DOMINICA

DOMINICA

Introduction

The Manager of the Water Authority, Mr. Bud Meckling, was very helpful in providing the following information.

There are only five (5) pumping stations in Dominica which supply water to approximately 350 connections. Of these, four are booster stations and one at Bellevue Chopin is a pumped source. Together, these five pumping stations provide < 5% of the island's water.

1.0 The following Pumping Station Data sheets provide information collected on the pumping stations. There are also two pumping stations at Delices and Calibishie which have ram pumps and were not visited.

2.0 The Water Utility does not own any generators except two small plants suitable for lighting only.

3.0 None of the pumping stations are essential as the hospital and all of Roseau are totally gravity fed. the Utility manager listed Tete-Morne as the most important of the pumping stations, as this serves an area remote from surface water. All other pumping stations serve areas where the consumers can walk to the springs/rivers in close proximity to collect water. **Note**: Water in Dominica is chlorinated but not filtered.

4.0 The Water Utility owns one 750-gallon water tanker and has a second 750-gallon rubber tank which can be installed on a rented truck. The Utility also owns a 400-gallon trailer mounted tank. All three ranks are in good condition. The Public Works Department owns 3Nr. 1000-gallon tankers of which one is in good condition and two are in poor condition.

5.0 There are in Dominica 63 reservoirs having a total of 2,340,000 gallons capacity. More than 95% of the population can receive water from these reservoirs on a gravity basis. Bellevue Rawle is the only pumping station which delivers pumped water direct to the consumer. The other pumping stations pump to reservoirs which distribute under gravity.

6.0 All areas except those served by the four pumped systems are gravity fed, amounting to approximately 95% of the total population.

PUMPING STATION DATA

1. Location: Dominica

   Name: Tete-Morne

   Pumps

3. Manufacturer's Name: Newhaden Pump Co.

4. Model Name/No.: 4605/8/A

5. Rating: at

6. Percentage of Total Water Supply: < 2

   Motor Unit

7. Manufacturer's Name: G.E.C.Small Machines Ltd.
   Model Name/No: Alpac Induction Motor Size 0180M

8. Motor Power Rating:22 kw Frame:

9. Operating Speed: 2925 R.P.M. Type:

10. Power Consumption: 41.5 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 50

13. Voltage: 415

    Control Panel

14. Control Panel Manufacturer's Name: M.E.M. Exel

15. Starter Type: Star Delta

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Dominica

2. Name: Bellevue Chopin (Intake and booster pumping stations with identical equipmment)

Pumps

3. Manufacturer's Name: SPP Pumps Limited

4. Model Name/No.: BMX 1B

5. Rating: 3 l/s at 127 m

6. Percentage of Total Water Supply: < 2

Motor Unit

7. Manufacturer's Name: Motor Brook - Compton Parkinson Motors

Model Name/No:

8. Motor Power Rating: 15 KW Frame:

9. Operating Speed: 2900 RPM Type:

10. Power Consumption: 41.5 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 50

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Brook Control Gear

15. Starter Type: Star Delta

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

PUMPING STATION DATA

1. Location: Dominica

   Name: Bellevue Rawle

   Pumps

3. Manufacturer's Name: Pullen Pumps Limited

4. Model Name/No.: CV150/10B

5. Rating: 48g/m at 300 ft

6. Percentage of Total Water Supply: < 2

   Motor Unit

7. Manufacturer's Name:
   Model Name/No:

8. Motor Power Rating: 5.5 HP Frame:

9. Operating Speed: 2900 RPM Type:

10. Power Consumption: 8.9 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 50

13. Voltage: 415

    Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

PUMPING STATION DATA

1. Location: Dominica

2. Name: Marigot

Pumps

3. Manufacturer's Name: Pullen Pumps Limited

4. Model Name/No.: CV150/10B

5. Rating: 48g/m at 300 ft

6. Percentage of Total Water Supply: < 2

Motor Unit

7. Manufacturer's Name:
Model Name/No:

8. Motor Power Rating: 5.5 HP Frame:

9. Operating Speed: 2900 RPM Type:

10. Power Consumption:

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 50

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

ANTIGUA

ANTIGUA

Introduction

The Water Utility Manager was out of the Island on the day of our Engineer's visit. Much time was list before the Supervisor delegated to research information could be located and he had not yet prepared the necessary information.

1.0 The following list of pumping stations was prepared from a drawing of the Antigua Water Distribution System prepared by Gannett Flemming Water Resources Engineers, Inc.

