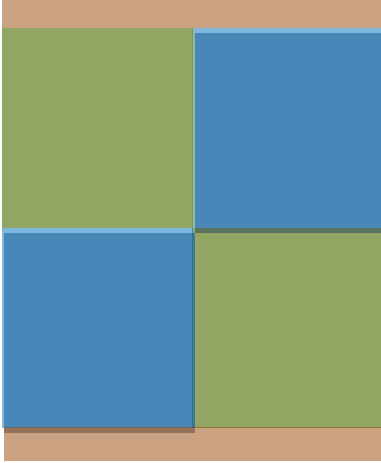


MARCH
2010



ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE PROPOSED LAND & HOUSING SUBDIVISION

MANDATORY PUBLIC MEETING REPORT

[Prepared for The National Environment & Planning Agency]



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ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE Proposed

LAND & HOUSING SUBDIVISION

AT HOLLAND ESTATE, MARTHA BRAE, TRELAWNY

Mandatory Public Meeting Report
on the
Environmental Impact Assessment
for
The Proposed Land & Housing Subdivision
At Holland Estate, Martha Brae, Trelawny by KENCASA

Held at the
William Knibb Memorial High School, Trelawny
Tuesday, March 2, 2010

Submitted to:
National Environment and Planning Agency, NEPA

March 2010

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The National Environment & Planning Agency (NEPA) mandated that a public meeting be held in respect of the EIA for the proposed land and housing subdivision at Holland Estate, Martha Brae, Trelawny. According to NEPA'S guidelines, the public meeting was convened at the William Knibb Memorial High School Auditorium, Martha Brae, Trelawny on Tuesday, March 2, 2010. The meeting was advertised in the Jamaica Gleaner on the following dates for a period of 21 days days prior to the meeting (see **APPENDIX 1**):

- February 9, 2010
- February 23, 2010
- March 1, 2010

. Copies of the EIA report were placed in various locations for the same period prior to the meeting. The reports are still available at the following locations:

- ✚ Trelawny Parish Library,
- ✚ Falmouth Police Station
- ✚ Trelawny Parish Council
- ✚ Colleen's Shop (Wakefield Road, Martha Brae)
- ✚ NEPA's website: www.nepa.gov.jm.

In addition to advertising in the Jamaica Gleaner, the distribution of flyers, posting of notices and using a town crier were additional strategies used to announce the event in various communities close to the proposed project site.

The meeting was convened under the chairmanship of Mr. Omar Simpson, Parish Manager for the Trelawny Social Development Commission (SDC). A presentation on the findings of the Environmental Impact Assessment was made by Mr. Orville Grey Jr., Senior Project Manager, Conrad Douglas and Associates Limited (CD&A), the Environmental Management Consultants. The developers were represented by KENCASA Construction and Project Management Limited and their associates. Representatives from NEPA, Trelawny Parish Council, Bank of Nova Scotia, National Commercial Bank, Trelawny Health Services and Jamaica Fire Brigade were also in

attendance. There were 64 persons in attendance at the meeting held at the William Knibb High School Auditorium. The attendance register is shown in appendix 6.

The meeting was recorded *ad verbatim* by a highly qualified and experienced court stenographer.

The salient points of the meetings are listed below and are also illustrated in the pie chart (Error! Reference source not found.).

QUESTIONS RAISED BY PARTICIPANTS AT THE MEETING

1. When will the project start?
2. How will the issue of flooding be addressed through this development?
3. Will the development add to the flooding of the area when it rains?
4. Who will be responsible for management of the sewage treatment system?
5. What will be the cost for houses and kind of payment plan that will be put in place?
6. Will persons be screened before being able to purchase houses?

CONCERNS AND ISSUES RAISED BY PARTICIPANTS AT THE MEETING

1. Employment opportunities.
2. Concerns regarding how flooding will be addressed through the development.
3. Issues in respect of how highway traffic will be managed.
4. The involvement of political parties and the potential impacts that can result from their involvement in the project.
5. Provision of community enhancement facilities such as educational facilities, daycare, etc.
6. The potential of the sewage treatment system to overflow during rainfall.
7. Options available for expansion of the houses.
8. Impacts on aesthetics from building houses; high enough to block the views of others.

Concerns and issues related to flooding were the major concerns highlighted during the meeting.

CONCLUSIONS

The mandatory public meeting on the EIA for the proposed land and housing subdivision was presented clearly and thoroughly. The salient points, questions and concerns raised by individuals were effectively addressed. These were diligently recorded in support of the EIA review and permitting process being undertaken by NEPA.

VERBATIM NOTES

PUBLIC MEETING PRESENTATION OF THE FINDINGS OF THE EIA
FOR
THE PROPOSED LAND & HOUSING SUBDIVISION AT HOLLAND ESTATE, MARTHA
BRAE, TRELAWNY

March 2, 2010

MR. KIRK KENNEDY: Good afternoon, ladies and gentlemen, let me apologize for a late start. I am a stickler for time myself, I really wanted to start at 6:00 but we have to wait for another 15 minutes to start at 6:30, so I beg your indulgence. Thanks a lot.

MR. GREY: Let me just inform you that there are some drawings, there are some plans on the table at the back of the room. Might I invite you to just have a look at them.

MR. CHAIRMAN: Ladies and gentlemen, we will be beginning in a few minutes; I will ask you at the back to come forward so that we can discuss the critical issues as it relates to the development of our community. Ladies and gentlemen, let us begin. Before I extend welcome to one and all. I would like to invite Miss Kennedy to come forward and offer a word of prayer.

(P R A Y E R)

I am Omar Simpson, Parish Manager here for the Social Development Commission, and I would just like to welcome us, one and all. Firstly to His Honour, sorry, Honourable Custos, first citizen of the Parish, I would like to welcome members of the agencies that are represented here, representatives from the Fire Department, Public Health, team from NEPA and the team from Scotia Bank which are here. I would like to welcome the citizens of Martha Brae, citizens of Falmouth and surrounding areas, particularly young persons and I noticed that there are a lot of young people here tonight and it's very critical, it's very good because the developments that we will be discussing here tonight is very timely and very critical as it relates to the youths because it speaks to providing facilities that are existing and essentially for the growth of our Parish or the orderly growth of our Parish.

As we are a bit behind I will just quickly introduce to us the team from the developers and the environmental agency group in conducting or guiding us through the presentation. Celebrating 25 years of growth in Jamaica, we have

a team from Conrad Douglas and Associates Limited and the Environmental Science and Technology Limited. I must extend apologies for Dr. Conrad Douglas, who is unavoidably absent, he is the President and the Managing Director of Conrad Douglas and Associates Limited. With us, we have Mr. Orville Grey, Senior Project Manager, Mr. Wayne Morris, Mr. Doran Beckford, at the back there and from the developer's side, I have here with Zuccherina Jamaica Developments and KENCASA Construction Project Management, who are the main developers, with us is Mr. Kirk Kennedy CEO, Mr. David Chung, who is the CEO of FCS Consultant Limited, Miss Lise Walter, Civil Engineer and Mr. Martin Addington, I believe had some vehicular problems, so we extend apologies here on his behalf.

I would just like to mention, in keeping with the rules and regulations regarding Environmental Impact Assessment, meeting of this nature, the meeting is being recorded verbatim for posterity, the developers are required to provide a report and submit to NEPA regarding the issues raised here and these issues are being recorded by Rebecca Broderick, Court Stenographer. Just to lay down some ground rules for this evening, I am going to ask Mr. Grey to take over in a next couple of minutes to guide us through the initial presentation. I would ask that we save our questions to the end of the presentation. Mikes will be provided for all issues to be vented and the developers have given their commitment to address the issues that are raised. So without further ado, Mr. Grey.

