



Dominica Construction Quality Assurance (CQA) Project

Training and Capacity building Activities

FINAL REPORT

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Acknowledgement

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Summary

This report fundamentally results from the OAS' Department of Sustainable Development (OAS/DSD)' assessment report on the efficiency of the Construction Sector in Dominica (prepared by CEP Barbados), and feedbacks gathered through in-country general stakeholder Consultations held in August 2007. Other Inputs derived from reviewing varied related reports such as Alwyn Wason's UNDP/PCDPP building damage assessment report following hurricane David and Allen, along with discussions on the disaster management sector in Dominica following hurricane Dean also have been integrated.

The main conclusions are: (1) the public must be more aware of the impacts of natural hazards on their homes through the implementation of a public information strategy - described in Section 8 of this report; and (2) there is an obvious need for local builders of all credentials to understand and master within their limits of expertise the fundamentals of multi-hazards home resilient construction design and techniques. This is why the main focus of the present project is promoting local technical capacity building through varied training activities as described in Sections 2, 3 and 4 of this report. Section 7 of this report speaks of the need to regulate the building associations, which should provide a sense of self worth to the members of those institutions, and in turn generating greater incentives for enforcing existing regulations affecting the quality of building.

The results of the Consultation meeting showed that financing small homes has been carried out by banks and other financial institutions, with each institution using their own methods of valuing the construction and making disbursements based on the quantity of work realized (not on the quality of the work carried out). Therefore, there is a need to regulate the inspections conducted by the valuers employed by the financial institution, to have clear terms of reference for their engagement, and ensure they are adequately trained in the discipline for conducting inspection of small homes. The Financial institutions will be requested that their valuers attend the Workshops tackling issues construction techniques and quality inspection.

There is also need to standardize the building inspection process so that unformed qualitative information is generated for all institutions. To do this, it is proposed that the PPD engage two more Development Control Officers, who would be able to spend sufficient time in reviewing the construction of the houses being financed by the country's financial institutions.

There is a further need - as indicated in Section 8- for the PPD to engage an experienced structural engineer. The structures of all buildings require expert review to ensure compliance with the appropriate building codes. The PPD does not have on its staff such a person as of now, and having such person on board should be considered as a development priority by the Government of Dominica.

The cost of this program is approximately USD 40,000. It should be considered as a successful beginning in preventing the destruction of small homes by high winds and moderate earthquakes. Programs of education and training such as this one would have to be repeated in the future, while professional engineers and builders are encouraged to get involved in professional continuing education programs, hence mastering multi-hazard resilient construction design and techniques for the overall economic development of the nature Island of Dominica.

Construction Quality Assurance (CQA) in Dominica

Introduction

1.1 Background

- a) This report responds to the request of the Organization of American States (OAS) to establish a training program for the members of the building fraternity generally engaged in the construction of small homes. It has been shown as a result of the incidences of high winds and heavy rainfall in the past 30 years that many small homes are especially vulnerable and collapse or are made unusable by winds of less than hurricane strength. Two major initiatives should be taken to correct this situation. The first is to train the designers and constructors in the methods of constructing buildings which will be resistant to the known hazards, and the second is to assist the regulatory authorities in the methods of reviewing development plans and construction to ensure that the existing regulations and building codes have not been violated.
- b) The proposals in this report do not attempt to provide solutions to the problems of inadequate construction of small homes, but shows the way to realizing a culture of building which would resist the known hazards and prevent loss of property and life by the impact of heavy rainfall and high winds.
- c) This report therefore is based on the need for interdisciplinary discussions on the design, construction and financing problems which affect the construction of small homes. Such discussions in workshops provide some education rather than training to the participants, but the discussions do provide an important impetus to all participants to carry out their assigned responsibilities in such a way that buildings do not collapse under high winds.

1.2 Maintenance

- a) There have been far too many failures of buildings the reasons for which can be found to be inadequate maintenance of the building especially of the roof cladding. High winds attack the roofs of buildings with violent uplift forces and where there is weakness in the roof cladding; this fails almost immediately and exposes the roof structure to the onslaught. Galvanized roof cladding is particularly vulnerable to corrosion resulting from the salt laden winds and shows signs of rust and therefore weakness fairly early in the life of the building.
- b) Unfortunately this problem is hardly ever on the program of seminars and workshops which discuss the construction buildings to resist high winds and moderate earthquake. This subject is however of significant interest to owners and therefore to insurance companies and will be discussed in the first workshop at which the financial and insurance companies should be present.

