less gas. So there's certain things he can do to conserve energy and make sure he..... Yes he has to use a large amount but if he operates the equipment properly and service it regularly and use the right amount of oxygen and whatever other gas and so on, the burning process would be a lot more efficient. We'll be using locally sourced materials so you won't have a high classification cost, minimizing the wastes of concrete and off course if you replant you also take some of the carbon out of the atmosphere because you know plants and trees

offsets the amount of carbon and those who are wondering why do we care about carbon and electricity and fuel it all goes back to how hot we feeling right now because this gas carbon it heats up, it's a green house gas, it heats up the planet and is responsible for things like hurricane developing, when you have a lot of hurricanes and so on so it's very important for each of us in a small way to try and reduce the amount of carbon that we are personally responsible for.

- Solid waste at the site is very small and with the reception banquet and the flowers being put at the grave, we're not expecting... there's a calculation of how many funerals per year, we're not expecting more than 2.3 metric tons which is actually less than 1 family living on the property so that should give you a perspective of how little waste the cemetery is actually producing.
- So to summarize what we found the project does not have any significant impact. There are some moderate negative impacts which relates to the effects of transportation corridors during construction, which can be a nuisance. Air quality in the operational phase in terms, of not pollution of chemicals but in terms of hot air, there's some potential for that but both of the technology exists or management responsible exists to mitigate and reduce these impacts. All the other negative impacts found will be unlikely to result in measurable changes to baseline or within normal levels of fluctuation, for example the traffic on weekends that was found to be minor and that is because we have way more than 300 vehicles off the road, so there will be increased capacity.
- Just to summarize some of the benefits of the project there will be some flashflood management because as I said we will be impounding what's on site and even in the gully that is not being disturbed or part of the development, we've made recommendations for check dams to be put in place to sort of protect the road lower down, cause you recognize that a lot of flood water can come through there. Of course I mentioned before the road is going to be upgraded from with Parish Council. The project is going to produce additional burial capacity, I don't know how many of you realize that a lot of the public cemeteries operated by the Parish Councils are quickly approaching capacity, and don't have enough space left and they also don't have resources to keep maintaining them. This project, and commercial cemeteries in general, will offer families an alternative where, if you want to bury your deceased relative in a garden area or some beautiful area and you don't want to have to deal with... you know you don't want to have a plot in a parish council cemetery that is overcrowded, and weeds take it over and so on so it offers an alternative and also the possibility for cremation.

Another advantage is that Mr. Delapenha has committed himself to the extent possible that all of the goods and services as much as possible will be utilized from the area; I think he has already entered into some agreements with persons from the area, Cemeteries in general increase the value of surrounding lands, it's a better alternative to,...we looked at a number of alternative land usage and it is a better alternative than having a housing development where you have daily traffic commutes along the road way and much more built up space. It's more productive than leaving it in ruinate pasture and it does guarantee the preservation of green space in your community for 50 yrs to 100 yrs. I don't want to lead people astray and tell you it's going to create a whole lot of jobs, it's not a factory, there may be a small number of jobs created by this but some jobs ..... and so on. I think Mr. Delapenha has already had discussions with the community last year on that matter.

- In terms of monitoring, NEPA requires us to make recommendations what sort of environmental monitoring is recommended. Once the pond is constructed, because all of the site runoff is going to be routed to that pond, we recommend that they test for various parameters, ... two that are important in my mind: the BOD which is an indicator of pollution, and strangely enough in this case, the salinity, which will be an indicator of how much runoff you are getting from the graves as opposed to a fresh water source. So we recommend although we don't anticipate a whole lot of leaching coming from graves, but we recommend that we still keep tabs on it. As I said before the leaching from graves is basically a plume of salt. There are a few other things that will be monitored, suspended solids in the water ..... will give you an idea at how successful you are at managing soil erosion. If you keep the soil grassed up you won't have a big problem. Total and Fecal Coli forms, we put it in there because it's part of the standard for irrigation water, which some of this water may be used to reduce demand on piped water, but we really don't expect that there is going to be any fecal coliforms when the cows and goats and so on comes off the property. We're recommending monthly moving at some point to quarterly annual report to NEPA. And if you find a problem, immediate reporting to NEPA. So if you find no problems you don't have to give NEPA reports ....., you give it to them one time of the year if there's no problem. If you do find a problem when you're monitoring, you have to report it immediately; And a problem is defined by a set of standards: if the irrigation standards says a BOD of 3 and you get 10 or you get 4 ½ then we would recommend that you advise us that you got a value that was out.
- Ok so the EIA, which considerably contains more information that I can possibly deliver in tonight's meeting, is available at the Adelphi HEART Centre next to the police station. It's also available online for those of you have computers at NEPA's website. Ok so that's the end of my section.

- I just want to advise the chairperson that prior to the question and answer, NEPA .... OK, we're going to hand over ... since you've already advised her.....

**(Applause)**

**Madam Chairperson:** Thank you very much Dr. Burrowes for your very informative presentation... please I know you're going to have questions....write them down, rehearse them hold on to them until after nepa has spoken to us then we are going to go into our questions and answers section...so write your quests. Down no. 1 remember when you get up to speak you identify yourself by saying who you are...and speak clearly...speak into the mike you'll get the mike once you stand to speak and everything is going to be recorded so nepa can hear how you feel and how you're thinking. Right now we are going to ask a representative from NEPA to make their presentation then following that we'll have the question and answer section.

## **NEPA Statement**

**Weston Jackson:** For those who just came in, again my name is Weston Jackson. I'm a Senior Physical Planner at the National Environmental Planning Agency. Dr. Burrowes basically gave a fair amount of background in respect to NEPA's involvement and application. However I would like to add that the Terms of Reference for the EIA was approved by Nepa on the 14<sup>th</sup> of April 2011. NEPA has prepared a formal written statement and I will read the statement.

The EIA was submitted to NEPA on the 9<sup>th</sup> of June 2011 and circulated for comments externally and within Nepa. The government's agency for to which the document was circulated includes the following: The Water Resources Authority; The Ministry of Health; Mines and Geology Division; The National Works Agency; The St. James Parish Council; .... Skills Training Centre

The EIA was also circulated to all stakeholders including the Jamaica Environmental Trust. All entities were given until the 9<sup>th</sup> of July 2011 to return comments to the agency in writing. To date comments have been received from the following: The Water Resources Authority; The National Works Agency; The Rural Physical planning Division; and The Ministry of Health. The comments from the remaining stakeholders are being awaited. Please be advised that any objections, comments and concerns raised will be noted and taken into consideration in deliberations regarding the governments and the posting of applications. The application is currently being reviewed and hence the agency will refrain from making any comments in relations to development at this time. Please rest assured that this public meeting is a preliminary action and no final decision has yet been made on the proposed project.

Please be reminded that the process with respect to **(inaudible)** for EIA is as follows: A copy of the Verbatim Report will be submitted to the agency within 5 days of the presentation. The public has 30 days of the date of the proposed presentation to provide written comments on the proposed development to the Agency. Upon receipt of these comments they will be

collated and sent to the applicants for a response to be provided. When the response is received a submission will be prepared to facilitate discussions with NEPA, after the internal discussions the application will be considered along with any recommendations arising from the internal discussions of the technical review committee. This is a subcommittee of the **(Inaudible)** and the NRCA. The public presentation and the public consultation process is extremely important in the processing and the decision making process in environmental purpose applications in which an EIA is requested. The public presentation provides an additional opportunity for stake holders to hear concerns, comments, opinions, views and for the applicants to be addressed in a public forum.

Well as Dr. Burrowes clearly stated, the EIA will be made available at NEPA's Document Centre NEPA's Website, and you can approach any one of us to give you that and the St. James Parish Council, and also [www.eiacaribbean.com](http://www.eiacaribbean.com). Thank you very much ladies and gentlemen that is NEPA's Statement.

Thank you very much sir...now it's your turn ...you have the opportunity now to ask all the questions that relates to what is happening at Moor park out of the presentations we've just made any clarifications you may need this is your chance to make clear the information provided...The floor is now open for questions..

## Question & Answer Session

**Madam Chairperson:** I heard somebody asked while you presented what was B.O.D. what does that abbreviation stand for.

**Dr. Burrowes:** It stands for Biological Oxygen Demand. It's basically a test that's done around over a five-day period and it gives you an indication of the level of contamination from decaying biological materials.

**Madam Chairperson:** Questions Please....Questions Questions Questions

**Madam Chairperson:** I have another question...you'll only have funerals on weekends not during the week?

**Mr. Delapenha:** It's been a tradition madam chairlady from our experience here in Jamaica that most funerals are on Saturdays and Sundays...we do have few on Thursdays because in Montego Bay, Thursday was regarded as a half-day and therefore people could attend but you know the bulk of the funeral will be on Saturdays and Sundays.