MR. GREY:

Thank you very much, Mr. Chairman. Good evening ladies and gentlemen. I am here tonight to present to you the findings of the Environmental Impact Assessment Report, that was done for this development. Now, the development has to conform to certain guidelines, chief among them is the system, the environmental permit that's required from NEPA because this development is more than ten lots for the subdivision. It does require an environmental permit. It also requires some amount of planning permission and we have had to go through a systemic procedure with regards to how we conduct our Environmental Impact Assessment. As you can see from the presentation we had to make applications to NEPA. We had to make presentations to NEPA in terms of applying for permit. Subsequent to this, a site investigation was done in conjunction with NEPA and the developers and a terms of reference was drafted on which the EIA would have been conducted. The EIA was conducted and subsequent to this was also a sewage effluent licence that will be a part of this development, and subsequent to preparing the report and submitting it to NEPA we have to conduct a public presentation which we are doing today and I should remind you at this point

that this meeting is for the people of this region, it's not for the developers and it's not for NEPA; it's to give you a chance of what was done, what the findings are and give you a chance to have your say and as such, tonight you make your enquiries, your comments or your contributions and you also have 30 days from today for which you can make a written presentation of your concerns to NEPA if you so choose.

Now, an EIA, for those that may not know, it's a study of the likely impacts of any proposed development on the environment, and it also outlines mitigating measures that are necessary to reduce any negative impacts that are projected. Now, there were a few areas of concern that were raised at different points during the conducting of this EIA. Some of these raised included: Zoning issues, landslides, issues regarding drainage, density, set back of the air quality, solid waste disposal, among others. Just to follow up on what the Chairman mentioned, the developers in this development are Zuccherina Jamaica Limited and they work in collaboration with KENCASA Construction Management Limited and their proposal is for land and housing solution of approximately 78 hectares, 192 acres of land, and the proposal is for approximately 1,385 housing solutions as associated with this structure. The project location is Holland Town which is very close to us, it is approximately 3, 400 meters to the southeast.. It's that piece of land just before you make that turn out to William Knibb High School, across from the Martha Brae Community. So, it's south of the Martha Brae Community and it exit off the Highway and very close in proximity to this venue, William Knibb Memorial High. This picture here just gives you an overhead of what we are talking about, and this is the Project site and the road that borders it to my right is the main road from Falmouth. Now, why a Project of this sort in this area? Developers have realized that there is a need for housing solutions in Trelawny and this is in conjunction with the 2030 Master Plan that the Government had put forward. There is also a backlog in terms of the number of housing units that are being built per year, and the Government of Jamaica has also listed housing as a main priority going forward. The project is scheduled to target low to middle-income earners and to also assist in the reduction of squatters settlement. As most of you will know, most developments today have targeted more or less middle-income to high-income earners, so this is one of those developments that would give low income earners and even a single person a chance to own their homes.

The development as proposed will consist of housing units of various types, commercial lots, educational lots, recreational and green space, which is one of those things that we found out while we conducted the EIA as a major

interest area as well as utility corridor for a thriving development.

Housing unit proposed: Duplex units, detached studios, two and three bedroom detached units and some modular apartment units and the Project is based on a phase by phase basis; so, we are looking at possibly a five year plan to the development. Some of the key design features include: Control points of entry, so therefore each home owner can have some amount of limited access to their properties which gives them more security for their investment. Also the potential to have a gate house at the main entrance. Circulating road network that can help visitors to controlled access points and well-lit roadways. Each neighbourhood in this development is designed in such a way that each block can become a self-contained unit within itself and the developers are in the process of making contact with regards to having a possible police post.

Drainage: Now, for anyone who knows that piece of land, the main drain to the south actually flood currently that piece of land. So drainage features include improved road culverts, realigning the main drain of the main road, putting in place a proper drainage detention system to manage the possibility of any flooding which would have full on-site and off-site drainage design and also a temporary storage facility for excessive run-offs during storm episodes.

Also proposed is a water treatment and disposal facility. Now, this general area does not have central sewage facility at present and development of this type have been required by NEPA to institute, I mean implement, a sewage treatment facility in terms of tertiary treatment so as such this development proposes to use a rotating system treating the necessary effluent subject to the orbal system which is a multichannel oxidation system and the design for specification will meet or exceed existing NEPA standards.

Additionally, the development proposes to ensure that, you know, there is some health factor in place there. So there is a walkable facility. Additionally, there is hope for recreation with approximately 14.2 hectares which includes parks, landscaped areas, school facilities, health and also education facilities. So convenient facilities for students living in the development and possibly surrounding areas. Easy access via safe walkable/bicycle route through the development or through the main road. I, should let you know that the developers have a tertiary institution to be apart of the development.

Healthcare: Reserved facility in commercial district for General Practitioner and a Dental Office along with a Pharmacy. Cultural aspects have also been included such as chapel, auditorium or theater and library, which if implemented would be a part of any proposed university campus it is also a part of the development. And as such there is also some of energy construction efficiency: Remote metering and shared energy resources to maximize process efficiencies and also for the developer to minimize costs. This graphic gives an overview of the master plan. I should at this point let you know that if you have not got the chance to look at the master plan on the floor, we do have blown up copies at the back of the room; you can take a look at the end of the presentation. And as I mentioned earlier, there is a phasing plan with a development as slated to start in the north section of the property and build out in more or less, in an anticlockwise direction. This graphic also gives another idea of what the housing plan looks like in terms of the different types of unit and how many of these units will be involved. As you can see, there is a good mix in terms of the type of units to be developed in every quadrant of the development site. And as we mentioned before, central to the development is also community facilities. So, there is a central park with a nice boulevard surrounding it and also sport facilities that are not possible or do not exist in a structured manner in this particular area at present. This graphic gives you an idea of some of the typical units in terms of the layout that's expected from this development. Again some of this development is available in blown up to the rear of the room. Just another graphic showing what the developers are looking at what the developments are like, a certain aspects of the end of the development. At the top you are looking at the two bedroom units on a cul-de-sac or dead end, similarly you are looking at studio units. So, there are potential opportunities and benefits that can be received from this development. These include employment opportunities which we've noticed when we had or conducted our socioeconomic studies, that was one of the main complaints that we received, that there was not employment opportunities in this area. It also will provide housing solutions to low-to middle-income earners, investment and commercial development, significant economic and social spin-off benefits through construction and support service, that means that for every job that's created on the site, chances are you are going to get a multitude of other jobs or income-earners earning from this potential development. There is also the potential for tourism to benefit from this Project and we would have improved amenities should it go ahead. It will also assist in addressing some of the issues as it relate to squatter settlements, as it relate to this particular area.

Now, some of the biological findings that we unearthed while we conducted

our investigation was that at least 67 species of plants were observed on the site. However, there were no endemic, rare or threatened species found and there were no floral species that could be considered to require special conservation status. However, there are several large Guango and Red Birch trees on the property and these provide support for different fauna such as birds in the area and recommendation is that every effort should be made to preserve especially the very large specimens and incorporate them in the development to keep those micro habitats growing, and just in terms of breaking it down, for the site we have looked at it in three areas. There is a large section of pasture land which is grass with very few tree saplings on it; we had what we call Guango Forest, ranges a section that was predominantly covered and secondary forest mixture of different types of plants. This graphic just gives an idea of what we are referring to in terms of the different aspects of the site, biologically we can see the forest as compared to the pasture land and the mix of Guango and Red Birch trees. There was some amount of fire damage that was observed at a section of the pasture where we had some young Guango Saplings.

