



BISHOPS HEIGHTS SUPPORTING PACK

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Planning Documents



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Planning and Development Department
Warrens Office Complex, Warrens, St. Michael, Barbados.
Tel. No. (246) 535-3000
E-mail: contact@townplanning.gov.bb

Date: June 02, 2022
Reference No. 1654/11/2020C

Connect Uk
C/O Mr Zad Siadatan
Richmond House 105 High Street
West Sussex Rh101dd
United Kingdom Of Great Britain And Northern Ireland

Dear Sir/Madam

**PLANNING AND DEVELOPMENT ACT, 2019 - NOTIFICATION UNDER SECTION 108
1654/11/2020C - SUBDIVISION OF LAND INTO LOTS FOR RESIDENTIAL PURPOSES AND
ERECTION OF HOUSES.**

The **Planning and Development Act, 2019** was proclaimed on December 7, 2021 and replaces the Town and Country Planning Act, CAP. 240 under which your application 1654/11/2020C was made.

Section 108 the **Planning and Development Act, 2019** provides that every application made under the former Town and Country Planning Act, CAP. 240 that was wholly or partially determined by the Chief Town Planner at the time of the proclamation of the **Planning and Development Act, 2019**, may at the option of the applicant, be continued and dealt with in all respects under the Town and Country Planning Act, CAP. 240.

We can advise that at the due date your application was processed substantially to the decision stage.

In accordance with the provisions of Section 108, you are hereby notified accordingly and requested to indicate whether you wish the application to proceed under the Town and Country Planning Act, CAP.240 or alternatively dealt with under the Planning and Development Act, 2019.

Should you choose to continue to have the application dealt with under the Town and Country Planning Act, CAP. 240, then the application will be determined by the Director of Planning and Development and the permission issued accordingly.

If you chose to have the application dealt with under the Planning and Development Act, 2019, the application will be dealt with either by the Director of Planning and Development under delegated authority of the Planning and Development Board or will be referred to the Planning and Development Board for a decision.

An option form is attached, and we request that you indicate your preference by ticking the appropriate option box and return a signed copy of the letter to us. The completed form should be emailed to stacia.bryan@planning.gov.bb and copied to section108@planning.gov.bb or either sent via return post or delivered to the Department.

Yours faithfully

Stacia Bryan
for Director of Planning and Development



Digitally Signed by Stacia Bryan
Email: stacia.bryan@planning.gov.bb
Date: Thursday, June 2nd 2022
Reference: 1654/11/2020C
Reason: Official Correspondence
Planning and Development Department
Code: JY6nXuBQ02eBUNHuGNFnhajbb2G8LTqp

Director of Planning and Development
Planning and Development Department
Warrens Office Complex
Warrens
St. Michael
Barbados

**PLANNING AND DEVELOPMENT ACT, 2019 - NOTIFICATION UNDER SECTION 108 TO THE
DIRECTOR OF PLANNING AND DEVELOPMENT**

I/We hereby opt to have Application **1654/11/2020C** continue under:

1. ☒ the Town and Country Planning Act, CAP. 240 and the decision issued by the Director of Planning and Development.
- ~~2. ☐ the provisions of the Planning and Development Act, 2019.~~

NAME: Connect Uk

DATE: 06/06/2022

Our mission: To ensure that all members of the public are accorded an efficient and timely planning service in order to provide the best physical environment possible for the island.



Planning and Development Department
Warrens Office Complex, Warrens, St. Michael. Barbados.
Tel. No. (246) 535-3000
E-mail: contact@planning.gov.bb

Date: **June 13, 2022**
Reference No. **1654/11/2020C**

Connect Uk
C/O Mr Zad Siadatan
Richmond House 105 High Street
West Sussex Rh101dd
United Kingdom Of Great Britain And Northern Ireland

TOWN AND COUNTRY PLANNING ACT, CAP. 240
PERMISSION TO DEVELOP LAND SUBJECT TO CONDITIONS

You are hereby permitted to carry out the following development of land situated at **UPPER SALMONDS, BISHOPS, ST. LUCY** in accordance with the proposals set out in your Application No. **1654/11/2020C** dated **November 13, 2020** and shown on the plan(s) submitted therewith subject to the Conditions set out on the attached sheet; namely –

SUBDIVISION OF LAND INTO LOTS FOR RESIDENTIAL PURPOSES AND ERECTION OF HOUSES.

This permission is granted subject to due compliance with all statutory provisions, bylaws and regulations in force in the area and nothing herein shall be regarded as dispensing with such compliance.

You are invited to read the following:

If the applicant is aggrieved by the refusal of the Chief Town Planner to grant permission to carry out development or by his refusal to grant any approval required by the Act or any subsidiary legislation made thereunder or is aggrieved by any condition attached to the grant of such permission or approval he may, unless he has received a notice that the application has been referred to the Minister in accordance with the directions given under section eighteen of the Town and Country Planning Act, Cap. 240, request the Chief Town Planner to refer the decision for review by the Minister by notice served in accordance with the provisions of regulation nine of the Town and Country Development Planning Regulations, 1972, within twenty-eight days of the receipt of this notice or within such further time as the Minister may allow. A copy of the notice of appeal must be at the same time sent to the Chief Town Planner. The decision of the Minister on review of any decision referred to him will be final.

CONDITIONS

1. All building and engineering operations in connection with the existing access road, existing right-of-way, proposed right of way and proposed road, including the means of drainage thereof, shall be carried out in accordance with an approved specification and shall be completed to the satisfaction of the Director of Planning and Development prior to the occupation of any building erected on the land in accordance with the terms of this application.
2. Notwithstanding Part II of the Second Schedule of the Town and Country Planning Development Order, 1972, no subsequent erection of any buildings on **Lots 1-26 inclusively** shall be carried out without the prior grant of permission by the Director of Planning and Development on an application made in that behalf.
3. The area reserved for open space shall be landscaped to the satisfaction of the Director of Planning and Development within one (1) year of the date of the completion of all road works.
4. All roads shall be named and signs posted to the satisfaction of the Director of Planning and Development.
5. The submission to and approval by the Director of Planning and Development of a certified surveyor's plot or plots of the subdivision.
6. The Director of Planning and Development shall be notified in writing of the date on which it is proposed to commence any building or engineering operation to which this permission relates and all proposed works shall be properly set out for inspection by that Officer or his representative prior to the commencement of work.
7. Where five (5) or more years expire before the development for which planning permission has been granted takes place, this permission shall be deemed to have lapsed requiring a new application to the Director of Planning and Development.
8. You are hereby required to submit a detailed landscaping plan making provision for a minimum of one (1) tree per lot, the proposed location of all trees and the type (species) of tree for approval. These trees shall be planted prior to the conveyancing of any lots and shall be maintained to the satisfaction of the Director of Planning and Development for a period of not less than five (5) years after the issuance of the Certificate of Compliance certifying that the services [of water, electricity and roads] have been completed to the satisfaction of the Director of Planning and Development.

9. The submission to and approval by the Chief Town Planner of a sediment, dust control and site management plan in respect of all building and engineering operations in connection with the construction of the roads and drainage facilities prior to the clearance of any vegetation, removal of soil or the commencement of any engineering works to be carried out in accordance with the terms of this permission. The plan shall make proper provision for the clearing of the site, the control of dust during all phases of the building and engineering works, the storage and/or disposal of cleared and spoilt material, and the storage and management of construction materials such as aggregates in a manner that would eliminate or minimise dust pollution and displacement by surface water runoff.
10. A water storage tank with a minimum capacity of 6,000 gallons for the collection of rain water only for secondary uses shall be installed and outfitted with a mechanical device (pump) **for each house** to the satisfaction of the Director of Planning and Development. The water storage tank shall neither exceed 6 feet (1.83 metres) in height from ground level nor be sited closer than 6 feet (1.83 metres) from the common boundary. (1 cubic metre is equivalent to 220 imperial gallons; 1 cubic foot is equivalent to 6 1/4 gallons Imperial).
11. A 50 watt high pressure sodium street light fixture shall be affixed to the utility poles in accordance with the approved electrical reticulation drawing and the developer shall be responsible for the said fixtures for a period of two (2) years after installation.
12. Neither construction materials nor waste material generated during construction shall enter the marine environment.
13. They shall be no development/obstruction on the open space.
14. The submission to and approval of a water reticulation plan for the site. The water reticulation plan shall be in accordance with the BWA Mains Laying specifications. Each water reticulation plan shall include:
 - The subdivision into lots
 - Roads
 - Contours
 - Proposed and existing water mains
 - Avoiding dead-ends mains where possible, through the provision of easements
 - Appropriately placed appurtenances, (in accordance with BWA mains laying specifications)
 - And be referenced to the Barbados National Grid
15. An estimate of the water demand for the proposed development, its phases of implementation and timelines shall be submitted to the Director of Planning and Development.

16. Any construction to be undertaken at Lot 18 shall be carried out under the supervision and guidance of a qualified geotechnical engineer.
17. The submission to and approval by the Director of the Planning and Development Department of the specifications for the sewage treatment plant to be installed for each residence.

The reasons for imposing these conditions are as follows:-

1. To ensure the proper carrying out of the works in accordance with good engineering practice.
2. To ensure that the design of any building to be erected on the land takes proper account of planning requirements and the topographic conditions of the site.
3. To enhance the amenity of the area.
4. To ensure easy identification of the lots within the development.
5. To ensure proper development of the land in accordance with the approved plan.
6. To ensure proper development of the land.
7. To ensure compliance with the statutory requirement.
8. To enhance the amenity of the area.
9. To ensure the proper management of land clearing activities, the control of sediment and dust and the management of stored construction materials in accordance with good environmental practices.
10. To ensure satisfactory provision of water for secondary uses.
11. To ensure that the area is adequately lit.
12. To protect the marine environment.
13. To protect against storm events/erosion or cliff failure and allow for coastal access.
14. To ensure adequate water supply for the site.
15. To ensure adequate water supplies can be met.
16. To ensure the proper carrying out of the works in accordance with good engineering practice.
17. To ensure compliance with the standards of the Department.

INFORMATIVE CLAUSES

1. Under the Health Services (Building) Regulations, 1969, you are required to obtain the prior approval of the Minister of Health before constructing, extending or effecting any material alteration to any building and in this regard you are advised to contact the Director, Environmental Protection Department before commencing building operations.
2. A fee of one hundred dollars (\$100.00) is payable to the Director of Planning and Development for the inspection of the commencement of building works **for each residence**.
3. You are hereby advised that water storage tanks for residences shall not be erected or installed at a height of more than 6' 0" (1.83m) from ground level and shall be sited not less than 6' 0" (1.83m) from the common boundary.
4. Pursuant to Section 11(c) of the Town and Country Planning Fees (Amendments) Regulations, 2009 you are hereby advised that revised plans submitted after the issuance of a decision will be subject to a fee of one hundred and fifty dollars (\$150.00) unless the revised plan has been requested by a condition attached to the planning permission.
5. You are hereby advised that in order to obtain a certificate of compliance all conditions attached to the planning permission must be satisfactorily discharged. The process is triggered by a fee of \$150.00 accompanied by a letter requesting the certificate. N.B. All line marks must be visible in order to facilitate a thorough inspection.
6. A qualified Civil and Structural Engineer should be consulted for foundation design prior to construction.
7. The developer is advised that based on the submissions made, a financial contribution may be required to facilitate new, additional or larger connections to the BWA's infrastructure.

Stacia Bryan
for Chief Town Planner



Digitally Signed by Stacia Bryan
Email: stacia.bryan@planning.gov.bb
Date: Monday, June 13th 2022
Reference: 1654/11/2020C
Reason: Approval of Formal Application
Planning and Development Department
Code: 1hMEx7oYTkZHXsAfWiDSCMSCv0igApR





CERTIFIED

Stacia Bryan

for Director of Planning and Development



Digitally Signed by Stacia Bryan

Email: stacia.bryan@planning.gov.bb

Date: Monday, June 13th 2022

Reference: 1654/11/2020C

Reason: Certification of Formal Application

Code: 4SUT4y5N8Y6yocyXrXl1w3cBXIpgBczH

Specimen "K"

Application No. 1654/11/2020C

Land Registration No.

Date received 2020/11/13

TOWN AND COUNTRY DEVELOPMENT PLANNING OFFICE

Town and Country Development Planning Act, Cap. 240

Application for Permission to Develop Land

(the attention of applicants is drawn to the directions appended to this form)

TO THE CHIEF TOWN PLANNER:

I/WE HEREBY make an *application for permission to carry out the development described
outline application
hereunder and on the attached plans and drawings.

(*Delete where inapplicable. See paragraph 4 of Directions)

(Signed)

FULL NAME & ADDRESS OF APPLICANT (in block letters)

(State whether Mr., Mrs., Miss) CONNECT UK

(Postal Address) C/O MR ZAD SIADATAN, RICHMOND HOUSE,

105 HIGH STREET, CRAWLEY, WEST SUSSEX, RH10 1DD

Telephone Number 011441293529993 zadconnectukgroup.co.uk

If signed by an Agent on
behalf of the applicant:

NAME & ADDRESS OF AGENT Surveying & Geomatics

Engineering Solutions, C/o Mr Kary D. A. Greaves,

Trents, St Lucy

Telephone Number (246) 439-8905/2311860

For office use only:

Officer's Comments:

Accepted by:

Fee: \$800.00 Receipt No.

PARTICULARS OF APPLICATION

(the word "land" includes any buildings thereon)

(1) (i) Particulars of the applicant's interest in the land (e.g., free holder, lessee, prospective purchaser,) etc.
FREE HOLDER

(ii) Is the land bound by any restrictive covenants? Yes ☐ No ☒

(iii) If the applicant is a prospective purchaser of lessee of the land, state whether the vendor or lessor has consented to the proposed development -

(2) Address or location of the land to be developed.	(2) UPPER SALMONDS / BISHOPS ST LUCY
(3) Describe briefly the proposed development, including the purpose for which the land and/or buildings are to be used. If they are to be used for more than one purpose, give details.	(3) ERECTION OF HOUSES SUBDIVISION OF LAND INTO LOTS FOR RESIDENTIAL PURPOSES AND
(4) (a) Area of site in square metres/hectares (b) Gross floor area metres/feet (c) Gross roof area metres/feet	(4) (a) 24877.7 SQ METRES / 2.48 HA (b) 4378.2 SQ FEET (407 SQ METRES) (c)
(5) (a) Where applicable state the number of lots to be created.	(5) TWENTY SEVEN (27) ~~SIX (26)~~
(6) State the purpose for which the land and/or buildings are now used, and if used for more than one purpose, give details.	(6) VACANT
(7) (a) State whether the proposed development involves the use or construction of a vehicle access onto a road other than a Class IV road.	(7) (a) NO
(b) State whether the development is on the coastline.	(b) YES
(8) Does the land form part of a sub-division plan approved or permitted by - (a) The General Board of Health; or	(8) (a) NA
(b) Chief Town Planner;	(b) NA
If so, state the reference number and date of approval or permission.	NA
(9) Where applicable state whether the development has been served with an enforcement notice?	(9) NA
If so, state the enforcement notice number and date.	NA
(10) If the land is to be used wholly or partly for industrial or commercial use, state:- (i) the nature of the proposed industry or business, including, if for industrial use, a brief description of the type of processes to be carried on;	(10) (i) NA

(10) (ii) if for industrial use – (a) the amount and the means of disposal of any SOLID, LIQUID, or GASEOUS trade refuse or trade effluents.	(10) (ii) (a) NA
(b) estimated water requirements in gallons per day.	(b) NA
(c) estimated electricity requirements in Kilowatts.	(c) NA
(d) estimated number of persons to be employed.	(d) NA
(iii) If for industrial use – (a) Does the proposal involve use or storage of any hazardous material.	(iii) (a) NA
(b) If yes, state materials and approximate quantities.	(b) NA
(11) Where appropriate state – (i) Source of water supply – (a) existing.	(11) (i) (a) BWA
(b) proposed.	(b) BWA
(ii) Means of waste water and sewage disposal – (a) existing.	(ii) (a) NA
(b) proposed.	(b) WELL ^{K.A} SEWAGE TREATMENT PLANT SEPTIC TANK ^
(12) Where appropriate state building materials – (i) Walls.	(12) (i) NA ^{K.A} CONCRETE, BRICK, WOOD
(ii) Roof covering.	(ii) NA ^{K.A} TILES / SHINGLES
(iii) Roof supports.	(iii) NA ^{K.A} WOOD
(13) The amount of floor space involved: (a) the amount of retail floor space.	(13) (a) NA
(b) the amount of office floor space.	(b) NA
(c) the amount of institutional floor space.	(c) NA
(d) the amount of warehouse floor space.	(d) NA
(e) the amount of industrial floor space.	(e) NA
(f) the amount of floor space common to more than one use (e.g., service area).	(f) NA
(14) (a) Where applicable state the number of storeys/floors to be created.	(14) (a) NA Two
(b) State the height of the proposed building(s) from the lowest point of the building(s).	(b) Feet NA 29' Metres NA 8.77m
(15) (i) For apartment/hotels or town houses, state the number of units proposed.	(15) (i) NA
(ii) For hotels and guest houses, state the number of bedrooms proposed.	(ii) NA
(16) For places of public assembly, state the maximum seating capacity.	(16) NA

DIRECTIONS TO APPLICANTS

1. Every application for permission under section seventeen of the Town and Country Development Planning Act, Cap. 240 shall be made on this form.

2. Where appropriate, full particulars should be given in answer to each question.

3. Each application shall be accompanied by –

(a) In the case of an application for permission to sub-divide land, four copies of a plan, drawn to an ordinance scale not less than 1:250m. Such plan shall show the position, boundaries and size of the proposed lots, the position and width of any road reserve and of any gutters, trenches or other means for taking water to be made or constructed over and through the land, and the levels for surface drainage.

(b) In the case of an application for permission to erect any building or carry out any building or engineering operations, or to change the use of any buildings, six copies of a plan drawn to a scale of not less than 1:200m in sufficient detail to show the layout and design of the proposed development in relation to any existing building on the land and to the boundaries of the plot on which it is situated, and the layout of any proposed, existing road, or other vehicular access.

(i) In all cases where the land slopes, the elevation indicating the slope shall be submitted.

(c) In all cases the area of each floor shall be indicated on the plans.

(d) In all cases, the same number of copies as required at (a) and (b) of a location plan to a scale of 1:2500m showing clearly the location of the property in relation to the nearest identifiable road junction or other land-mark. The names of all roads and such other descriptions as may be necessary to identify the property should be marked on the block plan.

(e) The appropriate fee in accordance with the Town and Country Planning (Fees) Regulations, 1970.

The orientation of the property shall be indicated by means of a North Point on each drawing or plan and the scale to which each drawing or plan is drawn shall be noted thereon.

4. Where an applicant so desires, he may make an outline application for permission to erect any building reserving for the subsequent approval of the Chief Town Planner on a further application any matters relating to the siting, design or external appearance of the building, or the layout of the land or the means of access thereto. An outline application need not be accompanied by the plans or drawings required by paragraphs 3(a) and (b).

Where this application involves the erection of a building –

(a) in the case of development for erection of a house – nearer than two metres; and

(b) in the case of all other classes of development – nearer than three metres;

from any side or rear boundary of the plot to which the application relates it must be accompanied by the following statement or statements signed by the owner or owners of any conterminous plot affected by the encroachment.

I/We, (Mr./Mrs./Miss) hereby
consent to the proposals contained in this application, which involve the erection of a building in the
manner proposed within the prescribed distance of the boundary of my land.

(Signed) (1)

(2)

(3)

In the case of any conterminous owner who objects to the proposed encroachment, a separate statement signed by that owner and stating the grounds of any objections should be obtained and attached to this application.

Should a statement of consent or objection for some reason not be obtainable, the applicant should notify this office in writing accordingly stating the reasons why the statement is not obtainable.



Approved



Stacia Bryan

for Director of Planning and Development

Digitally Signed by Stacia Bryan

Email: stacia.bryan@planning.gov.bb

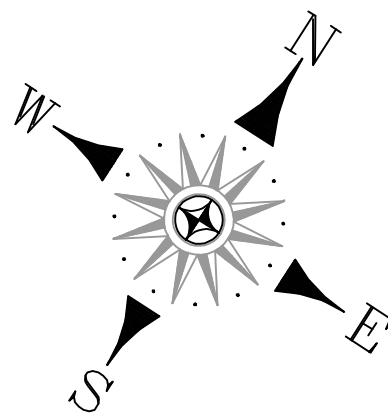
Date: Monday, June 13th 2022

Reference: 1654/11/2020C

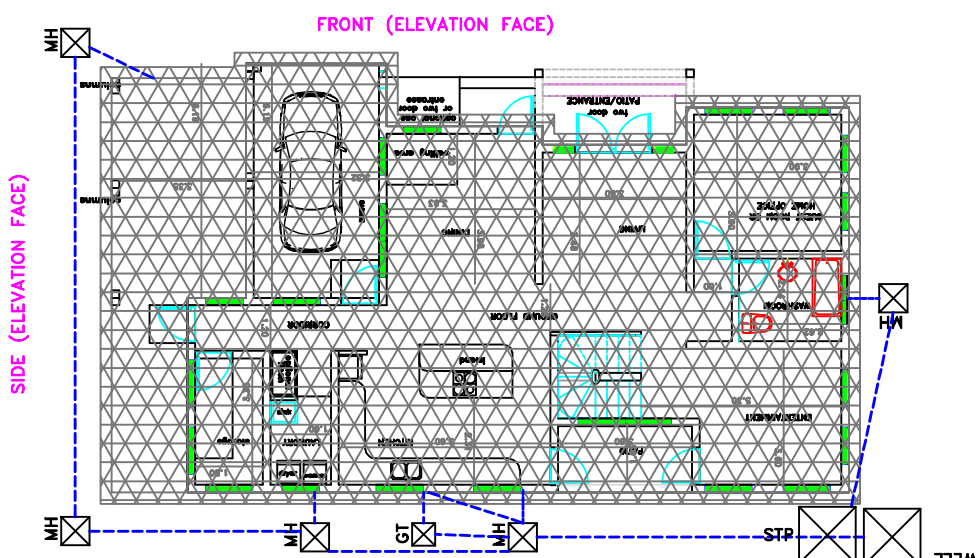
Reason: Approval of Formal Application

Planning and Development Department

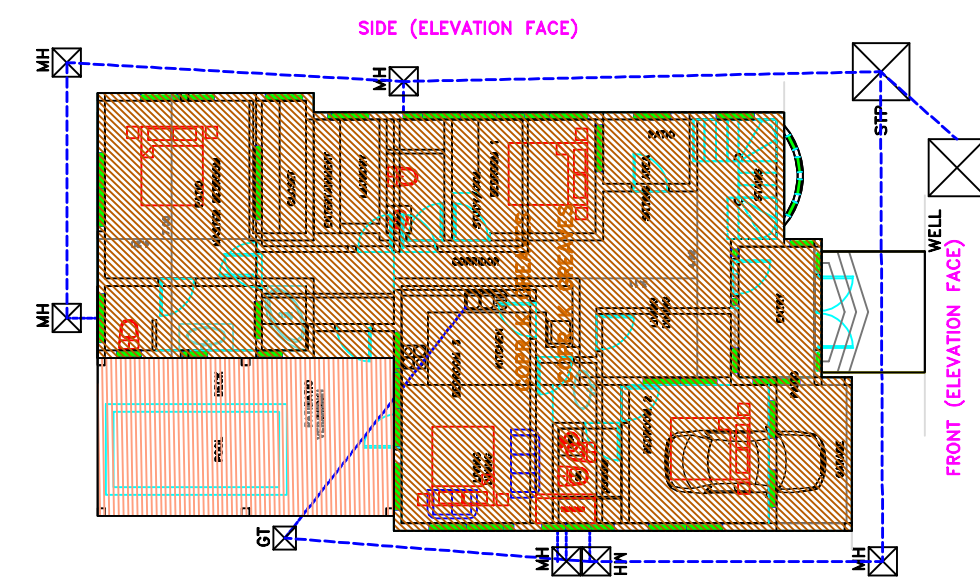
Code: PdZnj40qsXXXlsmE1kAvN7CMLHIE8VC



CHROMIS DESIGN



ROYAL GAMMA DESIGN

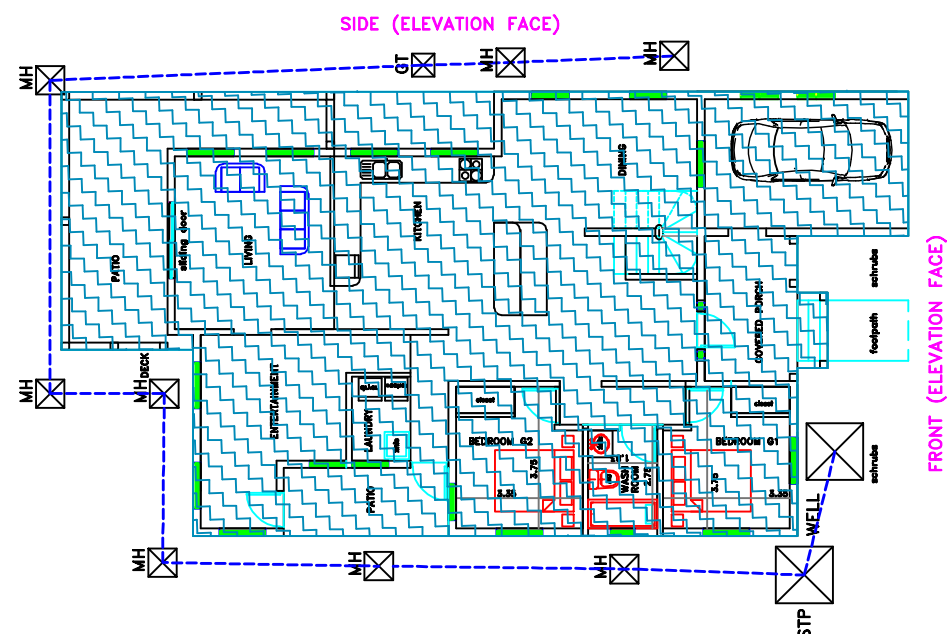


DRAINAGE FOR DESIGNS

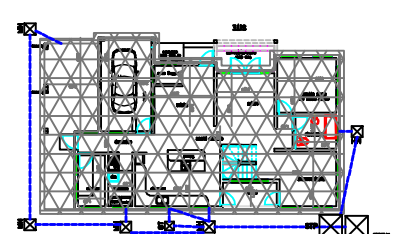
SCALE 1:200

LEGEND	
Drainage PIPE LINE	---
Sewage Treatment Plant	STP
Absorption Well	WELL
Man Hole	MH
Grease Trap	GT

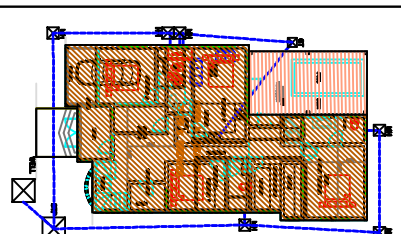
EMPEROR DESIGN



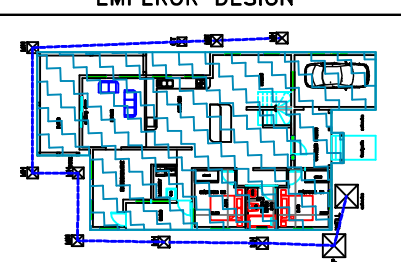
FOOTPRINT FOR THE CHROMIS DESIGN



FOOTPRINT FOR THE ROYAL GAMMA DESIGN



FOOTPRINT FOR THE EMPEROR DESIGN



REVISION DATE: 2021-06-14

LEGEND

DIMENSIONS TO BOUNDARY	
2.21	
DIMENSIONS TO CENTRE OF ROAD	
5.80	
ROAD EDGE (EXISTING)	
5.79m BUILDING LINE SET BACK	
1.82m BOUNDARY SET BACK	
OPEN SPACE	
EXISTING ROAD	
PROPOSED ROAD RESERVE OR VERGE	
PROPOSED RIGHT OF WAY 4.88m WIDE	
EXISTING RIGHT OF WAY	
6000 Gallon water storage tank 3mx3mx2.5m	
Drainage	---
Sewage Treatment Plant	STP
Absorption Well	WELL
Man Hole	MH
Grease Trap	GT
Boundary Line	---

NOTES:

- 1): Radii for turning curves (driveway to road) are a minimum of 3.05m
- 2): Radii curves for the road edge are 3.05m unless other wise stated.
- 3): Water storage tanks are to be sited underground for lot's 22, 25, 26

SCHEDULE OF LOT SIZES

1	2	3	4	5	6
L. 624.6 SQ. M. V. 92.0 SQ. M. T. 716.6 SQ. M.	L. 695.0 SQ. M. V. 30.2 SQ. M. T. 725.2 SQ. M.	L. 638.5 SQ. M. V. 24.8 SQ. M. T. 663.3 SQ. M.	L. 644.8 SQ. M. V. 24.7 SQ. M. T. 669.5 SQ. M.	L. 651.1 SQ. M. V. 25.0 SQ. M. T. 676.1 SQ. M.	L. 657.4 SQ. M. V. 24.7 SQ. M. T. 682.1 SQ. M.
7	8	9	10	11	12
L. 665.6 SQ. M. V. 24.7 SQ. M. T. 690.3 SQ. M.	L. 670.0 SQ. M. V. 24.8 SQ. M. T. 731.9 SQ. M.	L. 676.2 SQ. M. V. 25.0 SQ. M. T. 740.2 SQ. M.	L. 682.4 SQ. M. V. 25.0 SQ. M. T. 746.4 SQ. M.	L. 688.6 SQ. M. V. 25.0 SQ. M. T. 752.6 SQ. M.	L. 694.8 SQ. M. V. 25.0 SQ. M. T. 758.8 SQ. M.
13	14	15	16	17	18
L. 687.1 SQ. M. V. 26.6 SQ. M. T. 755.6 SQ. M.	L. 772.2 SQ. M. V. 9.6 SQ. M. R.O.W. 40.7 SQ. M. T. 834.3 SQ. M.	L. 571.4 SQ. M. V. 47.3 SQ. M. R.O.W. 40.3 SQ. M. T. 738.9 SQ. M.	L. 643.0 SQ. M. V. 42.8 SQ. M. T. 752.8 SQ. M.	L. 633.1 SQ. M. V. 13.7 SQ. M. T. 658.2 SQ. M.	L. 662.1 SQ. M. V. 20.0 SQ. M. T. 705.4 SQ. M.
19	20	21	22	23	24
L. 666.3 SQ. M. V. 41.5 SQ. M. C. 72.2 SQ. M. T. 780.0 SQ. M.	L. 611.4 SQ. M. V. 79.7 SQ. M. C. 139.3 SQ. M. T. 830.4 SQ. M.	L. 513.7 SQ. M. V. 71.1 SQ. M. C. 124.0 SQ. M. T. 708.8 SQ. M.	L. 534.8 SQ. M. V. 33.0 SQ. M. C. 54.4 SQ. M. T. 622.0 SQ. M.	L. 548.8 SQ. M. V. 13.7 SQ. M. C. 12.1 SQ. M. T. 574.6 SQ. M.	L. 556.1 SQ. M. V. 15.9 SQ. M. C. 14.8 SQ. M. T. 586.8 SQ. M.
25	26	27	OPEN SPACE		
L. 479.2 SQ. M. V. 32.1 SQ. M. C. 56.3 SQ. M. T. 567.6 SQ. M.	L. 434.6 SQ. M. V. 89.3 SQ. M. C. 123.8 SQ. M. T. 627.7 SQ. M.	L. 6601.6 SQ. M.			