**Sonia:** You were using abbreviations in the presentation I think you should break it down so that persons could understand.

**Dr. Burrowes:** Is there any in particular you'd need me to identify?

**Sonia:** There were so many



**Dr. Burrowes:** I tried to say the words out... The one there is BOD- Biological Oxygen Demand...NEPA is the national environmental planning agency, LPG there is Liquid Petroleum Gas...NRCA is the National Resources Conservation Act... I thought I said this. dBA is a decibel... that's the measure of sounds...it's not usually spelled out, hrs is hours I think I've said hours...EHU is Environmental Health Unit...Ministry of Health, I think I've said these names out. The other one is Water Resources Authority...Rural Physical Planning Unit...NRCA is Natural Resources Conservation Act, I think that was the main one I said was NRCA... I don't think I have any other...I'm pretty sure there are no other abbreviations. NRCA Act is Natural Resources Conservation Authority Act... you want to identify your name for the record please and speak into the mike.

**Sonia:** Good afternoon everyone... I'm Sonia from the community, I realize under the benefits I see where you say housing will improve or the value...how will that be...Persons don't like cemeteries so how will the value of the houses and land increase?

**Dr. Burrowes:** What we were saying is that the site is currently under pasture and there are academic studies have shown that where cemeteries have been developed mainly in urban areas surrounding properties it's like living on a national park or golf course, where you don't have to contend with pig farming or you won't have to contend with smoke or industrial activities and so it's usually a very peaceful calm, there is a church, there are pretty gardens, it's not noisy, so people who have studied it found that in general cemeteries are a positive effect and not a negative one.

**Madam Chairperson:** Any other questions please?

**Ms. Edmonson:** Good night everyone, my name is (First name) Edmonson. One I want to say is I really embrace this project that Mr. Delapenha is doing in our community, but something catch my eyes when I watched the screen, the crematorium, please explain more on it please...thank you.

**Dr. Burrowes:** The priority in the next couple of years will be burials, traditional burials, in the plan is provision, and we are seeking a permit, for a cremation unit to be put in place...there is already one operating within a half of mile from where we are, there is already a fully operational one...as I said before

The crematorium, modern crematorium units are of a high technology, they burn at a very high temperature so all the pollution, particulates and dust and cloudy smoke and so on, all of that is actually burned out by a second chamber that operates at something like, I don't want to quote the numbers cause I don't have the EIA on me right now but it is burned at a higher, much higher than your oven like three or four times what your normal oven temperature is, so that basically will eliminate a lot of the particulates and volatile...

I don't want to use too many big words but a lot of what you would consider pollution ....when you burn rubbish, you get a lot of brown smoke and black smoke and that color and that smell

is because you have a lot of chemicals in that smoke, what the crematorium does is it actually burns the smoke so that all of that material is eliminated in the second chamber, so one chamber for the body, another chamber for the smoke, so what comes out is a much cleaner smoke, or a much cleaner hot air emission, which is mostly comprised of oxygen and traces of other elements which have been found under continuous burning situations in the US where they operate continuously almost, and they are still within the US clean air and well within our Jamaican air emission standards. I don't know if Mr. Delapenha would like to add...

**Mr. Delapenha:** I am not a scientist I can't add anything to that.

**Dr. Burrowes:** And as I said a critical part of this which I haven't noted is I will be providing NEPA with as many guidelines as possible from other countries; the UK and the US in terms of the environmental aspects the best practices for managing crematoriums and a lot of it has to do with things like making sure that you maintain that temperature, in the after-burn in particular, and making sure you have the injections of oxygen, the appropriate, moderated amount of oxygen so that the body burns efficiently and cleanly.

We also are recommending that no plastics be utilized so if you are burning a body, you have to be careful, the kind of material you put the body in has to be natural, it can't be any nylon or any plastic, because you don't want to be burning plastics that will create pollution, so the box will have to be made of wood, the body will have to be in cotton or linen or some natural materials, and we have indicated the restrictions to NEPA which I'm sure they are going to put it in Mr. Delapenha's license to ensure that he's not allowed to put such and such chemicals or materials into the burning chamber, so what is being burned is just the natural, natural materials and it is going to have all the operational controls involved which are the same standards that are used in the United States and in the UK to protect their people, those are the same standards that Mr. Delapenha will have to meet.

**Madam Chairperson:** Any other questions

**Madam Chairperson:** You mentioned Dr. Burrowes that the seep from the body at a certain time will be just a salty liquid, but I've heard mention of the embalming materials, tell us a little about that, that curing material that is used on the body.

**Dr. Burrowes:** In Jamaica it's traditional to embalm partially, we don't usually have full embalming, as I'm sure Mr. Delapenha can speak to, the material that is often discussed is Formaldehyde which is actually..... there have been a lot of studies by various international organization including the World Health Organization of the environmental effects of Formaldehyde in particular, it's a naturally occurring chemical and it's not persistent in the environment, it actually breaks down to formic acid after a number of days, so this is where the buffer zone in our calculations of the seven meters comes in because you want to make sure that anything that could possibly run off from the grave won't be able to get into a gully within a hundred days so that there will be enough time for things to break down in the environment

WRA has written a technical note that this particular rock type doesn't allow for transmission of fluids freely so in a hundred days, which is three and a half months we are only going to have it moving seven meters, and seven meters is probably the width of this room. So we have advised .... to impose a suitable buffer limit so that the nearest grave is seven meters from the fence line, seven meters from any water course ....

**Mr. Delapenha:** Can I add something to that madam chairlady, the modern embalming techniques and the fluid used has being designed so that it will have the least impact on the people using them as well as on the environment, Formaldehyde oxidizes very quickly, so it evaporates and it is found in a lot of products that we use every day, hairsprays and shampoos and...

**Dr. Burrowes:** Ants.

**Mr. Delapenha:** Ants? Formaldehyde is found in ants?

**Dr. Burrowes:** Natural Formaldehyde is formulated in ants, that what gives that smell.

**Mr. Delapenha:** And though it sounds and can be...it is something that occurs naturally, and that's why it has been used in embalming fluid because ashes to ashes, dust to dust.

**Madam Chairperson:** Let us realize that although we are dealing with the issues of the community people are also learning this evening, but I did not know Dr. Burrowes has mentioned that I did not know that when you are going to cremate a body you cremate the casket also? I thought that you just took out the body and burn the body.

**Dr. Burrowes:** There's a container, it's probably not the big fancy casket you bury in, but it's usually some kind of container, nowadays they are actually burning in cardboard boxes so there are special .... Even the glue and so on that's used has to meet the standards of not having harmful chemicals when burnt, so these are all specially designed, specially made for the purpose or just normal pine boxes can be used as well.

Madam Chairperson: Questions ladies and gentlemen....

**Sonia:** In regards to the mitigation of the contamination of our water source, what I want to know is you're saying that the body, this hundred days thing but because of the type of the soil and the rocks but I'm now living there and most of the land is a marl type of rock and even though it looks rocky its marl and I know that with the leaching and all the different process even though you state that you are going to build some pond or whatever so there is still the possibility of our water source getting contaminated so I want to know what else do you have planned if such was to take place.

**Dr. Burrowes:** Ok... I want to make it very clear that the difference between water source gets contaminated and leachate going into the ground.

Every culture on earth buries their dead, and in Ocho Rios there cemeteries next to the school yard, There cemeteries in many places. WRA has given us information of the nearest water production site and it is very very far from any producing wells. This entire area that includes

Dovecot all the way to Adelphi is on a rock that is called an aquiclude which means it is a rock that does not produce water for drinking there are no wells that are sunk in this rock that produce water for you to drink. The nearest water table is 50 m , let me put it in feet for you, more than 150 ft. below the surface of the ground, so the leaching would be completely harmless and broken down in 21 ft.. There is no way the water table will be negatively impacted and even if it was the resources in this area are not exploited for drinking purposes, there are much more reliable reservoirs and aquifers outside of this rock type, so I want to assure you that even though I'm making a distinction I'm not saying that it's not going to enter the ground or it's not going to percolate eventually over time into the ground but what I'm saying is it is not going to affect your water supply.

**Marc Rammelaere:** I just want to add to that...In the last 50 years the Water Resources Authority has been putting in test wells to see exactly the water producing capacity was of these rocks and basically what you have is north.. towards the coast... the rocks on that side were all abandoned for water production, they simply could not pump enough...the water could not be pumped enough out of it to make your worthwhile, the water that you are getting for your drinking water is from the other side of the river up into the interior...that's where your water come... so what you would need to have .....the contamination would directly have to flow upstream which cannot happen to reach the water supply system that you are getting your water from.