Additionally, we also found several animals in the area. We had a lot of arthropods, there was 35 species of butterflies and moths observed, 3 endemic species and 2 endemic sub-species, but none of these species require special conservation, they are found right throughout Jamaica. Similarly, we found 11 species of land snails, 9 endemic, 1 endemic sub-species and 1 native. However, again their description is such that none of these species require special conservation status. Forty-seven bird species were identified of which 14 of them were endemic, 6 being forest dependent species. An area of concern that NEPA has highlighted was that we needed to look at the safety of the nocturnal owls here, based on our survey no nocturnal owls were observed during our site visits; and none of the birds species that we encountered require any special conservation status on the site. In terms of herpetofauna, 19 reptilian species were identified, 17 been endemic; 10 amphibian species, 8 endemic. Again based on the species that we found none of these require any special conservation. Even though we have a lot of endemic species most of them have a very wide geographic range in Jamaica. Another graphic just to give you some indication of some of the faunas that we observed. These are just a few of the butterflies that were observed on the site; and some of the reptiles that were observed, and I know that most citizens coming across these reptiles, their first indication was basically to get rid of them.

In terms of physical findings: The land itself is generally low-lying with no

major rock outcropping observed, but it's underlain by marly limestones. Some amount of Terra Rosa Red Soil and Clay soils.

In terms of Hydrology and drainage: There is a major gully course that diffuses in the lower eastern portion of the site. This is the main drain that takes water from the southern section of this general area and the main outlet is an open trench without concrete lining which discharges it to the southern section of property. As I said earlier, it also floods this section of the property, mainly eastern and northeastern section during extreme events; and this graphic gives you an idea of it, this is showing a drain that is associated with the road network south of the property, so the drains are on the eastern side of the road then it goes underneath the boxed culvert and discharges into the southern part of the property and the two graphics at the bottom indicating the drainage that exists currently that takes this water that floods on the main away from the property. Well, that last one that you are looking at is a drains that more or less flows behind the Pihl existing drainage area.

In terms of the socio-economic findings: Based on a survey of 175 respondents in the area, 95% were in favour of the project. The survey was done based on 2001 Census Data, of which we did a 7% sample of the total households within a 2 kilometers radius of the Holland Site. I should also make it known, that even though we did a 2 kilometers radius, we did factor in some communities that exists beyond 2 kilometers radius, just because of share proximity to the site and some of these communities are Martha Brae, Hague, Holland, Granville, Carrick Foyle, Top Hill, Greenside, Green Park, Race Course and Shawfield and Clifton.

What we found out was that for most of the persons in these communities they had certain preferred traits such as; friendly people, consistent water supply, clean environment, little or no crime and violence. However, they did have some dislikes such as, poor roads, solid waste disposal, unemployment and flooding. For the most part residents thought that they had adequate social services here such as health facility, water, police, transportation, electricity, cable/telephone, basic, primary and secondary school to name a few. But in terms of adequate social services they stressed that there was little or no tertiary or vocational institutions that was available to them in the general area and in terms of recreational and green spaces it was also limited.

So based on this we identified several potential impacts that could arise as a result of this development. In terms of ecology, construction of this magnitude will definitely impact on the existing flora and fauna because we

have to clear and cut most sections of the site. For some people there will also be a visual impact because some people like the look of the already natural surroundings right there, so the proposed development may impact on the visual aesthetics of the area.

Air quality: There will be some amount of air quality impact, this is going to be largely during the construction period. Flooding: As we recognized from several communities, it was an issue, so, of course, any increase in the surface area could potentially magnify any flooding concerns for these residents. In terms of the noise, there is -- there will be little noise, you will have noise generated throughout the construction through vibration and vehicular movement and other equipment and there will also be some amount of noise from the development in terms of occupancy.

In terms of social services: The magnitude of this development will potentially impact on the existing resources such as the police, health, fire safety, education and solid wastes disposal.

So, the major potential negative impact that we found were: Changes in the natural drainage, fugitive emissions particularly during the construction phase, mainly dust and noise vibration, again during the construction.

Loss of biodiversity: So a loss of natural features such as habitats, niches and species inside of the property. The aesthetics of the land increases, in terms of solid waste issues and sewage waste and treatment, with all these new solutions being put in. There are also potential positive impacts as we have stated before. Increased direct and indirect employment, provision of housing solutions, opportunities for investment and commercial development and increased local, regional and national economic activity. Improvement in the provision in some of the basic amenities and also an increase in the social development in the Parish of Trelawny, and in particular this general area with communities such as, Martha Brae and Holland.

So, in saying that there are going to be potential impacts from aspects of the Project, we also have to take a look as to how we are going to be potentially reducing or eliminating some of these problems. In terms of the removal of the vegetation and the loss of habitat aesthetics, this is really an unavoidable impact from the development but some amount of rehabilitation through landscaping will mitigate for the loss of the general flora and fauna of the area. It's also proposed that we ought to create buffer zones around different aspects of the Project such as different housing quadrants, the educational

areas, commercial areas, the sewage treatment facilities, etc. It also was mentioned before that we should retain some of the micro-habitats, and/or install nurseries as necessary. As I was mentioning before, large trees, Guango and Red Birch, retain as many of them as possible and as also mentioned just to blend the infrastructure with nature.

In terms of fugitive dust and air pollution: A sound and effective dust suppression regime during construction must be in place for this type of development. We also recommend that off-site maintenance be done for defective equipment or vehicles which is used on the site. Efficient use of equipment on the site and also landscaping as a permanent solution to reduce fugitive dust and air pollution issues.

For drainage and flooding: There will be disturbance of the existing drainage features which should be kept as much as possible to a minimum. So the developers are being advised to utilize any existing drainage channels that can be retained within the development but also to implement new and engineered drainage features using existing standards as represented by the National Works Agency, NWA, and as I mentioned before, to retain existing drainage where possible. In terms of the noise and vibration, leaks, petrol/oil/lubricant storage, we recommend as much as possible that an on-site equipment monitoring be done to ensure that there is no leaking of oil from the various equipment that is being used on-site. Additionally, off-site maintenance should be a part of the management plan for defective equipment and vehicles. Limited on-site storage of petrol, oil or lubricants and if they have to be stored on-site they must be stored in an abundant area, that is an area that can contain at least one-and-a-half times of the volume of any storage contained in that particular area.

In terms of solid waste handling and disposal, during the construction the developers will have to use approved haulage contractors to take away the waste material and they will also have to meet to have discussions with the National Solid Waste Management Authority through the Western Parks and Market, to ensure that all construction waste can be disposed of at the approved disposal site which is the Retirement Dump in St. James. Additionally, where sewage treatment is or are concerned, they must implement a tertiary treatment system, and there should be regular and scheduled maintenance or monitoring of this system. During construction, the use of portable chemical toilets should be implemented and you should utilize certified and licensed contractors for these portable chemical toilets.

Now, having said all of that, the development will not be successful. We will not be able to put in these mitigation measures and know that the work will have some amount of environmental monitoring, work is going to take place. So, as such environmental monitoring must be conducted over all phases of the project and mainly during the preconstruction and construction and operational stage and this will ensure that there is full compliant with the environmental standards and approved guidelines by the regulatory agency, in this case NEPA, that were consistently approved. This is one aspect of the proposed development, that we have to submit an environmental monitoring plan to NEPA which they have to approve before anything can be done. That pretty much gives you an overview of our findings and the plans as put forward by the developers and how we are going to go about tackling this and ensuring that this development is one of the best developments implemented in Jamaica. Thank you.