ABBREVIATIONS

L. LAND
V. VERGE
R.R. ROAD RESERVE
R.O.W. RIGHT OF WAY
C. CARRIAGEWAY
T. TOTAL

PROPOSED SUBDIVISION & ERECTION OF RESIDENCES AT UPPER SALMONDS OR BISHOPS, ST LUCY

SURVEYING & GEOMATICS ENGINEERING SOLUTIONS

LAND SURVEYOR: KARY D. A. GREAVES | 4398905

DRAWN BY:

CLIENT: CONNECT UK (NATION WIDE LTD)

DATE: 2020-10-17

FILE NO.: 513/17/R-S

DISTANCES ARE IN METERS

AREAS ARE APPROXIMATE

SCALE: 1:500

BEARING ARE REFERRED TO NORTH DERIVED FROM

SURVEYOR'S PLAN

T.C.D.P.O. NO.: 1654/11/2020C



Approved



Stacia Bryan

for Director of Planning and Development

Digitally Signed by Stacia Bryan

Email: stacia.bryan@planning.gov.bb

Date: Monday, June 13th 2022

Reference: 1654/11/2020C

Reason: Approval of Formal Application

Planning and Development Department

Code: PdZNj40qxSXXlsmE1kAvN7CMLiHEt8VC

DESIGN NAME: CHROMIS

PROPOSED SUBDIVISION & ERECTION OF RESIDENCES AT UPPER SALMONDS OR BISHOPS, ST LUCY FOR RESIDENTIAL PURPOSES

SURVEYING & GEOMATICS ENGINEERING SOLUTIONS

DESIGNER: KARY D. A. GREAVES | 4398905

DRAWN BY:

CLIENT: CONNECT UK (NATION WIDE LTD)

DATE: 2020-10-17

FILE NO.: 513/17/R--S

DISTANCES ARE IN METRES

AREAS ARE APPROXIMATE

SCALE: 1:

BEARING ARE REFERRED TO NORTH DERIVED FROM

SURVEYOR'S PLAN

T.C.D.P.O. NO.: 1654/11/2020C

ELEVATIONS SCALE 1:150 FLOOR PLANS SCALE 1:100

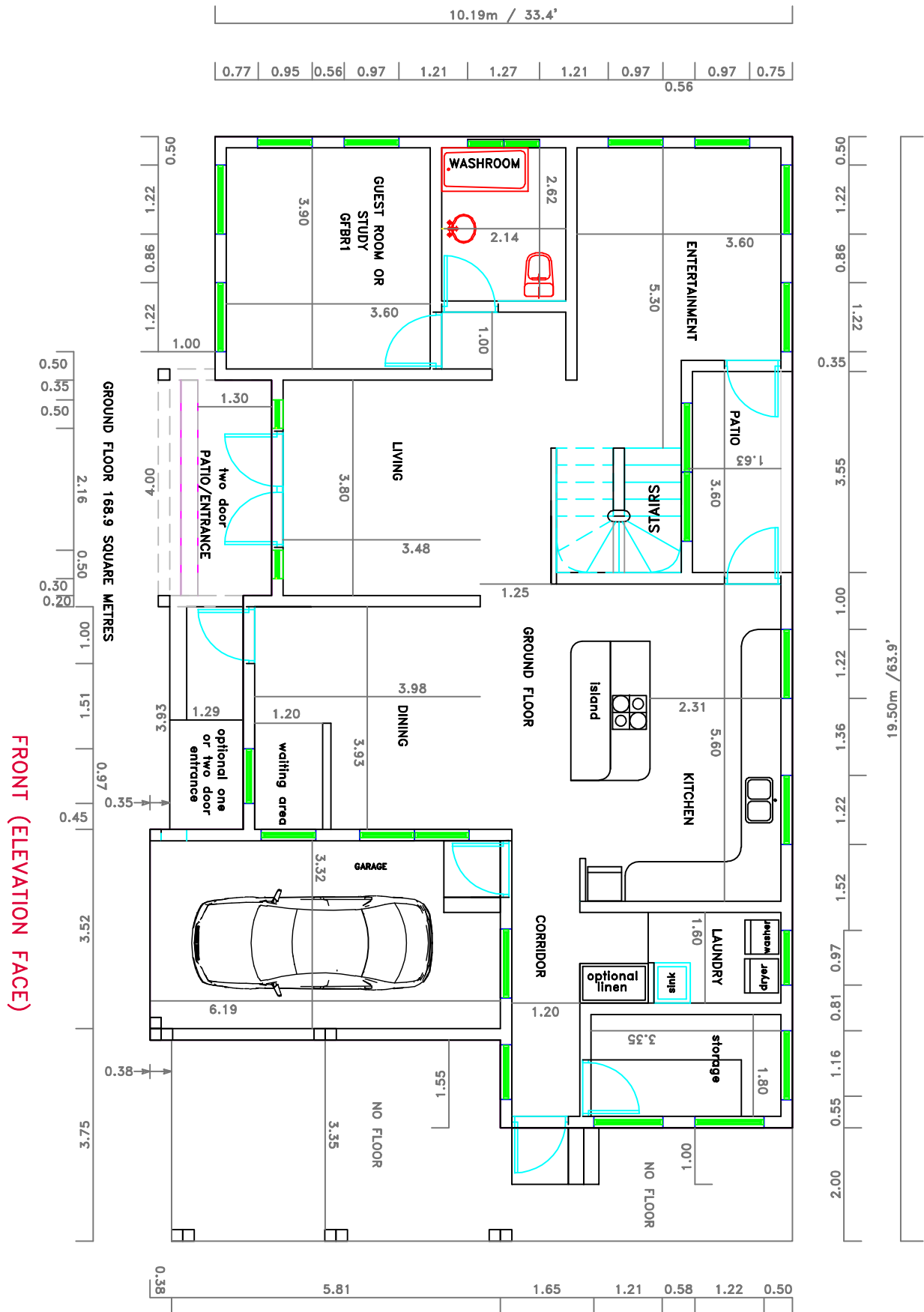
FRONT ELEVATION



SIDE ELEVATION



GROUND FLOOR 199 SQMETRES

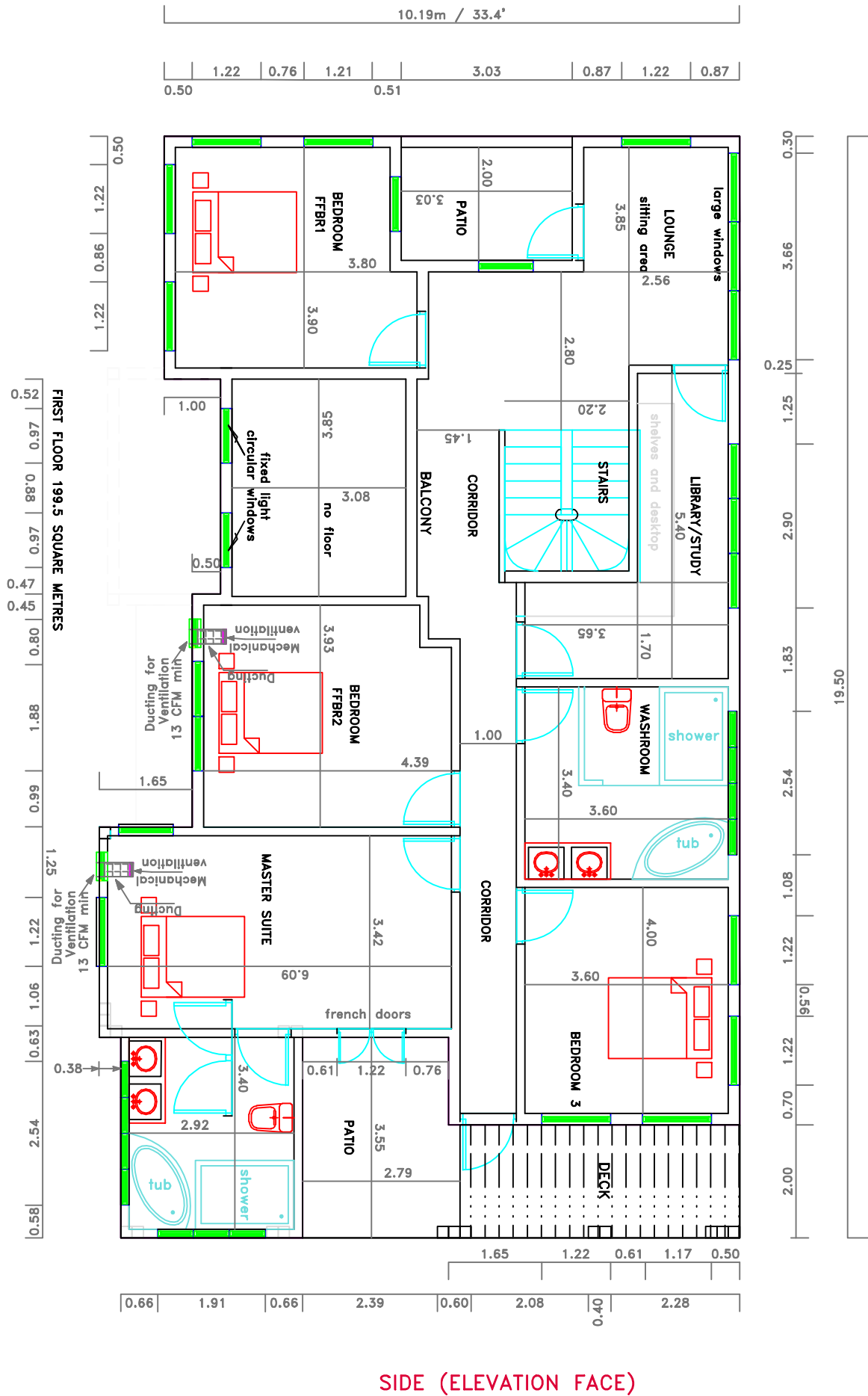


GROUND FLOOR 199.5 SQUARE METRES

FRONT (ELEVATION FACE)

SIDE (ELEVATION FACE)

FIRST FLOOR 199 SQ METRES



FIRST FLOOR 199.5 SQUARE METRES

FRONT (ELEVATION FACE)

SIDE (ELEVATION FACE)



for Director of Planning and Development

Digitally Signed by Stacia Bryan

Email: stacia.bryan@planning.gov.bb

Date: Monday, June 13th 2022

Reference: 1654/11/2020C

Reason: Approval of Formal Application

Planning and Development Department

Code: PdZNj40qxSXXlsmE1kAvN7CMLIHet8VC

DESIGN NAME: THE ROAYAL GAMMA

PROPOSED SUBDIVISION & ERECTION OF RESIDENCES AT UPPER SALMONDS OR BISHOPS, ST LUCY FOR RESIDENTIAL PURPOSES

SURVEYING & GEOMATICS ENGINEERING SOLUTIONS

DESIGNER: KARY D. A. GREAVES | 4398905

DRAWN BY:

CLIENT: CONNECT UK (NATION WIDE LTD)

DATE: 2020-10-17

FILE NO.: 513/17/R--S

DISTANCES ARE IN METERS

AREAS ARE APPROXIMATE

SCALE: 1:

BEARING ARE REFERRED TO NORTH DERIVED FROM

SURVEYOR'S PLAN

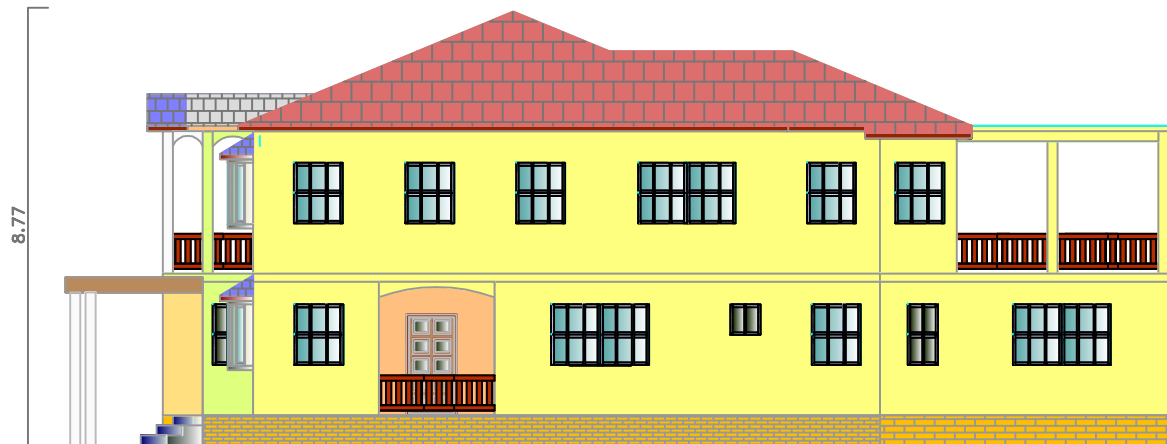
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ELEVATIONS SCALE 1:150 FOOR PLANS SCALE 1:100

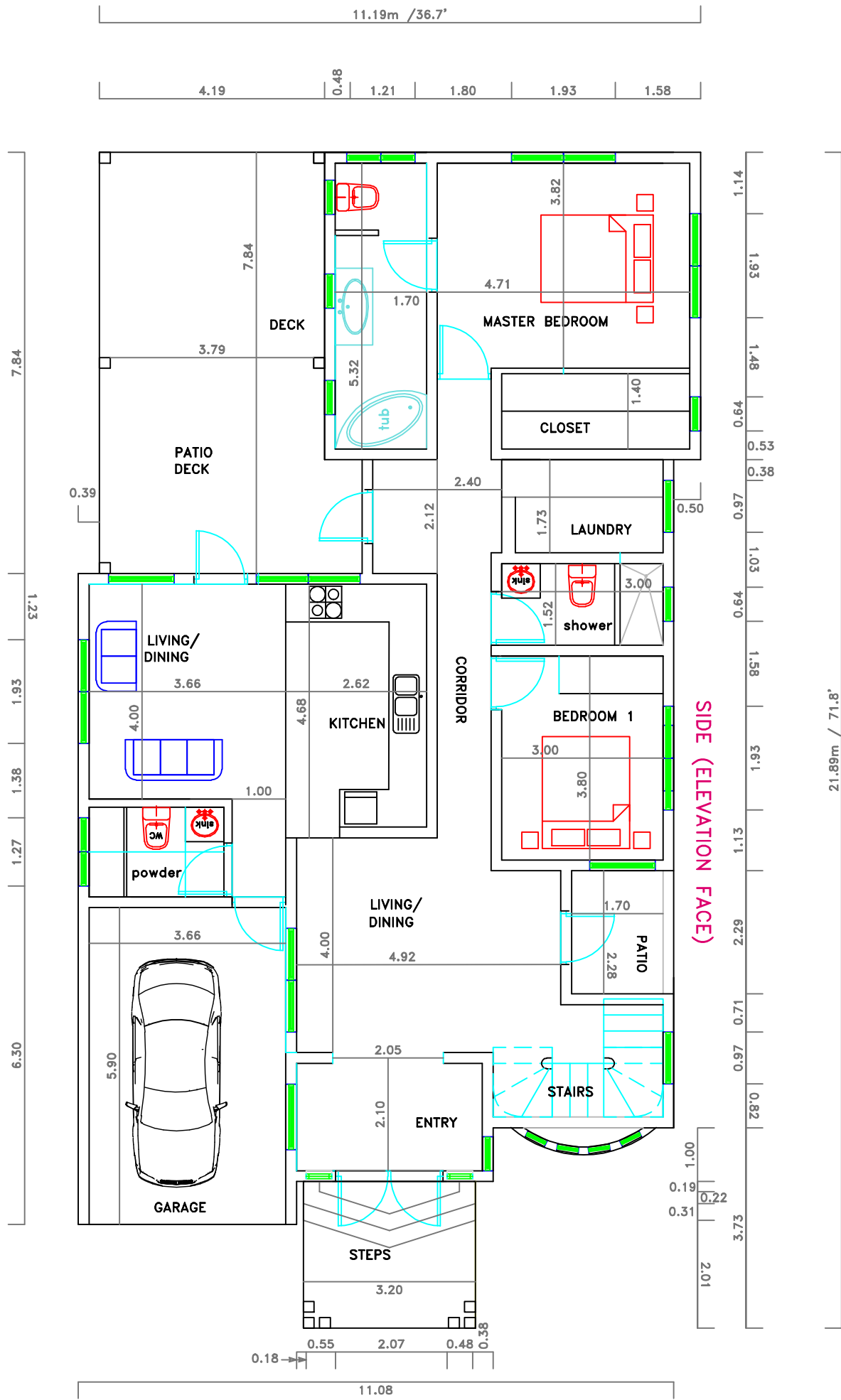
FRONT ELEVATION



SIDE ELEVATION

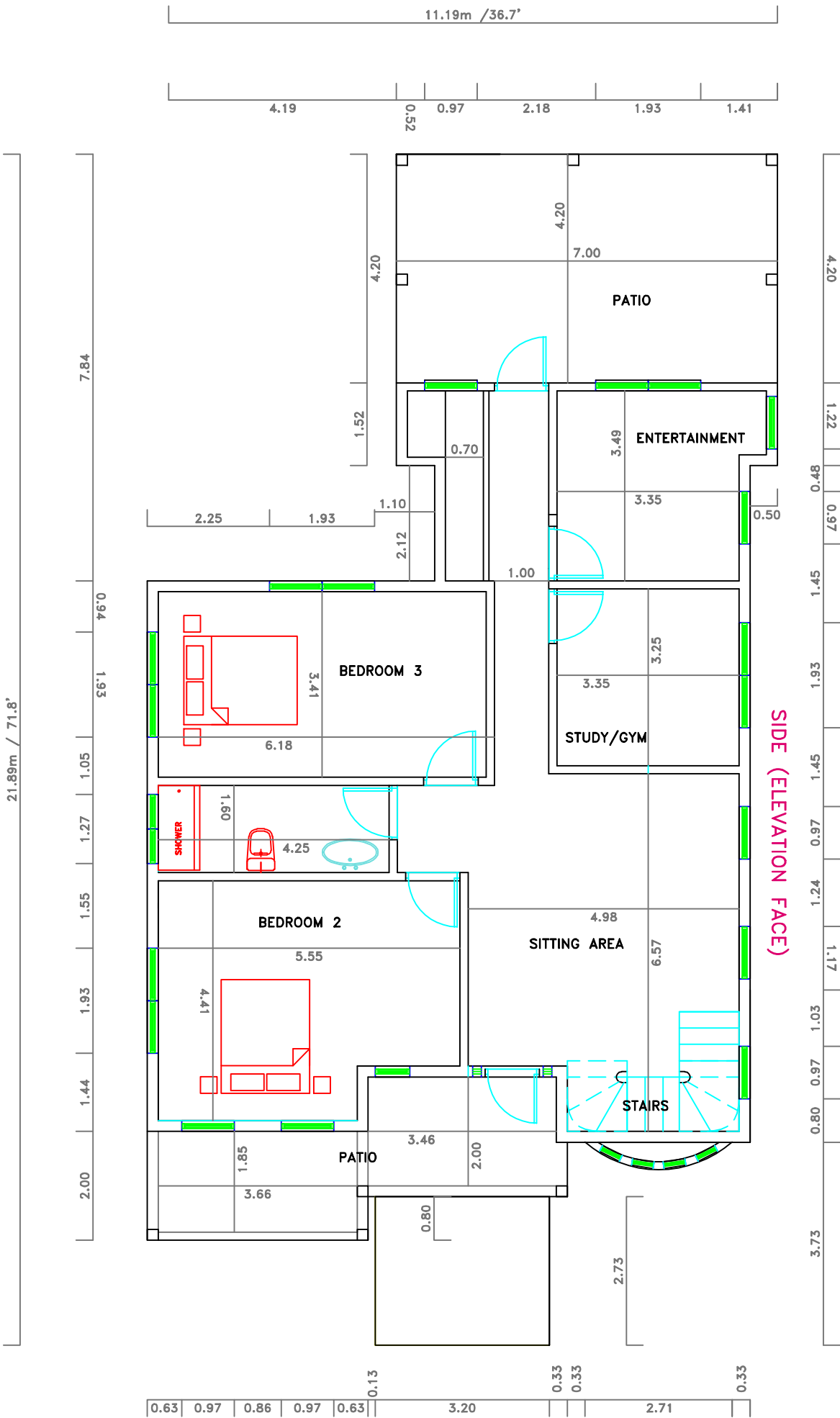


GROUND FLOOR 210 SQMETRES



FRONT
(ELEVATION FACE)

FIRST FLOOR 179 SQ METRES



FRONT
(ELEVATION FACE)



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Email: stacia.bryan@planning.gov.bb
Date: Monday, June 13th 2022
Reference: 1654/11/2020C
Reason: Approval of Formal Application
Planning and Development Department
Code: PdZNj40qxSXXlsmE1kAvN7CMLIHET8VC

FRONT
(ELEVATION FACE)

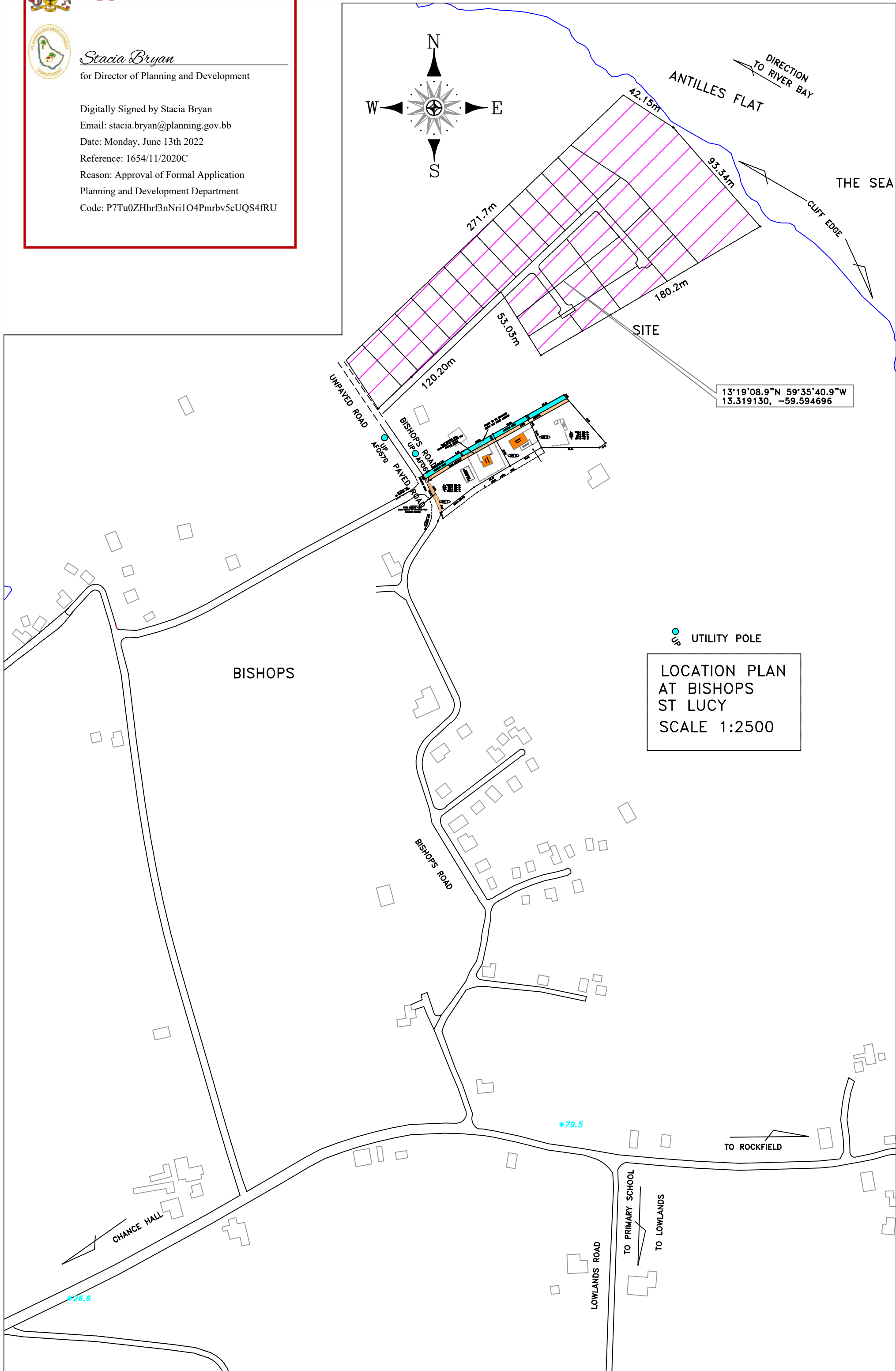


Approved



Stacia Bryan
for Director of Planning and Development

Digitally Signed by Stacia Bryan
Email: stacia.bryan@planning.gov.bb
Date: Monday, June 13th 2022
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Planning and Development Department
Code: P7Tu0ZHrf3nNri1O4Pmrbv5cUQS4fRU





Approved



Stacia Bryan

for Director of Planning and Development

Digitally Signed by Stacia Bryan

Email: stacia.bryan@planning.gov.bb

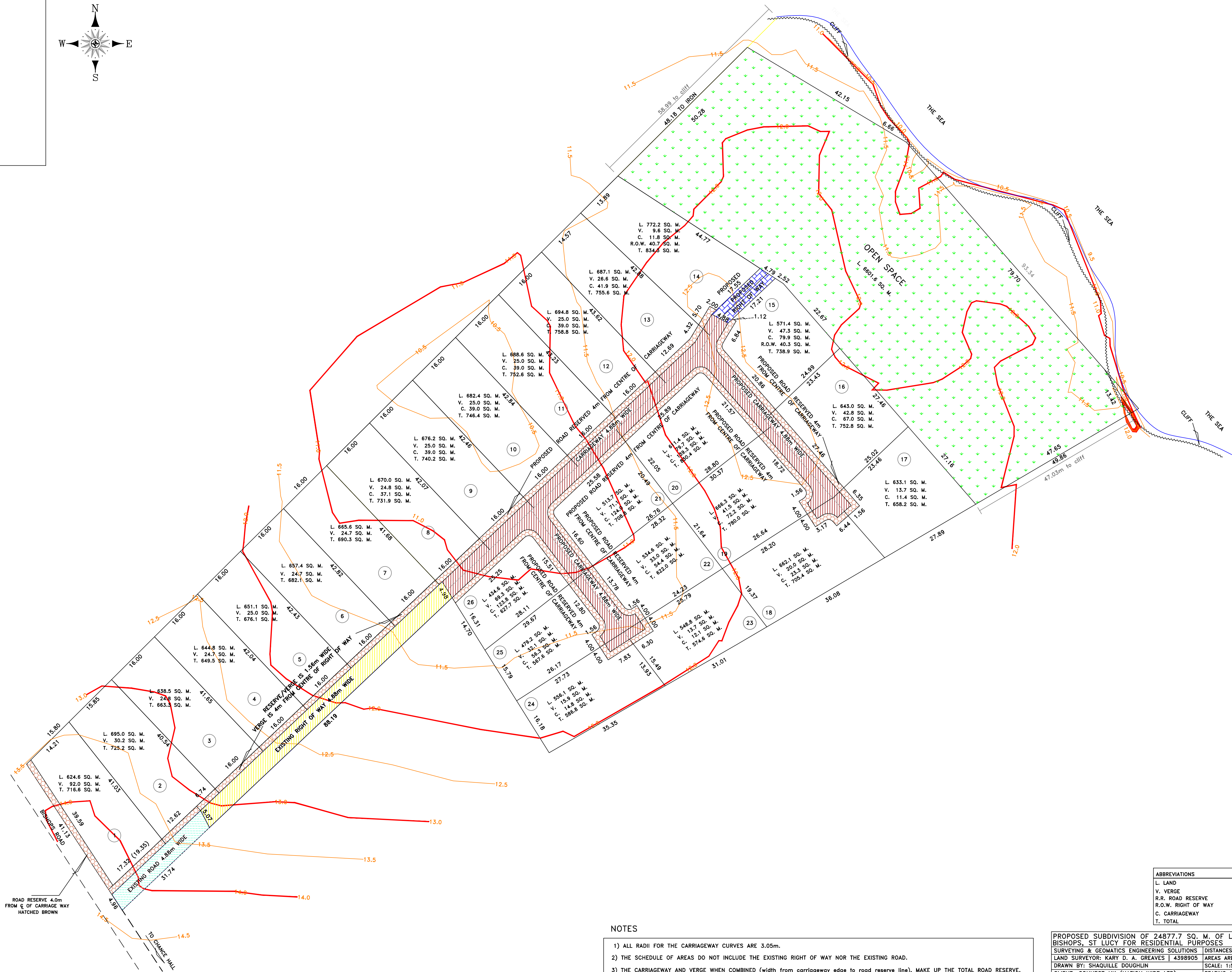
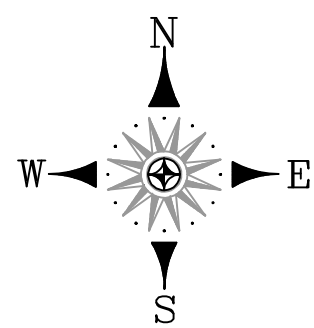
Date: Monday, June 13th 2022

Reference: 1654/11/2020C

Reason: Approval of Formal Application

Planning and Development Department

Code: oWQ4Vmm4EN6q13GCA89pSp5jiVtUWdbG



NOTES

- 1) ALL RADII FOR THE CARRIAGEWAY CURVES ARE 3.05m.
- 2) THE SCHEDULE OF AREAS DO NOT INCLUDE THE EXISTING RIGHT OF WAY NOR THE EXISTING ROAD.
- 3) THE CARRIAGEWAY AND VERGE WHEN COMBINED (width from carriageway edge to road reserve line), MAKE UP THE TOTAL ROAD RESERVE.

