3 - Hillside Units

Refer to drawings in Appendix A

The Contractor should take specific note that Hillside units fall into two distinct types, those of the uphill side of access roads and those on the downhill side of access roads; the different Hillside types require different designs of external access stair, screening to external services components etc.

The units are to be designed to provide for a sixty year design life for the structure.

The units are to follow the aesthetic set for the development as a whole as set by the existing units completed in Phases I & II

Ferrous fibre shall not be used in any of the structural elements of the buildings except where it is to be encased in screed of a minimum of 37mm thickness.

Generally

- Comply with the regulatory requirements of the government of the the Federation of St. Christopher & Nevis
- Comply with the with the International Building Code 2009
- Comply with the requirement of the utilities providers in St. Kitts as they relate to the works
- Comply with the design intent indicated in the planning submission document October 2009
- Comply with the design intent indicated in the original Cable Bay bid documents 2006 Appendix D

HILLSIDE BUILDING WORKS

1. Substructure

1.1. Foundations

- The foundations shall be designed to provide for a minimum design life of 60 years.
- The form of the foundations shall be at the discretion of the contractor subject to the approval of the regulatory authorities of the government of St. Kitts.
- To earthquake resistant code CUBiC
- Means to control termite infestation of the substructures shall be provided; this requirement shall apply with particular stringency where foundations are not seated directly on to rock
- A warrantee from the termite control specialist guaranteeing the termite control measures for a period of not less that 10 (ten) years shall be provided

1.2. Basement excavation

- There is no formal requirement to provide basements; any undercroft space is to be plain finish natural concrete, masonry etc depending on the form of construction chosen by the Contractor
- Any undercroft spaces visible to pedestrians within the development are to be of tidy appearance and painted to match the colour of the remainder of the building

1.3. Basement retaining walls

- Basement/undercroft retaining walls are only to be waterproofed to the extent that this is necessary to control the flow of water across and around the site
- Basement/undercroft walls are to be provided with suitable damp proof courses and membranes to prevent the ingress of moisture into the habitable and utility spaces of the units

1.4. Ground floor construction

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Ground floor structures are to be of concrete construction
- Ground bearing or suspended floors maybe used at the Contractor's discretion
- Ground floors are to be provided with a damp proof membrane/course
- Suspended ground floors shall be provided with means to control of growth of vegetable material and ingress by vermin; this shall apply with particular stringency to enclosed undercroft spaces not normally accessible to maintenance operative

2. Superstructure

2.1. Frame

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- The Contractor may at his discretion use a framed form of construction
- The site is adjacent to the sea and is subject to an exceptionally aggressive salt environment; structural steel framing shall not be employed unless that structural steel framing is wholly encased in concrete with a minimum thickness of 50mm

2.2. Upper floors

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Upper floors are to be of concrete construction
- Upper floors may be of in-situ concrete, pre-cast plank construction, 'pot & beam', 'block & beam' or any combination of these forms of construction
- Permanent steel formwork shall not be used
- Timber construction shall not be used
- Steel structural members shall not be used unless wholly surrounded to a minimum cover of 50mm of concrete
- Upper floors are to incorporate such sound insulation as necessary to reduce sound to acceptable levels

2.3. Roof

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- The building types include both pitched and flat roofs
- Flat roofs shall be of concrete construction
- Pitched roofs shall not incorporate steel structural members unless those members are provided with a maintenance free corrosion proof coating
- All metalwork used in timber roof structures is to be stainless steel or otherwise have a demonstrated life compatible with the requirements generally in respect of corrosion
- Nails, screws, bolts and like fixings are to be stainless steel or coated/protected to be suitable for use in a marine environment
- Roofs shall be provided with thermal insulation to minimize solar gain
- Roofs coverings shall be artificial roof shingles; EcoShake (colour to be confirmed) or similar

2.4. Stairs and balustrades

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- All external staircases shall be of in-situ or pre-cast concrete construction other than as noted below
- Balustrades shall be UPVC with suitable non-ferrous metal reinforcing sections; all fixings shall be of stainless steel, of non-ferrous metal or

suitably coated to eliminate the potential for rusting and subsequent staining of the building
- The pattern and section of UPVC balustrades shall match those of the Phase I & II buildings