(A P P L A U S E)

MR. CHAIRMAN:

Thank you, Mr. Grey, ladies and gentlemen, one of the critical issues facing developments is particularly provision of affordable, accessible housing solutions. It's absence of this that has contribute significantly to our sister Parish of St. Ann and St. James and further out in Negril. It is the critical absence of affordable, accessible housing solutions which have given rise to some of the social ills that we now witness unfolding everyday on the news and it's heartening to see a development such as this unfolding, that not only in its hope to have encompassed the communal aspects of our social lives but also have incorporated some acceptance of educational components which is critically needed in our society at this time of our history. The development team has journeyed from Kingston and is here to answer and address any issues that you might have. Just a couple of housekeeping rules. I would encourage us to be respectful of the persons who are addressing the table, this is the section of presentation which usually falls apart and I am sure and have confident that we can do much better here tonight. I recognize most of the faces here and the persons here tonight are persons of exemplary behaviour. So, we will yield to whoever is addressing the table and we will listen attentively and we will listen to the questions raised and the responses raised. We will try, if a question has been asked, we will try, please, I will desist that we do not duplicate the question, if a question on a particular subject has been asked, let us not duplicate it, let us just accept it and move on. I will ask that when

we approach we identify ourselves because the issues are being recorded and the issues will form part of our report and will be submitted regarding our report tonight. So the floor is open. Any questions? And I apologize for our technology, we only have one working mike, so I ask persons with the question to approach the mike, stand and feel free by saying your name.

MISS VERNA BAKER: My name is Verna Baker, Chief Public Health Inspector, I am still a little uncertain, somebody who knows the area could you just say for us where is the area?

MR. CHAIRMAN: Essentially the property site encompasses what we locally know as the old papaya field, it starts at the turn off, it's the turn off that we use to access William Knibb High School and extends all the way to Mr. Sinclair's developments and heading towards Granville.

MISS VERNA BAKER: That's what I thought, I was just trying to make sure.

MR. CHAIRMAN: Let me come down closer. There is usually a stampede for the microphone, I am not being used to be so alone during these portions of the proceedings. Identify yourself and where you are from.

MR. PAUL SPENCER: Paul Spencer, Martha Brae. The land is relatively flat and I know that it has been a water course. I think that this might be the concern of persons here as to how it is going to be developed so as not to have that major flooding that used to come through the land, so perhaps more clarity on this matter would be appreciated.

MR. DAVID CHUNG: We have looked at this as one of the major issues from an engineering point of view with this property because sections, not all the land, but sections down to the bottom, coming across that William Knibb Road is fairly flat and there has been some flooding there. What you need to know is that the property itself only contributes probably about 10% of the water that comes through that area. The biggest issue you have is the drain on the other side of the road, that is not properly designed to take the water off. We are improving the drain along the main road, that main Martha Brae Road that takes the water down from the other properties but it has to channel through there and we are putting a series of retention ponds to ensure that it slows down and doesn't increase the water that is at that point when you have significant rainfalls. Going forward we are in discussions with the

NWA to improve the drainage, the offsite drainage on the other side, to reduce what is happening presently. So we are not going to contribute any further in terms of flooding there, the development will only improve what is happening.

MEMBER OF THE PUBLIC: Good evening, in terms of affordability, what the cost will be?

MR. KIRK KENNEDY: One of the features of this development is that it caters for what we call, when we say affordable houses, it's really affordable houses, it's not looking at providing housing but it's really affordable, the cost of one of them, two of them on the market at this point is under \$4, 000, 000 Jamaican Dollars, and that's a standard unit, the Duplex Unit as well as the standard studio unit, let's hope the dollars doesn't run away and nothing abnormal happens but based on today's price you will be able to afford it.

MR. CHAIRMAN: Perhaps Mr. Kennedy, if you could just elaborate.

MR. KIRK KENNEDY: Okay. We have a price for the duplex unit under \$4,000,000, 2 bedrooms will be under \$6, 000,000, price for three bedrooms will be under \$8,000,000. You can just do your own research and see where that cost put us with the other providers.

MEMBER OF THE PUBLIC: What type of payment plan is available for us?

MR. CHAIRMAN: I can take the liberty, you probably need to speak to the good people from Scotia in the back and that's definitely a NHT question.

MR. SOMMERVILLE: Thank you, sir, in your presentation you said that there will be like a biological contactor for the sewage and the other question is, you spoke about a school but what about a daycare center?

MR. GREY: Okay. In terms of the disposal of the treated effluent it will be going down the drain that goes towards the Highway, which there are culverts underneath the Highway that take any water that comes down the drain into the coast on the other side, that's the only drainage course that exists in the area. Also developers potentially use some of this water in terms of irrigation in some areas of the property. It's all tertiary treated water that have to be treated to meet existing NEPA standards for disposal as well for potential irrigation.

MISS VERNA BAKER: Just to follow up, to follow up on that, yes, I hear you about the irrigation, some of it will be for irrigation but out of experience, when it rains you have to have a plan for what you going to do with that water when it rains so that it does not become too much. Are you going to have somewhere to store some of this water and I am not very happy with the drain, sir, because presently you know what is happening out there and that is something that has to be trashed out at a different level.

MR. GREY: The design specification will allow for contingency particularly during heavy rainfall because during those periods it is not expected to have the release on top of the surface run off from those periods. In terms of your concerns with the drains, there are also concerns of the developers and NEPA and there has to be in terms of offsite drains there has to be some, there will be some amount of dialogue between the developers and NEPA and NWA to see what can be done to do with the offsite drainage that exists in the area. In terms of your question regarding daycare facilities, I will ask Mr. Kennedy to address the question.

MR. KIRK KENNEDY: There is an area as you can see to the side here, the area there, that's one of the areas that is slated for a daycare facility, it says education now but the educational facility is actually here, here tertiary and here is for the babies, daycare.

MR. DAVID CHUNG: On the point of the drain I just want to reemphasize that even without the developers, something needs to be done with the offsite drainage, we are making that clear to NWA, so us, the developers, coming here will make it clear and it will allow it to happen faster.

MR. KIRK KENNEDY: I would just like to add one other point of the drain, for the developers it is really one of our major concerns and based on the engineering numbers we will not be adding anymore to the water that is currently there. We won't be adding anymore to what currently happens. So if you get a flood when it rains and it gets up to your ankle, because of the development it won't get to your knee, that's what we are saying until you have the offsite drain that we discuss with NEPA -- with NWA is addressed, that's one of the main issue as far as we are concerned.

MR. CHAIRMAN: Thank you.

MR. DONOVAN

HOSHING: Having grown up in the Martha Brae for many years, I have known that area to be a cow pasture and I am so delighted to know that this area can be transformed into a housing development. In terms of construction, politics always comes into play when it comes onto construction and I remember working at the stadium and during the time I was at the stadium people use to wear T-shirt of the then party, saying this is our Project and no labourite mustn't work here and I am hoping that with this Project we won't have that, this is labourite Project so no PNP. Two, in terms of acquiring a unit, can you expand on the unit after you have purchased the unit, I have noticed in St. James in the Rhyne Park Development, after you took that area and I have seen that where people have build on these units and it makes the unit that was purchased looks like baby. So, is there a possibility that people can expand on these Projects? Lastly, the whole matter of crime, whenever a new site or units have been erected the whole matter of crime comes into play, how can we screen who we sell these units that we don't sell these units to people who are known to be of criminal element.