**Sonia:** And it's not necessarily the drinking water, people bathe in the rivers when it is running so what about that?

**Dr. Burrowes:** Just to clear the record because we want a clear report, you asked about the contamination of the bathing. A social survey was conducted and we didn't find any reports of bathing downstream of this particular cemetery... we want to say there is no running water on the property... you may see something that looks like a gully but there is no running water but there is a dry gully which in extreme rain that dry gully will transmit water, what we have said as a mitigation method is the developer will impound all the runoffs from this site on this property...so no water will be leaving, when the rain comes and wash the roads and the parking lots and so on he actually wants all that water, he prefers to use that water to water his plants, instead of using chlorinated water on it, as much water as he can keep on property he will, that was his goal, and that is what his engineers are working towards

The section where there isn't going to be any development for 50 years will continue to have a dry water course which we have told NEPA will not be changed in any way although we recognized for the protection of the road it may be desirable to put in some check dams on it to trap some of the sediments that's going to fill into the gully that is going to cause flash flooding on the road. So if Mr. Delapenha has extra stone from the site we can create some check dams and even above the property going up into the hills above the property we have made some

recommendations to preservations of the road that he may even want to put check dams higher with of course the approval of the Parish Council everything that is to be done outside his property is off course the parish taking the lead. We are recommending that they put some check dams because the area is prone to flooding. Flash flooding in particular so I don't see that there is a potential of any grave effect of (inaudible)...

**Sonia:** Although there will be ponds the ponds will be man-made so faults can occur where you have overflow and even though you don't want any come out it can it can still happen so you still have to have something in mind if that will happen what will be done.

**Dr. Burrowes:** Ok. So we actually have a two pond system so if something happens in the first pond you have a second pond.

**Sonia:** this thing just sounds hard to...(Inaudible)

**Dr. Burrowes:** We won't be using concrete which is a brittle material... in the event of faults or whatever, He's going to be using a clay liner which is really not going to be impacted as concrete, you'll see concrete structures with cracks and so on, he'll be using more ductile pond liner or clay materials, fabric liners and so on which will not be affected by faulting it's not like brittle concrete and concrete is permeable anyways so we'll definitely not be lining it with marl or something....

**Mr. Delapenha:** But see the run off that you are thinking about that's going to be going into the ponds, the valves are sealed on the top so anything that's going to leave to the bottom and it's not going to be on the surface runoff to these ponds so there will be no leachate and thing in the ponds.

**Sonia:** But it can't be 100% guaranteed

**Dr. Burrowes:** This is why we are monitoring it.

**Sonia:** I'm all for the cemetery you know but I just have to ask the questions because I live there and the cemetery is going to affect me also so I want to know.

**Dr. Burrowes:** Certainly. As I have said before we all live with cemeteries fairly close by, cemeteries are known to be pretty safe, there has been a lot of study done on whether or not they pollute and they do break down as Mr.Delapenha's says "ashes to ashes, Dust to Dust" bodies are basically biodegradable and the materials being utilized with them... we try as far as possible to be bio-degradable, so everything is natural so I hope we can allay some of your visits.

**Madam Chairperson:** Any more questions...Questions please.

**Nola Walker:** I'm asking if when you clean the gully, if you are going to give us a bridge,  
(Laughter)

**Dr. Burrowes:** You want a fridge?

**Audience:** A Bridge!!!

**Dr. Burrowes:** I know that the parish council is going to give Mr. Delapenha ... the deal with the fording... you don't have a fording at the moment?

**Mr. Delapenha:** No, what she's referring to ... a lot of the residents walk down into the gully to get across, if it's made very deep it's going to impact on them, but we definitely taking it into mind and I guarantee that if there is an area that is excavated till its deep' we'll put in a bridge, but if we can avoid the areas that people walk and access their homes that is our first priority.

**Madam Chairperson:** To those outside I notice that you are participating very well out there but I am not hearing you and we are not hearing you, if you have any questions from all that you've been hearing out there you can feel free to interrupt, we'll give you the mike.

**Alton Bent:** Good afternoon, my name is Alton Bennet, seen that you start cutting the road and pushing a lot of stones in the gully, will you be cleaning the gully again?

**Mr. Delapenha:** The standing areas are one area in particular where at least over the years stones have washed down and it causes when there is high water in the gully for it to come over on the road. It's mainly just an area where we are focusing on, because its almost at the road level now.

**Alton Bent:** Yes but once (Inaudible)

**Mr. Delapenha:** Yes well anything that we disturbed and pushed down there is going to be cleaned because we want to make sure there is no flooding for the road,

**Alton Bent:** Yes you have to clean the gully because you see where I live out on the main there since the rain fall and block the gully all the water run come down to my house so I want to make sure that you are going to clean the gully that the stuff don't come down there.

**Mr. Delapenha:** We are planning to spend a lot of money on that road so we can't afford for any flooding to take place because it would be penny wise and pound foolish so the gully is going to be rehabilitated to move....

**Alton Bent:** And again the next set of wall you are going to build down there, it needs to be built higher,

**Mr. Delapenha:** There is more to go on the wall but because of the engineering they have to get the final grade of the road so that...

**Alton Bent:** If the wall isn't high enough when the water it's going to come over on the road...

**Mr. Delapenha:** Right. But if we clean up all the areas that have been blocked over the years then the gully will be deep enough to carry the water...Alright.

**Sonia:** This is my last question for the evening, Re. the NEPA presentation, I realize that the documents were posted all over but I don't see where it was posted anywhere in the community and in the early status of the presentation I think I heard him say that the proposal was approved in April, later down I hear they say something about some issues so there was some level of confusion in that report, and I need it to be clarified.

**Dr. Burrowes:** Thanks, Sorry you're confused but prior to conducting the study, prior to the study being done Nepa has to tell us what they think need to be done. That was what was approved in April, so we got the go ahead to conduct the study, to begin the study in April, we finished the study and sent it in to nepa on the eighth of June so the study actually was completed and you can see on my slide it says February to June. The reason I said February to inform the terms of a perception survey .... we had a 200 respondents that we included in that survey to find out what they wanted to go into the study, what were their concerns, and that was done in February and provided NEPA with that information so they would have an idea, Ok X,Y and Z is important to the community based on the sample. So that is when we started in February....

**Madam Chairperson:** You have thirty days in which to have assessed all that was presented...  
**(Inaudible)**

**Dr. Burrowes:** I just want to go back to the question I was answering I believe in NEPA's ... the gentleman suggested .... **(inaudible)** but I mentioned it several times that the EIA was available at the Heart Centre next to the Police Station,

**Madam Chairperson:** What she said is that was at Adelphi, but there is not right here and we have to pay fare to Adelphi.

**Dr. Burrowes:** the thing is when we completed the EIA it was June and most of the schools were closing for the summer so it was most prudent to put it somewhere where it was not going to be closed, and we really didn't know anywhere else, we also thought that if there is a little daycare that's being operated at the church... So we'll ask NEPA to make sure that a copy is sent down to the church now, which church is that?

**Audience:** The Shiloh Apostolic church

**Dr. Burrowes:** The thing is when they put it at the church there has to be somebody.

**Audience:** There is a school there!!!

**Dr. Burrowes:** I know but it's... we had met the school teacher several times and we actually felt that we were bothering her because its her one there with the children and every time somebody comes at the gate she has to stop what she's doing and go and do it. So we discussed this with NEPA and we felt that we didn't want to be a nuisance if five or six people come for the day it would be very hard unless you are going to give her someone to help her. We will ask NEPA to send one...I don't know how feasible it is for right now but I think right now I don't want to be a nuisance to the teacher and she has very young children in the class.

**Madam Chairperson:** Put it at the church where after prayer meeting where they can read it and in the morning after service, same church she is referring to that's close by to where the cemetery is.

**Madam Chairperson:** I have a question relating to the reception hall which is going to be constructed: is it going to be concessionaire out or is it going to be ..... as a cost incurred to use it or is it be that you can prepare the meals for your banquet or your funeral thing there, how is it going to be?

**Dr. Burrowes:** I think it will be on a catered basis so people will be able to have their caterers for the facilities will be there and if you need Mr. Delapenha to organize the caterer

**Mr. Delapenha:** Pretty much as she has explained it madam chairlady. It's a facility where nowadays when the urban areas are so built up and people living in apartments and town homes, there is a need after the service for a place for people to get together, a lot of us unfortunately don't get together 'til at a funeral or wedding, so as prevails in other places we thought it would be appropriate and because we plan to develop such a nice cemetery and the ambience is going to be of such then it would be very conducive for people to stay and have their after service greetings there

**Madam Chairperson:** If you have a caterer you can go ahead and get the facility to use and prepare your meals if you don't have one the arrangements will be done from that perspective that it can also be done

**Dr. Burrowes:** And if you are a caterer with the appropriate food handlers' permit, I'm sure Mr. Delapenha will be having a list of acceptable caterers so if someone asks for a recommendation for someone in the area he can say well there is Mrs. So and so, here's her number.