2.5. External walls
- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- External walls may be of any constructions at the discretion of the Contactor
- Walls shall be designed to meet the minimum standards of CUBiC and to Miami/Dade building standards
- Walls shall be designed to meet the standards of CUBiC in respect of earthquake protection
- Wall finishes externally are to be cementitious for direct decoration and to provide a durable weather resistant finish
- Wall finishes are generally to provide an appearance to match that of the existing construction in Phases I & II
- So as to aid future maintenance, materials used shall be compatible with those used in Phases I & II
- Laths and like metalwork used in connection with external renders are to be stainless steel manufactured for use in marine environments – galvanized metal laths shall not be used

2.6. Windows and external doors
- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- External doors and windows shall be of durable construction with an anticipated design life of 30 years
- External doors and windows shall be to the minimum ASTM standard for hurricane resistance
- External doors and windows which do not have independent certification of ASTM compliance shall be tested to the ASTM standard by a laboratory/testing agency approved by the Employer
- External doors and windows that have been tested to a recognized testing standard from Canada, the UK or an EU member state which is the equivalent to ASTM will also be approved if the Contractor provides evidence of compliance with that alternative standard and evidence that that alternative standard meet or exceeds in all respects that required under the ASTM standard
- All metalwork, fittings and fixings used in the construction of external doors and windows are to be stainless steel and or otherwise coated/protected for use in a marine environment

2.7. Internal walls and partitions
- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Internal partition systems are at the discretion of the Contractor
- Internal partition systems that incorporate ferrous metal components

are to be avoided or provided with secondary maintenance free protective measures to prevent leaching and staining by products of corrosion.

2.8. Internal doors

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Internal doors are to be of 'fluted' design to match closely to those installed in Phases I & II
- All metalwork, fittings and fixings used in the construction of internal doors and windows are to be coated/protected for use in a marine environment

3. Internal finishes

3.1. Wall finishes

- Wall finishes externally are to be cementitious for direct decoration and to provide a durable weather resistant finish
- Wall finishes are generally to provide an appearance to match that of the existing construction in Phases I & II
- So as to aid future maintenance, materials used shall be compatible with those used in Phases I & II
- Laths and like metalwork used in connection with external renders are to be stainless steel manufactured for use in marine environments – galvanized metal laths shall not be used
- Walls are to have a smooth finish of a standard equal to or better than that provided in a sample to be approved by the EA
- Wall tiles and finishes are to match generally the quality of those in the example unit (HS15/A) the Contractor's Proposals may make recommendations as to the tiling arrangements

3.2. Floor finishes

- Floors are to be constructed in materials and patterns to match those in HS15/A and as documented in the photographic record that forms part of these Employer's Requirements
- Floors are to be ceramic, stone and pebble tiling as noted, well bedded and grouted with cementitious material to match generally the quality of those in the example unit (HS15/A) the Contractor's Proposals may make recommendations as to the tiling arrangements

3.3. Ceiling finishes

- Comply with Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Generally any horizontal ceilings shall be gypsum wallboard with an integral vapour barrier
- Vaulted ceilings shall be Vee-jointed timber board

4. Fittings, furnishings and equipment

4.1. General fittings, furnishings and equipment

- Kitchen fittings shall be to a equivalent to those installed in the Hillside units installed in the existing Phase I & II Hillside units
- The same or greater volume of kitchen unit fittings in terms of base units, wall units, shelving etc shall be provided that
- Kitchen units shall be as used in Phases I & II or of a similar standard and as detailed in the Contractor's Proposals incorporated into the formal contract – bidders are advised to ensure that proposals to alter the manufacturer/supplier of the kitchens or to use alternate materials are bought forward in the first half of the tender period in order to ensure approval or rejection of this critical element of the works
- Bathroom vanity units shall be as used in Phases I & II or of a similar standard as detailed in the Contractor's Proposals incorporated into the formal contract – bidders are advised to ensure that proposals to alter the manufacturer of the vanity units or to use alternate materials are bought forward in the first half of the tender period in order to ensure approval or rejection of this critical element of the works
- Shelving and fittings to closets shall be of a quantity, standard and quality equal to or exceeding that installed in Phases I & II