MR. KIRK KENNEDY: The answer to the comment on the question in terms of the construction, you spoke about what happened on a previous property we were working on in terms of party affiliation, well neither the JLP nor the PNP or any other party has invested in this Project; let me say that. The persons who have invested in this project are Jamaicans, so the persons who will be working on the project are Jamaicans. If there is ever a colour that is going to be worn, there will be colours based on the different work crews and every single one of them will have the name KENCASA Construction, who I can assure, represents no Ps. You also asked about the development and in terms of, can you expand on the unit. Yes, you can. In fact, the duplex unit and the two bedroom unit, you can expand, however we will be providing expansion options that you must use. Reason for is that and developments by competitors and we have learned from their mistakes that we are going to allow for only an orderly development to take place, so whether you come to this subdivision today, tomorrow or 20, 40 years, it will have the same look, the same features because you will not be able to add on to the front, you will not be able to put up fence, you will be able to add on to the back or the rear in accordance only with the expansion plans that we approve. In terms of security, we are trying to get a police post, however, during the construction we will have a secured site; after the construction we will be setting up the different citizens association as it relates to this block and we will be putting in solutions that will allow them to ensure that the

community remain safe.

MR. GREY:

Just to add to what Mr. Kennedy mentioned. We have recommendations in the EIA that speaks to in terms of employment, whereby the developers -- it is recommended that the developers employ as much as possible labourers from the existing surrounding communities, labourers and tradesmen from the surrounding communities. As we all know, most persons are concerned about migrant workers coming into their communities and taking away jobs. As environmental managers, it is one of the areas that we have also seen as a problematic area so we have always heard complain about developers to employ persons from within the general area as much as possible. But there should be some jobs based on the specialization needs that may have to be outsourced.

MR. CHAIRMAN:

With regards to the issue of crime, let me say that no amount of screening will make the community safe, communities make communities, the people that live in the community, who live and work actively . So, your own safety depends not only on you but their neighbours and your neighbours, working together, right, to ensure that that community will remain safe. If you hear something going on in the street your neighbour turn off the light, next day, next thing you know something happen, all right. These are the types that we have to encourage especially new developers, the new communities, particularly the young people who this development is aimed to help.

**MR. PHILLIP
SERVICE:**

Thank you very much. My name is Phillip Service, Councillor for the Martha Brae Division. I am glad that I have this opportunity to speak now. First of all, gentlemen, welcome to the Martha Brae Division and I know I speak on behalf of the persons who are here and not here. We look forward to working together, certainly to see if we can find employment for those Jamaicans who want work, and of, course there are issues, we look forward to deal with that. That is the first comment I would like to make. A couple of questions. Let me apologize for coming late. I would like to find out where is the entrance off the main road to where the site is located in relation to Martha Brae and then secondly, sorry, I am sorry I have to raise this matter on the water because for me who grow up in Granville, work at William Knibb for 11 years and hear you gentlemen about the work with the NWA, but when there is rain and heavy rain, it is not just a drain that is required in that vicinity, the whole of the road from Granville passing through those land becomes a river. It

is inundated to traffic, Mr. Sinclair can tell you, it is inundated to traffic, nobody pass through that unless they take another road going over the hill through Mr. Sinclair's property. The road from Granville is impassable. And I am interested to hear and I am sorry that the NWA is not here to give us a fair idea as to how that situation is going to be solved and also in that context, with over a thousand houses, I am just wondering what issues you have considered in relation to the management of the traffic off the Highway into this development, take into consideration that there are two schools and so on, those are my concerns.

MR. GREY:

Thank you, Mr. Counsellor. In terms of the entrance to the development, the entrance to the development is projected to be off the main road, that's the road leading towards Granville. In terms of your issues regarding drainage, again, we understand your concerns regarding the drainage and we are in agreement with you, that the NWA needs to step in and address those offsite locations that are very problematic for the residents of this area. And as we have stated before, the developers are in contact with the NWA and will be pressing the drainage concern in the area.

In terms of traffic, the area projected for the entrance, there will be some sort of a realignment for the roadway here to put in a slip lane that would control personnel who will be turning to enter into the development and so in this case it will not slow the traffic as to any stop that's heading south. All those issues as we propose will also be addressed with the help of the NWA, all the traffic management issues are up to par.

MR. DENNIS
CHUNG:

Let me, Mr. Councillor, let me just point something out, currently what is happening is that the water comes down this road, everything south of the site comes down here, it gets to a point in the street, flows through this area and flood that area, that's presently what happens now and then finds its way over here. What we will be doing, there is a main drain that runs along this road, reason, it will trap the water that use to go over into here and take it along here, the onsite drainage will also be taken to this point where this detention pond will serve to slow the water down that is trapped here offsite, slows it down and then it will go over here. This is where the discussions with NWA is to improve this because currently we will not be putting as a development anymore water over here that might currently goes over there now. In terms of road improvement, we have some of the road improvement here that will allow for smooth movement of traffic in and out of the subdivision. I think at some stage they might even ask

us to signalize, I am not sure if that's what they require.

MR. CHAIRMAN: Ladies and gentlemen, we can only accommodate two more questions.

MS. CADINE FRATIS: Good night, Public Health Inspector, my concern is the sewage system that will be put in place, after the units are handed to the homeowners, who will be responsible for maintaining those and we also need to see it in writing.

MR. KIRK KENNEDY: Typically, there are two issues and as the developers, we have an obligation to maintain the property at least for a year post to the delivery of the units and then at the end of that period we have to -- we will hand it over to the National Water Commission or we -- let me not say as the developers, there is an opportunity to take over for the developers or any other entity to actually take that over but I can tell you, as a developer, I do not like to take over sewer and not water, it is something if we are going to be interested in because persons are trying to say to us we probably should take it over, there is a business opportunity, but there is no law against sewer but there is a law against water, persons don't contribute to their sewer bills, if it is that we have an opportunity to control the water then we will look into controlling the sewage as well. I hope I have answered your question. People, they are the ones legally responsible and that is why we have dialogue in terms of what we have to put up, they have to approve the system because they are the ones who will take up the system.

MISS VERNA BAKER: At the end of the day I am not happy.

MR. SINCLAIR: I am Baxter Sinclair. I am your neighbour. I want to congratulate you and thank you for coming to Martha Brae. Let me say thank you very much. I just have two questions. I am fully aware of some of the consequences years ago where some hundreds of water from other properties flow about, it's a river, people can't get home, the shopkeeper there is flooded, so they go through my property to go home. A racing channel by the National Works Agency, is actually on the side there, so they cut the road on the side there, come around beside you there and cut a drain to take some of the water away but they dump the water again over your property so I don't know, the free way is built for the water outlets to take and that is the only way, I see you have a pond, hopefully it will deal with that, last item, you don't build this project that people cannot see the ocean. I don't want the

buildings over there and hopefully you don't.

MR. KIRK KENNEDY: Just want to reassure you, the height of the units, that we are not planning to go with more than one storey, persons who live in single storey, so you won't get this high to block your views and we have some wonderful views beside us.

MR. KINGSLEY JITER: I am Kingsly Jiter, from Sherwood Content. I have a question for the developers. I am concerned about employment for our young people and training. I have worked on major Projects in the States and what I did was that you bring the young people in, pay them some wage and you train them and within six to eight months you have more people to consider for this project. I am hoping, thinking along that line of training tilers, carpenters, young boys and young women, you can sponsor them and train them and they become first class trainee so we need to, based on what you have coming in the community, I think you need to look at a training programme tied into it, that it can increase your productions time, in the end it will help you to produce more by training some young people, put some of the young boys off the street.

MR. KIRK KENNEDY: All right. Thanks Mr. Kingsley. Let me just assure you, it's a part of the whole training regimen. As a company all our employees in KENCASA have KENCASA certification, they have to be certified which speaks to some level of training, that training will be done in conjunction with the Heart Trust NTA, so is something we think very strongly about and that will also be incorporated.