1.3 Workshops and training sessions

- a) There are certain building techniques that must be part of the discussions, and the resource persons to be engaged will lead these discussions. For the most part the use of the Dominica Building Guidelines will be in the forefront. These Guidelines which have been prepared for the Organization of Eastern Caribbean States (OECS) contains many construction details which if used will reduce the vulnerability of small homes to the natural hazards. The proposal establishing a mechanism for construction quality assurance will therefore contain the following:

- i) The holding of two one-day workshop for the building fraternity and the financial institutions. This workshop will in summary provide the background information for persons involved in the development of housing. The participants will be a mixture of builders, architects, engineers, valuers, bankers, insurance personnel and officers of the Physical Planning Division of the Ministry of Finance (PPD). Participants will discuss the effects of high winds, moderate earthquakes and heavy rainfall on buildings, and the appropriate ways of constructing houses to resist the applied forces.
 - ii) A one day workshop for valuers and Development Control Officers (DCOs). This workshop will concentrate on the review of plans and construction to determine whether the plans and construction activities are in compliance with the regulatory documents.
 - iii) The holding of three 2 day workshop/training sessions for builders and draftsmen. The resource persons for these sessions will be chosen from the participants who attended the first workshop and who in the opinion of the Coordinator have the requisite training and experience to assist builders in solving the problems that occur so often in the building process. These sessions will be held in Roseau, Portsmouth and Castle Bruce. Draftsmen and builders will be invited to attend.
 - iv) The development of a series of posters, newspaper ads, TV and Radio programs which depict how buildings should be constructed. The information will detail the elements of the structure that are vulnerable to high winds and the ways these elements should be constructed.
- b) The details of the workshops and the attendant costs will be given in Sections 2, 3 and 4 of this report.

2.0 The first Workshop

2.1 Introduction

- a) As stated in the Introduction in order to have quality control of the construction of small houses the constructors must have a basic knowledge of what should be done and why they do what they are doing. The first Workshop is planned to provide some knowledge of the effects of the hazards on buildings and how these hazards can be resisted. The schedule detailed in this Section shows that during the Workshop the participants will discuss a number of issues dealing with the resistance of building elements to the forces generated by high winds and moderate earthquakes and other natural hazards.
- b) The first day of the workshop will be conceptual in nature whereas the second day will be technical in content, more suited to Engineers.
- c) The subjects to be discussed are listed in the Work Schedule. Generally this Workshop is about the reason why we must design and construct small buildings in a certain way and how to do this.
- d) This workshop will not deal with electrical and mechanical services. These subjects are important for the overall quality of buildings, but for this workshop it is considered that the emphasis should be on those parts of the building structure that suffer because of the lack of resistance to high winds and moderate earthquakes.
- e) An estimated 30 persons will be invited to participate in this Workshop.

2.2 The Resource Person

- a) The participants for this workshop as stated in the Introduction will be representatives of the building fraternity, the financial sector, the insurance sector, the valuers, and the PPD. Due to the limited budget, it is intended that there be one external consultant. The resource person has had experience in communicating the concepts of hazard resistance construction in Grenada and has had specific experience in reviewing plans and construction of buildings in Dominica and in other parts of the West Indies.
- b) The resource person suggested is: **Eng. Grenville Phillips II**

2.3 Workshop Proposed Schedule

Item No.	Time	Subject	Presenter/Resource Person
Day 1			
1	11:00 – 11:30	Official Opening	
2	11:30 – 12:30	Common areas of non compliance (discussion)	
3	12:30 – 13:00	Discussion	
	13:00 – 14:00	Lunch	
4	14:00 – 15:30	Materials of Construction Structural Systems	
5	15:30 – 17:00	Foundations, walls, roof and maintenance	
6	17:00 – 17:30	Discussion	
	17:30 – 18:00	Refreshments	
7	18:00 – 20:00	Discussion/Tutorial	
Day 2			
1	08:30 – 10:00	Earthquake Design	
2	10:00 – 10:30	Refreshments	
3	10:30 – 11:00	Hurricane Design	
4	11:00 – 12:45	Wave Surge, Volcano Flooding, Tsunami and Landslides designs	
5	12:45 – 13:00	Closing Remarks	