4.2. Special fittings, furnishings and equipment

- Each unit is to be provided with an external plunge pool/spa
- Pools shall be of concrete/masonry construction with a ceramic tile finish
- Plunge pools shall be constructed with integral bench seating as in indicated the Phase I & II units
- Each plunge pool/spa is to be fitted with spa jets with variable speed control accessible by the user while in the pool
- Each plunge pool/spa is to be fitted with a thermostatically controlled heater

4.3. Internal planting (NOT APPLICABLE)

4.4. Bird and vermin control

- Enclose roof spaces to prevent the ingress of birds and vermin
- Enclose undercroft spaces to suspended ground floors not accessible to maintenance operatives to prevent the ingress of birds and vermin

5. Services

5.1. Sanitary appliances

- Sanitary appliances shall be from a suited range from a single manufacturer
- Sanitary appliances shall be fitted with accessories manufactured by the sanitary appliance manufacturer or specifically recommended by the sanitary appliance manufacturer
- Sanitary appliances shall be of a quality similar to those in the Phase I

& II units or of a standard as detailed in the Contractor's Proposals incorporated into the formal contract – bidders are advised to ensure that proposals to alter the manufacturer of the sanitary appliances are bought forward in the first half of the tender period in order to ensure approval or rejection of this critical element of the works

5.2. Services equipment

- In order to enable adequate maintenance, services equipment shall be from a manufacturer who supplies generally to the Eastern Caribbean

5.3. Disposal installations

- Disposal pipelines with in the building shall be plastics
- All waste and disposal pipelines with the exception of those within kitchen units, vanity units and in laundry or utility rooms shall be concealed from sight of the building users
- All penetrations of internal partitions, external walls and ceilings shall be fire stopped in accordance with the requirements of Chapter 7 – Fire & Smoke Protection of the International Building Code 2009
- Foul water disposal installations shall connect to the development's drainage infrastructure which is in turn to be connected to the Marriott hotel and resort complex's waste treatment plant
- Rainwater gutters are to be position so as to ensure that they are not an
- Rainwater disposal shall be arranged to drain into the water storage pond (see Volume 6 – External Works, Point 8.9) or via soakaways which shall be placed a minimum of 13m from any structures
- Soakaways shall be constructed in a manner to ensure that the stormwater routed to them naturally percolates into the ground without erosion of the soils and prolonged ponding of water at the surface

5.4. Water installations

- Disposal pipelines with in the building shall be plastics
- All waste and disposal pipelines with the exception of those within kitchen units, vanity units and in laundry or utility rooms shall be concealed from sight of the building users
- All penetrations of internal partitions, external walls and ceilings shall be fire stopped in accordance with the requirements of Chapter 7 – Fire & Smoke Protection of the International Building Code 2009

5.5. Heat source

- The units spaces are unheated
- Hot water is to be provided by solar water heating systems with secondary electrical heating
- Water storage tanks to be insulated
- Plunge pools are to be provided with electrical heating

5.6. Space heating and air conditioning

- The units are not to have space heating
- Air-conditioning is to be provided by a separate central air conditioning plant for each individual unit

- External condenser units are to be sited on the flat roofs to the rear of the units
- External condenser units are to be provided with screening to minimize their visual impact

5.7. Ventilation systems
- The units have internal bathrooms and ventilation/extract systems are to be provided
- Fans are to be sound attenuated
- Washer/dryer vent to be provided; washer/drier to be provided and installed by the Employer

5.8. Electrical installations
- The lights, socket outlets, TV points, telephone points, ganging of light switches shall be designed and constructed to comply with Chapter 27 – Electrical of the International Building Code 2009, Section 2701, the NFPA Electrical Code 2008 and the requirements of the SKED
- The minimum required socket outlets, light positions, TV points, telephone points, light switch and ganging arrangement shall match to that of the existing units
- All socket outlets, switches, TV points, telephone points are to be from a single manufacture's range in white plastic
- Fuse boxes/breaker panels are to be located in a readily accessible point broadly at eyelevel and be provide with an annotated diagram identifying each breaker
- Each breaker shall be of the resettable electronic type; sacrificial breakers/fuses shall not be used
- Each unit is to be provide with a residual current circuit breaker

5.9. Gas and other fuel installations
- Combustible gasses and fuel oils are not to be used in any part of the installations