MR. CHAIRMAN: Ladies and gentlemen, I would like to thank you for taking time to come out and the questions have been really to the point and I think really relevant to the development and I thank you for being with us this evening and for your contribution to this process.

I would like to thank the developer Mr. Kennedy and his team, also team from Conrad Douglas and Associates Limited, the Environmental Planners. I would like in conclusion to wish you all a safe journey home and we adjourn by standing and sing the National Anthem.

MR. GREY: Let me just remind the public once again that you have 30 days from today in which you can make a written comment to NEPA regarding

any issues you have with this Project. As I said earlier, this meeting is for you and as such the document is currently housed at the Parish library, it's also housed at the police station and it's also in a shop right across from the development site and it's also on the NEPA's website, and as of tomorrow you go to the Parish officer. Thank you.

MR. DONOVAN HOSHING: When is the project going to start?

MR. KIRK KENNEDY: The Project start date is July 2010.

(NATIONAL ANTHEM)

(A D J O U R N M E N T)

APPENDIX

APPENDIX 1

PUBLIC MEETING ADVERTISEMENT

THE GLEANER, TUESDAY, FEBRUARY 9, 2010 | FEATURE

A11



**KENCASA CONSTRUCTION & PROJECT
MANAGEMENT LTD.**

INVITES YOU TO A
PUBLIC MEETING
ON THE
ENVIRONMENTAL IMPACT ASSESSMENT
FOR
THE PROPOSED LAND & HOUSING SUBDIVISION
AT HOLLAND ESTATE, MARTHA BRAE, TRELAWNY

VENUE:	WILLIAM KNIBB MEMORIAL HIGH SCHOOL AUDITORIUM MARTHA BRAE, TRELAWNY
DATE:	TUESDAY, MARCH 2, 2010
TIME:	6:00 P.M.

COPIES OF THE EIA REPORT CAN BE VIEWED AT:

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- FALMOUTH POLICE STATION
- COLLEEN'S SHOP (WAKEFIELD ROAD,
MARTHA BRAE)
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THE GLEANER, TUESDAY, FEBRUARY 23, 2010 |



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APPENDIX 2

AGENDA

AGENDA



**MANDATORY PUBLIC MEETING PRESENTATION
ON THE
ENVIRONMENTAL IMPACT ASSESSMENT CONDUCTED FOR THE
PROPOSED LAND & HOUSING SUBDIVISION
AT HOLLAND ESTATE, MARTHA BRAE, TRELAWNY**

Chairman: Mr. Omar Simpson
Parish Manager, Trelawny SDC

1. Call to Order

2. Prayers

3. Welcome & Introductions

4. Presentations

1. Findings of the EIA for the
Proposed Land & Housing
Subdivision at Holland Estate,
Martha Brae, Trelawny

Mr. Orville Grey Jr.
Senior Project Manager
Conrad Douglas & Associates Ltd.

5. Questions & Answers

6. Adjournment

APPENDIX 3

FACT SHEET

PUBLIC MEETING NOTICE

KENCASA
INVITES YOU TO A
PUBLIC MEETING
ON THE
ENVIRONMENTAL IMPACT ASSESSMENT
FOR
THE PROPOSED LAND & HOUSING SUBDIVISION AT MARTHA BRAE, TRELAWNY
VENUE: WILLIAM KNIBB MEMORIAL HIGH SCHOOL AUDITORIUM
MARTHA BRAE, TRELAWNY
DATE: TUESDAY, MARCH 2, 2010
TIME: 6:00 P.M.

Zucherina Developments [Jamaica] Limited, in collaboration with KENCASA Construction and Project Management Limited, are seeking to develop an approximately 192 acre parcel of land located south of the Martha Brae exit off the North Coast Highway, and adjacent to the William Knibb High School.

Project Highlights

- The project area spans approximately 192 acres of land at Holland Estate in Trelawny. It is being proposed that 1,385 units be constructed
- The layout of the proposed development will also allow for light commercial and other social requirements that are necessary under the national planning regulations
- It is being proposed that the project have its own onsite sewage collection and treatment in accordance with planning regulations
- Similarly, the drainage design will take into full consideration offsite and onsite drainage requirements and an optimum solution will be designed
- An Environmental Impact Assessment (EIA) was conducted to determine the environmental baseline of the area and identify the project's potential impacts and measures of mitigation.
- The EIA findings showed that the potential negative impacts associated with the project can be avoided or successfully mitigated.

The EIA findings will be presented in details at the Public Meeting.




Proposed Project Location and Layout

APPENDIX 4

THE PUBLIC MEETING PRESENTATION

Holland Estate Land & Housing Subdivision – Martha Brae, Trelawny



KENCASA
CONSTRUCTION & PROJECT MANAGEMENT

PUBLIC MEETING FOR PRESENTATION OF FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

March 2, 2010

Conrad Douglas & Associates Ltd.

The Environmental Application Process

- Subdivision
 - 10 Lots & Over
- Planning
- Environmental
 - Permit
 - Terms of Reference [ToR]
 - Environmental Impact Assessment [EIA]
 - Sewage Effluent Licence
 - Public Presentation & Review of EIA Findings [30 days]
- NEPA Review:
 - Technical Branches
 - Internal Review Committee
 - Technical Review Committee (external members)
 - Natural Resources Conservation Authority (Board Members)

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What is an Environmental Impact Assessment (EIA)

- A study of the likely impact the proposed project may have on the area in which the physical development will be carried out.
- It also outlines mitigative measures necessary to reduce the negative impacts of the project.

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Main Issues of Concern in the Review of Subdivision

- Zoning
 - Existing Land use
 - Proposed Land use
- Lot Size
- Ingress
- Egress
- Traffic Flow
- Density
- Setback from road ways/gullies/canals
- Open Space
- Parking
- Drainage
- Biological Resources
- Water Resources
- Sewage Treatment and Disposal
- Solid Waste Disposal
- Public Health
- Natural Hazards
- Air Quality
- Infrastructure


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Introduction

- **Developers:**
 - Zuccherina Developments [Jamaica] Limited, in collaboration with KENCASA Construction and Project Management Limited
- **Proposal:**
 - Land & Housing Subdivision of 78 hectares (192 acres) of land
 - 1,385 housing solutions and associated infrastructure
- **Project location:**
 - Holland, Trelawny
 - South of Martha Brae exit off the North Coast Highway
 - In close proximity to the William Knibb Memorial High School

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Project Site Location: Holland Estate, Trelawny




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Project Rationale

- Demand for housing solutions
- Backlog in required number of housing units per year
- Housing listed as a main priority by the GOJ
- Target Market: Low- to Middle-Income Earners
- Assist in reduction of squatter settlements

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Project Description

- The Holland Estate development will consist of:
 - Housing units,
 - Commercial lots,
 - Educational lots,
 - Recreational/Green space, and
 - Utility corridors
- The housing units proposed include:
 - Duplex studios,
 - Detached studios,
 - 2 & 3 bedroom detached units, and
 - Modular apartment units



***Project to be completed in a 3 year phased basis ending 2015






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Key Design Features

- Security
 - Controlled points of entry, Limited access to properties;
 - Gatehouses at the main entrance
 - Circulating road network to channel visitors through controlled site access,
 - Well-lit roadways;
 - Each neighbourhood block designed to facilitate separate gated communities in the future
 - Reserved facility within commercial district for security services (Enquiries will be made for a possible Police Post)






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Key Design Features cont.