3.0 The Second Workshop

3.1 Introduction

- a) This one day workshop is designed and targeted for the persons who are responsible for:
 - Ensuring that the design of the homes follow the standard principles recommended in the Building Codes and Guidelines
 - Assessing the detailed building designs for the grant of building permits
 - Mandatory reviews of construction for a grant of the certificate of occupancy
- b) It is recommended that about 20 persons be invited to participate in this workshop. The participants should be DCOs and draftspersons. The intention is to ensure that the participants are given more specific information on the concepts provided in the first workshop. This will be achieved by using the workbook specially designed for this program. At the end of this workshop the participants should have covered all the basic technical data required for use in their day to day work activities.

3.2 Documents to be examined

- a) The participants will have available for study the following documents:
 - The 2002 Physical Planning Act
 - The Dominica Building Guidelines
 - The Dominica Building Code
 - The Engineer's Certificate
 - The Workbook
 - Form - Results of Examination of Plans
- b) It must be noted that the Dominica Building Guidelines and The Dominica Building Code have not been mandated for use by the Government of Dominica but these documents are specific to the building requirements in Dominica.

3.3 Procedure

- a) As this is a one-day workshop the procedure must allow full use of the day in discussing the main topics of vital interest to the participants. The workshop schedule and program is given in Section 3.5 of this report. The first part of the workshop will review basic planning issues and building elements using a specially designed workbook for this part of the course.
- b) The second half of the Workshop (after the lunch break) will be spent in examining house plans submitted to the PPD for review. This examination will be carried out by using the form which has been developed to assist review agencies in their work. This form is the "Results of the Examination of Plans" given in Annex 2. The form regularizes the examination of the plans and subsequent construction.
- c) As the participants have had some experience in carrying out examinations and reviews of plans it is expected that this phase can be completed within the 3 hours allocated for an afternoon's work. Obviously the review of plans for a larger building will consume much more time if properly carried out.

3.4 The Resource Person

- a) In keeping with the development of local human resources it is proposed that the resource person for this workshop be someone with local connection who is familiar with the application process. In this regard, **Eng. Vivian Trotter** is ideally suited as he is someone who has sat on the PPD Technical Committee for many years and is familiar with the regulations and codes.

3.5 The Workshop Proposed Schedule

Item No	Time	Subject	Presenter/ Resource Person
1	8:30 – 9:00	Planning Issues & Compliance	Eng. Vivian Trotter
2	9:00 – 9:30	Hurricane & Earthquake Construction	
3	9:30 – 10:00	Foundations	
4	10:00 – 10:20	Refreshments	
5	10:20 – 11:00	Floors	
6	11:00 – 11:30	Walls	
7	11:30 – 12:00	Roof	
8	12:00 – 12:30	Fire & Plumbing	
9	12:30 – 13:00	Discussion	
10	13:00- 14:00	Lunch	
11	14:00 – 14:30	Typical non-compliance	
12	14:30 – 16:30	Areas of Application Review	
13	16:30 - 17.00	Discussion & Closing	

4.0 - The “Practical” Workshop Sessions

4.1 Introduction

- a) The practical workshops are targeted specifically to builders of small homes. This course will have a high practical content and would also be useful for valuers and draftsmen. This means that the general theory of hazard resistant building will not be included in the discussions. The participants will spend time examining what should be done in the construction of homes to resist the hazards and how this should be done in a practical and cost effective way.

- b) It is planned that three Workshops be held between March and May of 2008, after the Christmas celebrations are over and after the regulatory institutions and the financing agencies have had time to adjust their procedures to reflect the discussions held in the previous Workshops.
- c) These workshops will have as participants representatives of those builders in active practice in the construction of small homes. It is recommended that no more than fifteen persons attend each workshop. The number of participants is limited so as to allow each participant adequate time for the discussions and for the review of plans and inspection of construction, which activities are the base of the program.
- d) In order to capture as many builders as possible the workshops will be held in Roseau, Portsmouth and Castle Bruce on the East Coast.