LEGEND

- ROAD EDGE (EXISTING)
- BOUNDARY
- CONTOUR LEVELS
- CONTOUR INDEX 1m
- OPEN SPACE
- EXISTING ROAD
- PROPOSED ROAD RESERVE OR VERGE
- PROPOSED CARRIAGEWAY
- PROPOSED RIGHT OF WAY 4.88m WIDE
- EXISTING RIGHT OF WAY

ABBREVIATIONS

- L. LAND
- V. VERGE
- R.R. ROAD RESERVE
- R.O.W. RIGHT OF WAY
- C. CARRIAGEWAY
- T. TOTAL

PROPOSED SUBDIVISION OF 24877.7 SQ. M. OF LAND, AT UPPER SALMONDS/BISHOPS, ST LUCY FOR RESIDENTIAL PURPOSES
SURVEYING & GEOMATICS ENGINEERING SOLUTIONS
LAND SURVEYOR: KARY D. A. GREAVES | 4398905
DRAWN BY: SHAQUILLE DOUGHLIN
CLIENT: CONNECT UK (NATION WIDE LTD)
DATE: 2020-10-17
FILE NO.: 513/17/R--S

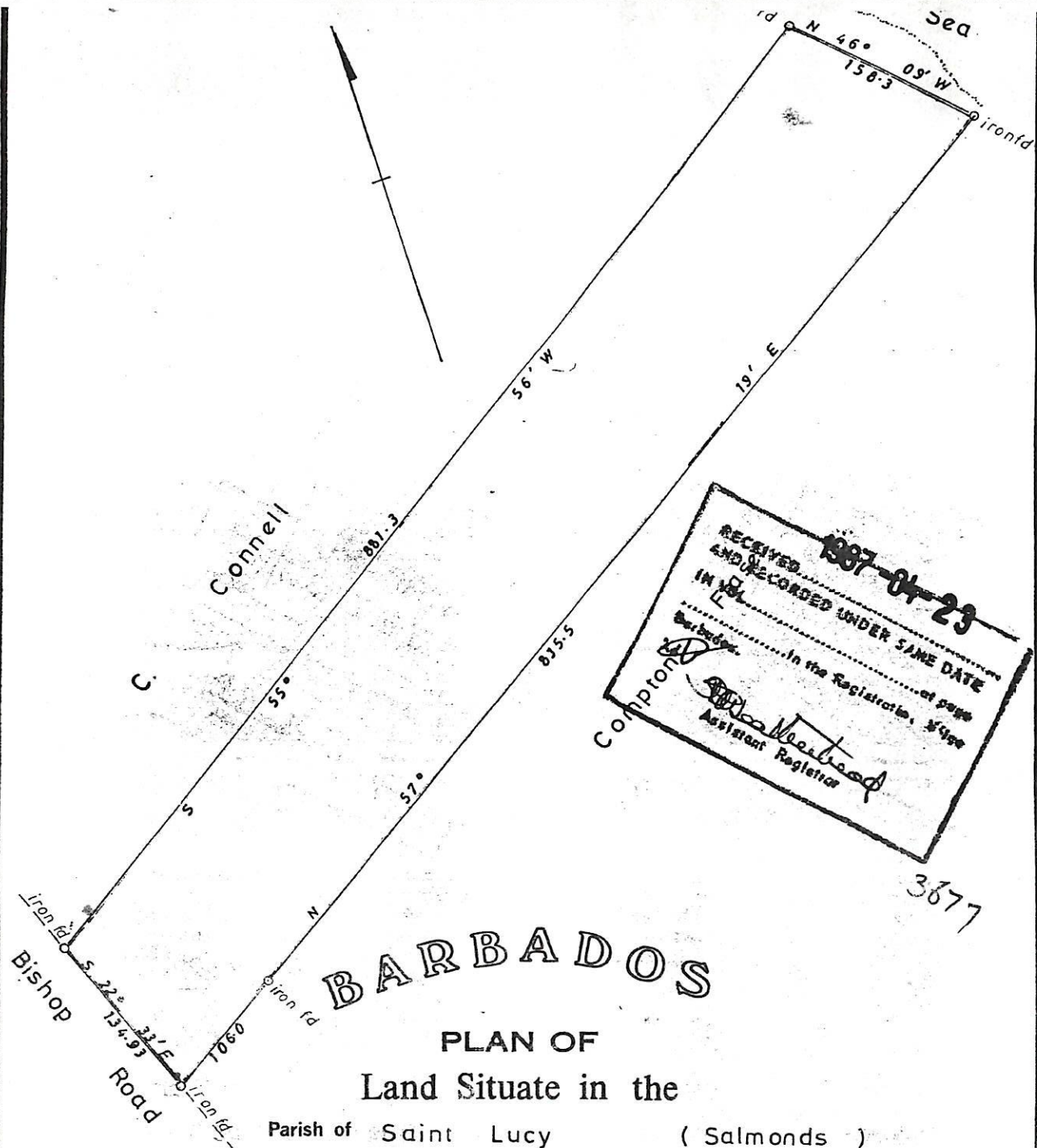
AREAS ARE APPROXIMATE
SCALE: 1:500
BEARING ARE REFERRED TO NORTH DERIVED FROM SURVEYOR'S PLAN

Plan of land situate



Marketed By - Connect UK
Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk





BARBADOS

PLAN OF
Land Situate in the

Parish of Saint Lucy (Salmonds)
CONTAINING

3 Acres

the property of

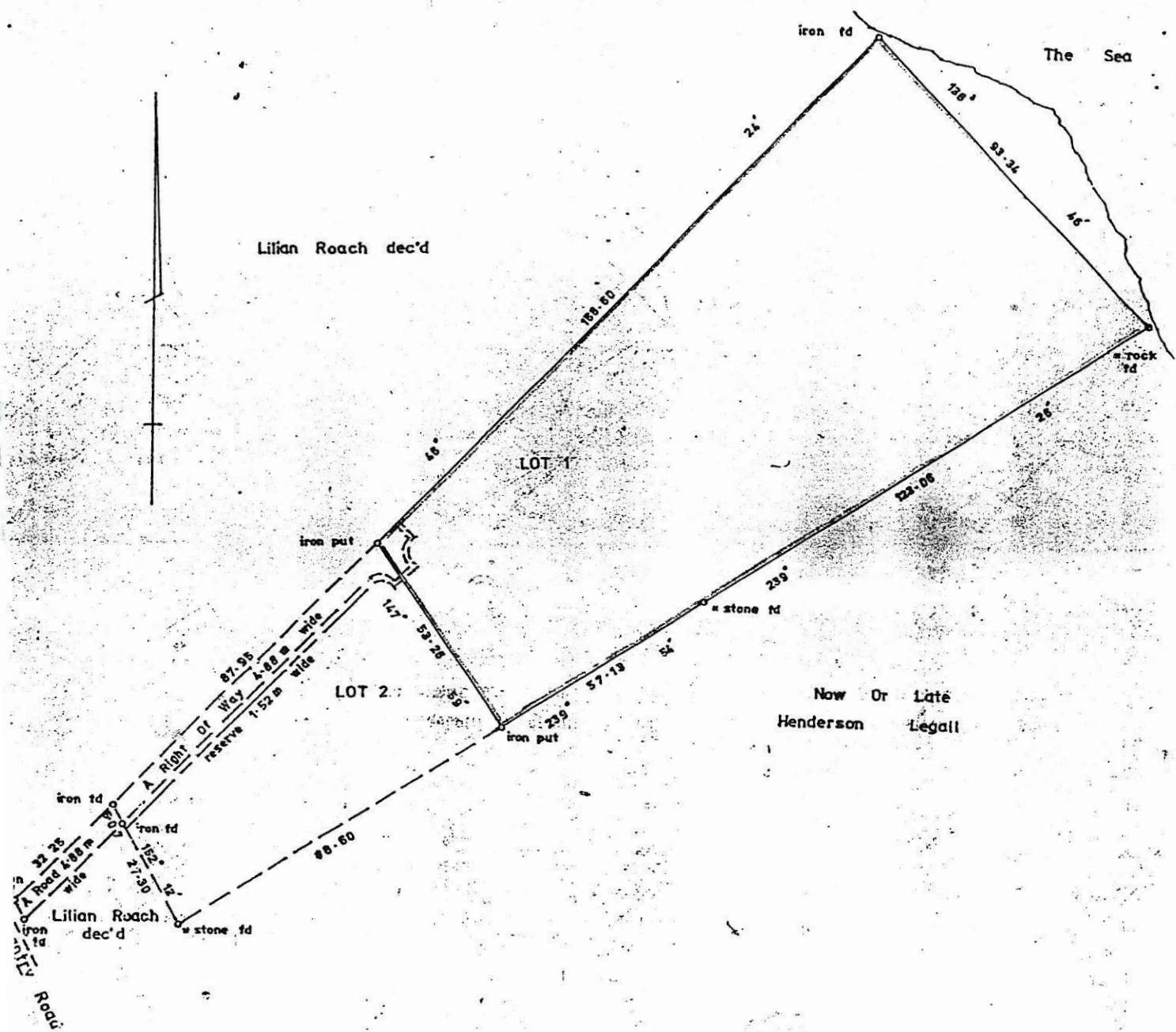
Lilian Roach (dec'd)

SCALE:— 1:1250

Fee \$

Certified. AUGUST. 19 71

Compton Fraser
Sworn Surveyor



rbados

OF LAND

SALMONDS, in the parish of SAINT LUCY
ing 12 687.35 square metres

1 for BARCLAYS BANK P.L.C

1 April 23rd 1986

SCALE 1/1000

Distances are in metres
Bearings are referred to Grid North
derived from solar observations
ref to a subdivision plan by C. Fraser L
see T.C.P.O 971/11/71

For Lands and Surveys Dept. only

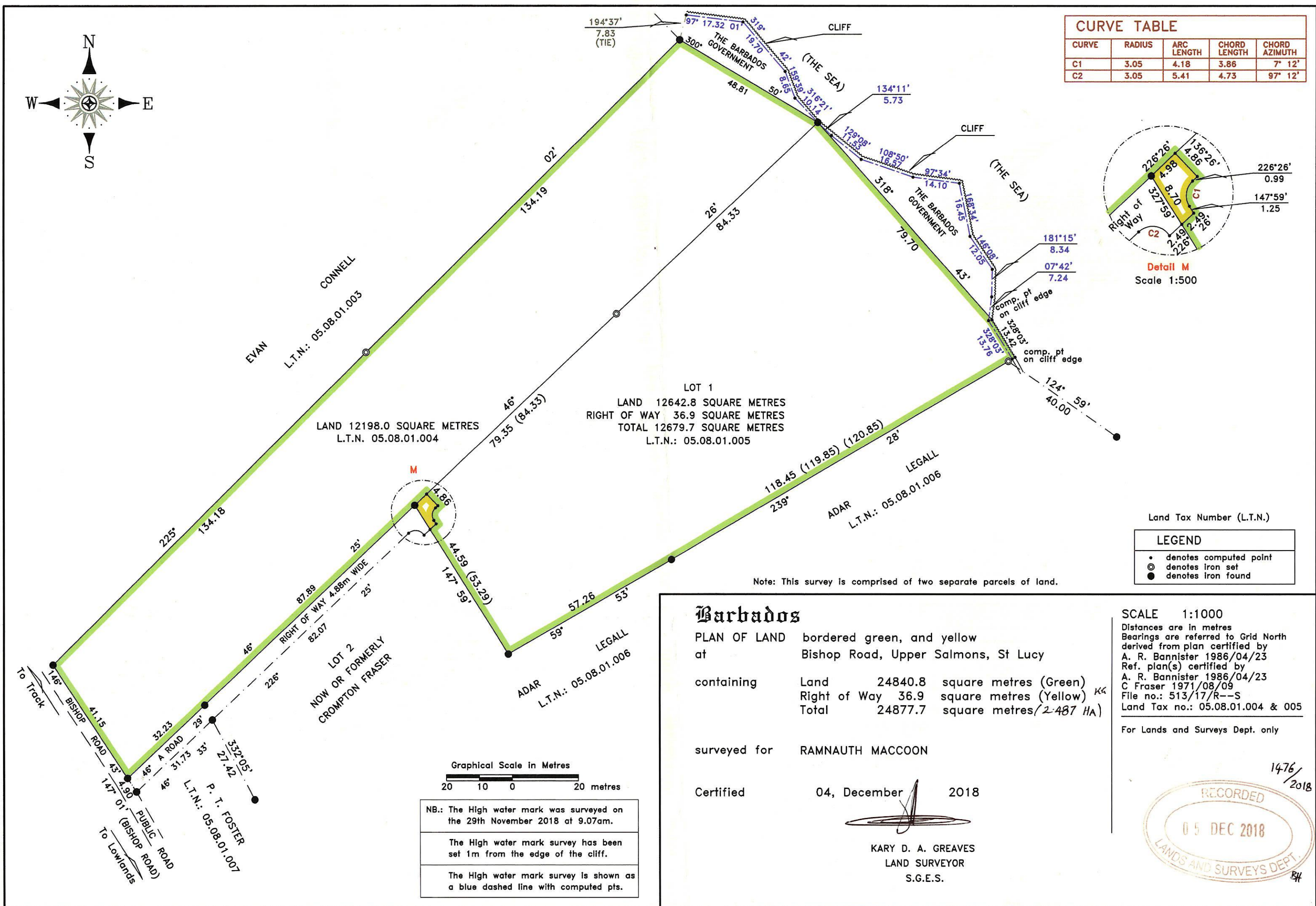
RECORDED 419/66

RIGHT OF WAY



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LAND GRADIENT



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Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk





NOTES

- 1) ALL RADIUS FOR THE CARBIDEWAY CURVES ARE 5.00m.
- 2) THE SCHEDULE OF AREAS DO NOT INCLUDE THE EXISTING RIGHT OF WAY NOR THE EXISTING ROAD.
- 3) THE CARBIDEWAY AND VERGE WHEN COMBINED (width from centerline edge to road reserve line), MAKE UP THE TOTAL ROAD RESERVE.

PROPOSED SUBDIVISION OF 24877.7 SQ. M. OF LAND, AT UPPER SALMONS/
BISHOPS, ST LUCEY FOR RESIDENTIAL PURPOSES

SURVEYING & GEOMATICS ENGINEERING SOLUTIONS
LAND SURVEYOR: KERRY D. A. GREAVES 4389805
DRAWN BY: SHAOULI DOUGHLIN
CLIENT: CONNECT UK (NATION WIDE LTD)
DISTANCES ARE IN METRES
ARTS ARE APPROXIMATE
SCALE: 1:500
BEARING ARE REFERRED TO NORTH DERIVED FROM

DATE: 2020-10-17	SURVIVOR'S PLAN
FILE NO: 513/17/R--5	



Approved



Stacia Bryan

for Director of Planning and Development

Digitally Signed by Stacia Bryan

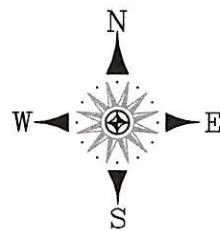
Email: stacia.bryan@planning.gov.bb

Date: Monday, June 13th 2022

Reference: 1654/11/2020C

Reason: Approval of Formal Application
Planning and Development Department

Code: P7Tu0ZHhrf3nNri1O4Pmrbv5cUQS4fRU



ANTILLES FLAT

DIRECTION
TO RIVER BAY

THE SEA

CLIFF EDGE

SITE

13°19'08.9"N 59°35'40.9"W
13.319130, -59.594696

UTILITY POLE

LOCATION PLAN
AT BISHOPS
ST LUCY
SCALE 1:2500

BISHOPS

BISHOPS ROAD

CHANCE HALL

LOWLANDS ROAD

TO PRIMARY SCHOOL
TO LOWLANDS

TO ROCKFIELD

ADDENDUM REPORT ON THE GEOTECHNICAL STUDY - APRIL 2021



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Email - marketing@connectukgroup.co.uk





Hydroterra Inc.

GEOLOGICAL + HYDROGEOLOGICAL CONSULTANTS

ADDENDUM REPORT ON THE GEOTECHNICAL STUDY **DONE AT BISHOPS, ST. LUCY**

April 2021

 35 Fairview Heights, St. George, Barbados

 (246) 230-1525 • (246) 253-2778

 Hydroterrainfo@gmail.com

 www.hydroterrainc.com

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1. OVERVIEW OF STUDY

Following the “Report on the geological/geotechnical study done at Upper Salmonds, Bishops”, two recommendations were made by the client:-

- “One additional airtrack core be done to investigate anomalies along **ER** 4 around Lot 25”; and
- Two additional borings to be done around Lots 4 and 9, to confirm allowable bearing capacity, since the information collected reasonably covers the Northern part of the site. The conservative value of **340 kPa** can be used for foundation design.

With respect to **ER** 4 around Lot 25, the geophysical line was reviewed and an additional borehole **BH** 6, was cored to 11.5 feet depth. The borehole location map and the borehole log are shown in the appendices.

The section around Lot #25 (Lot 24 – 26) is crossed by the **ER** line #4 from the 50 metre point to 100 metre point. The resistivity values indicate a subsurface profile from soil (possibly saline) to dense limestone. **AT** #9 fits this profile very well going from soft material 0 – 5 feet; moderately hard material from 5 feet to 20 feet and harder material from 20 to 40 feet depth.

AT #10, at the southern end of the line (90 to 100 metres) shows soft material to approximately 3 feet followed by moderately hard rock, down to 37 feet. This section is interspersed by a few very hard bands – probably *Acropora Palmata* coral species zones. This again generally conforms to the **ER** profile.

An additional borehole **BH** 6, was done on Lot 25. This gave a moderately hard, sandy limestone, which gave good recovery (36 to

60 %) but poor **RQD** due to fracturing. A core was tested and gave a compression strength value of 2310kN/m²

Lot 9 was also reviewed using **ER** 4 and **AT** 8.

Lot 9 is crossed by the northern end of **ER** 4. This profile shows generally moderately high resistivity in the subsurface.

AT 8: after penetrating 3 feet of soft material, showed moderately hard, to very hard rock material down to 40 feet.

Lot #4 was reviewed using **ER** 5, **AT** 12 and an additional borehole **BH** 7. The south-western end of the **ER** 5 line correlates well with **AT** 13 showing denser limestone below 20 feet depth. Lot #4 lies midway in the line, where there is limestone material of moderate resistivity. **AT** 12 corroborates this showing hard rock material from 4 to 13 feet. An additional borehole **BH** 7 was drilled in this Lot 4 for core testing. There was good core recovery of moderately hard limestone, and material from 7 to 10 feet was tested. Strength test results from the Barbados National Standards Institute, was 4210kN/m².

2. DCP INVESTIGATIONS

The Dynamic Cone Penetrometer (DCP) Test measures the in-situ resistance of a material to penetration. It is carried out by driving a metal cone repeatedly into the ground with a 17.6 lb (8kg) weight dropped from about 1.75 ft (see figure 1).

The distance of penetration can be measured from each blow into the subsurface. The parameters that can be evaluated from this study include California Bearing Ratios (CBRs), in-situ density, resilient modulus and bearing capacity.

A DCP survey (**DCP 1 on lot#18**) was carried out on a limestone rock exposure on the Bishops site, where some weathering was observed on the surface. The results showed high California Bearing Ratio (CBR) values ranging between 40-100% with outliers from 25-45% at the start and close to the end of the survey (see Graph 1). This range corresponds to well-graded gravels, and in this case the limestone can be considered as being similar to a well graded gravel in terms of bearing strength.

The limestone rock clasts and fossils are interlocked and compressed/consolidated together, with some cementation. The degree of cementation was lower than expected however for this

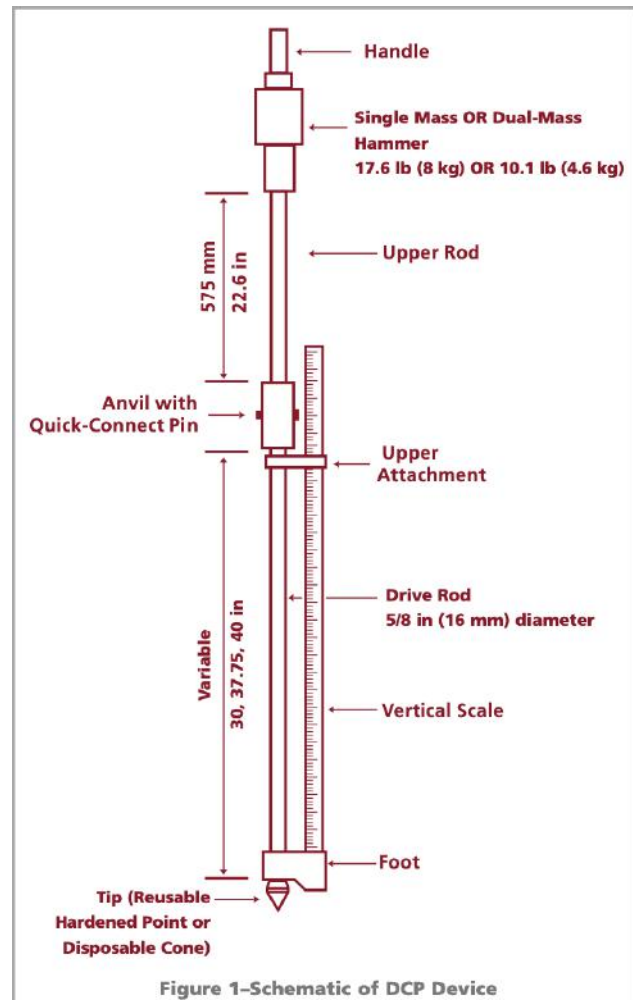


Figure 1-Schematic of DCP Device

area, as resistance to movement of the DCP was high to moderately high but did not end in refusal.

The Delta vs. Depth (see Graph 2) was consistent and any outliers corresponded with those present in the CBR vs. Depth, areas of lower strength. The Blow Count vs. Depth graph (see Graph 3) was generally linear, with minor inflections accounting for high CBR results.

While no actual bearing capacities were calculated using the DCP results, these correlated with well graded gravels (GW) (See Appendix 4.2, Table 1). This would suggest that these soils are suitable for the intended construction development.

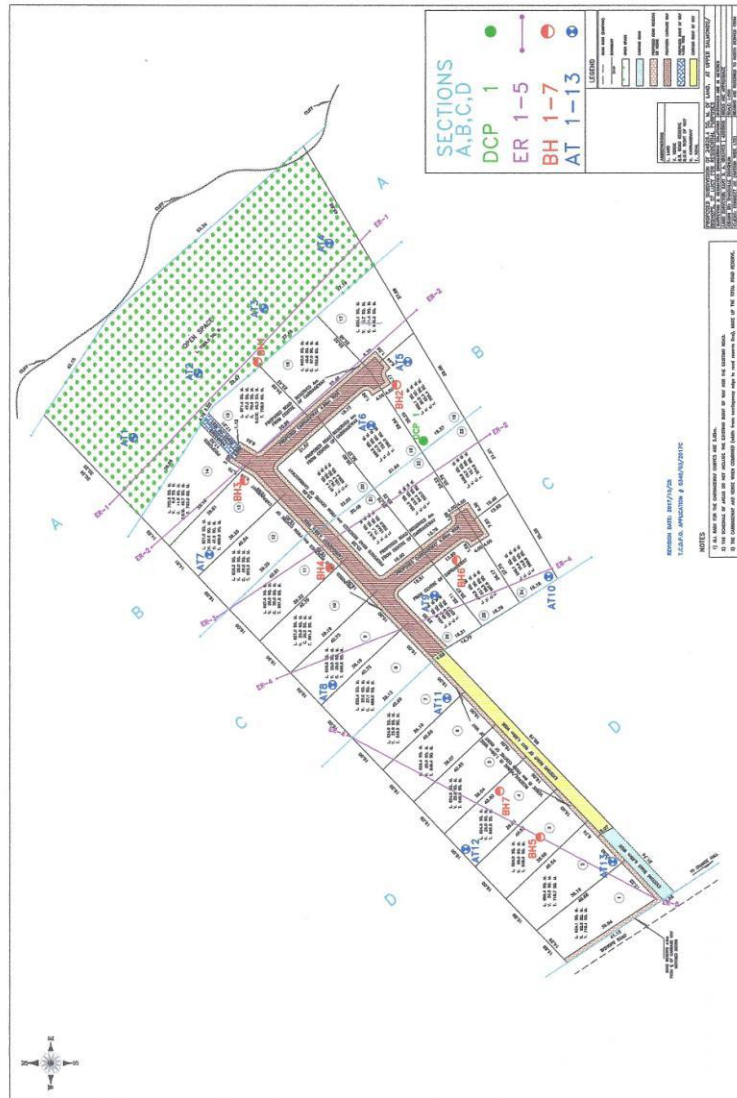
3. CONCLUSIONS

Both the review of the Electrical Resistivity (**ER**) lines and the test results on the additional borings suggest that the rock foundation conditions are adequate for the proposed construction project.