**Winifred:** My name is Winifred and this is a question to Mr. Delapenha, Please sir, the tractor dig the gully and leave the banks high, I am sick with my two legs sir and I hardly can go up the place there they should make a little grade in the gully that I could get down in the gully to go over sir and up till now nobody never say anything to me because I'm up the house and I hardly could come down sir and it's very tedious for me.

**Mr. Delapenha:** Miss Winnie I'm very sorry to hear about that and it was never our intentions to make anything worse, during the construction period we have some setbacks, the weather being one and the amount of time it is taking to get the permits, because people you are borrowing money from don't want to lend you until you are have so because of that the work hasn't been moving as fast as we have hoped but I'm going to ask the gentleman who supervises the work for me to make sure that is addressed in the shortest possible time so that you are not inconvenience at all, and please accept my apologies again.

**Dr. Burrowes:** I just want to clarify something the work he's talking about is work that he's doing in collaboration with the St. James Parish Council and Public Works Department where he has committed provided them with certain resources. Parish Council doesn't need an approval to maintain the public roadways so that is the work that is ongoing .... so to construction as I understand it is to clear the road in anticipation of the site construction which will commence when NEPA grants approval



**Camille:** Good night every one, my name is Camille and I want to say I welcome the venture and I see it as a way forward for the community. I must say that for the time that I have been living there I have not seen much done to the community, I look at it as roads will be fixed, probably not much employment but we don't know what may happen so I welcome this venture and I want to say thanks.

**Mr. Delapenha:** Thank you.

**Madam Chairperson:** Ok ladies and gentlemen, we are scheduled to finish at eight o'clock, we have started a little bit late, we are right on eight o'clock now, if anybody has a burning issue, you can't leave here without asking ask it now, if you don't have a burning question I'm going to move on to ask Mr. Delapenha to move the vote of thanks to all these persons who have sat here this evening, have listened have participated and will be thinking more after we leave here.... I said I hope it's a burning question.

**Alton Bent:** Just a suggestion to the contractor, if you're going to do the road I want you to be around there when the rain is falling so that you guys can see where the drain was to go.

**Sonia:** I didn't get any response if there's going to be a discount for community members

**Mr. Delapenha:** I hope that everybody in Moor Park and I consider myself a part of the family now, is going to live forever and have no need to use the cemetery, but as family members I would deal with everybody in Moor Park the way I would deal with my own family. That's not going to be an issue.

**Madam Chairperson:** We need to understand that the packages will be tailor-made, People need to keep our secret when it comes on to these tailor making things, you are dealt with according to your situation, you must not talk too much, when things happen for you, I'm warning you from now.

**Sonia:** Re. the chapel I think it is a good thing because most cemeteries around there isn't a chapel so people who doesn't go to church....

**Mr. Delapenha:** And we are finding nowadays that the way the society has gone more and more people don't have a church and they are not affiliated with a church so there is a need, this should be off the record but I plan to develop a cemetery like no other cemetery in Jamaica, I am hoping that when I develop my cemetery horticultural people will want to come to me and keep flower shows at my place, School Trips will want to come and see... That is the line I'm thinking towards I'm not thinking towards... **(Applause)** So I guess I'll say the rest in my vote of thanks.

**Sonia:** So will there be a Chapel there or will we have to use our own Chapel, final question.

**Mr. Delapenha:** Remember we're living forever you know so this is not for us but those people who are using the cemetery, the Chapel is optional so if you have your church no need to use the Chapel but if you don't the Chapel is there,

**Madam Chairperson:** She said Chaplain not chapel...the pastor.

**Mr. Delapenha:** Well we need a Chaplain, that's one of the few things (laughter) concerning the cemetery that I haven't thought about is the Chaplain, but after tonight that position is filled so no one else need apply.

**Member of the audience:** Yes goodnight everyone I welcome the cemetery around here and for discounts I always used Delapenha and I always get good discounts.

### **Closing Comments & Vote of Thanks**

**Madam Chairperson:** Mr. Delapenha it's your turn, just say your final words.

**Mr. Delapenha:** Words cannot express how grateful I am, first to you Madam Chairlady for cheering this meeting and second to anybody who attended from near and far. Despite the Doctor's goodly efforts the presentation was quite boring and I appreciate how good of an audience you have been, luckily we had some lively interactions after cause it would have been a boring night. So I really want to thank you and now this is the fourth meeting that I have been attending with the Moor Park family, and I know it is tedious to keep coming to meeting after meeting after meeting about the same thing but I appreciate your turnout and your attendance and I look forward to being a very valuable Member of your family. Thank you.

**Madam Chairperson:** Ladies and gentlemen this forms the final comments of our meeting tonight thanks, very much for coming thanks for your participation, you've been a wonderful group and I'm just hoping that everybody will be really happy that the one of a kind cemetery is completed in Moor park and I lift my hat to Mr. Delapenha, a young man with a vision, and please endorse it as if it were your own and please treat it as if it were your own. (Applause)

**Christina Edmonson:** Good afternoon, my name is Christina Edmonson, Is me Mr. Delapenha buy on the Moor park property so we are brother and sister.

# APPENDICES

# **APPENDIX 1**

## **POWERPOINT PRESENTATION**

## AGENDA

# PUBLIC MEETING

## ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

### FOR THE PROPOSED CEMETERY & CREMATORIUM AT MOOR PARK, ST JAMES

Sudbury All Age School, Orange, St. James THURSDAY SEPTEMBER 8, 2011, 6:00 PM TO 8:00 PM

6:00 – 6:15	15 mins	<b>Welcome &amp; Introductions; Purpose and Outline; Meeting Rules</b>	Chairperson: Ms. Barbara Lawrence
6:15– 6: 45	30 mins	<b>Findings of the EIA</b>	Dr. R. Burrowes EIA Consultant (emc <sup>2</sup> )
6:45 – 7:45	60 mins	<b>Question and Answer Session</b>	Chairperson
7:45 – 7:55	10 mins	<b>Closing Comments</b>	Chairperson
7: 55 – 8:00	5 mins	<b>Vote of Thanks</b>	Mr. Dale Delapenha, Delapenha Funeral Home

# FINDINGS OF THE EIA

Proposed Moor Park Cemetery & Crematorium  
Development

# Outline

3

- EIA Preparation Process
- The Development Proposal
- Regulatory Requirements
- Potential negative Impacts & management
- Monitoring
- Benefits (potential positive impacts)

# EIA Preparation & Process

4

- The EIA was conducted by Environmental Management Consultants (Caribbean) Ltd. (emc2) with offices in Ocho Rios, St Ann, Jamaica
- The EIA was conducted Feb -June 2011.
- The Public will have 30 days after this meeting to submit any comments in writing to NEPA.