4.2 The program

- a) The Workshops will be held from 1.00 PM to 5.00 PM for each of the two successive days. This timing allows the participants to do some of their own work before taking part in the Workshop. The participants are generally one- man businesses and it is import to recognize this fact. The arrangements for the Workshops are adjusted accordingly. The work schedule is provided in 4.4.
- b) The first half day will be spent in reviewing plans and answering the questions in the Workbook. This will be done in groups of 5 persons per group. The second half day will be spent in the field inspecting actual construction in progress (where this is possible) also in groups of five persons. The last hour of the second half day will be spent in the classroom completing the workbook and discussing the findings. These Workshops will discuss details from a practical point of view and be interactive in nature.
- c) While the amount of time available for these Workshops would appear to be limited, yet this will be in most instances the first opportunity the participants will have in reviewing the work that is being carried out in a critical way. The lessons to be learnt by doing this will be greater and more significant than if the participants had to lay aside some of their paying work to attend a full day workshop.

4.3 Documents available to the participants

It is proposed to provide participants with the following documents:

- CQA Workbook
- Approved residential drawing

4.4 *The workshop proposed schedule*

Item No	Time	Subject	Resource Person
Day 1			
1	14:00 – 14:30	Planning Issues	Trotter
2	14:30 – 15:00	Hurricane & Earthquake Construction	Trotter
3	15:00 – 15:30	Foundations	Trotter
4	15:30 – 16:00	Floors	Trotter
5	16:00 – 16:30	Fire & Plumbing	Trotter
6	16:30 – 17:00	Review	Trotter
Refreshments			
Day 2			
1	14:00 – 17:00	Site visit if possible	Trotter
Alternative	14:00 – 17:00	Workbook review	Trotter

4.5 *Resource Persons*

It is proposed that the Resource person for these workshops which will run consecutively be: Eng. Vivian Trotter. Engineer Trotter is ideally suited as he has conducted training workshops for contractors in the past.

5.0 **Coordination with organizations involved in disaster risk reduction.**

5.1 *General*

Organizations involved in disaster risk reduction also assume that there will be assurance in the design and construction of buildings to withstand the forces of high winds and moderate earthquakes and the environmental pressures of countries such as Dominica. High rainfall in the mountainous areas of Dominica presents a severe challenge to the builders of small homes.

5.2 *Building Standards*

- a) Mandatory standards and effective enforcement are necessary to assure that the buildings will be able to resist the pressures.
- b) There have been many attempts to introduce adequate building standards in Dominica and in other countries of the English speaking Caribbean, starting with the building and health regulations which proscribe the sizes of rooms and including the Caribbean Uniform Building Code (CUBIC) which was produced in 1976 with financial support by the US Agency for International Development (USAID) and executed by CARICOM. The United Nations Development Program (UNDP) subsequently financed the production of building codes and building guidelines for many of the Caribbean States.

- c) There has also been a series of interventions by the Pan American Health Organizations to ensure that health facilities in the Region are properly designed and constructed so that the facilities can function during and immediately after an extreme event.

5.3 Financing

- a) The Caribbean development Bank (CDB) has a Caribbean Building Standards project described on their web site. A grant up to the equivalent of USD1.4 million to the CARICOM Regional Organisation for Standards and Quality (CROSQ) has been approved by CDB's Board of Directors to assist in financing the cost of developing new regional building standards. CROSQ is an inter-governmental agency which was established in 2002 under the Industrial Protocol of the Revised Treaty of Chaguaramas.
- b) CIDA funds the Disaster Risk management Program and CDERA is the main executing agency.

5.4 Benefits from the introduction of Regional Codes

- a) The ultimate benefits which will arise from this regional code are greater uniformity in building design throughout the region as well as safer and more appropriate design standards which will contribute to a reduction in risk and attendant loss of life and property.
- b) Some of the key activities and benefits of this intervention include the preparation of hazard maps and vulnerability assessment studies for seismic and flood risks, drafting of special guidelines in respect of small buildings, training of regional professionals in the use of the Regional Building Standards, preparation of guidelines for the enforcement of these standards.