4. APPENDICES

4.1: MAP OF SITE WITH LOCATIONS OF WORKS COMPLETED

SITE MAP SHOWING AT, ER, BH AND DCP LOCATIONS AT BISHOPS ST. LUCY



4.2 INDUSTRY STANDARDS FOR CBR RANGES OF DIFFERENT SOILS

Table 1: CBR ranges for different soil types in the USCS classification (*from CBR Testing UK*)

General Soil Type	USC Soil Type	CBR Range
Coarse-grained soils	GW	40 – 80
	GP	30 – 60
	GM	20 – 60
	GC	20 – 40
	SW	20 – 40
	SM	10 – 40
	SP	10 – 40
	SC	5 – 20
Fine-grained soils	ML	15 or less
	CL LL < 50%	15 or less
	OL	5 or less
	MH	10 or less
	CH LL > 50%	15 or less
	OH	5 or less

4.3 DCP NUMERICAL RESULTS

Table 2: Tabulated DCP Results for DCP 1

Time (ms)	Name	Depth (mm)	Delta (mm)	CBR (%)
61925	BSP_DCP1_2021	9.6	9.6	23.19
66876	BSP_DCP1_2021	13.8	4.2	58.53
71829	BSP_DCP1_2021	17.8	4	61.81
76787	BSP_DCP1_2021	22.6	4.8	50.4
84578	BSP_DCP1_2021	25.2	2.6	100
92371	BSP_DCP1_2021	28.8	3.6	69.55
100168	BSP_DCP1_2021	32.5	3.7	67.45
109376	BSP_DCP1_2021	35.7	3.2	79.36
117170	BSP_DCP1_2021	38.1	2.4	100
124960	BSP_DCP1_2021	41.3	3.2	79.36
132023	BSP_DCP1_2021	45.7	4.4	55.55
624884	BSP_DCP1_2021	48.1	2.4	100
631959	BSP_DCP1_2021	52.1	4	61.81
638335	BSP_DCP1_2021	55.3	3.2	79.36
644715	BSP_DCP1_2021	58.9	3.6	69.55
650380	BSP_DCP1_2021	62.8	3.9	63.59
656050	BSP_DCP1_2021	65.1	2.3	100
661008	BSP_DCP1_2021	69.4	4.3	57

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667374	BSP_DCP1_2021	71.8	2.4	100
674459	BSP_DCP1_2021	75.2	3.4	74.15
679422	BSP_DCP1_2021	79.1	3.9	63.59
685803	BSP_DCP1_2021	82.9	3.8	65.47
692889	BSP_DCP1_2021	86	3.1	82.24
697954	BSP_DCP1_2021	90.2	4.2	58.53
703526	BSP_DCP1_2021	94.1	3.9	63.59
709298	BSP_DCP1_2021	97.5	3.4	74.15
717803	BSP_DCP1_2021	100.7	3.2	79.36
722665	BSP_DCP1_2021	105.7	5	48.14
733744	BSP_DCP1_2021	110.9	5.2	46.07
743668	BSP_DCP1_2021	114.3	3.4	74.15
752880	BSP_DCP1_2021	117.8	3.5	71.78
760658	BSP_DCP1_2021	121.3	3.5	71.78
765619	BSP_DCP1_2021	125.8	4.5	54.17
774831	BSP_DCP1_2021	129.1	3.3	76.67
779093	BSP_DCP1_2021	133.2	4.1	60.13
789012	BSP_DCP1_2021	136.3	3.1	82.24
796100	BSP_DCP1_2021	139.7	3.4	74.15
801773	BSP_DCP1_2021	143	3.3	76.67
810275	BSP_DCP1_2021	147.5	4.5	54.17
820905	BSP_DCP1_2021	149.2	1.7	100

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827992	BSP_DCP1_2021	152.1	2.9	88.61
833661	BSP_DCP1_2021	155.7	3.6	69.55
842166	BSP_DCP1_2021	158.8	3.1	82.23
849255	BSP_DCP1_2021	160.8	2	100
857757	BSP_DCP1_2021	163.5	2.7	96
865551	BSP_DCP1_2021	167	3.5	71.78
872638	BSP_DCP1_2021	169.6	2.6	100
881134	BSP_DCP1_2021	172.1	2.5	100
889743	BSP_DCP1_2021	175.2	3.1	82.24
903811	BSP_DCP1_2021	178.2	3	85.31
914842	BSP_DCP1_2021	181.7	3.5	71.78
925468	BSP_DCP1_2021	183.9	2.2	100
933969	BSP_DCP1_2021	187.3	3.4	74.15
945205	BSP_DCP1_2021	190.6	3.3	76.67
952998	BSP_DCP1_2021	192.9	2.3	100
960088	BSP_DCP1_2021	195.8	2.9	88.61
967277	BSP_DCP1_2021	199.2	3.4	74.15
974968	BSP_DCP1_2021	202.5	3.3	76.67
981346	BSP_DCP1_2021	205.5	3	85.31
991569	BSP_DCP1_2021	208.7	3.2	79.36
1000577	BSP_DCP1_2021	211.6	2.9	88.61
1008981	BSP_DCP1_2021	214.2	2.6	100

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1030926	BSP_DCP1_2021	224	3.3	76.67
1038010	BSP_DCP1_2021	227.3	3.3	76.67
1045805	BSP_DCP1_2021	230.2	2.9	88.61
1052771	BSP_DCP1_2021	233.3	3.1	82.24
1059151	BSP_DCP1_2021	236.5	3.2	79.36
1065525	BSP_DCP1_2021	240.4	3.9	63.59
1075444	BSP_DCP1_2021	243.7	3.3	76.67
1082524	BSP_DCP1_2021	246.5	2.8	92.17
1087486	BSP_DCP1_2021	250.8	4.3	57
1098113	BSP_DCP1_2021	253.6	2.8	92.16
1102369	BSP_DCP1_2021	258.5	4.9	49.25
1113700	BSP_DCP1_2021	261.8	3.3	76.67
1122201	BSP_DCP1_2021	266.1	4.3	57
1131594	BSP_DCP1_2021	269.9	3.8	65.47
1136256	BSP_DCP1_2021	274.2	4.3	57
1152951	BSP_DCP1_2021	278	3.8	65.47
1160943	BSP_DCP1_2021	281.6	3.6	69.55
1169348	BSP_DCP1_2021	286.3	4.7	51.6
1177749	BSP_DCP1_2021	289.8	3.5	71.78
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1243087	BSP_DCP1_2021	318.1	3.2	79.36
1250882	BSP_DCP1_2021	321.1	3	85.31
1261511	BSP_DCP1_2021	323.5	2.4	100
1267891	BSP_DCP1_2021	327	3.5	71.78
1276385	BSP_DCP1_2021	330	3	85.31
1283472	BSP_DCP1_2021	332.6	2.6	100
1295014	BSP_DCP1_2021	335.3	2.7	96
1301695	BSP_DCP1_2021	337.8	2.5	100
1315766	BSP_DCP1_2021	340.6	2.8	92.16
1324268	BSP_DCP1_2021	342.5	1.9	100
1332768	BSP_DCP1_2021	345.2	2.7	96
1341273	BSP_DCP1_2021	347.5	2.3	100
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1359700	BSP_DCP1_2021	352.5	2.7	96
1366790	BSP_DCP1_2021	355.2	2.7	96
1374585	BSP_DCP1_2021	357	1.8	100

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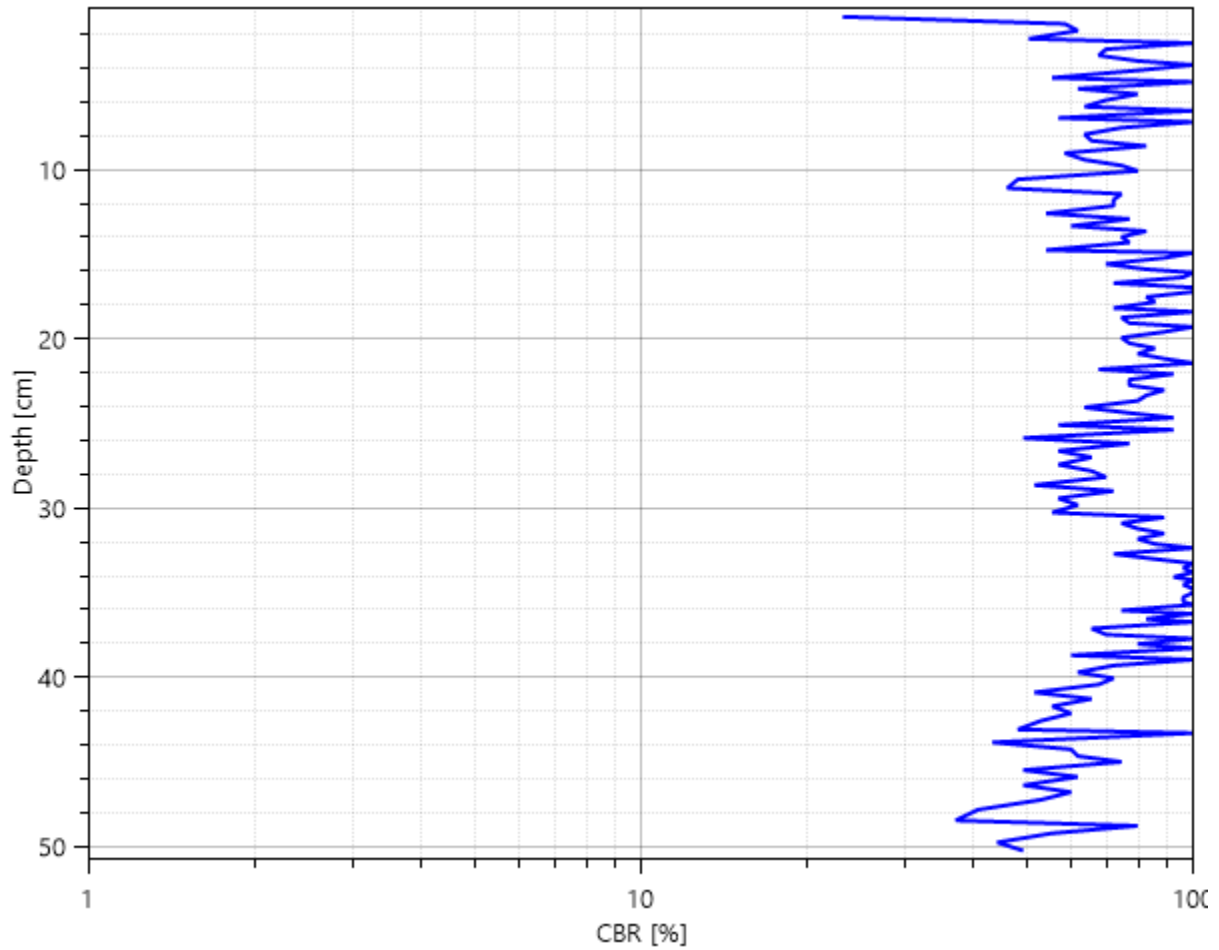
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1391589	BSP_DCP1_2021	362.3	1.9	100
1400093	BSP_DCP1_2021	365.4	3.1	82.23
1407181	BSP_DCP1_2021	367.2	1.8	100
1412851	BSP_DCP1_2021	371	3.8	65.47
1422774	BSP_DCP1_2021	374.6	3.6	69.55
1430670	BSP_DCP1_2021	377	2.4	100
1438161	BSP_DCP1_2021	380.2	3.2	79.36
1447370	BSP_DCP1_2021	382.7	2.5	100
1452950	BSP_DCP1_2021	386.8	4.1	60.13
1470963	BSP_DCP1_2021	389.4	2.6	100
1479468	BSP_DCP1_2021	392.9	3.5	71.78
1488983	BSP_DCP1_2021	396.9	4	61.81
1496775	BSP_DCP1_2021	400.4	3.5	71.78
1503151	BSP_DCP1_2021	404.1	3.7	67.45
1512564	BSP_DCP1_2021	408.8	4.7	51.6
1528815	BSP_DCP1_2021	412.6	3.8	65.47
1536508	BSP_DCP1_2021	417	4.4	55.55
1541879	BSP_DCP1_2021	421.1	4.1	60.13
1549877	BSP_DCP1_2021	425.7	4.6	52.86
1555753	BSP_DCP1_2021	430.7	5	48.14
1567999	BSP_DCP1_2021	432.8	2.1	100

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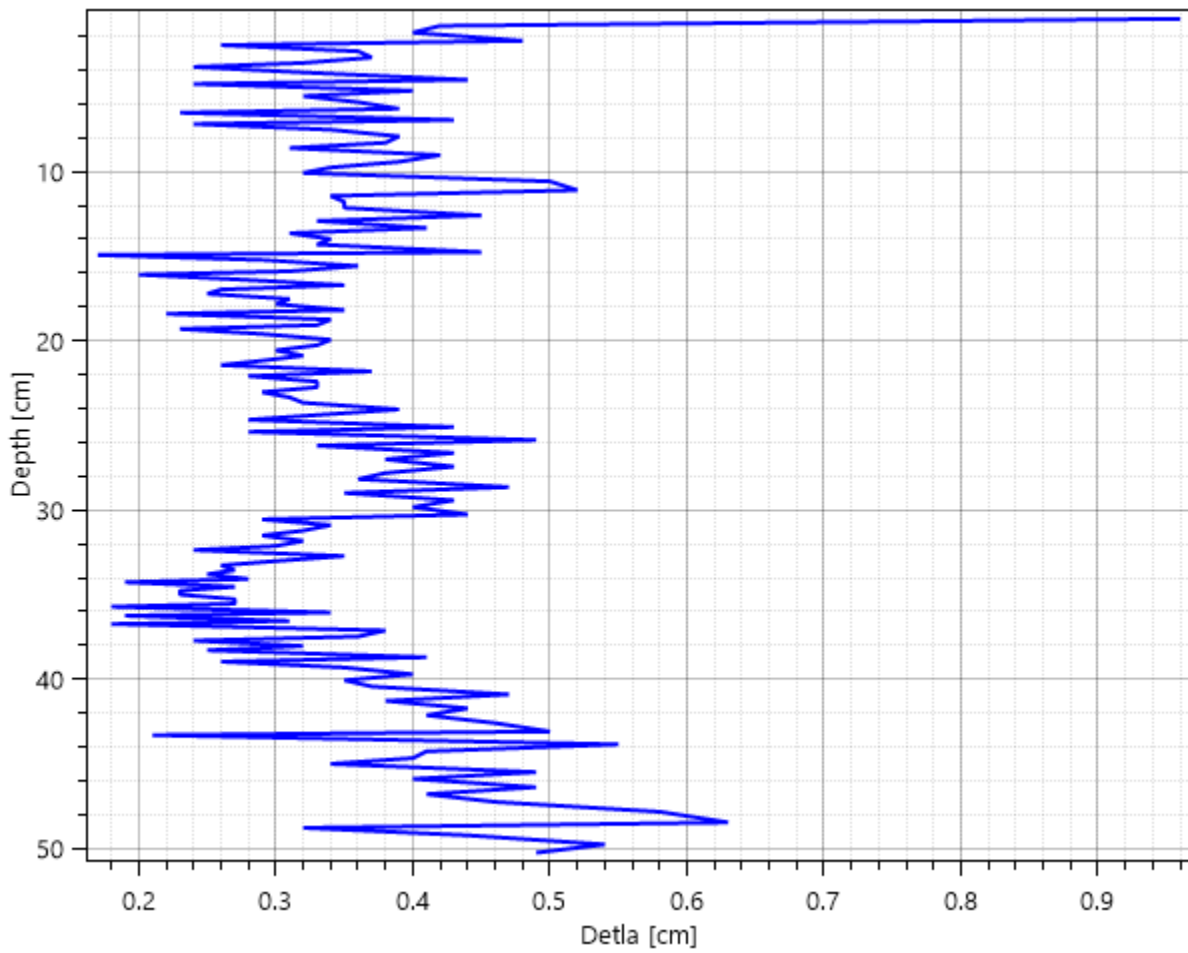
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1573972	BSP_DCP1_2021	438.3	5.5	43.27
1580554	BSP_DCP1_2021	442.4	4.1	60.13
1585619	BSP_DCP1_2021	446.4	4	61.81
1596551	BSP_DCP1_2021	449.8	3.4	74.15
1600802	BSP_DCP1_2021	454.7	4.9	49.25
1607887	BSP_DCP1_2021	458.7	4	61.81
1613557	BSP_DCP1_2021	463.6	4.9	49.25
1620645	BSP_DCP1_2021	467.7	4.1	60.13
1626418	BSP_DCP1_2021	472.3	4.6	52.86
1698224	BSP_DCP1_2021	478.1	5.8	40.77
1703790	BSP_DCP1_2021	484.4	6.3	37.16
1714418	BSP_DCP1_2021	487.6	3.2	79.36
1718671	BSP_DCP1_2021	492	4.4	55.55
1724340	BSP_DCP1_2021	497.4	5.4	44.17
1730013	BSP_DCP1_2021	502.3	4.9	49.25

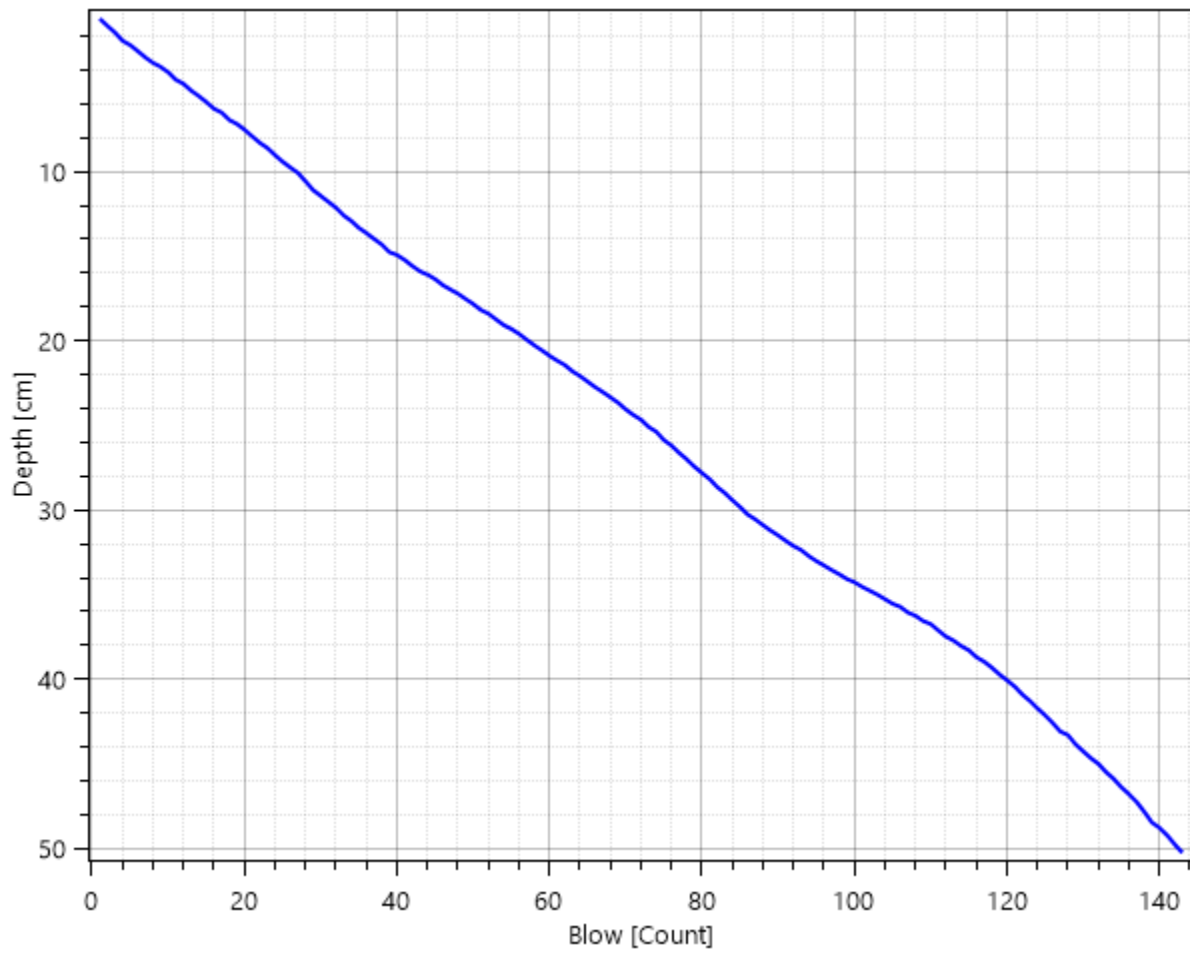
4.4 DCP GRAPHICAL RESULTS



Graph 1: Table showing Depth vs. CBR for DCP 1, Results are typically recorded on the right side of the graph, indicating a higher CBR percentage.



Graph 2: Depth vs. Delta (Change in depth) for DCP 1. Change in depth fluctuates from <0.1mm to ~0.55mm. There is a large depth change in the initial blow (9.6mm)



Graph 3: Depth vs. Blow Count for DCP 1. Graph is relatively linear with some small variation from 10-20 mm and 26-34mm.

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4.5 BOREHOLE LOGS AND PHOTOS



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Project: RESIDENTIAL G.I. - BSP0121	Log of Boring BH6
Project Location: BISHOPS, ST. LUCY, BARBADOS	Sheet 1 of 1

Date Drilled: 30/03/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 3-IN DT	Total Depth of Borehole: 11.3 FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'10" N 59°35'39" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6 in)	RQD (%)	Recovery (%)	USCS	Material Description	Remarks and Other Tests
0	1		-	0	60	SM	Yellowish white and dirt covered limestone crust, hard	Recovery: 6/6" RQD: 0/6"
2.5								
5	2		-	0	36	SM	Yellowish-white to white, silty-sand limestone. Poor to moderate cementation of matrix containing A Palmata corals, some reef talus material and limestone rubble.	Recovery: 47/130" RQD: 0/130"
7.5								
10	3							
12.5								
15								
							END OF BOREHOLE AT 11.3 FT	

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Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: RESIDENTIAL G.I. - BSP0121	Log of Boring BH7
Project Location: BISHOPS, ST. LUCY, BARBADOS	Sheet 1 of 1

Date Drilled: 30/03/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 3-IN DT	Total Depth of Borehole: 10.2 FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'9" N 59°35'42" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6 in)	RQD (%)	USCS	Recovery (%)	Material Description	Remarks and Other Tests
0	1		-	-	PT	100	Black organic topsoil with dense vegetation at surface	Recovery: 18/18"
2.5	2		-	0	SM	56	White to yellowish-white, reef talus limestone consisting of a silty to medium grained sand matrix with broken A Porites coral and shells; cores were fractured and rubbly with moderate to areas of no cementation but good consolidation of recovered material.	Recovery: 42/75" RQD: 0/75"
7.5	3		-	43	SM	83	White to yellowish white, moderately well cemented reef talus limestone with coral.	Recovery: 24/29" RQD: 12.5/29"
10							END OF BOREHOLE AT 10.2 FT	
12.5								
15								



Photo 1: BSP:BH6



Photo 2: BSP:BH7

DCP INVESTIGATION - SUPPORTING EVIDENCE



Marketed By - Connect UK
Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk



DCP INVESTIGATION SUPPORTING EVIDENCE

The ground has been drilled, tested, and investigated to ensure the security and safety of the proposed construction – long-term.

Drilling videos to act as supporting evidence this work has been carried out -

https://bishopsheights.com/videos/VID_20210126_121736.3gp
https://bishopsheights.com/videos/VID_20210126_120121.3gp

Both the review of the Electrical Resistivity (ER) lines and the test results on the additional borings suggest that the rock foundation conditions are adequate for the proposed construction project.

GEOLOGICAL / GEOTECHNICAL STUDY REPORT - FEBRUARY 2021



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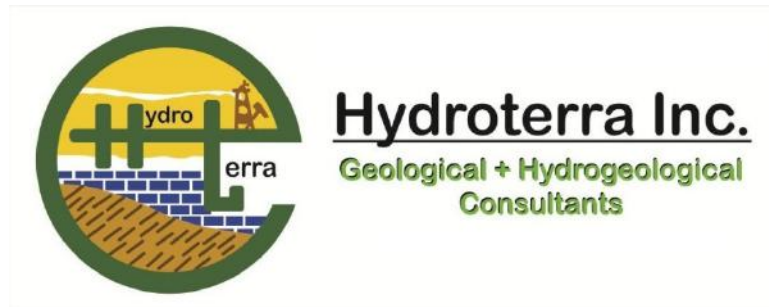


Hydroterra Inc.

GEOLOGICAL + HYDROGEOLOGICAL CONSULTANTS

A GEOLOGICAL/GEOTECHNICAL STUDY AT UPPER SALMONDS/BISHOPS, ST. LUCY, BARBADOS.

DATE: Feb, 2021



Hydroterra Inc. is a Geological consulting firm based in Barbados, W.I., that specializes in: Geological, Hydrogeological and Geotechnical investigations.

- Hydroterra Inc. has been providing this service for over 10 years and offers over 40 years of experience in local and regional geoscience, through its principal technocrat.
- The company offers an integrated approach to physical assessments bringing together geological, geotechnical and hydrogeological investigations.
- Hydroterra can assemble teams suitable to specific project needs, through our sub-contract professionals.
- Hydroterra is committed to offering honest & expert service and to delivering technical advice to our clients.

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1. INTRODUCTION:

On February 20th 2018, Hydroterra Inc. met with personnel from Surveying & Geomatics Engineering Solutions to discuss the assessment of land in Salmond/Bishops in St. Lucy. This land consisted of two lots which are to be amalgamated and subsequently subdivided into smaller lots. These lots will be used for the construction of two storey steel and concrete buildings.

The directive from The Town & Country Planning Department states, “The cliff along this coastal segment is a Type B cliff, which is characterized by coralline limestone containing well developed jointing/bedding planes.

The recommended minimum allowable setback for geotechnical reasons is 25m.

There is a medium probability of cliff failure, therefore, the client is advised site specific assessments (eg. Geotechnical, movement monitoring) to assess the site’s capability of supporting the proposed development within the context of the potential for cliff failure”.

Hydroterra Inc. has provided the geological and geotechnical data herein, as requested in the directive above, along with recommendations based on our understanding of the study objective, which was to investigate the quality and integrity of the subsurface foundation material across the site, with a focus on the coastal front area.

The investigation and reporting was done as detailed below:

- The preliminary topographic and geological study of the area.
- The Electrical Resistivity/ Geophysical study of the site.
- The drilling of 13 airtrack boreholes to 40 feet depth.
- The drilling and coring of five (5) boreholes to approximately 12 feet depth.
- Laboratory analysis of the soil and rock cores.
- Preparation of the final geotechnical/geological report.

2. BACKGROUND

The windward side of the island has a complex coastal landscape, due to its varied geology and high wave energy generated by the trade Winds and Atlantic breakers influencing the coast.

Cliff lines exposed to the open sea are usually eroded by three main methods:-

- Corrosion at the cliff base, by waves, armed with sand, pebbles, and other rock materials.
- The action of the swells and breakers pounding against the cliffs alternately forces air into fissures, and releases the same. The air is compressed by thousands of pounds per square inch (psi). This constant compression-release action over hundreds of years not only widens cracks, but also dislodges material.
- The upper cliffs are eroded by normal sub-aerial weathering; in particular the widening of cracks by roots, thus loosening rock material.

The Coastal Conservation Study for Barbados done by Halcrow 1998, gave estimates of 0.15m to 0.20m per year for shoreline erosion rates along the high energy coast. It was acknowledged however, that these were maximum time-averaged rates and would be most probably on the high side.

Hazards Associated with Coastal Features

Coastal hazards can have substantial impacts on areas along the cliff edge, often rendering them useless for human activities or cause loss of life. These events tend to vary in trigger time; (i) instantaneous - due to earthquakes or (ii) progressive - the erosion of rock strata over decades to centuries resulting in collapse.

Hazards usually associated with catastrophic coastal events include:

1. Liquefaction, due to earthquake activity
2. Tsunamis, earthquake and landslide events
3. Storm surge and flooding, especially during storms and hurricanes
4. Rockfalls.

Within the context of this study, extended coastal undercut and subsequent rockfall along planes of weakness is the most relevant hazard to assess for the site at Bishops, St. Lucy as the elevation of the locality provides some degree of protection from those like storm surge.

3. TOPOGRAPHY & GEOLOGY

The island of Barbados is largely composed of a limestone caprock which covers some six-sevenths of its surface. This limestone was deposited as a series of concentric fringing reefs which were then uplifted and left as fossil limestone reef rock, now seen as a set of ridges, or old sea cliffs concentrically encircling the island.

The Bishop's site is located on the North-eastern coastal area of St. Lucy, approximately 1km south of River Bay. It is an upraised coastal plain with a flat to slightly undulating topography and covers an area of 24,828m².

The 1300 metre broad plain slopes toward the coast from approximately 25m above mean sea level (a.m.s.l.) on the inland border to 12m a.m.s.l. on the costal cliff edge.

Bishops is a generally dry area, with 40 inches of rain annually, on average and supports only grass and low shrubs.

Geologically, it is composed of reefal limestone rock, being part of the limestone reef cap rock of the island. The limestone in this area is on average 50 metres thick and overlies the Oceanic clay formation which is on average 700m in thickness. (No Oceanic clay is exposed along the coast at this site).

The limestone at the coastal cliff edge is composed of dense, hard, coral (*A. Palmata* and *A. Cervicornis*) in matrix of medium to coarse-grained carbonate sand, (Appendix G. Photo 7)

There are no significant sinkholes or depressions on the site, however the northern side is bounded by a broad, shallow depression which leads to a limestone gully exiting at River Bay. There was also a shallow depression seen on the southern side of the site that holds a pond for extended periods through the year. These depressions are the only indications of potential karst activity (erosion due to limestone dissolution), which from surface observations does not seem to be extensive over the area.

Along the cliff face, there are significant fractures that run parallel to the coastline (Appendix G Photo 8). These joints occasionally develop into tension fractures and cause large blocks to fall off under the influence of gravity, onto the beach (e.g. Appendix G Photo 5). This coastal fracture zone is estimated to stretch up to 15 metres inland from the cliff edge. Additionally, there is no deep coastal undercut and/or blow holes observed in this area.

The entire coastal front is a high energy coastal environment where marine erosion is dominant.

High erosion rates and coastal recession is prevalent in this area .

The physical landscape which exemplifies this coastal environment can therefore be described as follows:

- 1) There is an undercut (1 – 2 m deep) which runs along much of the base of the coastal cliff.
- 2) Jointing and fracturing parallel to the coast is evident in the general area. This eventually results in loosening and falling away of rock mass on to the narrow beach below.
- 3) Upstanding stacks, and eroded rock bases can be seen in the near offshore.

For the purpose of this study, the site was divided into 4 sections (labeled A-D as shown in Map 3 Appendix A).

Section A

This section is demarcated by the coastal sea cliff and extends an average of 50 meters inland to the boundaries of the most coastal lots. This zone is the most susceptible to coastal erosion and cliff edge recession.

Section B

This section is demarcated by the boundary of the most coastal lots and extends from 50 to 100 meters inland. Jointing in this zone is less prevalent than in section A.

Section C

This section dominates the central region of the site and stretches from 100 to 170m inland. A relatively small clay filled depression exist in this section.

Section D

This section runs from the road way entrance in the extreme south western section some 120 meters towards the coast.

4. HYDROLOGY AND DRAINAGE:

As noted earlier, the site is flat to gently sloping towards the east and the North-east coasts, and it is underlain by 50 metres (164 feet) of limestone, on average.

Stormwater drainage for the general site should be directed downslope. i.e. towards the east and north-east.

The site lies in zone 5, according to the Barbados Water Authority Groundwater Zoning Policy and Regulations as currently in force. Excess stormwater and domestic effluent can therefore be disposed of in wells, without any restrictions.

There is groundwater under the site at a depth of approximately 14 metres (46 feet) below ground surface. This is part of the North-eastern Coastal aquifer of the island. It is of very limited extent and most likely contains a relatively thin fresh water layer on brackish and saline water. The fresh groundwater here, may be limited by the low rainfall and the size of the basin.

This hydrological analysis is based in data from the geological Map of Barbados 1982. Any further detailed analysis would require deeper borehole drilling and analysis.

5. ELECTRICAL RESISTIVITY SURVEY:

HTI undertook a non-intrusive electrical resistivity (ERT) survey at the Bishops site, to assess the electrical properties of the shallow subsurface.