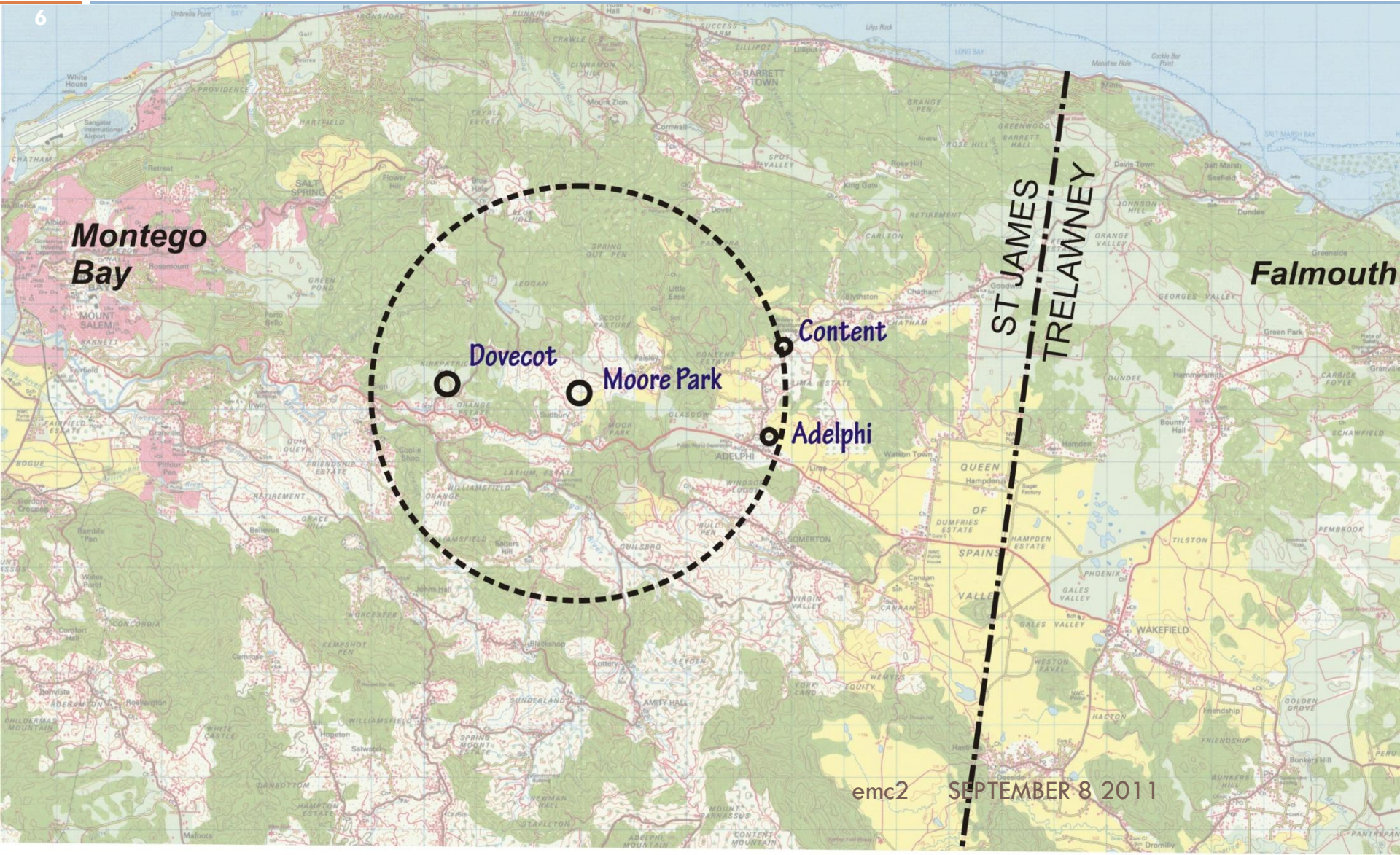
# The Development Proposal

5

- Delapenha Funeral Home Ltd has acquired 42 acres of land at Moor Park.
- DFH has submitted an application to NEPA for an Environmental Permit (as required by the NRCA Act) to construct and operate a cemetery and crematorium at this site.
- The proposed cemetery will serve the Greater Montego Bay area, as well as the areas surrounding the site.