5.5 Coordination

- a) With scarce resources, overlap between national and international programmes for the development and enforcement of building codes needs to be contiguous and harmonized. This can be achieved through the steering committee who can take a proactive stance canvassing the various relevant departments and agencies (Physical Planning Division, Ministry of Housing, Ministry of Finance, OAS, etc) in effect providing the services of an unofficial clearing house.
- b) The shelter program is a housing program focusing on three main areas viz. policy, mortgage financing and institutional strengthening.

Under institutional strengthening provision has been made for a construction technologist to provide guidance to builders on good construction practice and inspections on the construction process of those beneficiaries of mortgages from the program.

The position has not yet been filled but applications are currently being processed.

The role of the construction technologist is clearly in line with the objectives of the OAS program and collaboration on workshop syllabus and coverage of the construction sector will be useful.

- c) One of the major deterrents to quality assurance is the lack of continuous promotion of activities which ensure that houses are properly built. The involvement of the major local and international institutions will go a long way to maintaining the pressure on the building fraternity for reduction of disasters.

6.0 Public Information Strategy

6.1 Introduction

- a) Experience has shown that the art of constructing a safe home gets lost almost immediately after the destructive impact of an extreme event. For a country like Dominica, the frequency of destructive impacts seems to ensure that lessons learnt as a result of the destruction should not be forgotten by persons repairing their damaged homes or building new homes. But this is not the story. The lessons were not really learnt and the tale of bad construction continues almost unabated. There is a dire need for a continuous program of making all builders and designers know how to design and build safe houses.
- b) In 1986, the Pan Caribbean Development Preparedness and Prevention Project (PCDPPP) financed the design of simple posters which were to be placed in conspicuous places in the Island. Some posters were made and placed in Government office buildings and on roads where they can be seen. But Dominica is a country with heavy rainfall and posters left on the roadsides will be destroyed in the first rainfall. There was no follow up to this system, with the result that the message was lost.

6.2 The strategy

It is suggested that the public information strategy be based on:

- a) Press releases on Project Activities and upcoming workshops and training advertising should also be programmed.
- b) The PPD web page or the organization to which it is linked locally should have a web page for the project - through the Ministry for Information Office (Government Information Service). The OAS/DSD will create a web page for the project through the OAS/DSD web page - for all project documents to be accessed.
- c) A series of weekly radio broadcasts produced prior to the hurricane season. The persons involved in these broadcasts should be chosen from the professional engineers and architects in Dominica with support of the PPD. The radio station may be able to arrange call-in broadcasts at which a consultant (engineer or architect) can be present to answer questions for the public.
- d) A television series of discussions on how to build a safe house and the dangers of not doing so. Such discussions should be held monthly during the hurricane season and at least two such discussions held in the months of January and May, before the advent of the official hurricane season. It would be useful to have the television panel of technical persons (engineers, draftsmen and builders) and home owners discussing the problems and costs of constructing and maintaining a small home.
- e) Design and place a series of about 60 posters in prominent places in the country. Each set of posters will show in simple ways how the main elements of a building should be constructed. For example, the roof is one of the critical elements of a building that fails easily under high winds if not constructed properly. The poster will show how to do this and how to pin the roof to the supporting beams. Similarly another poster will show that the main floor of the house should be placed well above the flood level so that with heavy rains the house will not be flooded. These posters which should be weather resistant will have to be designed by an artist working with a public relations consultant who can capture the imagination of persons looking at the posters casually so that more

careful examinations of the details will be made.

- f) Full page advertisements in newspapers prior to the hurricane season on proper roof construction.

6.3 Continuity of information

It is most important that this system of public information be considered not as a one off throw, but that ideally it is made permanent so that to inform the public of the dangers of not constructing buildings to resist the natural environment. Therefore there should be an established budget under the control of the PPD to pay for renewing and placing posters, and engaging public relations consultants to design the radio and television broadcasts.

7.0 The Regulation of Building Activities

7.1 General

The regulation of building activities relies in the first instance on the 2002 Physical Planning Act. Other important regulatory mechanisms include existing registered and proposed associations covering various members and activities in the industry viz. Dominica Builders and Contractors Association, Dominica Association of Professional Engineers, Dominica Architects Association, Dominica Drafting Association and Dominica Valuators Association.