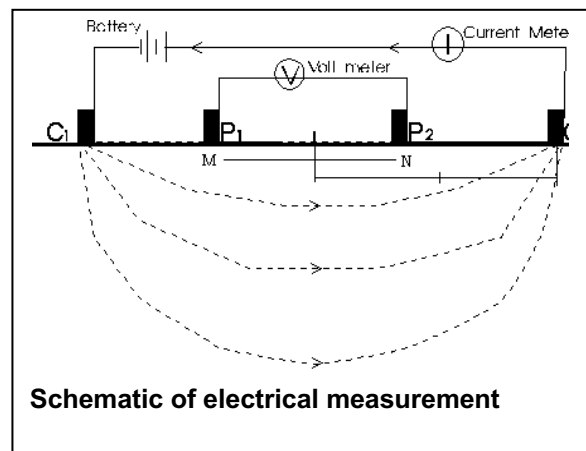
Methodology and Approach

The ease with which electrical currents can be passed through a material (its “resistivity”) can often be used to identify variations in earth materials.

Factors such as varying degrees of saturation, compaction, anomalous porosity, and mineralogy can cause bulk material resistivity values to vary drastically.

The results of a resistivity survey reflect conditions when surveying, but may vary over time.

An electrical resistivity survey involves the creation of current (I) flow between two electrodes in the ground. The penetration depth of this current is complex, but it is basically a function of electrode spacing and the resistivity of the ground.



ERT data were collected using the Syscal Jr. multi-electrode resistivity meter. Twenty-four (24) electrodes spaced between 5.0 m apart were used to collect data in the field.

The depth of investigation ranges from 0 to approximately 12 meters in the central region of the lines.

Upon completion of the survey, the data were transferred to a portable computer. The interpretation was completed using “RES2DINV”, a program developed by Dr. M.H. Loke. Resistivity sections were created using the calculated resistivity against the “A” spacing.

A total of 5 electrical resistivity (ER) lines were run through the site at Bishops to provide a non-intrusive survey of the subsurface and to comment on any potential anomalies/ karst features present.

The line positions are shown on Map 3, Appendix A.

Some extreme resistivity readings were trimmed during the data processing in order to make better cross sectional correlation.

Transects and Interpretation of Individual ER Lines

The following section describes each ERT section individually, followed by a collation of the results with emphasis on the shallow variations in resistivity and any extreme anomalies observed.

Bishops E.R Line 1 (North-West – South-East; 120 m)

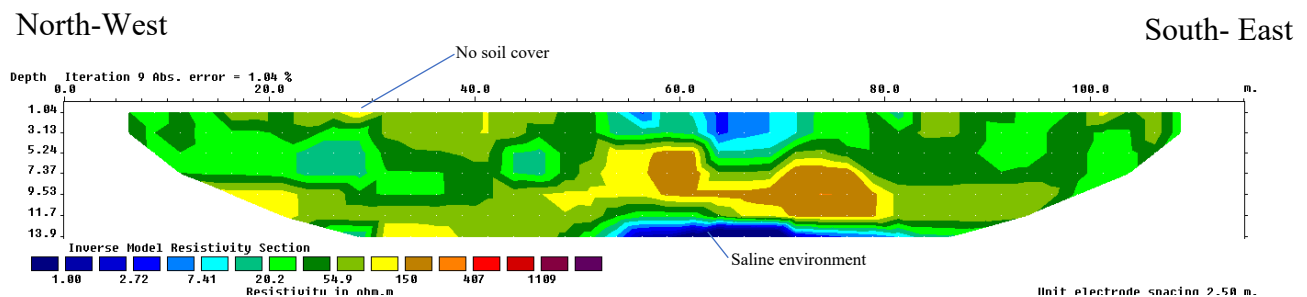
This E.R line was run along the north eastern boundary of the site, roughly parallel to the cliff edge and shows a relatively uniform subsurface strata.

No significant low resistivity layer (soil cover) is observed along the surface of this electrical resistivity profile.

The saline environment at Bishops causes overall lower than usual resistivity readings.

A zone of extreme low resistivity in the subsurface is likely the remanence of a shallow water table.

Overall this line shows no significant karst features or areas that would prohibit the development proposed for the site.



Bishops E.R Line 2 (North-West – South-East; 120 m)

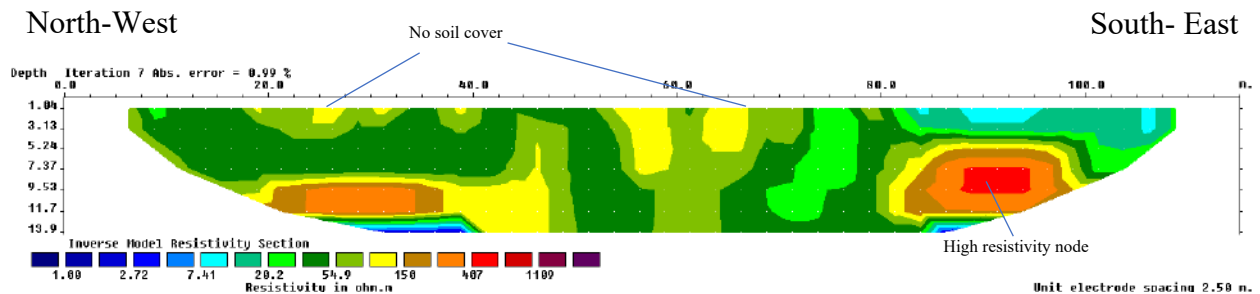
This E.R line was run along the most coastal lots, roughly parallel to the cliff edge and shows relatively uniform subsurface strata.

No significant low resistivity layer (soil cover) is observed along the surface of this electrical resistivity profile.

The saline environment at Bishops causes overall lower than usual resistivity readings.

A node of high resistivity is observed in the south east end of the line and was physically investigated during the drilling phase of the project. (Results shown in Appendix C.)

Overall this line shows no significant karst features or areas that would prohibit the development proposed for the site.



Bishops E.R Line 3 (North-West – South-East; 120 m)

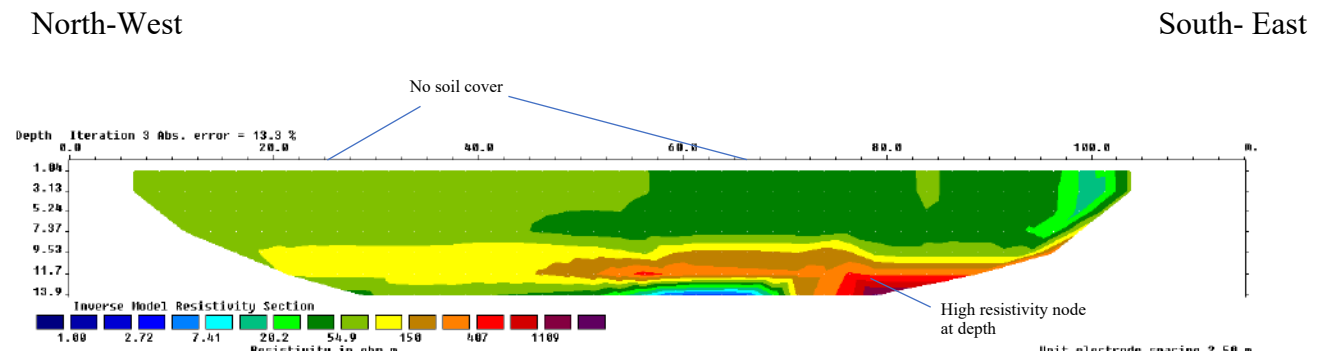
This E.R line was run through the central region of the site, roughly parallel to the cliff edge and shows relatively uniform subsurface strata.

No significant low resistivity layer (soil cover) is observed along the surface of this electrical resistivity profile.

The saline environment at Bishops causes overall lower than usual resistivity readings.

A zone of extreme low resistivity in the subsurface is likely an indication of a shallow brackish water table.

Overall this line shows no significant karst features or areas that would prohibit the development proposed for the site.



Bishops E.R Line 4 (North – South; 120 m)

This E.R line was run in a north to south orientation along the southern section of the site.

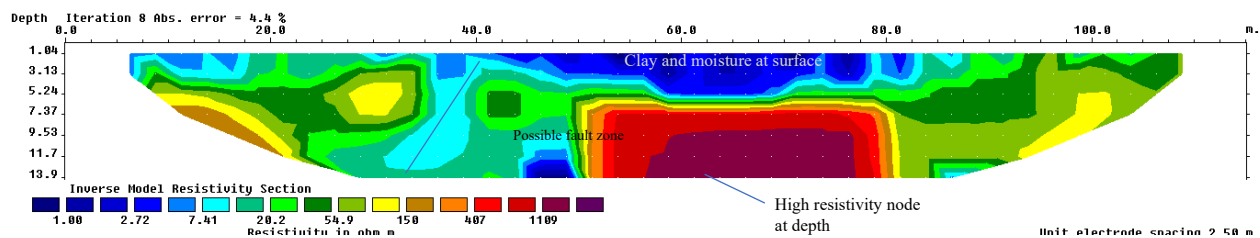
The saline environment at Bishops causes overall lower than usual resistivity readings.

The low resistivity layer deepens slightly in this region of the site as some moist clays accumulate in a small depression.

A node of high resistivity is observed in the central region of the line and should be physically investigated as a possible fracture zone. Airtrack # 9 was later drilled in this zone and did not show any major voids.

North

South



Bishops E.R Line 5 (North-East– South-West; 120 m)

This E.R line was run in the south eastern section of the site, close to the road entrance.

No significant low resistivity layer (soil cover) is observed along the surface of this electrical resistivity profile.

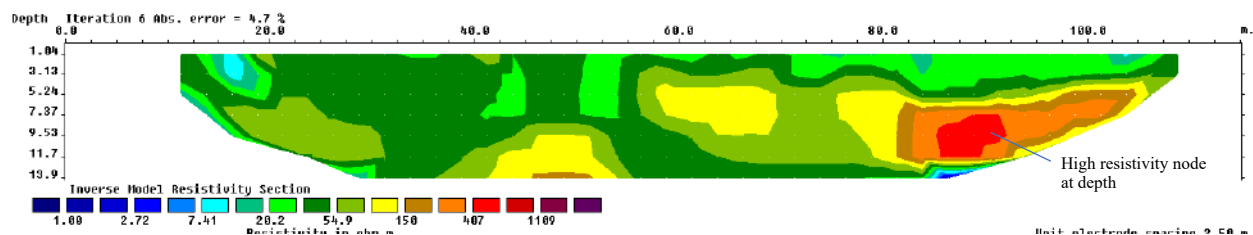
The saline environment at Bishops causes overall lower than usual resistivity readings.

A relatively small node of high resistivity is observed close to the road entrance and is likely an area of recrystallized limestone.

Overall this line shows no significant karst features or areas that would prohibit the development proposed for the site.

North- East

South- West



Electrical Resistivity Summary

The aim of the geophysical survey conducted on the site at Bishops, St. Lucy, Barbados, was to characterize the subsurface to a depth of 12 meters in preparation for residential development.

The results of the resistivity survey done on the site showed relatively uniform, stratigraphy across the site, with a small number of anomalies showing extremes in resistivity. Overall the readings correlate with moderately well consolidated sandy limestone in a coastal saline environment. Some small nodes of increased resistivity are observed and are likely zones of recrystallization.

The survey generally showed little to no extreme low resistivity at the surface which highlights the absence of a pronounced topsoil layer; though a zone of low resistivity can be seen in the central region of the site which correlates with a small clay and moisture filled depression. It appears that a number of pits were dug in this area for agricultural purposes and the root systems and ponding of moisture could have caused a deeper than usual low resistivity profile.

A relatively low resistivity zone is observed at the base of the coastal profiles and could be a representation of the saline water table.

An area of high resistivity can be observed in the central region of the site along E.R line 4 at approximately 9 meters depth. Further physical investigation is recommended for this zone during the construction phase to assess the ambiguity associated with high resistivity anomalies.

6. DRILLING SURVEY

AIRTRACK DRILLING:

The Airtrack drilling machine is a fast and relatively inexpensive method of subsurface investigation. Borehole advancement is achieved by rapid rotational down force of a drill bit which is mounted at the end of the drill pipe combined with a hammer action. The drill bit cuts the formation into small pieces, called cuttings which are brought to the surface using high pressure compressed air or water.

13 airtrack boreholes were drilled at the Bishops site to further investigate the subsurface. Approximate locations are shown on Map 3 Appendix A.

The objective of the Airtrack drilling is:

1. To determine whether any voids exists at depth.
2. To try to get an estimate of the rock quality (hardness) from the drill rate.

The determination of rock hardness using this method is largely subjective and was done through examination of the ejected cuttings as well as the rate of drill bit penetration.

The determination of cavities was done through measuring drill stem length and observing any sudden drops in the drill bit.

Due to the method of operation it was not possible to extract actual rock cores for laboratory testing or hand specimen observation.

Airtrack hole #1

Located in the North-eastern section of the site, approximately 25m from the coastal cliff.
This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 2ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.
A zone of harder recrystallized limestone was observed at 30ft + as drill rates slowed beyond this depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #2

Located in the North-eastern section of the site, approximately 25m from the coastal cliff.
This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 1ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.
A zone of harder recrystallized limestone was observed at 30ft + as drill rates slowed beyond this depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #3

Located in the North-eastern section of the site, approximately 25m from the coastal cliff.
This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 2ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

A zone of harder recrystallized limestone was observed at 30ft + as drill rates slowed beyond this depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #4

Located in the Eastern section of the site, approximately 30m from the coastal cliff.

This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 2ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #5

Located in the Eastern section of the site, approximately 80m from the coastal cliff.

This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 2ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

A zone of harder recrystallized limestone was observed at 30ft + as drill rates slowed beyond this depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #6

Located in the central section of the site, approximately 80m from the coastal cliff.

This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 2ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~3ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

A zone of harder recrystallized limestone was observed at 12ft – 22ft as drill rates slowed within this zone, beyond which it increased to end of hole.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #7

Located in the north western section of the site, approximately xxxm from the coastal cliff.

This hole saw little to no soil cover (<1ft).

The drill encountered a relatively hard cap to a depth of 3ft underlain by a sharply contrasting layer of a less compacted carbonate marl to ~4ft.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #8

Located along the North Western section of the site, this hole saw approximately 1ft of top soil underlain by 2ft of weathered material to the bedrock.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering harder, recrystallized nodes.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #9

Located central section of the site, this hole saw 5ft of top soil and weathered material to the bedrock.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering harder, recrystallized nodes at depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #10

Located in the southern section of the site

The drill encountered a thin clay layer underlain by a moderately dense limestone bedrock.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated sandy limestone.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #11

Located in the south - central section of the site, this hole saw 4ft of top soil and weathered material to the bedrock.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering harder, recrystallized nodes at depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #12

Located in the extreme south of the site, close to the road way entrance.

The drill encountered a relatively thin clay layer underlain by a dense limestone bedrock.

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

A zone of harder recrystallized limestone was observed at 4t – 12ft as drill rates slowed within this zone, beyond which it increased to end of hole.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

Airtrack hole #13

Located in the extreme south of the site, close to the road way entrance.

This hole saw little to no soil cover (<3ft).

Based on the drill rates and the extruded cuttings, this hole consists mainly of moderately consolidated limestone at times encountering sandy pockets.

A zone of harder recrystallized limestone was observed at 30ft + as drill rates slowed beyond this depth.

No rapid drops usually associated with voids or fractures were observed during the drilling of this hole.

AirTrack locations

BSP_AT1: 13°19'13" N 59°35'39" W (Within Section A)
21P 0218965 1474011

BSP_AT2: 13°19'12" N 59°35'38" W
21P 0218989 1473996

BSP_AT3: 13°19'11" N 59°35'37" W
21P 0219013 1473974

BSP_AT4: 13°19'10" N 59°35'36" W
21P 0219042 1473940

BSP_AT5: 13°19'10" N 59°35'38" W
21P 0219004 1473929

BSP_AT6: 13°19'10" N 59°35'39" W
21P 0218969 1473932

BSP_AT7: 13°19'11" N 59°35'39" W
21P 0218953 1473965

BSP_AT8: 13°19'11" N 59°35'41" W
21P 0218909 1473957

Airtrack Drilling Summary

The airtrack drilling done across the site provided a general stratigraphic profile between 0-40ft depth. The logs generally corroborated the Electrical Resistivity profiles showing a relatively thin to nonexistent clay layer at the surface underlain by well to moderately consolidated sandy limestone.

Some zones of poorly consolidated sandy material were observed at depth, but these appear to be relatively small and isolated.

The airtrack holes drilled along section A showed no indication of an extension of the coastal undercut inland towards the proposed site of development. No other significant voids or karst features were observed during the drilling phase of the project.

BOREHOLE DRILLING:

There was a total of five (5) holes, cored over the area. These were cored with a 2 inch O.D. core barrel down to a depth of 10.5 feet below surface;

BH-5 which encountered soil at surface was started with a 4 inch bit in order to penetrate the soil cover.

The locations of these boreholes BH-1 to BH-5 are shown in Map3. The detailed geological logs for these holes are at Appendix D.

Geologically, the site is composed of a reef rubble, coral limestone, of varying rock consolidation, and hardness. The borehole log analysis indicates that the denser, more consolidated rock occupies the coastal zone from the cliff edge to about 65 metres inland; the rock becomes sandier and siltier up to the inland boundary at about 270 metres distance from the coast – the soil cover also thickness towards the island boundary e.g. BH-5.

In terms of the vertical variability of the limestone, the borehole findings were as follows: BH-1 and BH-4 along the coastal zone showed relatively dense rock down to approximately 8.0 feet depth, and then penetrated carbonate sands with occasional solid, coral fossils.

BH-2 and BH -3 showed hard surface rock (recrystallised reef rubble limestone and carbonate sand) down to about 2.5 ft; silty; carbonate sand interspersed with the occasional fossil corals then occupied the subsurface to 10.5 feet and beyond.

BH-5 showed approximately 2.0 feet of dense clay soil, underlain by silty carbonate sand. Visual observations along the exposed coastal cliffs and the gully to the north of the site, tended to corroborate the borehole findings. Generally therefore there seems to be also some vertical variation from denser rock in the upper 8 feet to a siltier, sandy limestone at depth.

Borings were logged using both geological and the Unified Soil Classification System (USCS) classification systems. Samples were then collected at chosen depths (according to ASTM D 2488?) and tested at the Barbados National Standards Institute (BNSI) for rock strength analysis.

7. ROCK STRENGTH ANALYSIS:

Cores were taken in the five boreholes drilled. However, only two gave good enough rock quality (RQD) to allow laboratory testing. This was due to the sandy nature of the rock, which caused it to wash out of the core barrel. This rock however would have remained consolidated and stable in its “in situ” situation.

The compression strength results ranged from 340 to 7160 kilo Newtons per square metre. (KN/m²)— (See BNSI Report Appendix. These give allowable soil bearing capacity of 34.0 to 7160 KN/m². These are estimates utilizing the equation:- Allowable bearing capacity =

Compression Strength (KN/m²) / Safety factor (SF) where SF is derived from RQD.

Generally, in the limestone bedrock found in Barbados, Shallow strip footing foundations are used; where the soils are somewhat thicker piles (columns) may be used to reach bedrock) In either case incident loads on the floor slab will be spread over large effective areas resulting in relatively small pressures are exerted at the foundation level. The British Standard Code (BS6399) recommends loads of 5.0 to 7.5 KN/m² for building areas susceptible to overcrowding.

The two-storey buildings projected for this site would fall into a lower category than these “areas susceptible to overcrowding”, e.g. gyms, and dancehalls. At any rate the bearing capacity – estimated above are high in relation to the required loads.

Notwithstanding the above, a qualified civil/Structural Engineer should be used to design the foundation.

8. SUMMARY AND CONCLUSIONS:

Several non-intrusive and intrusive geotechnical investigations were conducted in the general area of the proposed construction at Bishops, St. Lucy.

This report documents the data collected and analyzed to date, and gives some conclusion on the site characteristics with respect to the development of multiple two-storey dwellings.

The following is a brief summary of the various sections:

- (1) The general area of the site is a flat to gently sloping landscape with the significant topographic feature being a 12 meter coastal cliff face along the north eastern edge.
- (2) The subsurface shows a very thin to nonexistent soil profile overlying some 50 meters of consolidated reef rubble limestone. These subsurface conditions are relatively uniformed throughout the site except for some relatively small sandy zones.
- (3) The surface of the limestone has a pronounced recrystallized layer (hard cap) of approximately 2ft. DCPs done on the layer underlying this hard cap show readings which indicate this layer acts as well to moderately well compacted marl fill and should be able to withstand the loads of the proposed development.
- (4) The Electrical Resistivity Survey corroborated with the drilling investigation to show no major karst features or geological anomalies which would present a hindrance to site development.
- (5) Since this coastline shows a tendency for the spalling off of large blocks from the cliff edge, it is recommended that no major structure be placed within 15 meters of the cliff edge; this includes structures like swimming pools or garden huts. The main housing structures should be sited on the inland area of the site; i.e. about 25 meters from the cliff edge. From the site plan, the chosen set back from the cliff edge is more than adequate to provide long term and sustainable development.

- (6) It is still however recommended that a qualified Civil and Structural Engineer be consulted for foundation design.
- (7) A Biannual monitoring program by a qualified earth scientist should be put in place to assess the rate of erosion and conduct controlled spalling exercises to reduce the occurrence of spontaneous catastrophic rock fall.
- *It should be noted that any remediation measures should first be approved by the Coastal Zone Management Unit.*

9. LIMITATIONS

The material in this report reflects HTI's best judgment in the context of the information available at the time of preparation.

This report is based on data and information collected during the investigation supervised by HTI personnel and is based solely on the conditions of the island at the time of the site reconnaissance, as described in this report.

No changes to the report form or content may be made without HTI's written approval. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibilities of such third parties.

The unconsolidated nature of the material extracted from the boreholes made it difficult to get compression strength test for all locations across the site.

10. REFERENCES

Geological Map of Barbados, 1: 50,000 scale 1982: Poole E.G. and Barker L.H.

Loke M.H. 2009 Geoelectric Imaging 2D & 3D: RES2DINV ver 3.58, Geotomo Software, Sdn Bhd, Malaysia. pp. 148. DECLAN (1994).

Short, A. D. (2012) Coastal Processes and Beaches. Nature Education Knowledge 3(10):15

Skinner, B. J., Porter, S. C., Park, J. J., & Levin, H. L. (2004). Dynamic Earth: An introduction to physical geology.

Spencer, T. (1988). Limestone coastal morphology. Progress in Physical Geography, 12(1), 66–101.

11. APPENDICES:

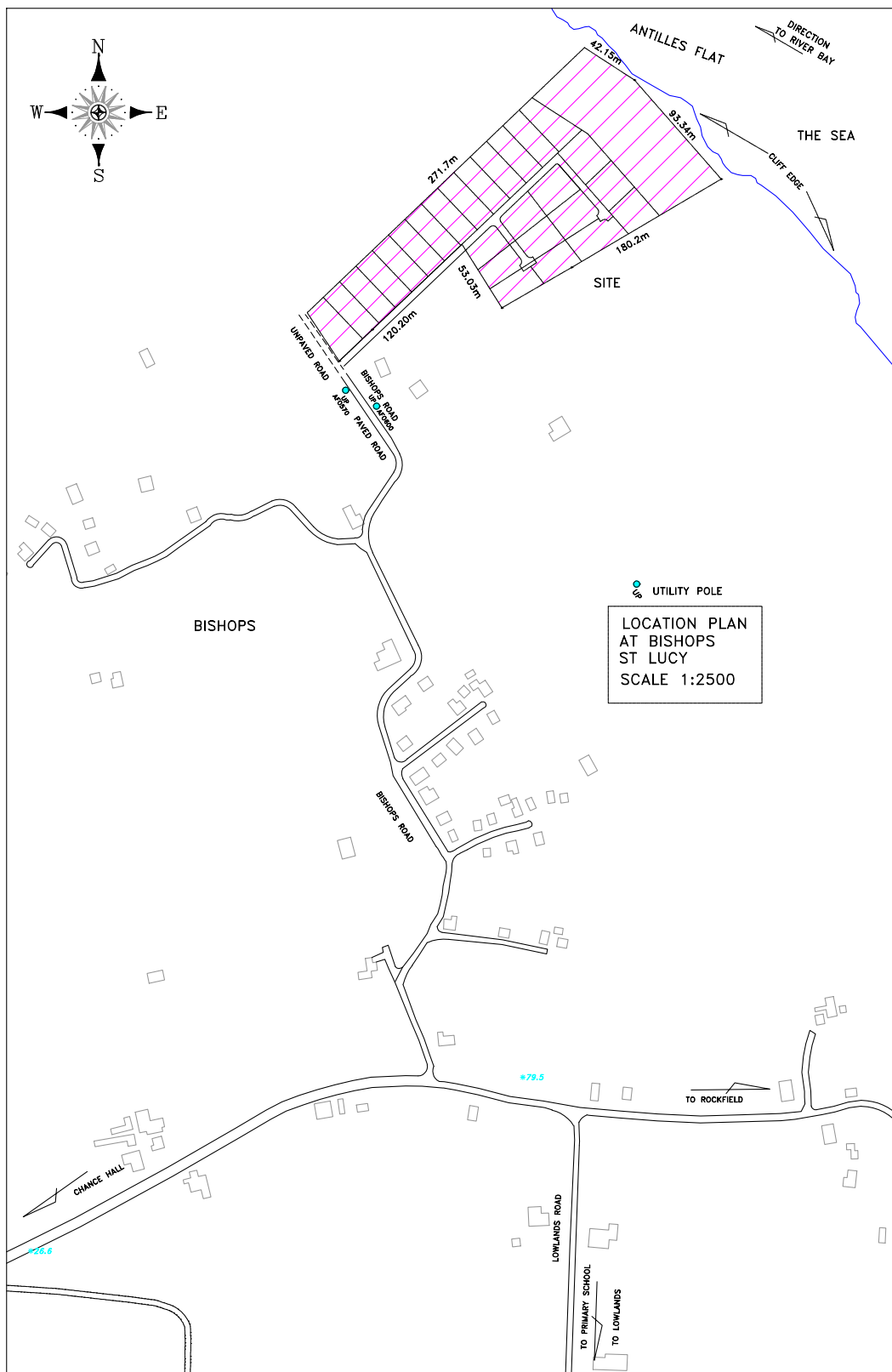
- A. Maps & Figures
- B. Electrical Resistivity Profiles
- C. Airtrack Logs
- D. Borehole Logs
- E. Laboratory Tests Results
- F. Engineering Calculations
- G. Site Photographs

APPENDIX A: Maps & Figures

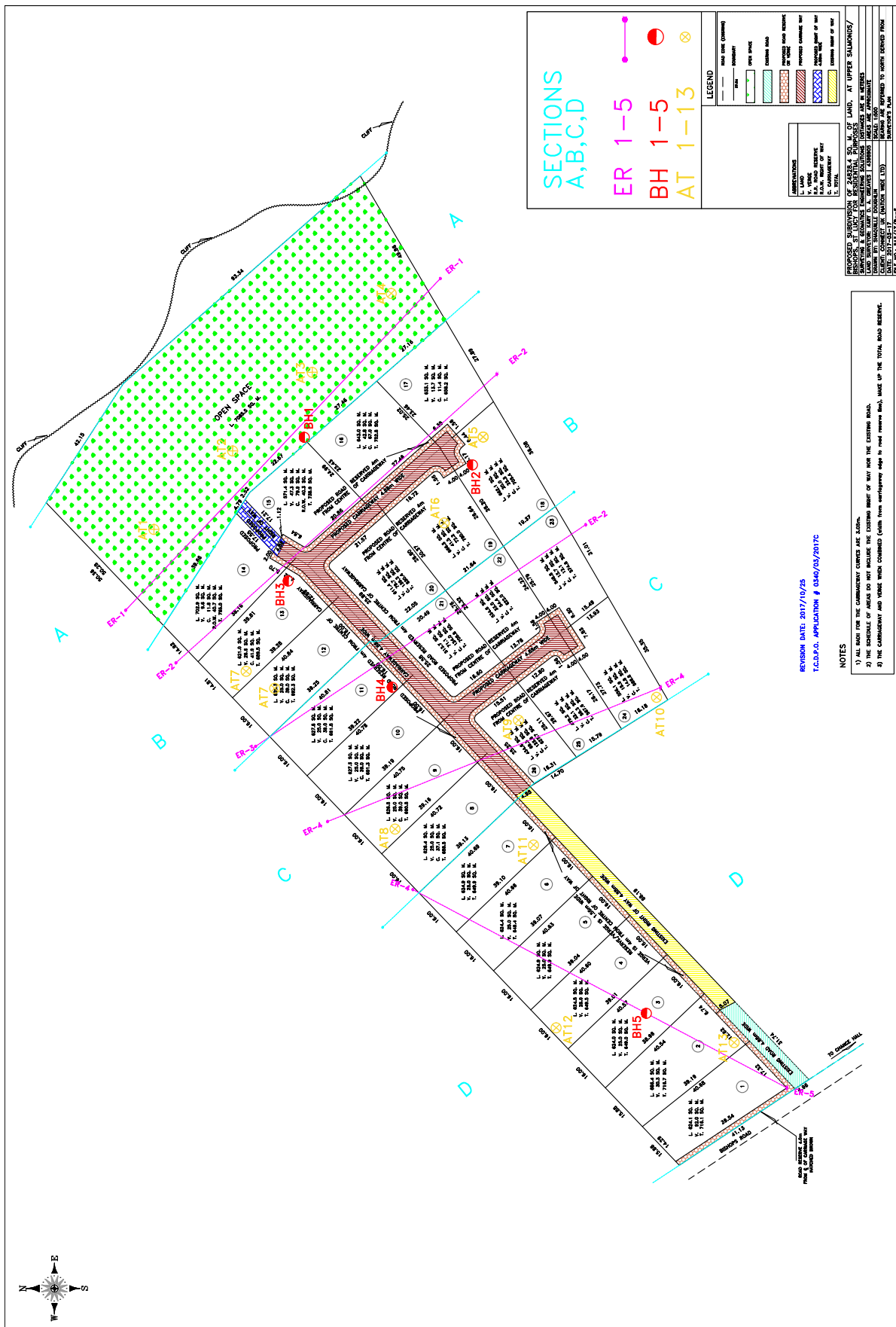


Map 1. Location Map

Map 2.