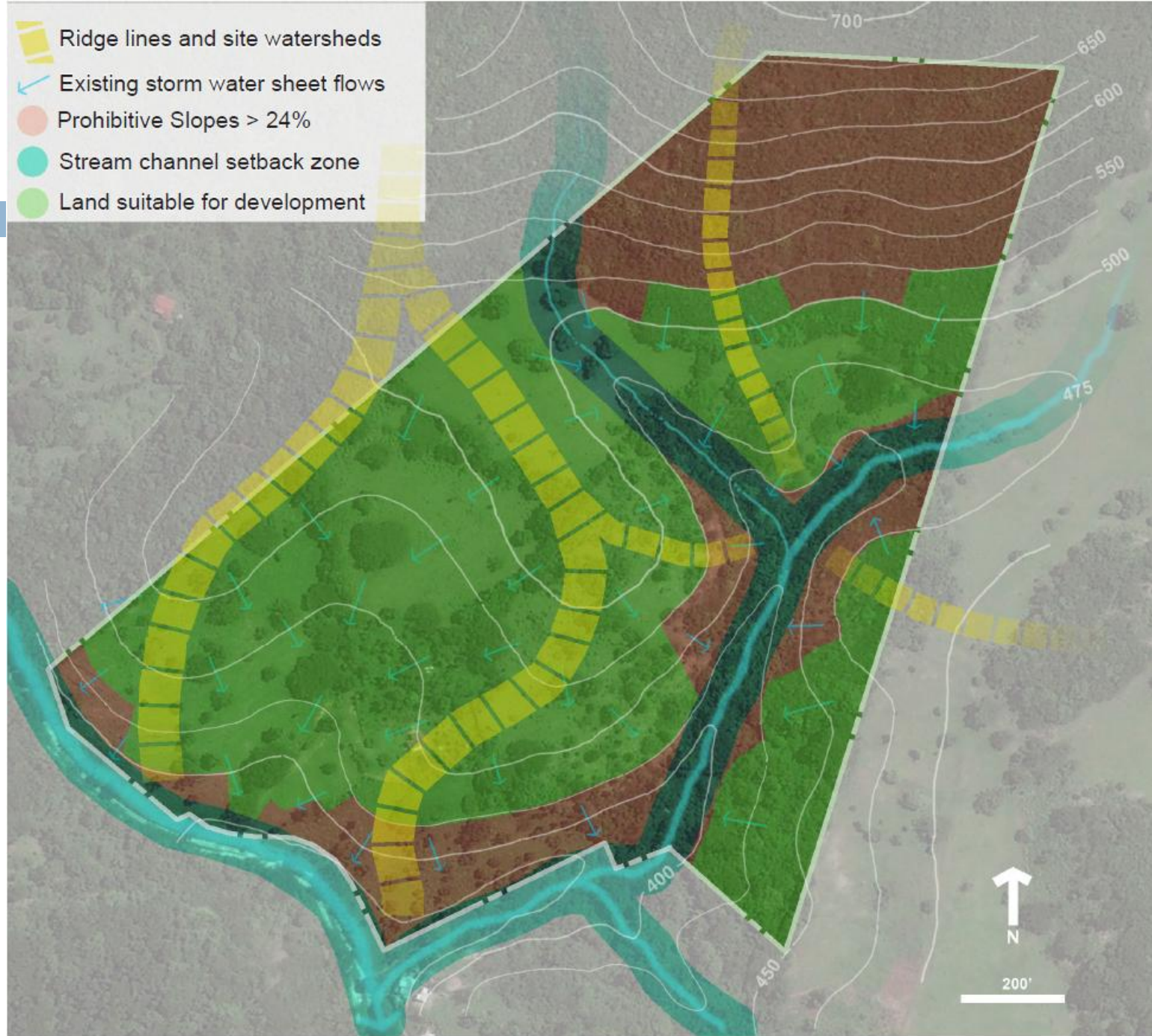
# Location

6





# The Site

































# Master Plan

15

**Master Plan**  
May 27, 2011

## Long Range Land Use Master Plan

**Royal Rest Cemetery at Moore Park  
Montego Bay, Jamaica**



# Master Plan

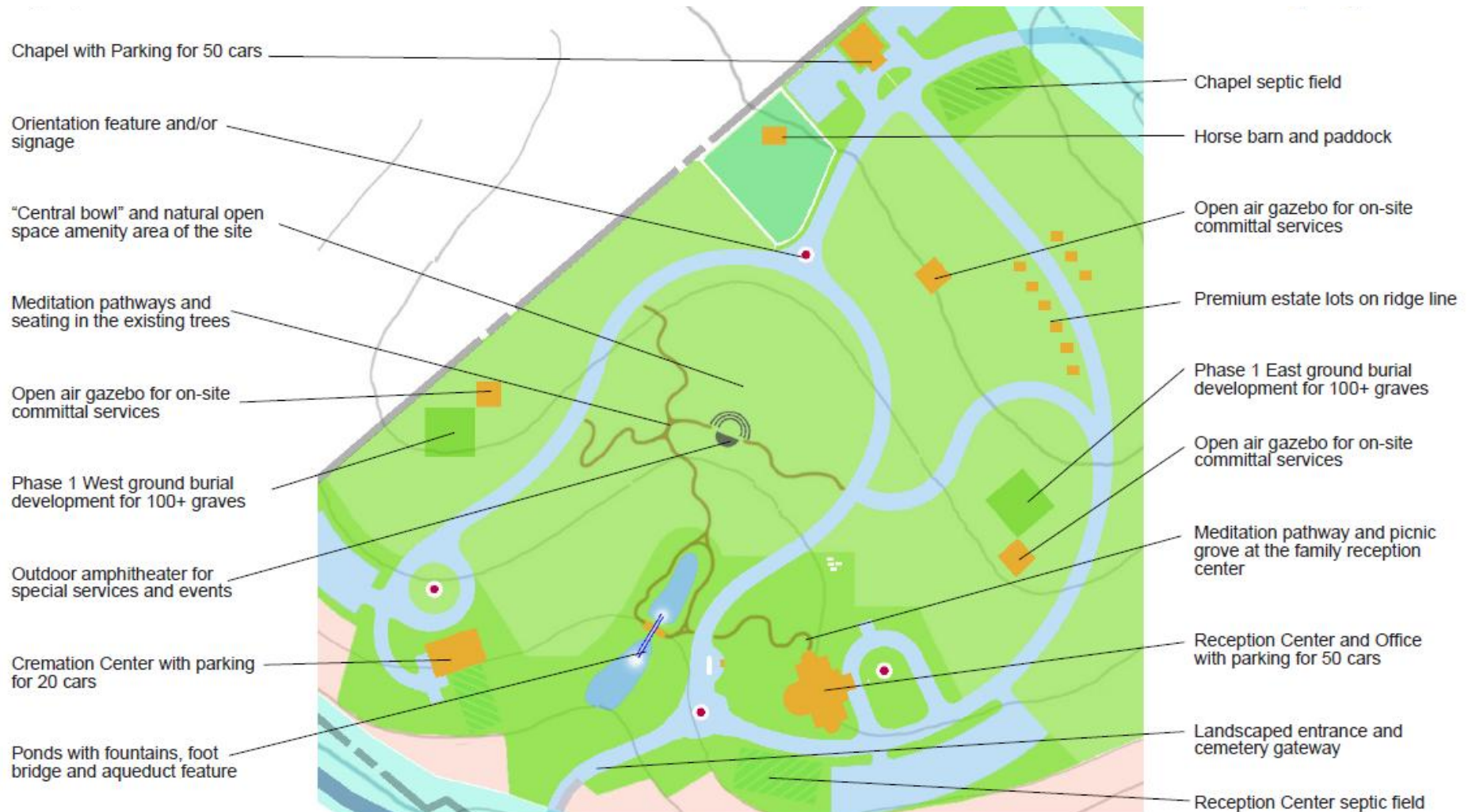
16

Land Use	Acreage
Undisturbed	15.5
Landscaped lawns with trees & shrubs	5.0
Burial lawns	18.2
Built space (buildings, parking lots, roads etc)	4.4
	43.2

90% of the land will be “green space” including burial lawns. To the extent practicable, mature trees will be retained. Additional vegetation to be planted. Most of the development will occur on the south-western side of the property.

# Core Master Plan

17



# Phasing Plan

18

## Year 1 -2

Reception Building,  
Roadways, landscaping  
204 graves

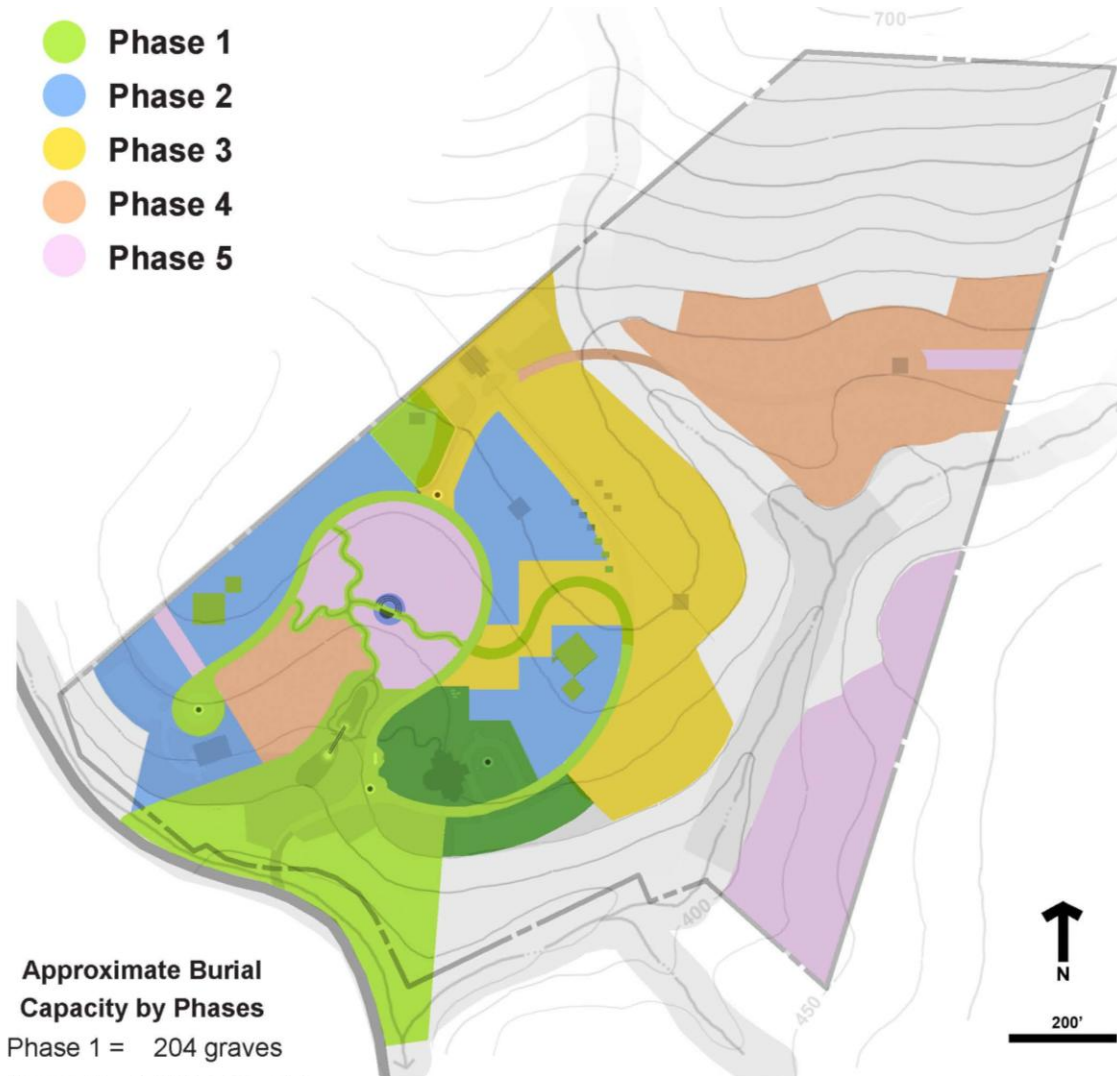
## Year 3 – 47

Cremation Centre  
Chapel & associated roadways  
Mausoleums  
4,500 graves

## Year 48 +

Phase 4 roadway  
Extension into Phase 3 – 5

- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5



### Approximate Burial Capacity by Phases

Phase 1 = 204 graves  
Phase 2 = 4,500 graves+/-  
Phase 3 = 5,900 graves+/-  
Phase 4 = 6,500 graves+/-  
Phase 5 = Future Use to be determined

# External Works

19

- Upgrade of 700 m parochial roadway between the main road and the entrance.
- River training to prevent flooding (along same stretch) – check dams and gabion baskets.
- Lighting along the front roadway along property boundary.
- Extension of the water pipeline from the mains to the site.



# Regulatory Compliance

20

- Environmental Permit (NRCA).
- EHU/MOH approval.
- WRA buffer zones re springs, wells, watercourses, shoreline or estuary & floodplains.
- RPPU: Change of use (agricultural zoning)
- Parish Council planning and building approval of location of crematory, building plans and external road upgrade.
- NRCA: Below threshold Air Emissions license.
- Other emissions (noise) and effluents (sewage) compliant with NRCA requirements.



# Construction Environmental Impacts

21

- Construction noise (Ng): conversational level within 64 m (210 ft) from source – limit to normal working hours and use noise equipment as specified by manufacturer.
- Air quality (Mn): reduce dust generation: limit bare or uncovered earth materials; control cement/concrete mixing on site; use stabilized construction exits; screen building site; cover haulage trucks; low sulphur diesel; prohibit burning on site.

# Construction Impacts (cont'd)

22

- Site run-offs (negl): stockpile management; equipment/vehicle management.
- Groundwater (sewage - negl): contamination unlikely due to depth of groundwater table (>50 m below surface). Recommendations made for the construction and decommissioning of pit latrines.
- Effects along transportation corridors (Mn – Md): spread axel loads; secure and cover loads; maintain & wash vehicles

# Construction Impacts (cont'd)

23

- Generation of waste (landfill space): relatively minor.
  - ▣ Wood chipper – mulch
  - ▣ Landfill for demolition debris – asbestos (if found) should be treated appropriately.
  - ▣ Waste collection skips
  - ▣ Licensed haulage contractor to collect and dispose to an approved site.
  - ▣ Re-use concrete waste, stone, marl (as fill) and top soil excavated from the site.

# Operational Environmental Impacts

24

1. Air pollution
2. Noise
3. Traffic
4. Monoculture
5. Habitat Change
6. Pests
7. Site drainage
8. Impounding storm flows
9. Groundwater
10. Carbon Footprint
11. Landfill Space

# Air Pollution (Moderate Impact)

25

- Crematorium emissions – low - allowable limits.
- Hot air (<800 hrs per year) –rise - dissipated.
- Under fast wind conditions the hot air could be dispersed at lower elevations.
- Can be mitigated by changing the base elevation (site); stack elevation or secondary cooling system.
- Visual intrusion of the stack.