7.2 The 2002 Physical Planning Act

The 2002 Planning Act forms the backbone of the regulatory system surrounding building in Dominica. It allows for inter alia the passing of building regulations clause 88.2(p), appointment of inspectors etc. The Dominica Building Code and Building Regulations are documents prepared for some years now and are still waiting to be formalized. Formalization should proceed independently of any updating and editing that may now be required for these documents given the passage of time.

7.3 The Dominica Builders and Contractors Association

- a) This Association is less than 4 years old. It does not represent the majority of contractors, but remains the only association of its type on the island. Participation in this association suffers from the perceived lack of benefits. It remains however a natural vehicle for the future dissemination of construction information if it can be supported in its early stages of development.
- b) The proposed workshops for small builders are a good opportunity for the association to piggy-back to gain more credibility and exposure among the wider construction community. This alliance can be achieved if their name is mentioned as one of the sponsors of the workshops even if it means providing the refreshments. The opportunity can be taken at these workshops to sign up contractors/builders and so expand the membership.

- c) The association is keen on regulating the quality of the industry and in this regard is trying to get off the ground an Act that imposes on builders and others undertaking work in the provision of dwellings, obligations relating to the quality of their work and the fitness for habitation the dwellings they construct. This Act will probably require the association to take the lead and have the drafting done privately for submission to legal affairs and then for Cabinet scrutiny. It may be a politically sensitive issue as it may reduce the scope for largesse by the political directorate who may be quite correct in assuming that negligence can be dealt with through the law of tort. The Act however would certainly focus the industry in the right direction and hopefully reduce “fly-by-nighters”.

7.4 The Dominica Association of Professional Engineers (DAPE)

- a) The DAPE is well organized but has limited financial resources. Its usefulness towards this exercise is in its participation and subsequent dissemination of information.
- b) The DAPE is actively engaged in public discussion over design, construction and land use issues arising out of the recent hurricane Dean Event. The DAPE much like the DBCA can piggy-back this exercise and gain a higher public profile which would allow information delivered in the future to be received with increased respect.

7.5 The Dominica Drafting Association

- a) This is a fledgling informal association struggling to find the funds to draft a proper constitution. The importance of this association is tremendous as some 90% of the residences are designed by this group. A functioning association will be the ideal conduit through which design and construction information can be channeled. The problem however is that there can be no legal requirement to join an association and therefore unless potential membership perceives benefits, the association (like the DBCA) will struggle.
- b) Passing a Drafting Act or the PPD recognizing only members of the association are two ways of overcoming this problem of membership. The legality of the latter may require further investigation, but would appear as the simplest way to resolve the issue.

7.6 Dominica Valuators Association

- a) The valuers can play a key role in the quality assurance mechanism. Site visits are made four to five times over the course of construction during which cost assessments are made. The proposed mechanism requires the valuers as a specific part of their terms of reference to review and comment on the quality of workmanship.
- b) The financial institutions will be asked to invite their valuers to attend the workshop in persuasive language.
- c) The issue of a valuers association arose from most of the institutions, in that there is no standard in the industry at the moment. The law requires that property valuations that are to be recognized by the court come from “certified valuers or surveyors”. There is no recognized local authority for valuers and it was felt that a valuers association should be formed, qualifications for which would include a building inspection course.

8.0 Financial Sector

8.1 General

The financial sector (banks, credit unions and insurance companies) have a key role to play in the enforcement of the building code and regulations by simply withholding building funds unless there is compliance. The consultation and subsequent discussions with these institutions revealed the following;

- (i) A circumspect view as to the efficiency of the PPD to carry out their inspections in an expeditious fashion so as not to hold up the construction process
- (ii) A willingness to accept training of in-house staff where possible, in the area of basic building inspection and building application procedure.
- (iii) That the institutions were generally satisfied with the performance of their valuers and their qualifications for the inspections of buildings for quality assurance
- (iv) That there needed to be a coordinated effort between the institutions and the PPD to ensure that the approved valuers of the various institutions were recognized by the PPD as having the power to sign off on the various stages of construction in the absence of PPD inspectors.
- (v) Insurance companies were agreeable to the idea of lower premiums for code constructed buildings but were subject to significant obstacles with regard to implementation.