- Drainage
 - Improved road culverts
 - Re-Aligning main drain with main road
 - Storm drainage detention system - manage the possibility of flooding
 - full onsite/offsite drainage design
 - temporary storage facility for excessive runoffs during storm episodes
- Wastewater Treatment & Disposal (Tertiary Treatment)
 - The Orbal System - a multichannel oxidation ditch
 - Most typical mechanical plant installed in Jamaica
 - familiar to the NWC
 - Design will meet or exceed NEPA Standards






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Key Design Features cont.

- Walkability
 - To improve the health, safety and welfare of residents through design by promoting walking
- Recreation
 - 14.23 Ha which includes parks, landscaped areas and the school facilities
- Education
 - Convenient facilities for students living in the development and possibly surrounding areas
 - Easily accessed via a safe walkable/bicycle route through the development or via the main road






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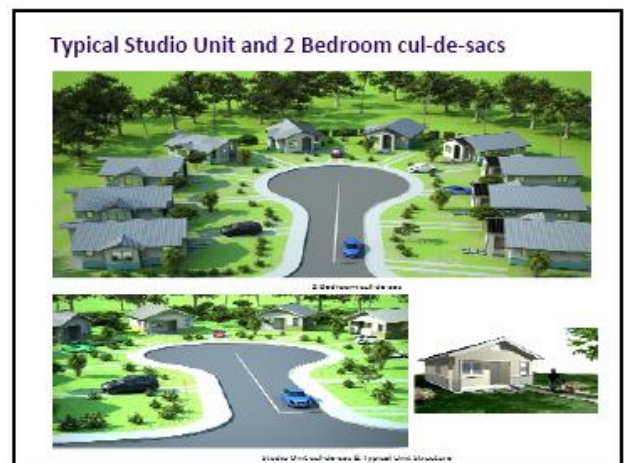
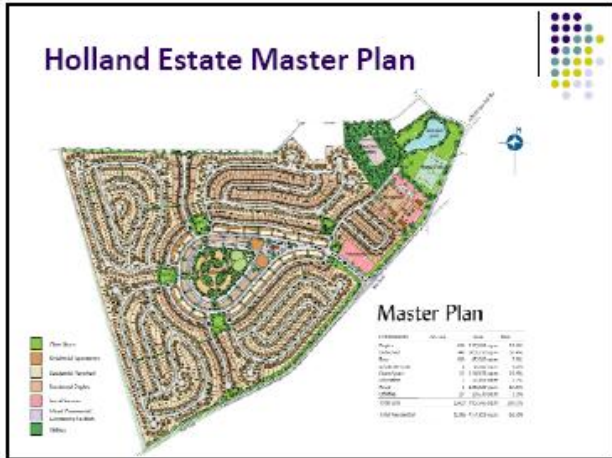
Key Design Features cont.

- Healthcare
 - Reserved facility in commercial district for a General Practitioner and Dental offices along with a Pharmacy
 - or possibly a government-run health clinic pending enquiries
- Culture
 - Desirable cultural services such as a Chapel; an auditorium/theatre and a library which would be part of the proposed university campus (if implemented)
- Energy & Construction Efficiency:
 - Remote Metering and shared energy resources to maximise process efficiencies.
 - To minimize construction cost from design inefficiencies

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Potential Opportunities & Benefits

- Employment opportunities
- Housing solutions for low- to middle-income earners
- Investment and commercial developments
- Significant social and economic spin-off benefits through construction and support services
- Tourism Potential
- Improved amenities for the area
- Assist in addressing issues related to squatter settlements

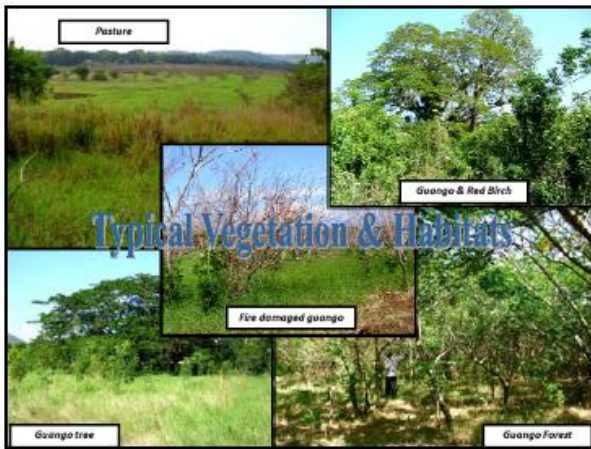
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Biological Findings

- Floral Assessment
 - 67 species of plants observed
 - **NO** Endemic, Rare or Threatened Species found
 - **NO** Floral Species found that require special conservation
 - Several large Guango and Red Birch trees on property
 - Every attempt **SHOULD** be made to preserve these specimens for their habitat and aesthetic value
 - Distribution of various families and species in various habitat types

Taxon	Number of each Taxon in Habitat Type			
	Pasture	Guango Forest	Secondary Forest	Entire Site
Family	20	19	33	40
Species	33	29	58	67

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Biological Findings cont.

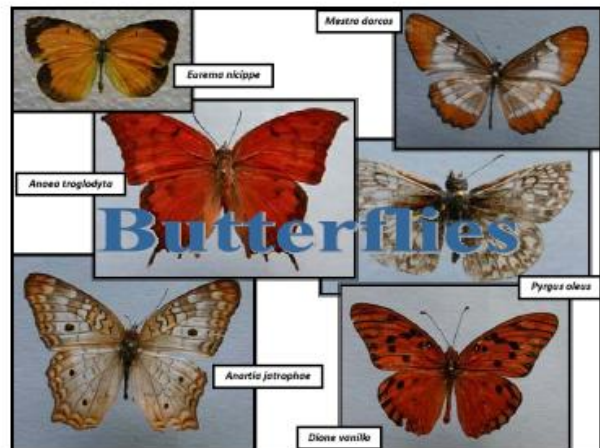
- Faunal Assessment
 - **Arthropods**
 - 35 species of Butterflies and moths observed
 - 3 Endemic species
 - 2 endemic subspecies
 - **NO** Species found that require special conservation
 - **Land Snails**
 - 11 species observed
 - 9 Endemic,
 - 1 Endemic subspecies, and
 - 1 native
 - **NO** Floral Species found that require special conservation

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Biological Findings cont.

- **Avifauna**
 - 47 bird species identified
 - 14 Endemics observed
 - 6 forest dependent species
 - **NO** nocturnal owls
 - **NO** Species found that require special conservation
- **Herpetofauna**
 - 19 reptilian species identified
 - 17 Endemic species
 - 10 amphibians species identified
 - 8 Endemic species
 - **NO** Species found that require special conservation

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Physical Findings

- Topography & Geology
 - Generally low-lying
 - No major rock outcropping observed
 - Underlain by marly limestones
 - Terra Rosa & Clay soils
- Hydrology & Drainage
 - Major gully courses diffuse in lower eastern portion of site
 - Main outlet an open trench without concrete lining
 - Drainage trending north
 - Flooding of flat sections of property during extreme events

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Socio-Economic Findings

- 175 respondents
 - >95% in favour of Project
- Based on 2001 Census Data
 - 7% sample of total households within 2km of Holland site
- Primary Communities
 - Martha Brae
 - Holland
 - Hague
 - Granville
 - Carrick Foyle
 - Top Hill
 - Greenside
 - Green Park
 - Race Course
 - Shawfield
 - Clifton

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Socio-Economic Findings cont.