# Noise (Minor Impact)

26

- Loudest noise expected to be rotary lawn mower.
- Operational noise from crematorium  $<65$  dBA (conversational level) outside crematory centre.
- Other noises  $<58$  dBA within 64 m of the boundary.
- Noise will fall off to low levels before it can reach any sensitive receptors e.g. School ( $\sim 200$  m) or dwelling houses ( $>110$  m from nearest boundary).
- No mitigation necessary

# Traffic (Minor Impact)

27

- Funerals – weekend 3 and 6 pm.
- Main road from Montego Bay will be used.
- A maximum increase in flow of 300 vehicles is expected. Since it is on weekend afternoons when there are less cars on the road than on working days, it is expected that this increase can be accommodated.

# Monoculture (moderate)

28

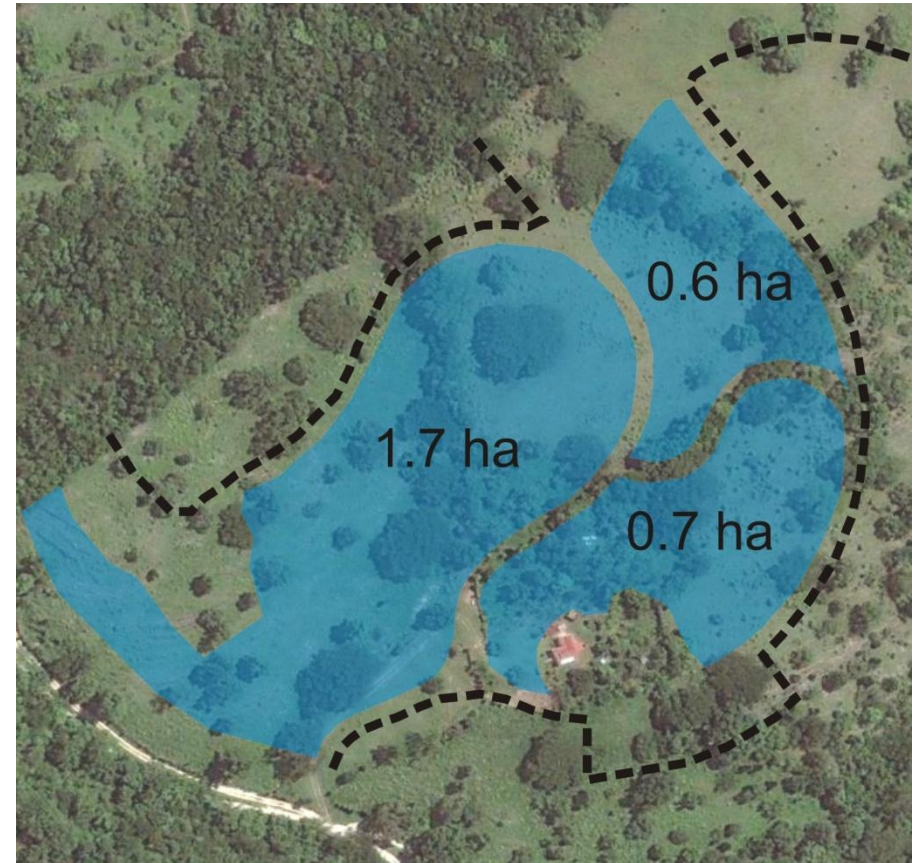
- 42% of the site (17.4 acres) will be converted to lawn.
- Although floral biodiversity may be reduced, research on golf courses shows that faunal biodiversity (birds and insects) may actually become better than surrounding pasture.
- No rare, protected or endangered species were identified on the site.
- Trees will be retained, areas now under pasture will be allowed to revert to forest cover (e.g. Phase 4), and new trees planted.



# Habitat Change (Moderate)

29

- Fragmentation of habitats through the installation of roads.
- Largest area impacted in P1; 0.7 ha in P2 and 0.6 ha in P3. Dividing roadway between P1 and P2 to be removed.
- No rare, endangered or protected species identified
- Site to be protected from predatory animals (dogs, cats) and grazers (goats, cows) – positive effect on biodiversity.
- New ecological niches: pond, mausoleums, wooded area.



# Pests (Minor Impact)

30

- ❑ Catering (Reception Centre)- food storage and organic wastes
- ❑ At the site of the existing house – likely to be pests (rodents, roaches, mosquitoes, flies).
- ❑ Can be effectively managed with proper food storage and waste management.

# Site Drainage (Minor)

31

## West Basin

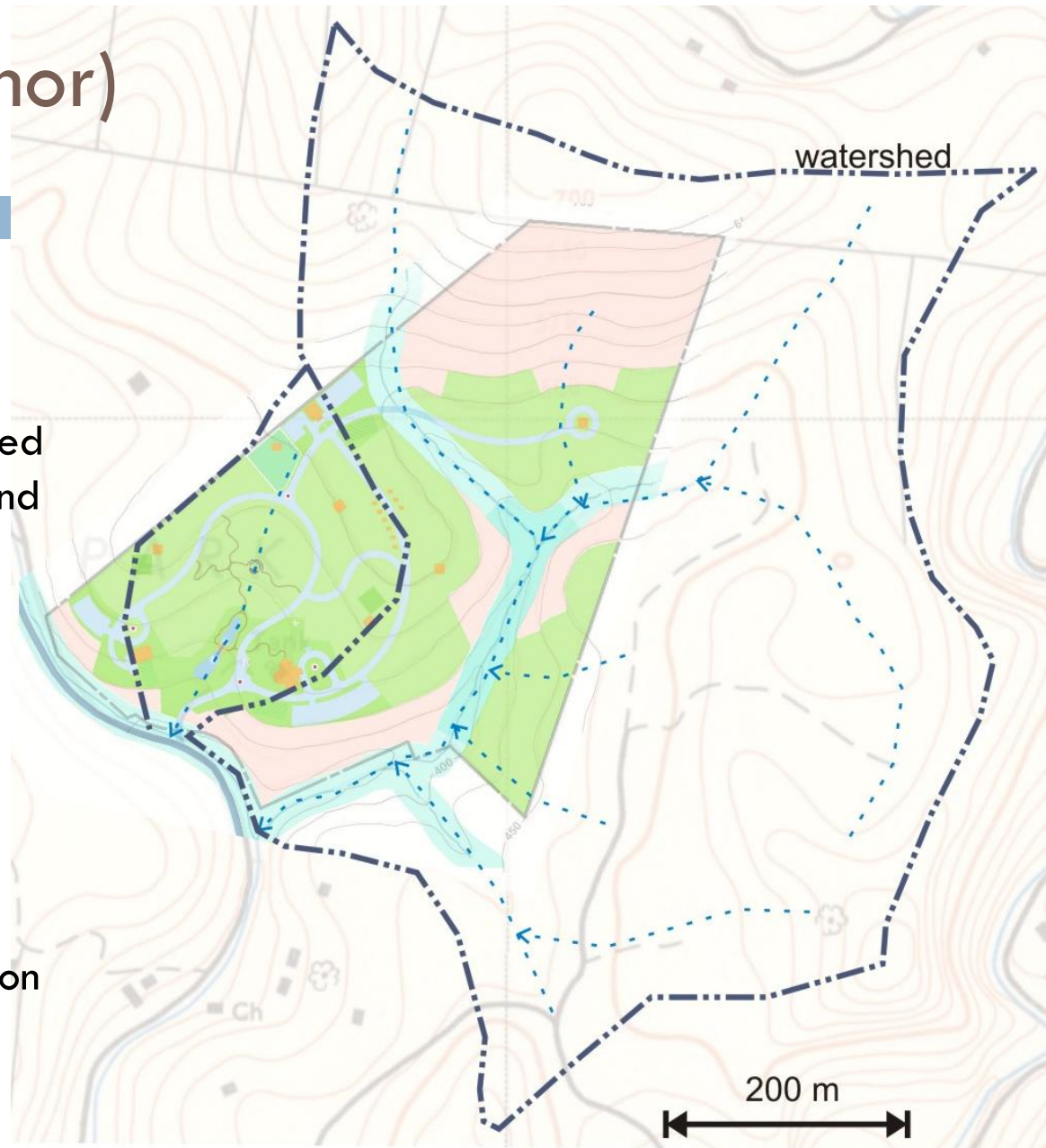
- 18% - impervious.
- 26% burial area – increased water retention capacity and reduced the run-offs

## East Basin

- <2% - impervious.
- 6% burial area

Marginally above baseline

Difference easily impounded on site.