8.2 PPD Staffing Levels

- i) The institutions were of the opinion that there would be a lot of interrupted progress on construction sites where as a result of an inadequately staffed division, inspections are not carried out in time or in sync with the disbursement regime of the bank. The timely inspection of the building is therefore an essential aspect of the quality assurance scheme to garner support from the banks and ultimately the public.
- ii) The current staffing levels at the PPD require two additional DCO's and a senior DCO and an increased travel allowance to ensure proper coverage of the various sites.
- iii) The senior DCO is expected to be a structural engineer capable of carrying out workshops for continuing professional development for the staff of the PPD and others in the construction industry.
- iv) It is therefore urgently recommended that a structural engineer be sought.

8.3 Approved Inspectors

- i) The financial institutions were concerned that in the absence of a PPD Inspector the signature of their inspector should be sufficient to go towards obtaining the certificate of occupancy.
- ii) The 2002 Physical Planning Act allows for the appointment of building inspectors ...as it shall deem appropriate (clause 64) It is not clear at this time as to what the PPD will consider as appropriate or what the appointment will entail. It is hoped that an attendance certificate of the proposed workshop will be sufficient qualification for the valuers.

8.4 Insurance Sector

- i) The insurance sectors hands are tied with respect to the lowering of premiums because of constraints on the reinsurance market and head office policies.
- ii) The West Indian market is small when considered alongside the world market and is therefore subject to external events viz. Hurricanes Katrina and Andrew. In addition, many of the local insurance companies are branches of international companies with overseas headquarters. The long arm of the administrative chain of command poses problems with respect to change.
- iii) This sector however is keen to participate in the workshops as it provides technical knowledge with which to address insurance coverage and claims.

9.0 Audit

The Quality Assurance Mechanism Report (by Grenville Phillip) recommended an audit of every six (6) months of the drawings approved by the Planning Department. This should be followed by a workshop highlighting the results and lectures on areas requiring strengthening.

9.1 Resource Person

Eng. Grenville Phillip has carried out audits in Dominica and Grenada and is proposed as the resource person to carry out the audit and workshop.

9.2 Audit & Workshop Schedule

Item No.	Time	Subject	Resource Person
Day 1	11:00 – 17:00	Audit of drawings approved by Planning	Grenville Phillip
Day 2	09:00 – 13:00	Workshop highlighting results of audit	

10.0 Project Budget Summary

This summary budget replays the costs of the education and training exercises as given in Sections 2, 3, and 4, of this report, as well as the costs for carrying out a Public Information Strategy. Every attempt has been made to develop the program within the amount budgeted. The Summary budget reflects the costs of the minimum training which is considered to be necessary to advance a system of quality assurance in construction of small homes in Dominica.

Item No	Description	Costs (USD)	
	Training and Capacity Building		
1	The first Workshop	7	283
2	The second Workshop	7	283
3	The third Workshop	5	023
4	The fourth Workshop	2	805
5	The fifth Workshop	2	805
6	The sixth Workshop	2	805
7	Public Information Strategy	7	500
8	Audit	4	481
9	Total Costs of the Program	39	985

ANNEX 1

DOMINICA CONSTRUCTION QUALITY ASSURANCE PROGRAM

ID	Task Name	Duration	Start	2008								
				Qtr 1, 2008			Qtr 2, 2008			Qtr 3, 2008		
				Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08
0	PROGRAM WORKPLAN	166 days	Mon 12/3/07									
1	Training	114 days	Mon 12/3/07									
2	workshop 1	2 days	Mon 12/3/07									
3	workshop 2	2 days	Mon 12/10/07									
4	workshop 3	1 day	Wed 1/16/08									
5	workshop 4	2 days	Wed 3/5/08									
6	workshop 5	2 days	Thu 4/10/08									
7	workshop 6	2 days	Wed 5/7/08									
8	Audit	2 days	Mon 4/14/08									
9	Public Information Program	145 days	Tue 1/1/08									
10	Develop posters	44 days	Tue 1/1/08									
11	Approve Posters	15 days	Mon 3/3/08									
12	Print Posters	3 days	Wed 3/26/08									
13	Erect Posters	30 days	Tue 4/1/08									
14	Radio Show	7 days	Mon 1/21/08									
15	TV Program	2 days	Wed 3/19/08									