5.10. Lift and conveyor installations (NOT APPLICABLE)

5.11. Fire and lightning protection
- Provide mains powered smoke detector alarms

5.12. Communication, security and control systems
- Telephone installation as Phase I & II
- TV installation as Phase I & II

5.13. Specialist installations
- Plunge pools with heated water jets

5.14. Builders' work in connection with services
- Generally to provide a sound installation of tidy appearance

5.15. Testing and commissioning of services
- The Contractor shall provide to the Employer test certificates for all services installations
- The Contractor shall provide to the SKED all documentation required to enable approval of the installations
- The Contractor shall water test all disposal pipe lines and water supply pipe lines, the Employer shall be informed three working days before the commencement of each test and be afforded to opportunity to witness the test

6. Complete buildings and building unit (NOT APPLICABLE)

7. Work to existing buildings (NOT APPLICABLE)

8. External works ***See ER Part 6 – External Works***

9. Facilitating works

9.1. Toxic hazardous material removal
- There is no known toxic material within the site
- The Contractor may incorporate this assumption within the costs for the project

9.2. Major demolition works (NOT APPLICABLE)

9.3. Specialist groundworks
- As required by the Contractor's designs and to satisfy the requirements of the regulatory authorities of the Federation of St. Christopher & Nevis and to demonstrate the compliance with the requirements generally

9.4. Temporary diversion works
- As required by the Contractor's proposed working methods
- Do not leave services disconnected for more the four hours
- Notify all owners and tenants in writing a minimum of 48 hours before hand ensure any services within existing buildings are properly restarted on reconnection of services

9.5. Extraordinary site investigation works
- As required by the Contractor's designs and to satisfy the requirements of the regulatory authorities of the Federation of St. Christopher & Nevis and to demonstrate the compliance with the requirements generally

10. Main contractor's preliminaries

10.1. Employer's requirements
- See preliminary clauses

10.2. Main contractor's cost items

- See preliminary clauses

11. Main contractor's overheads and profit

11.1. Main contractor's overheads

- The Contractor is to state within the Contract Sum Analysis the rate or, where different rates apply to different elements of the works, rates of overhead for discrete elements of the works
- The Contractor shall state whether the overhead rate stated is/are considered to be fixed or adjustable and the basis on which that adjustment is to be made; where this is not stated it will be at the sole discretion of the Employer to determine

11.2. Main contractor's profit

- The Contractor is to state within the Contract Sum Analysis the rate(s) or, where different rates apply to different elements of the works, rates of profit for discrete elements of the works
- The Contractor shall state whether the profit rate(s) stated is/are considered to be fixed or adjustable and the basis on which that adjustment is to be made; where this is not stated it will be at the sole discretion of the Employer to determine

PROJECT/DESIGN TEAM FEES AND OTHER DEVELOPMENT/PROJECT

12. Project/design team fees

12.1. Consultants' fees

- The Contractor is to allow within his price for the works the cost of the novated consultants' fees and expenses, the Contractor is to make any allowance that he deems necessary for the expansion or contraction of the services described within the consultant's fee proposal.
- The Contractor is advised to take particular notice of the terms of the novation agreement and the principle whereby the Employer relinquishes all control over the novated consultants and liability for their actions, which liability passes to the contractor

12.2. Main contactor's pre-construction fees

- The Contractor shall made due allowance for the recovery of costs of preparing the bid within the contract allowances generally
- The cost of preparing the bid shall necessarily include for the cost of any additional professional advice/consultants necessarily engaged to aid in the preparation of the bid
- The Contractor shall take note that the Employer does not undertake to accept the lowest or any bid; the Employer does not undertake to pay the cost to the any bidder of preparing their bid whether successful or not

12.3. Main contactor's design fees

- The Contractor shall make due allowance for the input of all necessary designers necessary to supplement the input of the novated consultants and for any additional services which the Contractor shall require the novated Consultants to provide

13. Other project costs

- The Contractor shall make due allowance and shall be deemed to have made due allowance for all other project costs required to meet the Employer's Requirements

14. Risks

14.1. Design development risks

- The Contractor shall make due allowance for the risks in the development of his design solution to satisfy the Employer's Requirements and the design review process

14.2. Construction risks

- The Contractor shall make due allowance for all risks in the construction process