Map 3.



Cliff Erosion and Wave-cut Platforms

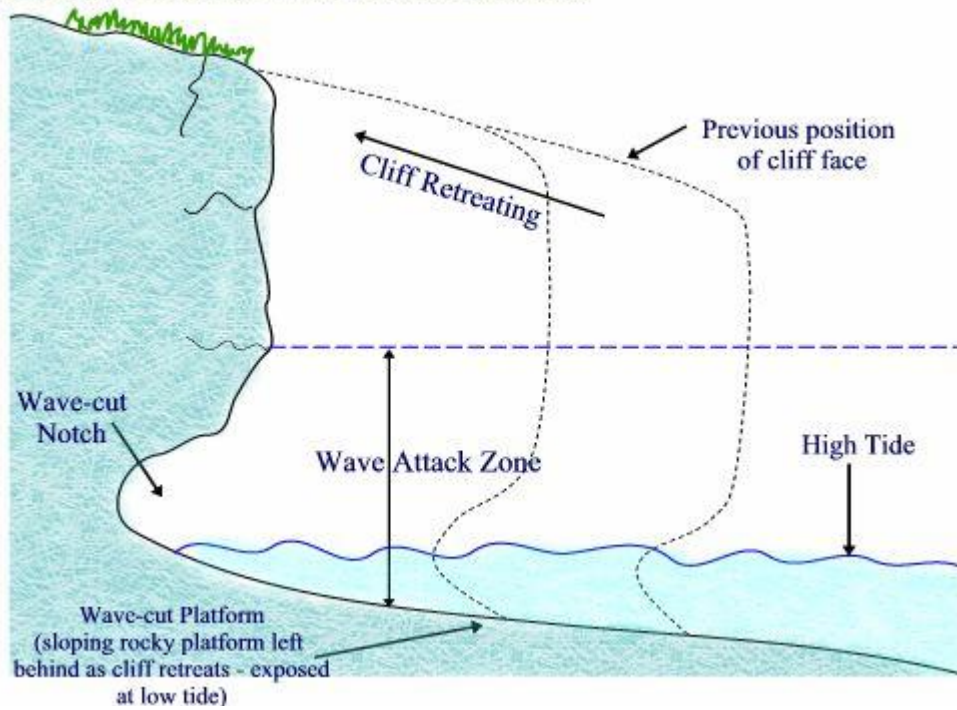


Figure 1.

This figure illustrates the process of cliff edge erosion.

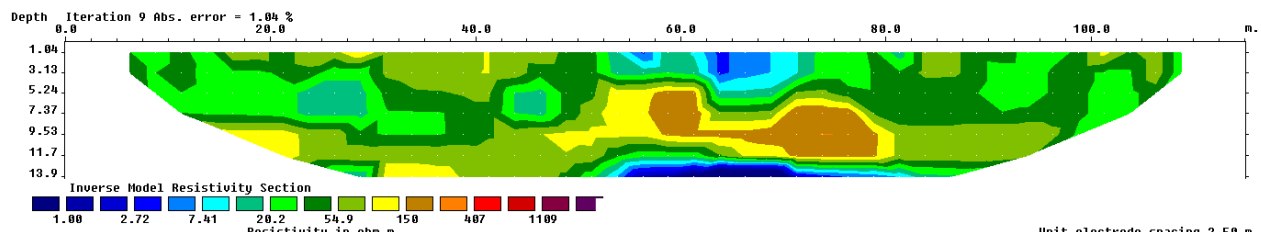
APPENDIX: B: Electrical Resistivity Profiles

Bishops E.R Survey

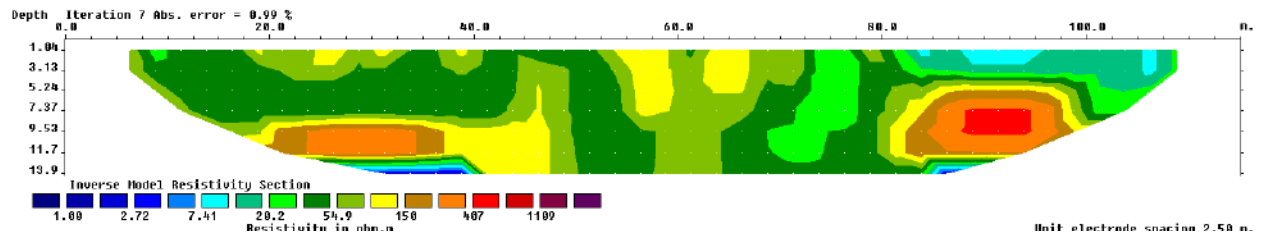
North- West

South- East

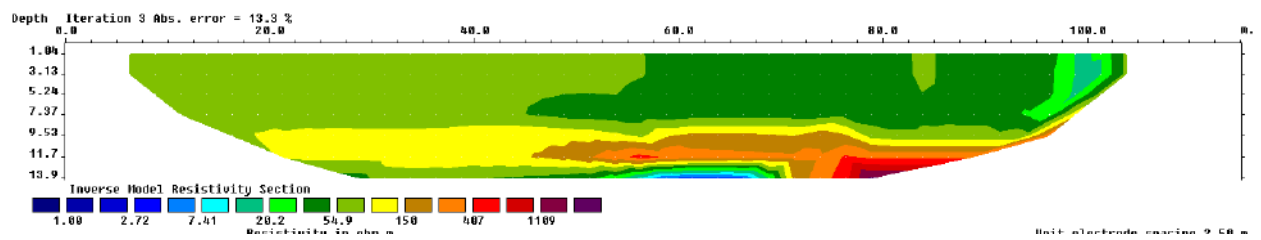
E.R 1



E.R 2



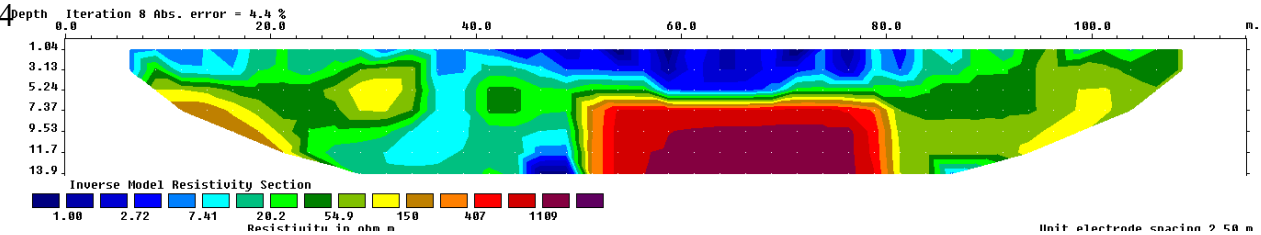
E.R 3



North

South

E.R 4



North- East

South- West

E.R 5

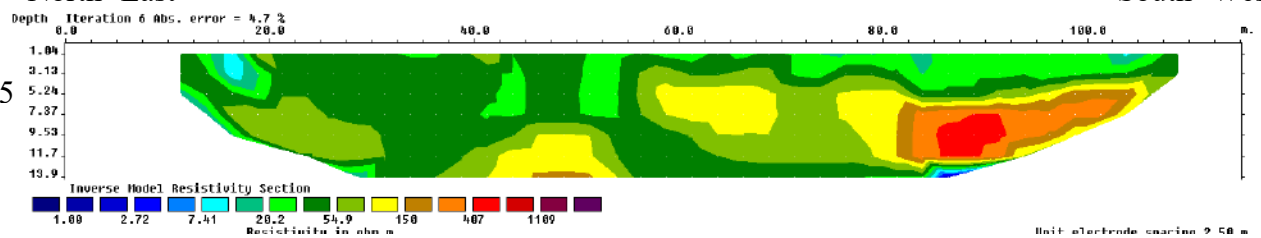
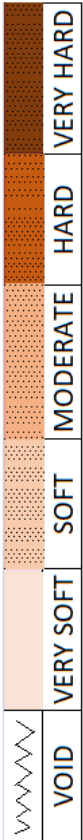
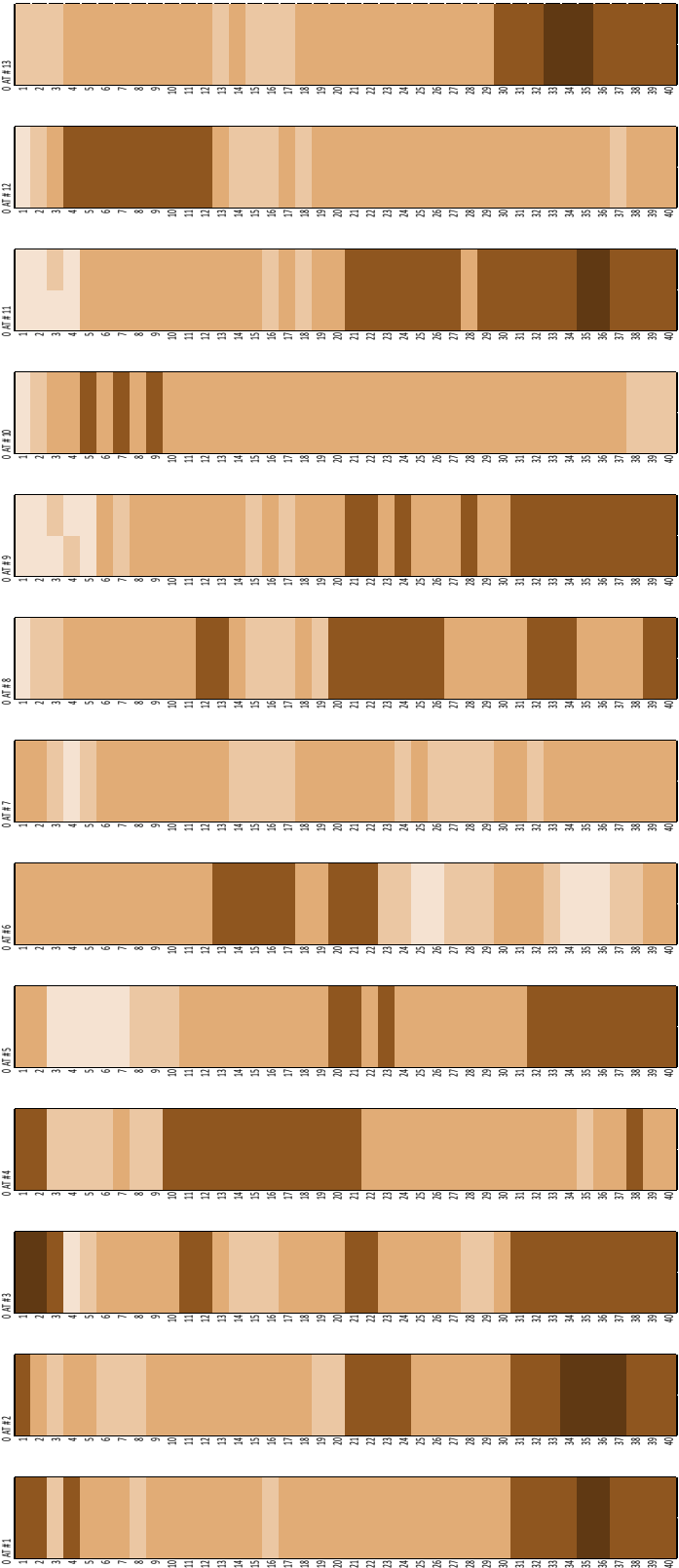


Fig B1.

APPENDIX C: Air Track Logs

BISHOPS AIRTRACK LOGS

Fig C1.



☆ Depth in Feet

Note: No core samples were extracted from the airtrack boreholes in order to conduct laboratory testing to correlate the rate of drilling to the hardness of the rock, however a general geological estimation could be made to give an estimate of subsurface conditions using this method.



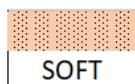
Well consolidated sandy limestone, in part recrystallized.



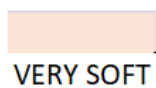
Well consolidated sandy limestone



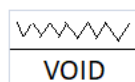
Moderately consolidated sandy limestone, at times well consolidated fragments in a matrix of poorly consolidated carbonate marl.



Poorly consolidated sandy limestone. (In part Bucket rippable) Vuggs may cause accelerated drill rates.



Poorly consolidated to loose carbonate sand (bucket rippable). Clayey zones also seen at this rate of penetration.



Rapid drill rate suggesting no solid material encountered.

APPENDIX: D: Borehole Logs



Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: **RESIDENTIAL G.I. - BSP0121**
Project Location: **BISHOPS, ST. LUCY,
BARBADOS**

Log of Boring **BH1**
Sheet 1 of 1

Date Drilled: 18/01/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 2-IN DT	Total Depth of Borehole: 10FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'11" N 59°35'37" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6 in)	RQD (%)	Recovery (%)	Material Description	USCS	Remarks and Other Tests
0								
1	1		-	0	89	Exposed limestone outcrop at surface was solid, well cemented and recrystallised. White to yellowish white with reef rubble corals (porites/cervicornis) present.	SM	Recovery: 24/27" RQD: 0/27"
2.5	S1							
5	2		-	43	69	White, rubble limestone at top to a solid, dense limestone to 5.1ft. Yellowish-white; fine, carbonate sand matrix (60%); 40% corals mostly well cemented. Loose sand likely washed out of core barrel.	SM	Recovery: 41.5/60" RQD: 26/60"
7.5								
10	3		-	0	60	Moderately well cemented, fine-grained carbonate sand; increasingly silty with depth causing poor RQD; yellowish-white.	SC	Recovery: 18/30" RQD: 0/30"
10						END OF BOREHOLE AT 10 FT		
12.5								
15								

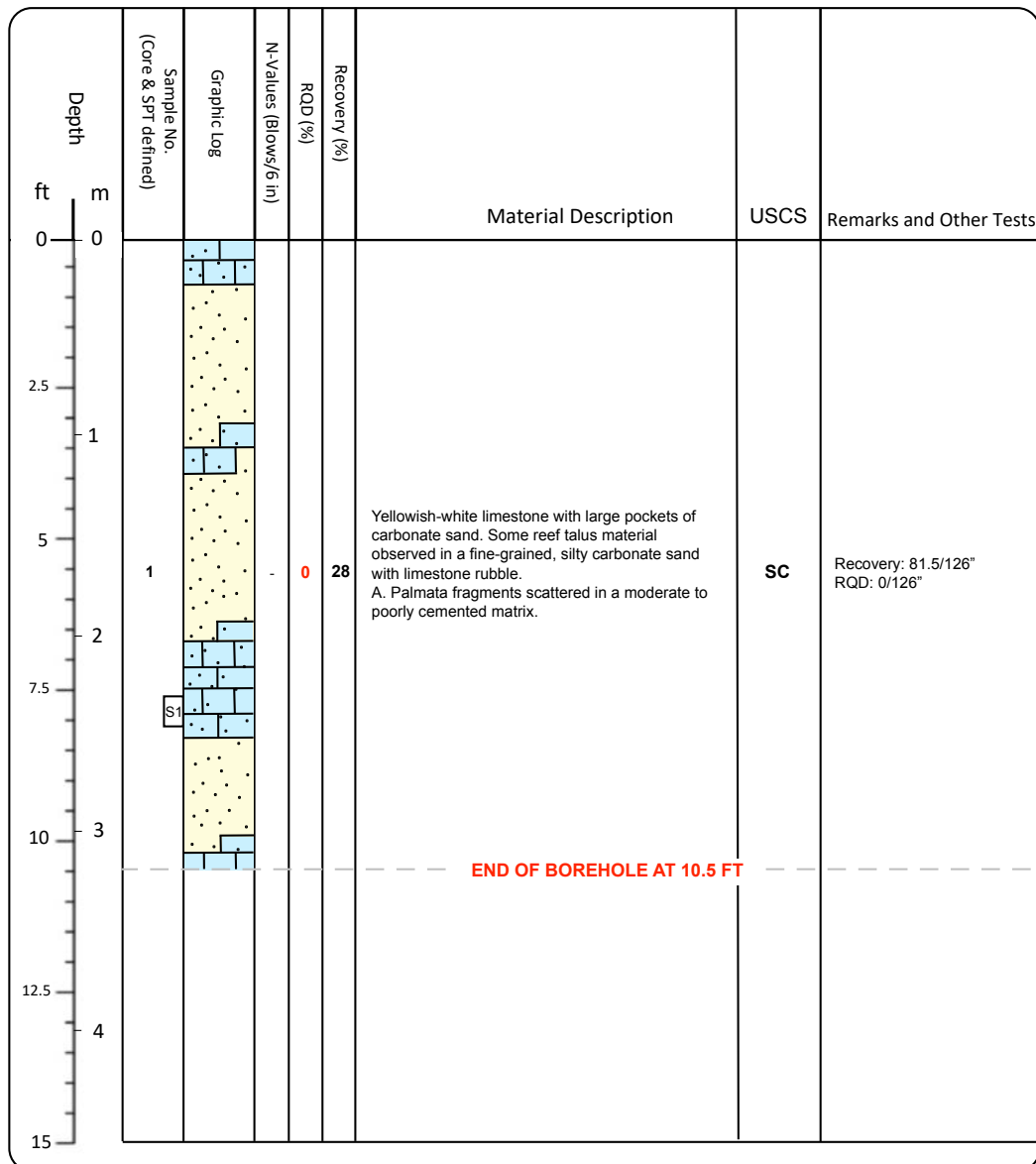


Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: **RESIDENTIAL G.I. - BSP0121**
Project Location: **BISHOPS, ST. LUCY,
BARBADOS**

Log of Boring **BH2**
Sheet 1 of 1

Date Drilled: 18/01/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 2-IN DT	Total Depth of Borehole: 10.5 FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'10" N 59°35'38" W	



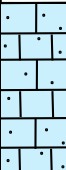


Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: **RESIDENTIAL G.I. - BSP0121**
Project Location: **BISHOPS, ST. LUCY,
BARBADOS**

Log of Boring **BH3**
Sheet 1 of 1

Date Drilled: 19/01/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 2-IN DT	Total Depth of Borehole: 10FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'11" N 59°35'40" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6 in)	RQD (%)	Recovery (%)	Material Description	USCS	Remarks and Other Tests
0 0	1		-	0	22	This is a surface crust - 2ft; composed of solid, dense limestone; yellowish white to brown consisting of medium to fine carbonate sand; the core is fragmented and fractured; occasional reef talus material present	SM	Recovery: 10/46" RQD: 0/46"
2.5 1	2		-	0	97	Loose carbonate sand with rubble and silt, yellowish to brownish white; medium grained sand with good consolidation but poor to moderate cementation. Good recovery but poor RQD due to poor cementation of matrix.	SC	Recovery: 72/74" RQD: 0/74" Possible sieve analysis from material at 6-8ft
5 2								
7.5 3								
10 3						END OF BOREHOLE AT 10 FT		
12.5 4								
15 4								



Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: RESIDENTIAL G.I. - BSP0121	Log of Boring BH4
Project Location: BISHOPS, ST. LUCY, BARBADOS	Sheet 1 of 1

Date Drilled: 19/01/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 2-IN DT	Total Depth of Borehole: 10.5 FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13°19'12" N 59°35'39" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6in)	RQD (%)	Recovery (%)	Material Description	USCS	Remarks and Other Tests
0	1		-	27	51	Solid, dense fossiliferous limestone crust; yellowish-white to white with reef talus material. Well cemented and consolidated to 9.5" followed by a rubbly and fragmented limestone, sand present is fine and medium grained. There was moderately good cementation at the base	SM	Recovery: 18/35" RQD: 9.5/35"
2.5	2		-	0	72	Yellowish-white rubbly limestone, sandy; fine to medium grained sand that is well consolidated but poorly to uncemented; broken reef talus material present (A Palmata and A Cervicornis). Sand matrix is 60%.	SM	Recovery: 48/67" RQD: 0/67" Possible sieve analysis from 6-6.5ft
5	3		-	20	88	Solid core of white A Palmata coral in sand at top; carbonate sand matrix (medium to fine grained). Rubble fragments to loose carbonate sand at base, medium to fine grained; some reef talus material present; poor to moderate cementation	SC	Recovery: 22/25" RQD: 5/25"
7.5	END OF BOREHOLE AT 10.5 FT							
10	4		-	-	-			
12.5								
15								



Hydroterra Inc.
Geological + Hydrogeological
Consultants

Project: RESIDENTIAL G.I. - BSP0121	Log of Boring BH5
Project Location: BISHOPS, ST. LUCY, BARBADOS	Sheet 1 of 1

Date Drilled: 20/01/2021	Logged By: T HARRIS	Checked by: L H BARKER
Sampling Method: CORE	Drill Bit Size/Type: 4-IN & 2-IN DT	Total Depth of Borehole: 10.1 FT
Hammer Data: N/A	Drilling Contractor: EDEY CORE SERVICE	Approximate Surface Elevation: 15m
Groundwater Level: -40FT	Borehole Location (GPS): 13° 19' 8" N, -59° 35' 43" W	

Depth ft m	Sample No. (Core & SPT defined)	Graphic Log	N-Values (Blows/6in)	RQD (%)	Recovery (%)	Material Description	USCS	Remarks and Other Tests
0	1		-	-	100	Brown, organic topsoil with limestone rubble, heavy vegetation present at the surface. The clayey soil held together as one core	PT	Recovery: 16/16" RQD: 0/16"
2.5	2		-	4	47	Sandy, reef talus limestone; fractured and fragmented; yellowish-white, moderately well cemented silty, carbonate sand >60%; hard cap rock at base of soil; A Porites coral observed.	SM	Recovery: 50/106" RQD: 4/106" Core bit was changed from 4-in to 2-in; could be a cause of rubbing of material
10	3	END OF BOREHOLE AT 10.1 FT						
12.5	4							
15								

Borehole # 1.



Date: 18/01/2021

Drill Used: Hilti Core Drill with
2" core bit

BH1

GPS: 13°19'11" N 59°35'37" W

Depth: 0-2.25ft

Recovery: 24/27"

RQD: 0/27"

USCS:

Material Description: Exposed limestone outcrop at surface was solid, well cemented and consolidated; rubble in parts of moderate cementation. White to yellowish white with reef rubble and porites/oolites present.

Borehole # 2.



Date: 18/01/2021

Drill Used: Hilti Core Drill with
2" core bit

GPS: 13°19'10" N 59°35'38" W

Borehole # 3.



Date: 18/01/2021

Drill Used: Hilti Core Drill with
2" core bit

GPS: 13°19'11" N 59°35'40" W

Material Description: Loose carbonate sand with rubble, yellowish to brownish white; medium grained sand with good consolidation

Borehole # 4.



GPS: 13°19'12" N 59°35'39" W

Material Description: Solid, dense fossiliferous limestone; yellowish-white to white with reef talus material. Well cemented and consolidated for 9.5" to a rubbly and fragmented limestone, sand present is fine and medium grained.

Borehole # 5.



Drill Used: Hilti Core Drill with 4" core bit at surface, 2" bit at depth

APPENDIX: E: Laboratory Results



Barbados National Standards Institution
 "Flodden" Culloden Road St. Michael Barbados W I
 Telephone: (246) 426-3870 Fax: (246) 436-1495 Email: office@bnsi.com.bb

UNIAXIAL COMPRESSION TEST RECORD

Test No.	MARK/ REF NO	Depth	DIMENSIONS Dia x Height (mm)	Weight g	Density kg/m ³	MAX LOAD kN	MAX LOAD lb	STRENGTH N/mm ²	STRENGTH psi	Angle of Fracture
1	BH 1 S1	0' - 2.5'	43 *87	200	1582	1.5	668	1.03	150	60°
2	BH 1 S2	4.5' - 5.0'	43 *110	294	1840	10.4	4628	7.16	1039	100°
3	BH 2 S1	7.6' - 8.3'	43 *63	170	1857	0.5	223	0.34	50	70°

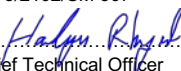
REMARKS:

SOURCE: Hydroterra Inc
 MATERIAL: Limestone (cores)
 PROJECT: Bishops
 DATE TESTED: 1/2/2021

CATERGORY:

OUR REF NO: 573/2102/SM 567


 Technician
 1/2/2021
 Date


 Chief Technical Officer
 Laboratory Services
 Date 2021-02-02

APPENDIX: G: Site Photos



Photo 1.

This arial photo shows the relatively flat site, being viewed from the north west towards the south east.



Photo 2.
This photo shows the central regions of the site.



Photo 3.
This photo shows the airtrack drill probing the subsurface.



Photo 4.
This photo shows the cliff edge and cliff edge undercut.



Photo 5.
This photo shows the remnants of previous cliff edge erosion.



Photo 6.
An arial photo of the site being viewed from coast.



Photo 7.
Acropora Palmata corals observed in steep limestone outcrop in waterway observed south of River Bay

Photo 8.

Fracture on north boundary which is oriented parallel to the coastline, likely to topple off with time



Fracturing and cliff recession on cliff face just south of land boundary

Photo 9.



Image of the material extruded from the airtrack drilling process.

UNIT PLANS



Marketed By - Connect UK
Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk



0m 10m



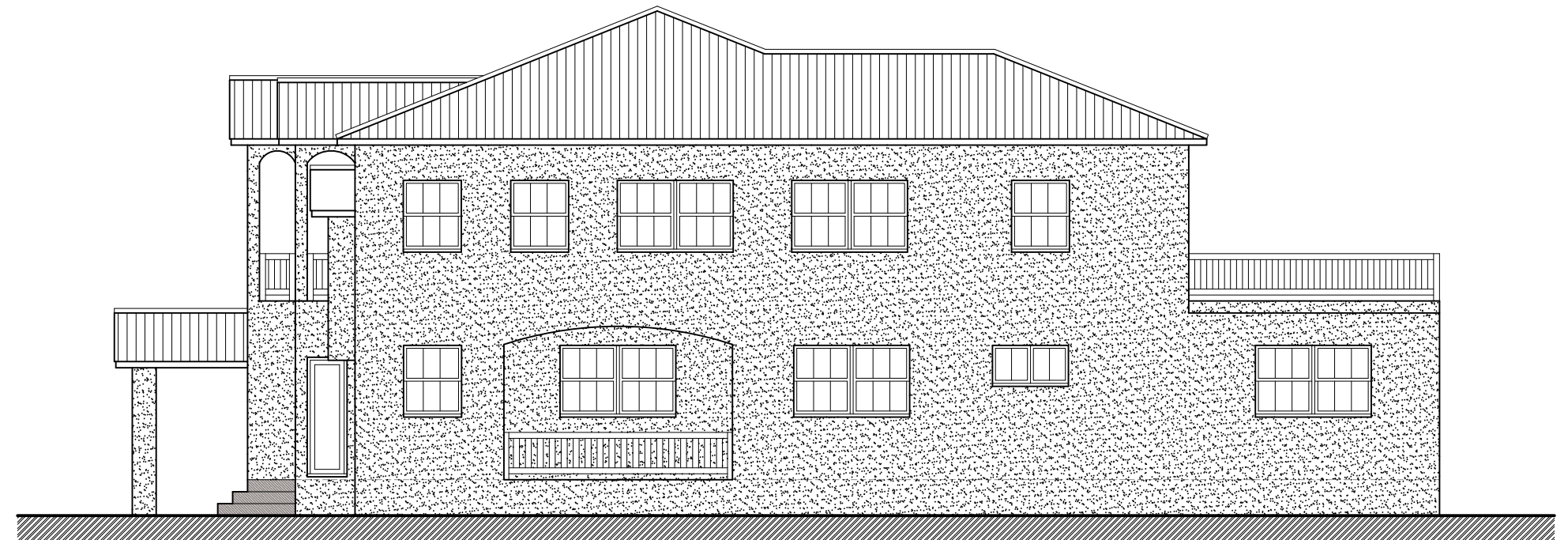
FRONT ELEVATION
PROPOSED ELEVATIONS SCALE 1:100