<p><u>Preferred Community Traits</u></p> <ul style="list-style-type: none"> • Friendly People • Consistent Water supply • Quiet & Safe communities • Clean Environment • Little or no crime & violence <p><u>Most Disliked Community Traits</u></p> <ul style="list-style-type: none"> • Poor roads • Solid Waste Disposal • Unemployment • Flooding 	<p><u>Adequate Social Services</u></p> <ul style="list-style-type: none"> • Health Facilities • Water • Police • Transportation • Electricity • Cable/Telephone • Basic, Primary & Secondary school <p><u>In-Adequate Social Services</u></p> <ul style="list-style-type: none"> • Tertiary & Vocational institutions • Recreation/Green space
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Main Impacts Identified

Impact	Description
Ecology	Construction will impact on existing flora and fauna
Visual	Proposed development may have visual impact on surrounding areas
Air Quality	Limited impacts from dust generated throughout construction
Flooding	Increase in hard surface may magnify flooding problems
Noise Impact	Limited impacts from noise generated throughout construction, vibration and noise from occupancy
Social Services	Increase in population may strain existing resources e.g. police, health, fire safety, education and solid wastes disposal

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Potential **NEGATIVE** Impacts

- ◆ Changes in Natural Drainage
- ◆ Fugitive Emissions (During construction)
- ◆ Noise & Vibration (During construction)
- ◆ Loss of Biodiversity (loss of natural features such as habitats, niches and species)
- ◆ Aesthetics
- ◆ Solid Waste Management
- ◆ Sewage Waste Treatment & Disposal

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Potential **POSITIVE** Impacts

- ◆ Increased direct and indirect employment
- ◆ Provision of housing solutions for the low- to middle-income earners
- ◆ Opportunities for investment and commercial development
- ◆ Increased local, regional and national economic activity
- ◆ Improvement in the provision of basic amenities
- ◆ Increased social development in the parish of Trelawny and in particular Martha Brae, Holland and other close communities

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Impact Mitigation

REMOVAL OF VEGETATION, LOSS OF HABITAT, AESTHETICS

- Rehabilitation thru Landscaping
- Create buffer zones
- Retain micro-habitats and/or install nurseries as necessary
- Blending infrastructure with nature

FUGITIVE DUST & AIR POLLUTION

- A sound and effective Dust Suppression Regime during construction
- Offsite maintenance for defective equipment /vehicles
- Efficient use of equipment onsite
- Landscaping for permanent solution

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Impact Mitigation cont.

DRAINAGE & FLOODING

- Disturbance of existing drainage features to be kept at a minimum
- Implement new engineered drainage features using NWA guidelines
- Retain existing drainage characteristics, where practical

NOISE & VIBRATION, LEAKS, PETROL/OIL/LUBRICANT STORAGE

- Onsite equipment monitoring
- Offsite maintenance for defective equipment/vehicles
- Limited online storage of petrol/oil/lubricants in bunded areas

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Impact Mitigation cont.

SOLID WASTE HANDLING AND DISPOSAL

- Improve existing regime through discussions with the NSWMA
- Utilizing approved haulage contractors during construction

SEWAGE WASTE MANAGEMENT

- Implementing a Tertiary Treatment system
- Regular and scheduled maintenance/monitoring
- Use of Portable Chemical toilets during construction
- Utilising certified and licensed contractors

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Environmental Monitoring

- Environmental Monitoring will be conducted throughout all phases of the project, namely:
 - Pre-Construction Phase,
 - Construction Phase, and
 - Operation Phase
- This will ensure full compliance with environmental standards and approved guidelines by the regulatory agency are consistently achieved.

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THANK YOU

QUESTIONS & ANSWERS

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APPENDIX 5

ATTENDANCE REGISTER

LAND & HOUSING SUBDIVISION AT MARTHA BRAE, TRELAWNY/2, 2001

Name	Community Affiliation	Number
OMAR SIMPSON	CHAIRPERSON	366-8321
OXVILLS GREY	CD&A	929-0022/0025
WAYNE MORRIS	CD&A	" "
DOKAN BERKFOK	CD&A	" "
KIRK KENNEDY	KENCASA	760-7721
BAXTER O'NEIL SIMCAR	SINTECH ENTERPRISES LTD	383-3350/0689
CLAIR ANN KENNEDY	KENCASA	760-7721
DAVID CAUNE	FCS CONSULTANTS	564-6717
Dario Nepal	FCS CONSULTANTS	754-2154
Lise Walter	" "	" "
Keni Houghton	Jamaica via Eng. de	5640491
Michael Toddman	Jamaica via Eng. de	853-1987
Everton Houston	" "	368-4026
Rebecca Braderick	P Braderick	405 6024
George Davis	NEPIA	784 7540
Alva Selman	MAXFIELD	830-1140
Cardyn Morris-Hopwood	Trelawny Health Services	950 3689 or 84 490
Ernest Miller	RAND	870-7227
Errol Morris	NEPA	376-9896
Carlene Martin	NEPA	471-1248
Charles McKenzie	NEPA	848-7373
Verna Baker	Wiltshire	350 0692
Cadine Foster	Zion Martha Brae	863-2417-
Dwayne Swaby	Silver Sands Dev. Company	849-4349
Alman Reid	MARTHA BRAE	909-8827-
Kurt Tomlinson	MARTHA BRAE	432-6817
Elizabeth Marston	Martha Brae	393 7552
Marcia Richards	Daniel Town	371 1878
Valerie Frank	Martha Brae	402-5954
Angeline Frank	Martha Brae	859-5214
Codeke Stephens	Martha Brae	281-5349
M. D.	M. D.	801-8001

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED
LAND & HOUSING SUBDIVISION AT MARTHA BRAE, TRELAWNY
MARCH 2, 2010

#	NAME	Community/Affiliation	Number
	Rosemarie Leary	Rock	386-6741
	Sermaine Morris	Rock	386-6741
	Cassandra McLaren	Martha Brae	293-2574
	Valerie Lindo	BNS Ja. Ltd.	954 3171/3357
	Karlene Thomas	BNS Ja Ltd.	"
89	Vinnell Miller	BNS Ja. Ltd	"
	Angella Brown	BNS Ja. Ltd.	"
	Mildred Whilby	Martha Brae	610-5693
	Paul Muscett	MARTHA BNS	610 5819
	MARLET WELLINGTON	TRELAWNY Parish Council	617-4572
	WASHINGTON MITCHELL	WILLIAM KNIBB, MARTHA BRAE	891-8333
	Lorna Phillip	Nicholson Phillip	922 2173
	Clive McBean	MARTHA BRAE	
	Hugh Goodh	Nicholson Phillip	
	Kerrion Campbell	Zine	432-0541
	Paul Spence	MARTHA BRAE	432 425-7520 580-2462
4990	Corbett Spence	Martha Brae	864 2514
	DONOVAN Holsing	Salfmarkt	449-8352 833-9348
	Dennis Barton	Marque Hayne	934 3606
	CAROL BROWNING	PARISH TOWN	570-6195
	Latoya Cager	Zion	421-0906
	Chaneel Nicholson	Zion	448-9369
	Roxanna Spence	Martha Brae	401-1523
	KINGSLEY TIGER	SAERWOOD CONT.	5615672
	Phillip Sengie	Hayne	842-9079
	Angela Spence	MARTHA BRAE	
	John Spence	" "	
	CHARLES CLARK	GRANVILLE	416-2383
	Carol Perry	Salmonth	453 9312
	BRINN BRAGG	Falmouth NCB	564 5092
	Fulvia Nugent	Falmouth Gardens/William Knibb	429-6105
	Olivia Dewall	Race course Falmouth	892-1051.

APPENDIX 6

PHOTOGRAPHS OF PUBLIC MEETING EVENT



Plate 1: Register being signed by Attendees of the Public Meeting Presentation



Plate 2: Participants looks attentively as the Presentation is being delivered



Plate 3: Participant directing a question to the Presenter