# Impounding Storm Flows (Positive)

32

- Proposed storm water detention feature in W. Basin
  - ▣ Storage needed for 756 m<sup>3</sup> for the 100-year storm.
  - ▣ Can be accommodated in the water feature.
- This is expected to mitigate any potential of flash flooding created by the construction of impervious surfaces.

# Groundwater (No Impact)

33

- Given the way fluids move through this rock, the speed of fluids moving is expected to be very slow.
- In 100 days, fluids in this bedrock will not travel more than 7 m in a straight line. After 100 days contaminants in the grave fluids are harmless.
- Groundwater table is  $>50$  m below ground.
- There will be a buffer zone around the perimeter and between the burial areas and waterways.
- No change in groundwater quality is predicted.

# Carbon Footprint (minor impact)

34

- Consumption of fuel and electricity. Cremation is a big consumer (~26,500 gallons LPG per year).
- Imported and manufactured items – particularly cement. High carbon emissions.
- Carbon footprint can be off-set not mitigated. E.g. Ensuring maximum efficiency & conservation in the use of equipment; using locally sourced materials; minimizing wastage of concrete products etc. Re-vegetation.

# Solid Waste Generation (negligible)

35

- ~2.3 metric tons of solid waste are expected to be produced on site per year.
- This is less than 4 people living in a house per year.

# Findings

36

- The project is unlikely to generate any significant adverse environmental effects.
- Moderate negative impacts include: effects on transportation corridors during construction, and on air quality arising from thermal pollution (heat) – both of these can be cost-effectively mitigated.
- All other negative impacts are unlikely to result in measureable changes to baseline conditions or are within normal levels of fluctuations for the various parameters.



# Benefits of the project

37

- ❑ Flash flood management; Piped water extension;
- ❑ Upgrade of the Moor Park parochial road;
- ❑ Additional burial capacity for St James; supply of an alternative quality of interment amenities & service;
- ❑ Purchase of goods from the area: e.g. concrete blocks;
- ❑ Increased land values; better alternative to residential in terms of traffic, peacefulness etc.
- ❑ More productive land use than ruiante pasture (present); Long term preservation of green space;
- ❑ Few jobs would be created;

# Monitoring

38

- Monitoring of water quality in the central pond feature – BOD, Total Nitrogen, Total Phosphorus, Salinity/Conductivity, Total Suspended Solids, Total & Faecal Coliforms.
- Monthly – reported annually to NEPA. In the event of a result that is not compliant with the national irrigation standards, a special report is made to NEPA.

# The End

39

THE EIA IS AVAILABLE IN THE COMMUNITY AT:

## **Adelphi Skills Training Centre (HEART/NCTVET)**

**Adelphi Main Road, Adelphi, St. James.**

**Monday to Friday**

**8:30 am to 3:00 pm**

## AGENDA

# PUBLIC MEETING

## ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

### FOR THE PROPOSED CEMETERY & CREMATORIUM AT MOOR PARK, ST JAMES

Sudbury All Age School, Orange, St. James THURSDAY SEPTEMBER 8, 2011, 6:00 PM TO 8:00 PM

6:00 – 6:15	15 mins	<b>Welcome &amp; Introductions; Purpose and Outline; Meeting Rules</b>	Chairperson: Ms. Barbara Lawrence
6:15– 6: 45	30 mins	<b>Findings of the EIA</b>	Dr. R. Burrowes EIA Consultant (emc <sup>2</sup> )
6:45 – 7:45	60 mins	<b>Question and Answer Session</b>	Chairperson
7:45 – 7:55	10 mins	<b>Closing Comments</b>	Chairperson
7: 55 – 8:00	5 mins	<b>Vote of Thanks</b>	Mr. Dale Delapenha, Delapenha Funeral Home

## APPENDIX 2

### LIST OF ATTENDEES

M Swaby	Michael (no surname)	Mecle Beckford	L Ellis (NEPA)
C Whittaker	I McKenzie	Alton Bent	W Jackson (NEPA)
Marvin Graham	L Jarrett	Fitzroy Barrett	T. James (NEPA)
T Bate	Ms. Lewis (no initial)	Odain Griffiths	C. Roye (NEPA)
M Yerry	Sonia Stevens	Dwight Holt	R. Carroll (NEPA)
LW Younger	Althea Stevens		
Winifred Service	Tarique Satchell	J Pennant (WRA)	Dale Delapenha
Comiel McNish	Christine Edmondson	D Burrowes (emc2)	
Nadine Davis	Amoy Grant	R Burrowes (emc2)	
Keisha Beckford	K. Tulau	M Rammelaere (emc2)	
Marva Francis	Nola Walker	D Richards (emc2)	
Curtis Francis	Y Edmondson	D Thompson (emc2)	

## **APPENDIX 3**

### **Agency's Statement for the Public Presentation of the Environmental Impact Assessment for a Cemetery Development at Part of Moor Park, St. James by Delapenha Funeral Services Limited.**

Date of meeting: 8 September 2011

Venue: Sudbury All-Age School, Orange, St. James

Time: 5:30 p.m.

On 20 January 2011, the National Environment and Planning Agency received an application for an Environmental Permit (Application No. 2011-08017-EP00029) for the construction of a cemetery and crematorium on 17.4 hectares (43 acres) of land located at Moor Park, St James from Delapenha Funeral Services Limited. On 7 March 2011 a facilitation meeting was held with the National Environment and Planning Agency (NEPA) and Environmental Management Consultants Caribbean Limited (EMC<sup>2</sup>), the consultants representing Delapenha Funeral Services Limited where EMC<sup>2</sup> was advised that an Environmental Impact Assessment (EIA) would be required for the application. On that basis EMC<sup>2</sup> was advised that a Terms of Reference (ToR) for the EIA was to be prepared and submitted to the Agency for review and approval prior to conducting the Environmental Impact Assessment (EIA).

The draft ToR was submitted to NEPA on 14 March 2011 and reviewed by the Agency and based on the review it was determined that additional information was required. The additional information was submitted to the Agency and as a result the ToRs were approved by NEPA in letter dated 14 April 2011.

The EIA was submitted to NEPA on 9 June 2011 and circulated for comments externally and within NEPA. The Government Agencies to which the document was circulated included the:

- Water Resources Authority;
- Ministry of Health;
- Mines and Geology Division;
- National Works Agency; and
- St. James Parish Council.
- Adelphi Skills Training Centre

The EIA was also circulated to other stakeholders including the Jamaica Environmental Trust.

All entities were given until 9 July 2011 to return comments to the Agency in writing. To date comments have been received from the following:-

- the Water Resources Authority,
- the National Works Agency,
- the Rural Physical Planning Division; and
- the Ministry of Health.

Although a meeting was organised by the applicants on 21 July 2011 at Sudbury All-Age School, Orange, St. James to present the EIA, a public presentation is being held today, which satisfies the Agency's EIA Guidelines regarding public consultation.

The comments from the remaining stakeholders are being awaited. Please be advised that any objections, comments and concerns raised will be noted and taken into consideration in the deliberations regarding the development and the processing of the application.

The application is currently being reviewed and hence the Agency will refrain from making any comments in relation to the development at this time. Please rest assured that this public meeting is a preliminary action and **NO FINAL DECISION** has yet been made on the proposed project.

Please be reminded that the process with respect to the public presentation for EIAs is as follows:

1. A copy of the Verbatim Minutes of the Public Presentation will be submitted to the Agency within five (5) days of the Public Presentation.
2. The public has up to thirty (30) days after the date of the Public Presentation to provide written comments on the proposed development to the Agency.
3. Upon receipt of these comments, they will be collated and sent to the applicant for responses to be provided.
4. When the response is received, a submission will be prepared to facilitate the discussions within NEPA. After the internal discussions, the application will be considered along with any recommendations arising from the internal discussions by the Technical Review Committee, a sub-committee of the Authority and then it will be forwarded to the Authority for a decision to be made.

The public presentation and public consultation process is extremely important in the processing of and decision making process involved in Environmental Permit applications in which an EIA is requested. The public presentation provides an additional opportunity for stakeholders to air concerns/comments/opinions/views and for the applicant/consultant to address them in a public forum.

Please be reminded that the EIA is available to the public and can be accessed at the following locations:

- NEPA's Documentation Centre
- NEPA's website  
[http://www.nepa.gov.jm/eias/StJames/Moor%20Park/EIA\\_Moor\\_Park\\_Cemetery\\_with\\_cover\\_and\\_appendices.pdf](http://www.nepa.gov.jm/eias/StJames/Moor%20Park/EIA_Moor_Park_Cemetery_with_cover_and_appendices.pdf)
- St. James Parish Council
- <http://www.eiacaibbean.com/DFH/>

Thank you.