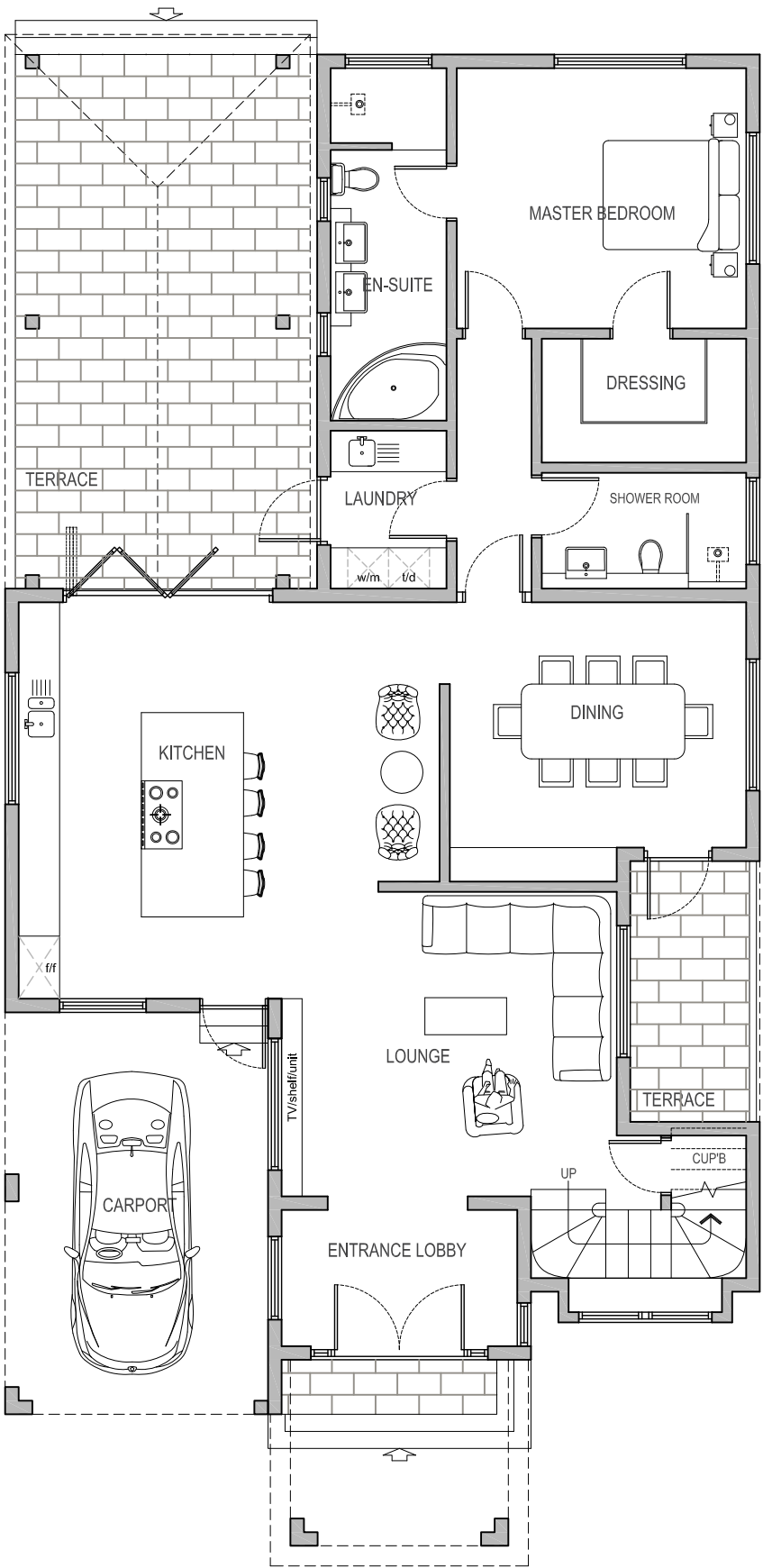
SIDE ELEVATION



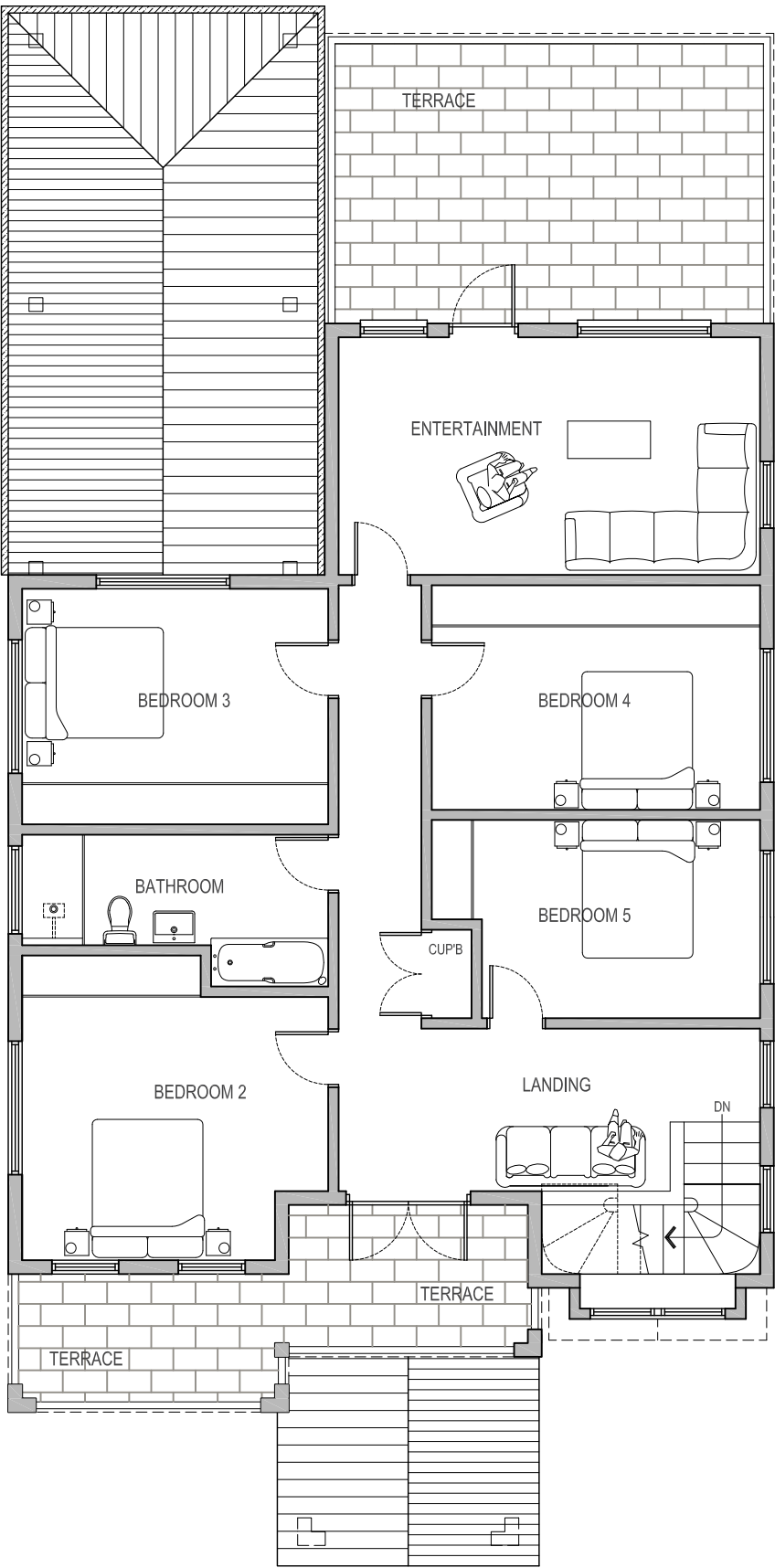
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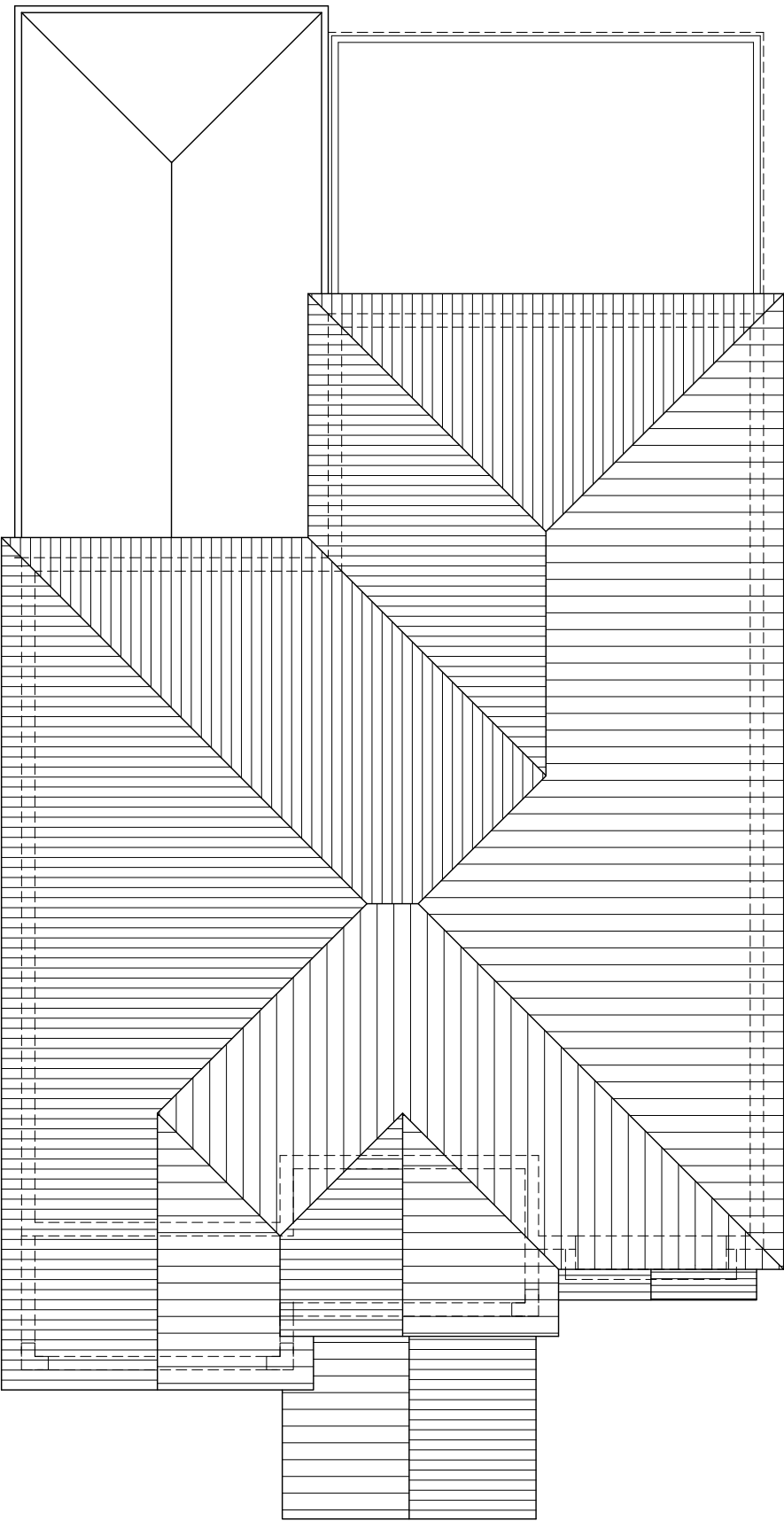
SIDE ELEVATION



PROPOSED GROUND FLOOR PLAN SCALE 1:100



PROPOSED FIRST FLOOR PLAN SCALE 1:100



PROPOSED ROOF PLAN SCALE 1:100

0m 10m

This drawing is to be read in conjunction with all other relevant drawings and specifications.
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C	CLIENT FORMAL ISSUE	12.10.22
B	CLIENT FORMAL ISSUE	12.10.22
A	CLIENT PRELIM ISSUE	06.10.22
REV	DESCRIPTION	DATE

wpd
ARCHITECTURAL SERVICES
15 RIDGESIDE, THREE BRIDGES, CRAWLEY,
WEST SUSSEX, BN11 1PB.
Tel No 01293 407297 Mobile 07792229979 email info@wpdconsultants.co.uk

CLIENT
CONNECT UK GROUP

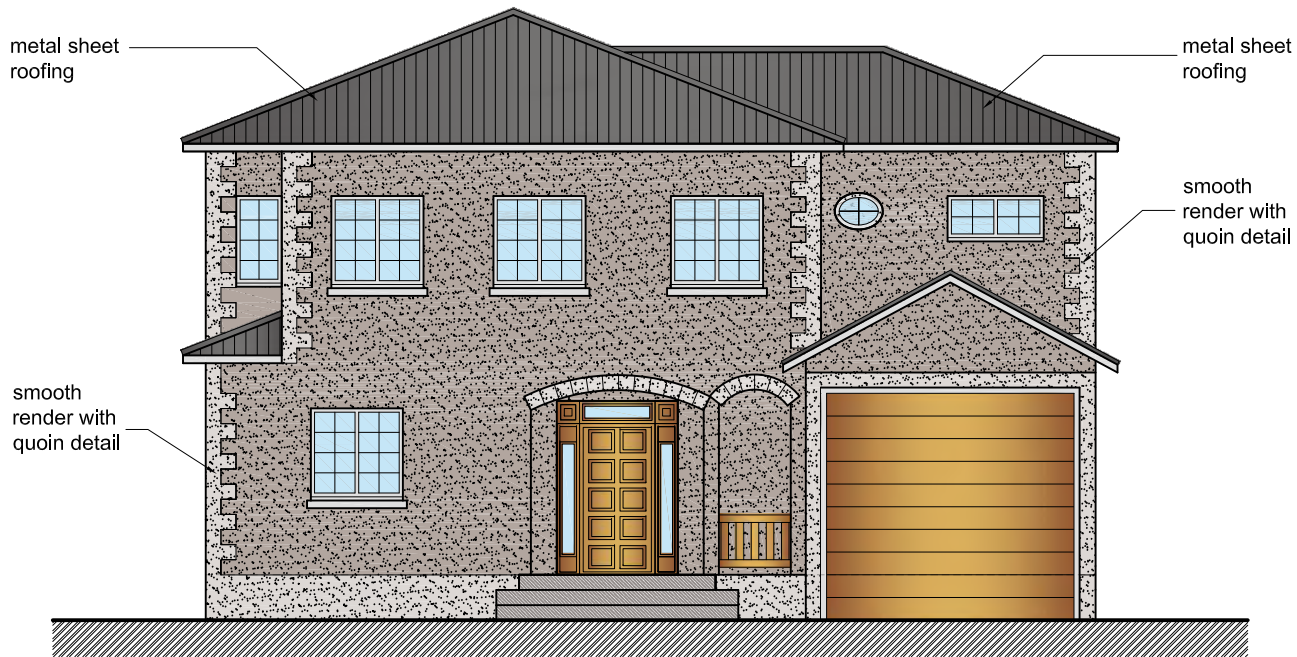
PROJECT
ERECTION OF RESIDENCES AT UPPER SALMONDS OR
BISHOPS, ST. LUCY, BARBADOS.

DRAWING
DWELLING TYPE - THE ROYAL GAMMA
PROPOSED PLANS & ELEVATIONS

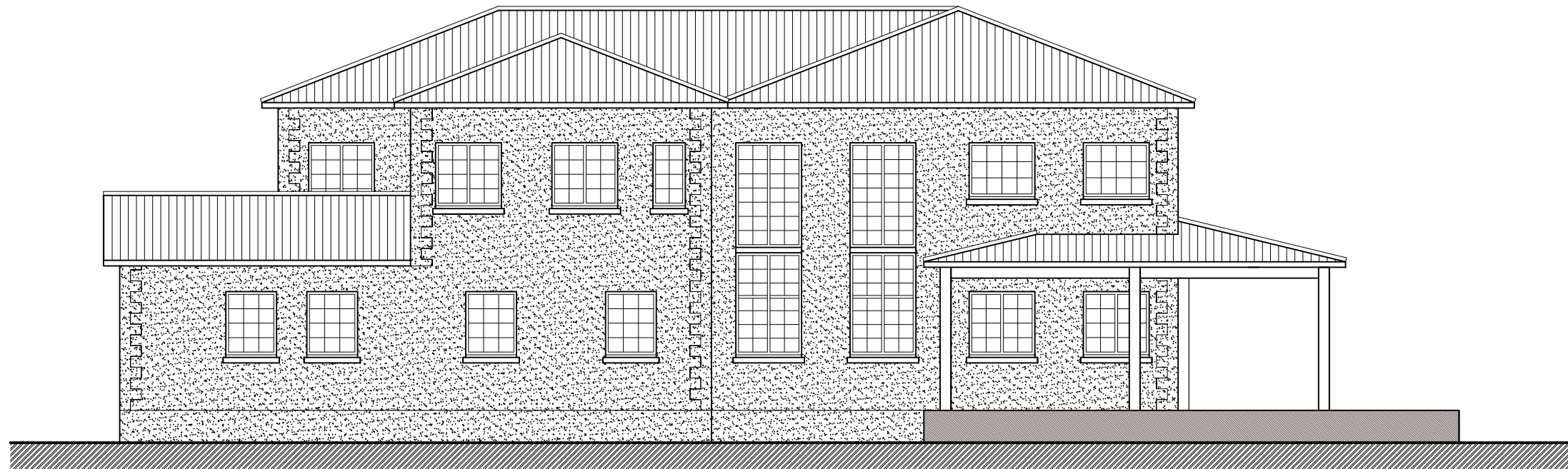
STATUS
BUILDING REGS PRELIM ISSUE

SCALE 1:100	DATE OCT 2022	DRG No WPD7222/A/10	REVISION C
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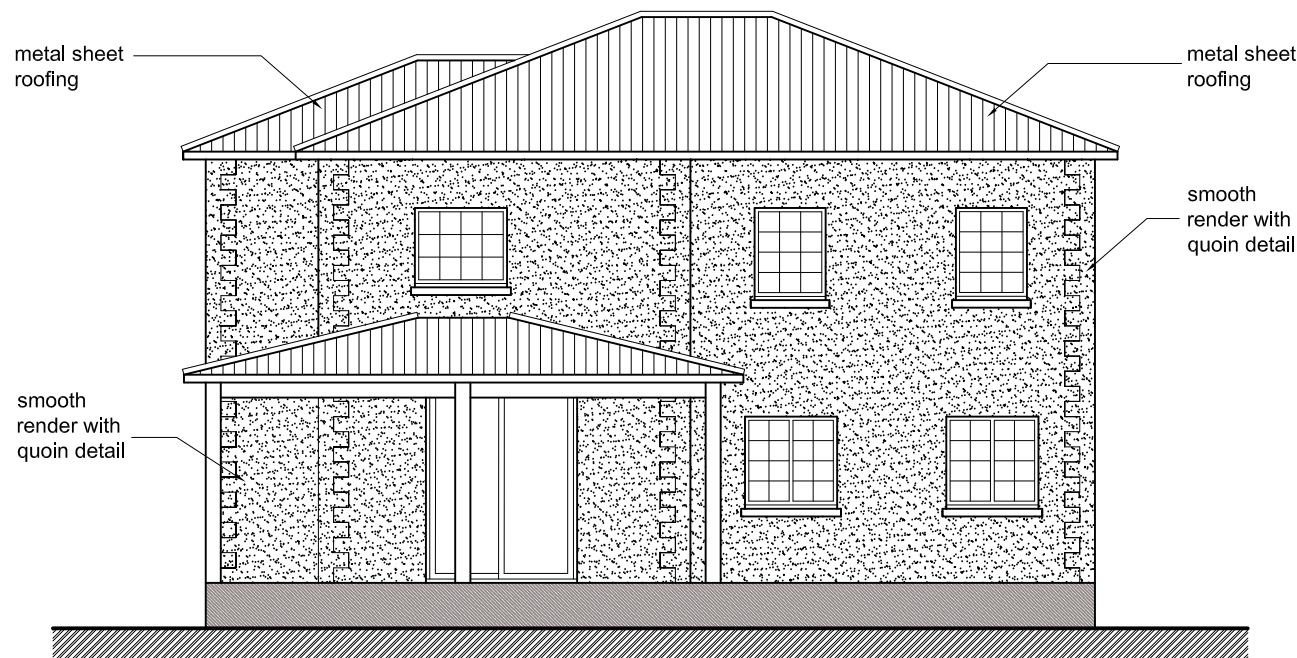
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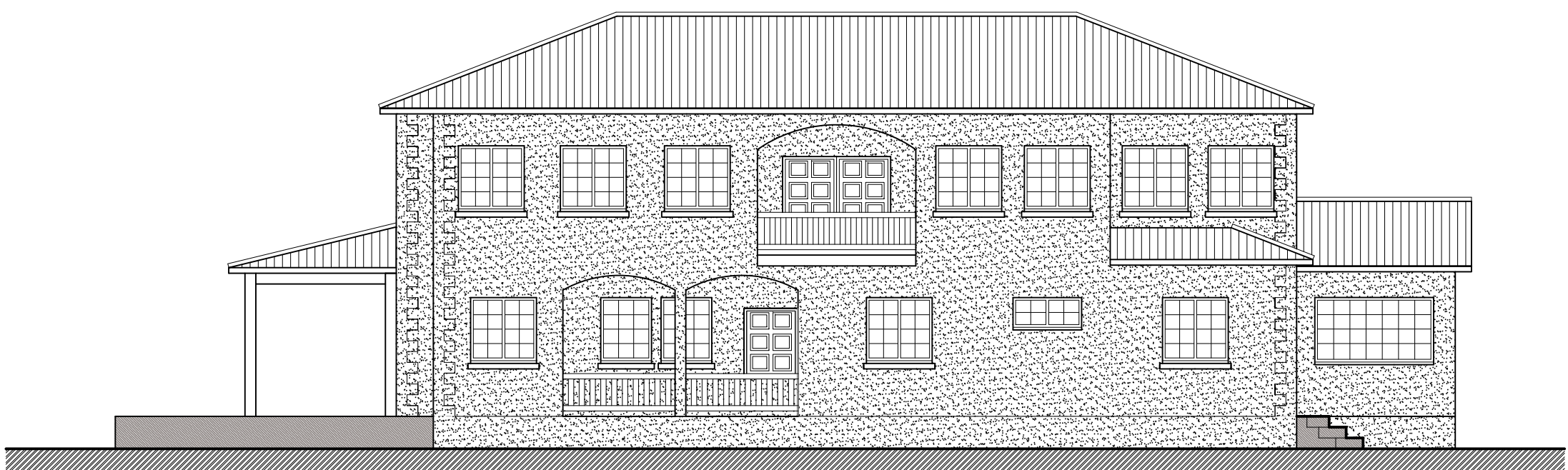
FRONT ELEVATION
PROPOSED ELEVATIONS SCALE 1:100



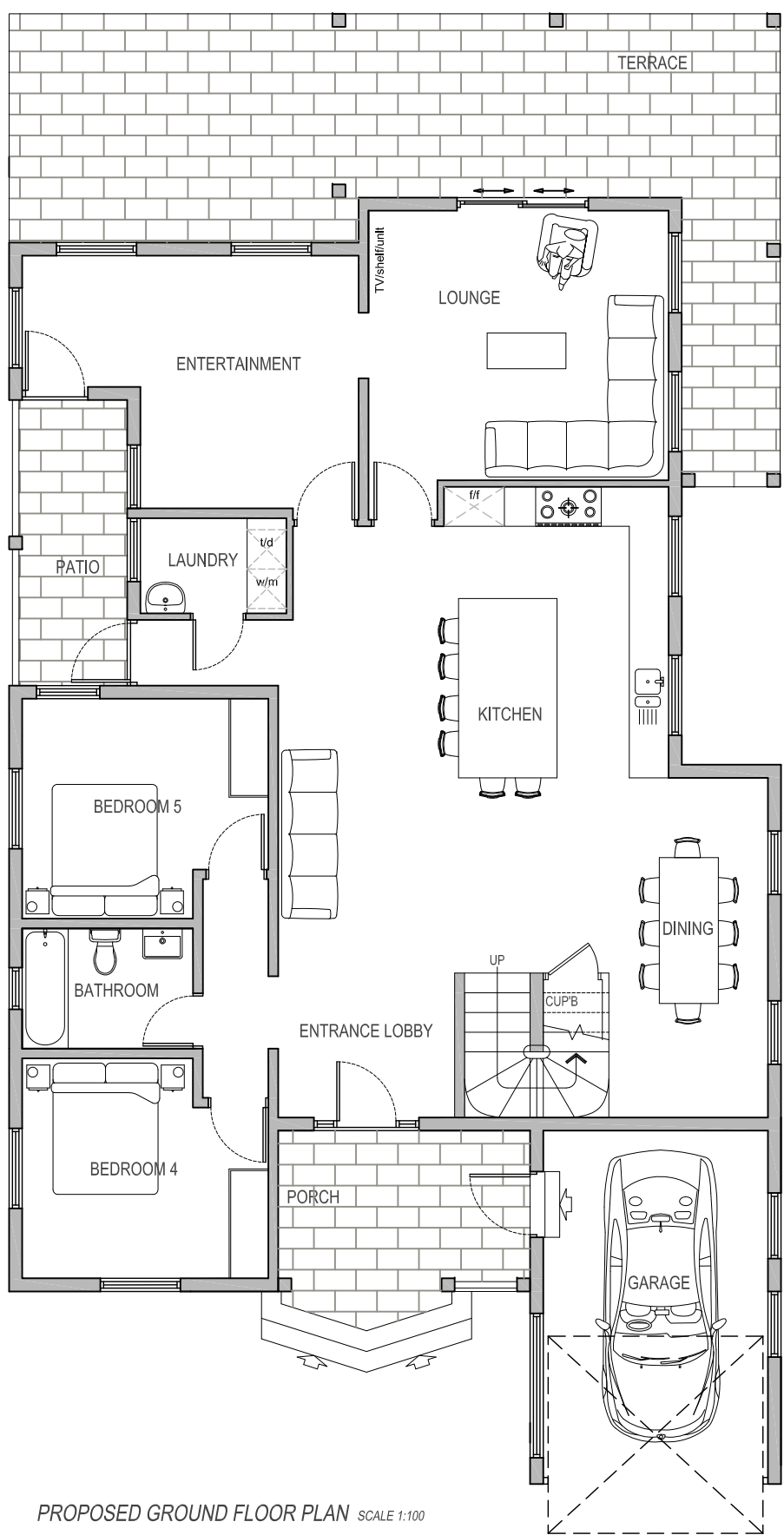
SIDE ELEVATION



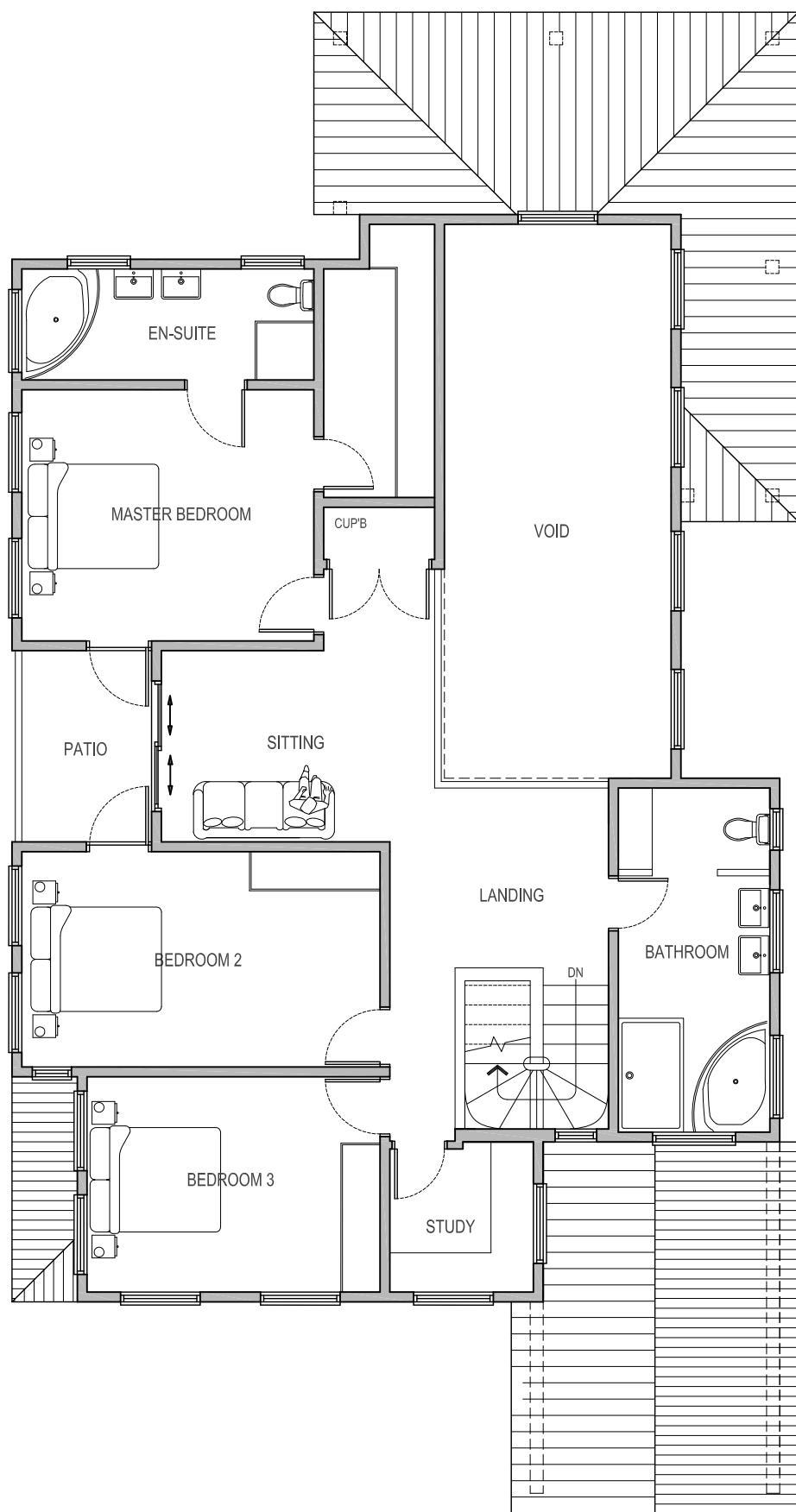
REAR ELEVATION



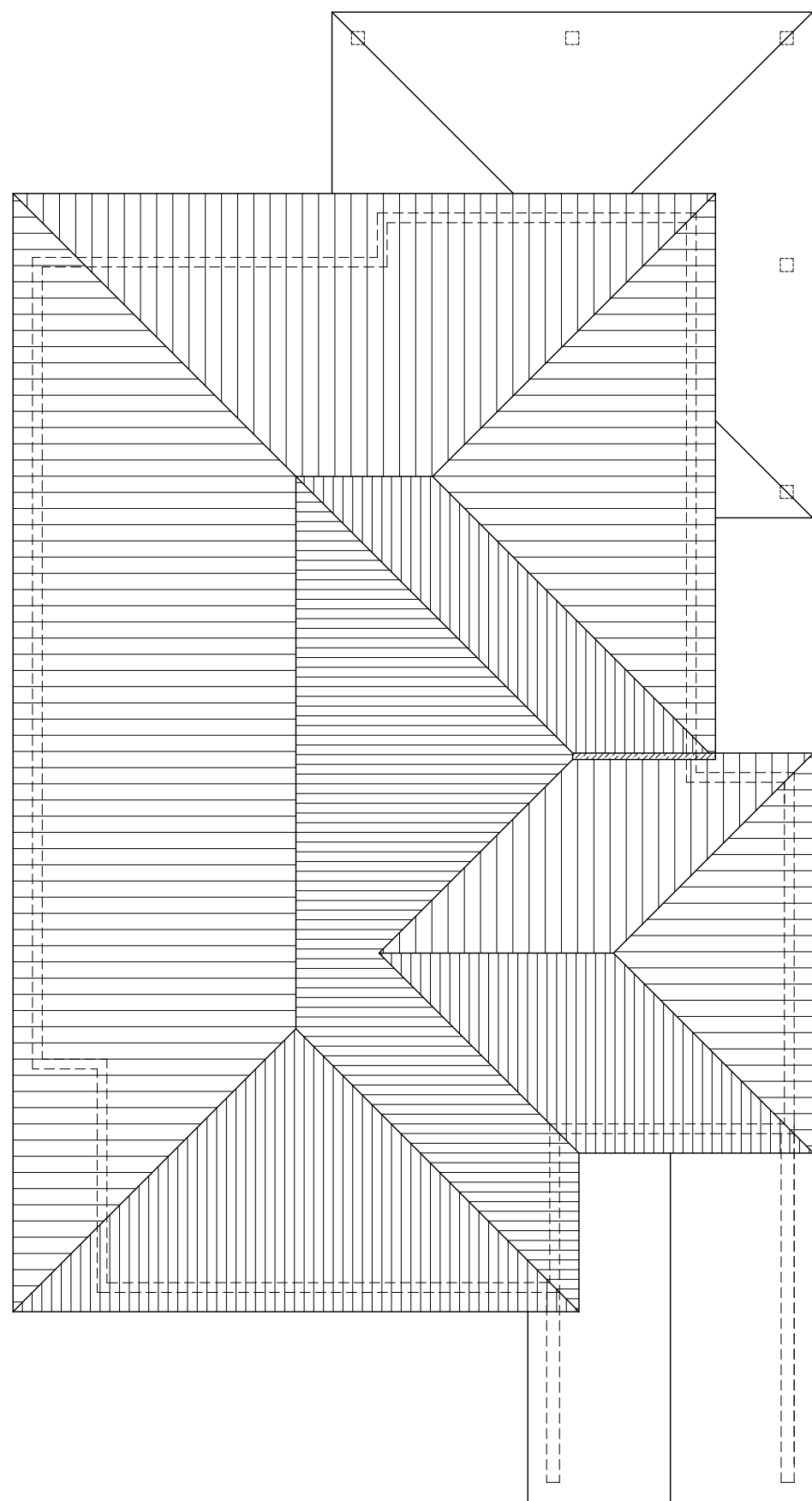
SIDE ELEVATION



PROPOSED GROUND FLOOR PLAN SCALE 1:100



PROPOSED FIRST FLOOR PLAN SCALE 1:100



PROPOSED ROOF PLAN SCALE 1:100

0m 10m

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C	CLIENT FORMAL ISSUE	12.10.22
B	CLIENT FORMAL ISSUE	12.10.22
A	CLIENT PRELIM ISSUE	06.10.22
REV	DESCRIPTION	DATE

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CLIENT
CONNECT UK GROUP

PROJECT
ERECTION OF RESIDENCES AT UPPER SALMONDS OR
BISHOPS, ST. LUCY, BARBADOS.

DRAWING
DWELLING TYPE - THE EMPEROR
PROPOSED PLANS & ELEVATIONS

STATUS
BUILDING REGS PRELIM ISSUE

SCALE 1:100	DATE OCT 2022	DRG No WPD7222/A/20	REVISION C
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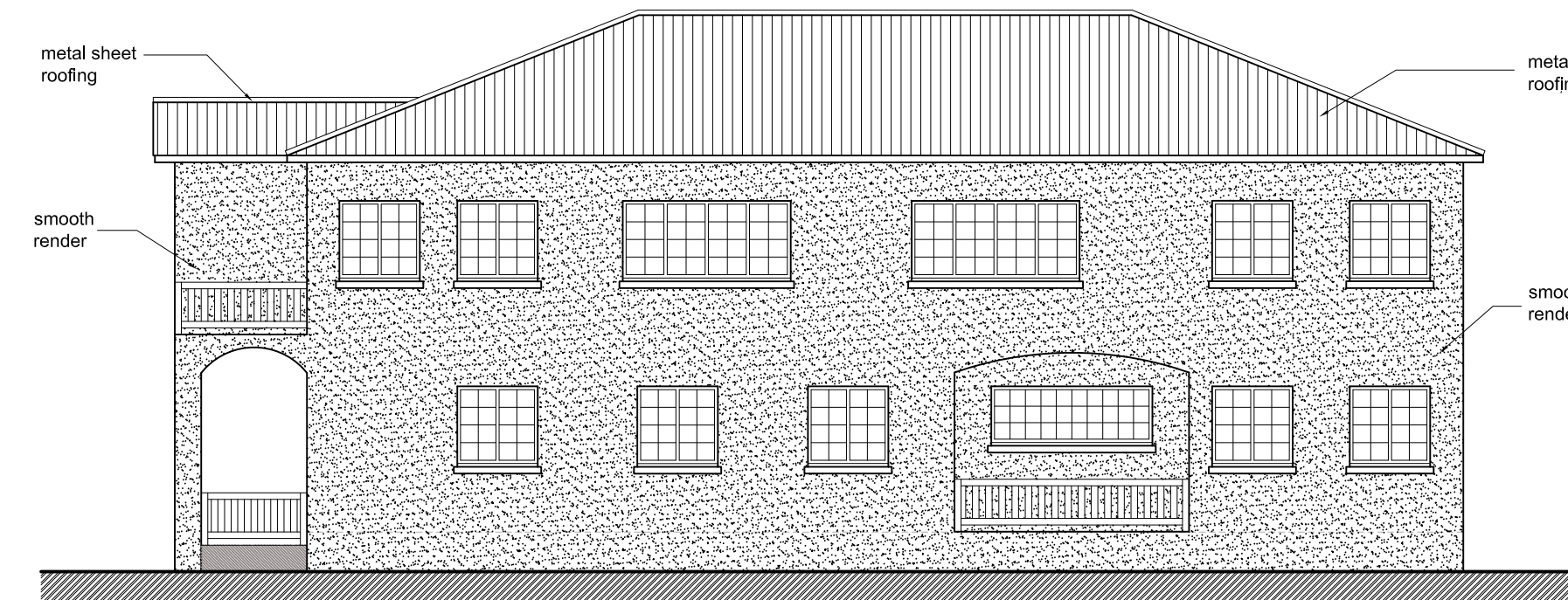
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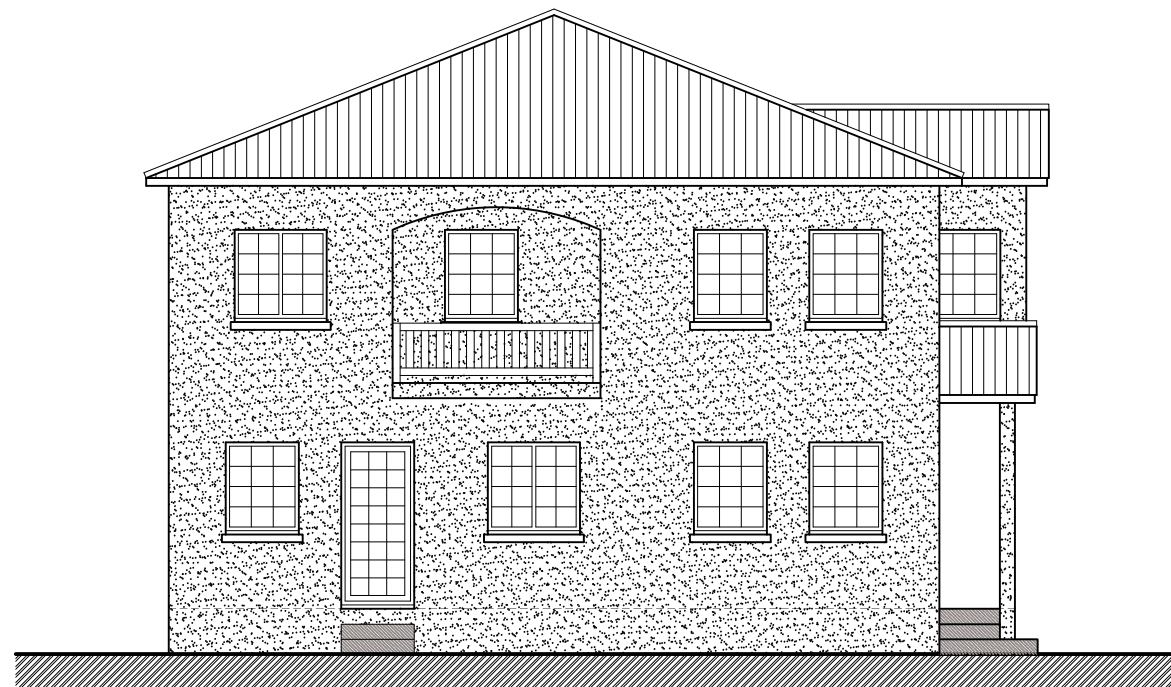
FRONT ELEVATION
PROPOSED ELEVATIONS SCALE 1:100



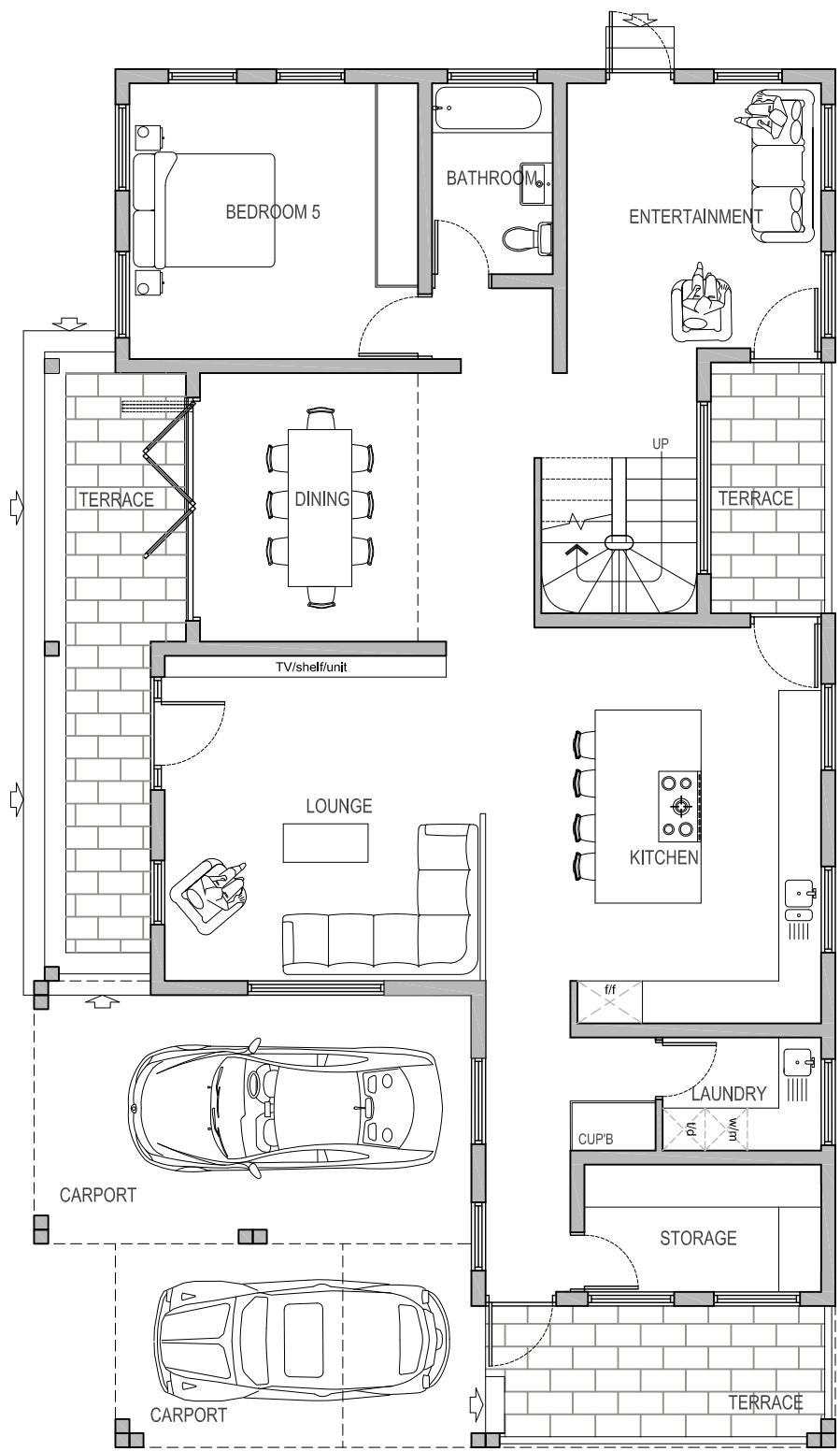
SIDE ELEVATION



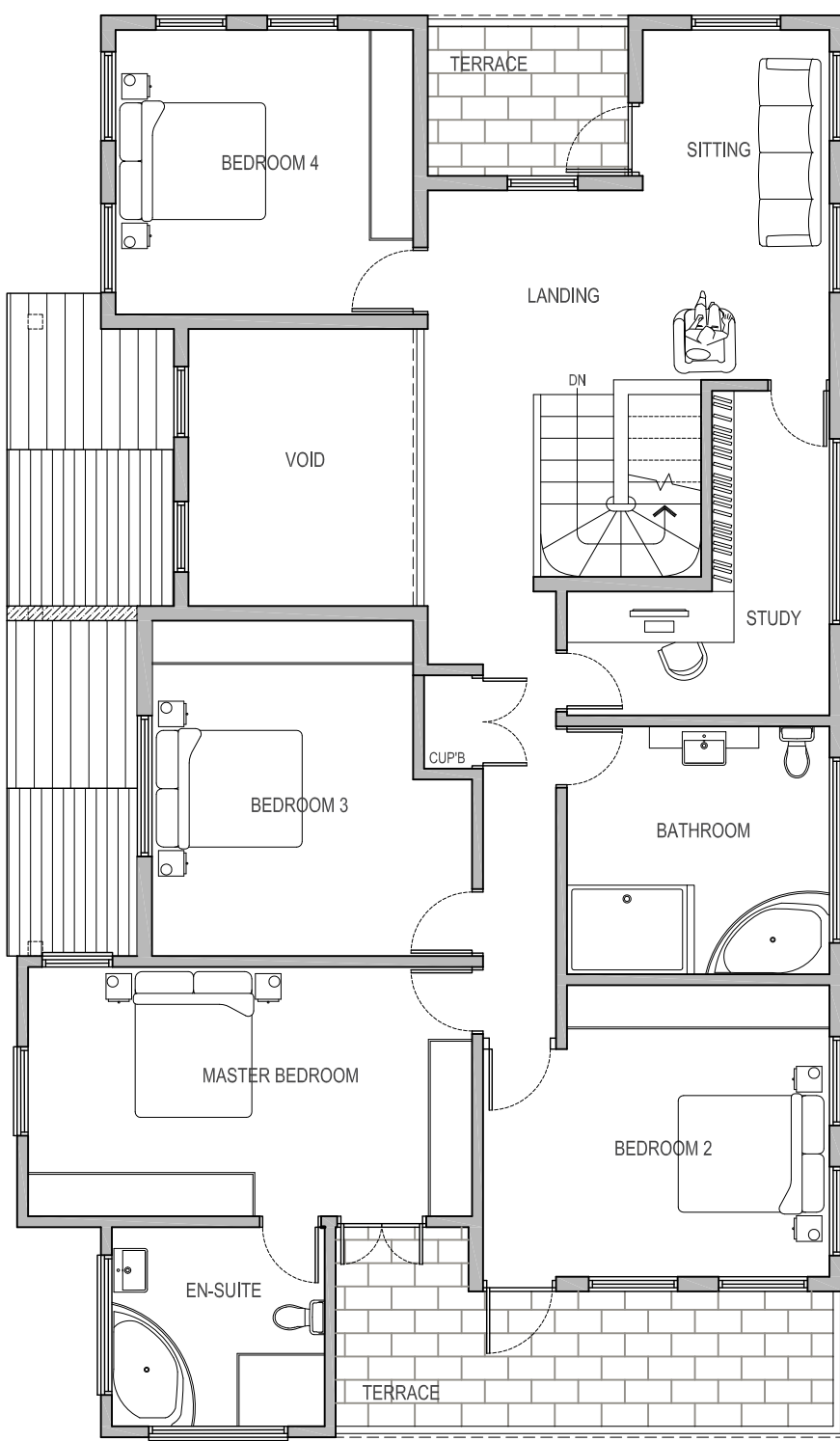
REAR ELEVATION



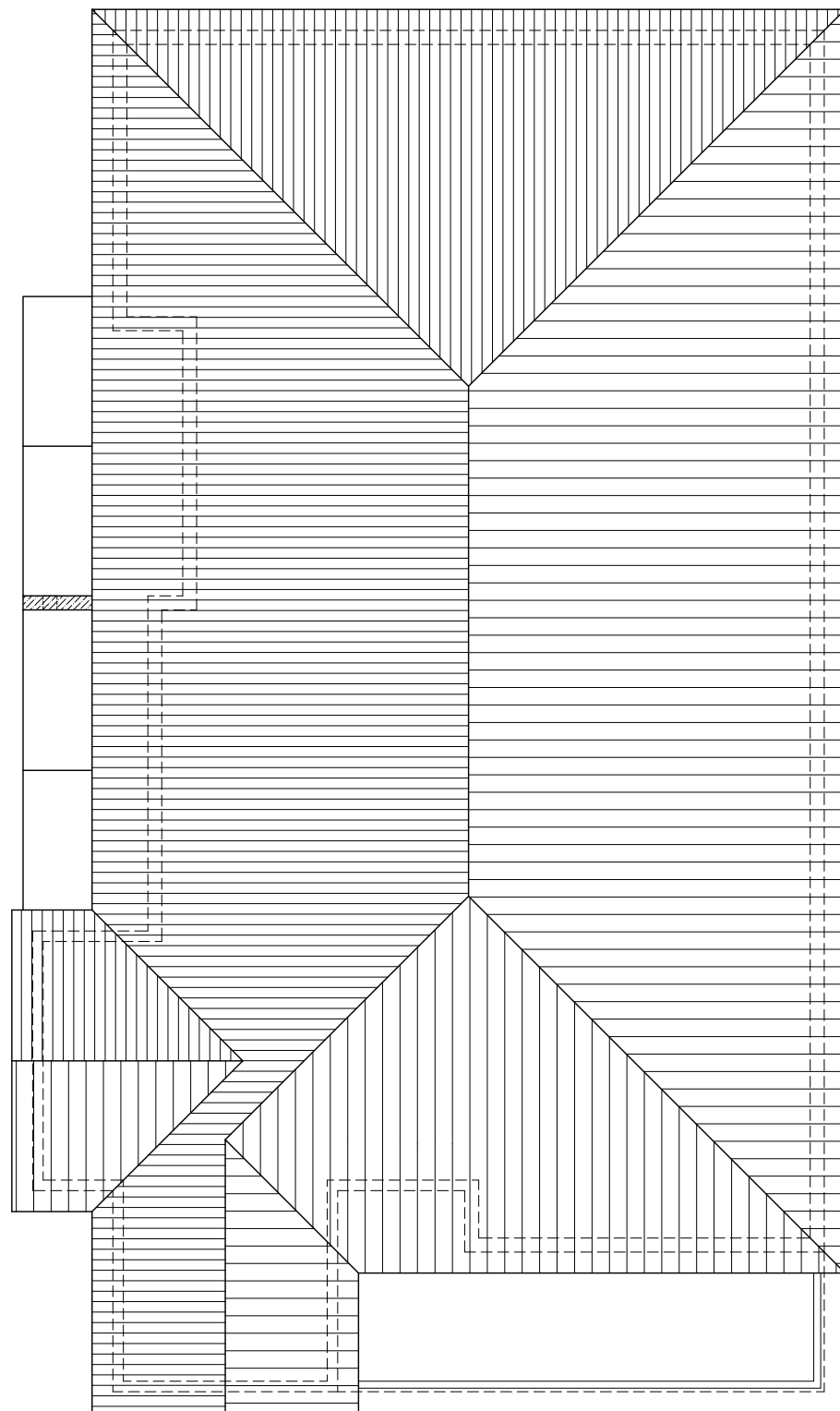
SIDE ELEVATION



PROPOSED GROUND FLOOR PLAN SCALE 1:100



PROPOSED FIRST FLOOR PLAN SCALE 1:100



PROPOSED ROOF PLAN SCALE 1:100

0m 10m

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C	CLIENT FORMAL ISSUE	12.10.22
B	UPDATED	12.10.22
A	CLIENT PRELIM ISSUE	10.10.22
REV	DESCRIPTION	DATE

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CLIENT
CONNECT UK GROUP

PROJECT
ERECTION OF RESIDENCES AT UPPER SALMONDS OR
BISHOPS, ST. LUCY, BARBADOS.

DRAWING
DWELLING TYPE - CHROMIS
PROPOSED PLANS & ELEVATIONS

STATUS
BUILDING REGS PRELIM ISSUE

SCALE 1:100	DATE OCT 2022	DRG No WPD7222/A/30	REVISION C
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STREET LIGHTING PLANS



Marketed By - Connect UK
Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk





NOTES

- 1) ALL ROAD FOR THE CAMPAIGN WAY CARRIES ARE 12.00M UNLESS OTHERWISE STATED.
- 2) THE CAMPAIGN WAY CARRIES DO NOT INCLUDE THE EXISTING RIGHT OF WAY NOR THE EXISTING ROAD.
- 3) THE CAMPAIGN WAY AND ROAD WHICH CARRIES (WHICH FROM EXISTING ROAD) MAKE UP THE TOTAL ROAD RESERVE.
- 4) THE PROPOSED ROAD RESERVE IS 4M FROM THE CENTER LINE OF THE CAMPAIGN WAY AND EXISTING ROAD.

THE BARBADOUS LIGHT AND POWER COMPANY LIMITED			
DRAWING FOR LINE EXTENSION/MAINTENANCE			
W.O. NO. 908618			
ESTIMATED BY W. SEALY			
LOC. BISHOPS, ST. LUCY			
DATE: JUNE 2017			
LEGEND		TYPE, C/P	
HT POLE EXT @	PRO	1) HT 14KV	
LT POLE EXT @	PRO	2) HT 11KV	
ANCHOR STAY	PRO	3) HT 11KV	
ANCHOR STAY	PRO	4) HT 6.3KV	
SPACER/QUADRIPOLEX	PRO	5) HT 6.3KV	
TRIPLEX	PRO	6) HT 6.3KV	
U/O CABLE	PRO	7) HT 6.3KV	
TRANSFORMER	PRO	8) HT 6.3KV	

LEGEND		ABBREVIATIONS	
PROPOSED ROAD		L. LAND	
EXISTING ROAD		V. VEGETATION	
EXISTING ROAD RESERVE		C. CAMPAIGN WAY	
EXISTING ROAD RESERVE		T. TOTAL	

LEGEND

PROPOSED ROAD

EXISTING ROAD

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

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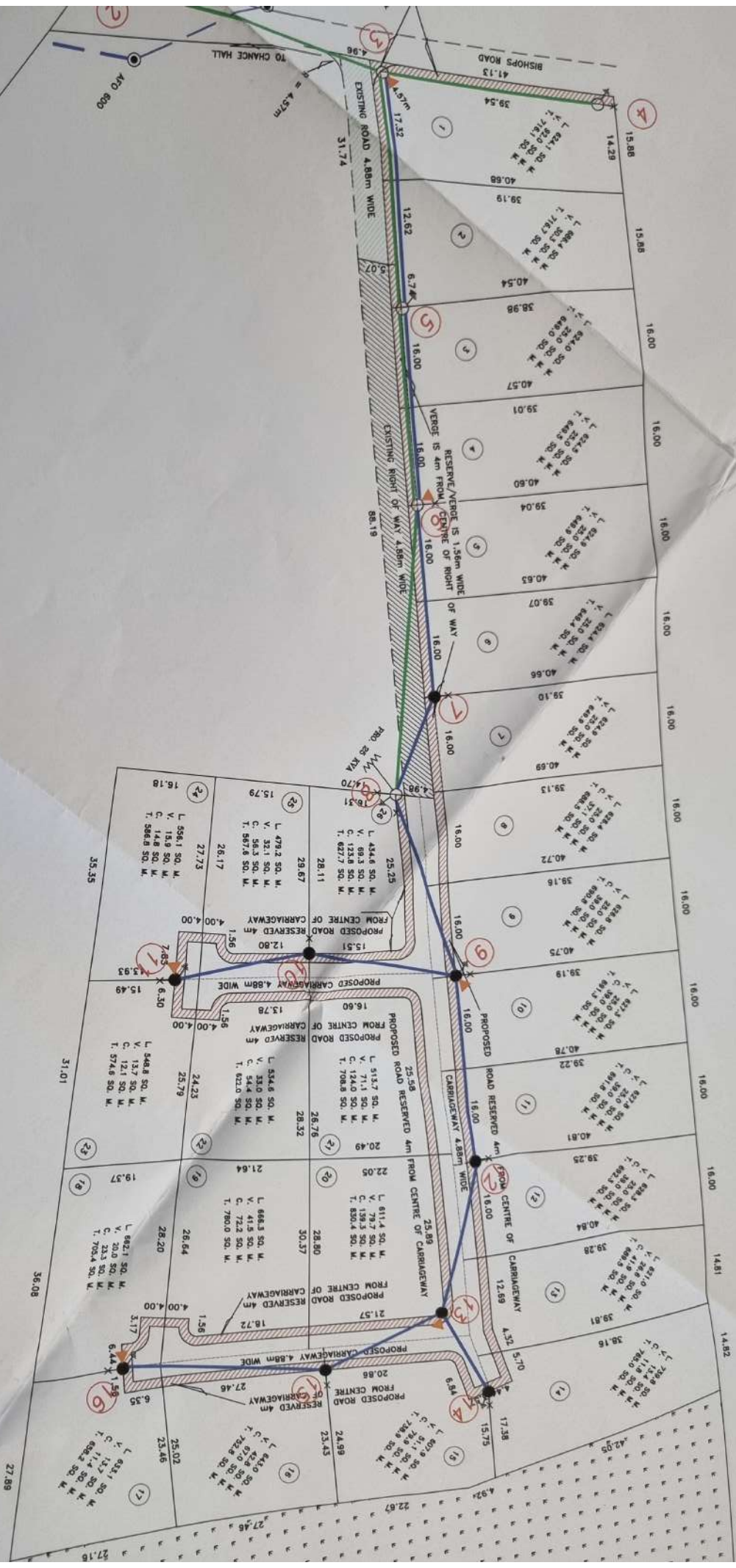
EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

EXISTING ROAD RESERVE

NOTES
1) ALL R
2) THE
3) THE





ROAD RESERVE 4.0m
FROM CENTRE OF CARRIAGE WAY
HATCHED BROWN

17.32
R=4.57m
4.96

31.74

AFO 570

R = 4.57m

TO CHANCE HALL

2

AFO 600

1

AFO 475

16.00

16.00

16.00

16.00

16.00

L 62
C.V. 28

THE BARBADOS LIGHT AND POWER COMPANY LIMITED

DRAWING FOR LINE EXTENSION/MAINTENANCE

W.O. NO. 909518

SURVEYED BY: W SEALY

ESTIMATED BY: W SEALY

DATE: JUNE 2017

LOC: BISHOPS, ST. LUCY

TYPE: COP.

LEGEND

	30 HT 24KV	
HT POLE: EXT ☉ PRO ○	10 HT 14.4KV	
LT POLE: EXT ☉ PRO ●	30 HT 11KV	
ANCHOR STAY X—	20 HT 11KV	
EARTH PLATE —	10 HT 6.35KV	
SPACER/QUADRUPLX ///	4 WIRE LT	
TRIPLEX —//—	3 WIRE LT	
U/G CABLE —X—	2 WIRE LT	
TRANSFORMER	EXT — — — PRO —	

ABBREVIATIONS

L. LAND
V. VERGE
R.R. ROAD RESERVE
C. CARRIAGEWAY
T. TOTAL

LEGEND

— — — ROAD EDGE (EXISTING)

	BOUNDARY
	CLIFF EDGE
	OPEN SPACE
	EXISTING ROAD
	PROPOSED ROAD RESERVE OR VERGE
	EXISTING RIGHT OF WAY

PROPOSED SUBDIVISION OF 24828.4 SQ. M. OF LAND, AT UPPER SALMONDS/
BISHOPS, ST LUCY FOR RESIDENTIAL PURPOSES

SURVEYING & GEOMATICS ENGINEERING SOLUTIONS	DISTANCES ARE IN METERS
LAND SURVEYOR: KARY D. A. GREAVES 4398905	AREAS ARE APPROXIMATE
DRAWN BY: SHAQUILLE DOUGHLIN	SCALE: 1:500
CLIENT: CONNECT UK (NATION WIDE LTD)	BEARING ARE REFERRED TO NORTH DERIVED FROM
DATE: 2017-03-17	SURVEYOR'S PLAN
FILE NO.: 513/17/R--S	

AD.

(line), MAKE UP THE TOTAL ROAD RESERVE.

NG ROADS.



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Contact - 0800 448 0100
Email - marketing@connectukgroup.co.uk