Raw Water Pumps	Booster Pumps
Potworks	Fig Tree
Crabbs (Desalination Plant)	Parham
Wallings	Cassada Gardens
Dunnings	Belleview
Hamiltons	
Body Ponds	
Bendals Pool	
Airport Runway	

Treated Water Pumps	
Base	Collins
Coolidge	Delaps
Paradise View	Vernons Hill
Bendals Valley	Greys Hill
Follies	

Of these, Hamiltons and Body Ponds are inaccessible by car; Airport Runway and Paradise View are no longer used; Wallings is a gravity station with pumps only for backwashing; Dunnings and Belleview were locked; and Bae, Coolidge and Vernons Hill are used only in emergencies. The other pumping stations were visited and the information gathered is presented on the attached Pumping Station Data sheets.

Well fields were not shown on the Drawings referenced above and were not visited.

The following information was eventually received from Mr. V. Sweeney of the Antigua Public Utilities Authority.

Potworks Pumping Station, Delaps Water Treatment Plant, Belleview Pumping Station, Cassada Gardens Pumping Station and Parham Booster Station are equipped with stand-by generators.

These generators produce 100% of the facilities power requirements.

2.0 There are "a few generators available to the Water Authority". No further information was provided.

3.0 The following facilities are listed as essential by the Utility Manager:

Delaps Water Treatment Plant
Bendals Valley Water Treatment Plant
Wallings Water Treatment Plant
Cades Bay Well Field

Note: The Desalination Plant at Crabbs has two units capable of producing 1 Mgd each out of a total consumption of approximately 2.2 Mgd but is not listed as essential.

4.0 The Water Utility does not own any water tankers but the Health Department and Public Works have "several" at their disposal. There are also a number of privatef truckers on the island whose tanks range from 1 to 3 thousand gallons.

5.0 The Total reservoir capacity is approximately 8.5 Mg. About 75% of the population can receive some water supply from these reservoirs on a gravity basis.

6.0 Areas which normally receive water on a gravity basis are; Wallings Service area, Sea View Farm, St. John's area, St. Johnson Village - Clare Hall, Cedar Valley, Barnes Hill and the South Eastern area of the island serviced by Buckley's Reservoir. About 50% of the population receive water on a gravity fed basis but in some cases pumping is necessary to get water to the storage reservoirs.

PUMPING STATION DATA

1. Location: Antigua

   Name: Belleview (3 Identical Pumps)

   Pumps

3. Manufacturer's Name: Goulds Pumps

4. Model Name/No.: VIC-T

5. Rating: 168g/m at 175ft TDH

6. Percentage of Total Water Supply:

   Motor Unit

7. Manufacturer's Name: U.S. Motors, Emmerson Electric Co.
   Model Name/No:

8.. Motor Power Rating: 1SHPW Frame: 254TP

9. Operating Speed: 1800RPM Type:

10. Power Consumption: 18.8s

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 460V

    Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

    Standby Generator

16. Manufacturer's Name: Petbow Generators with Perkins Diesel Engine

17. Model Name/No.: PH250

18. KVA: 46 KVA

19. KW:

20. P. Factor: 0.8 to 0.95

21. Percentage of Pumping Stations Power requirement that can be supplied: 100

PUMPING STATION DATA

1. Location: Antigua

2. Name: Cassada Gardens (2 Pumps - 1 Service, 1 Standby)

Pumps

3. Manufacturer's Name: Worthington

4. Model Name/No.: 4LR14 Serial No. Y724030

5. Rating: at

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: General Electric Trinclad
Model Name/No: 5K324AL2388

8. Motor Power Rating: 40 HP Frame:

9. Operating Speed: 1775 RPM Type:

10. Power Consumption: 60.1 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: General Electric

15. Starter Type:

Standby Generator

16. Manufacturer's Name: Ford Diesel Engine

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: 100

PUMPING STATION DATA

1. Location: Antigua

2. Name: Parham (4 Identical Pumps) - Existing System

Pumps

3. Manufacturer's Name: Harland

4. Model Name/No.: Serial No. 92122-932

5. Rating:

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Harland AC Motor
Model Name/No:

8. Motor Power Rating: 100 HP Serial #50286/402

9. Operating Speed: 1775 RPM Type:

10. Power Consumption: 86 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Londex Ltd

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Parham (4 Identical Pumps) - New System being installed

Pumps

3. Manufacturer's Name: KSB Italia

4. Model Name/No.: Type: WKF150/82N-SE

5. Rating: 200 m^2/hr at 98 m

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Moteur LeRoy Somer
Model Name/No: 80742/01

8. Motor Power Rating: 90 KW Frame:

9. Operating Speed: 1770 RPM Type: LS 280M-4

10. Power Consumption: 158 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor: 0.8

21. Percentage of Pumping Stations Power requirement that can be supplied:

PUMPING STATION DATA

1. Location: Antigua

2. Name: Crabbs (2 Identical Pumps - Different Motors)

Pumps

3. Manufacturer's Name:

4. Model Name/No.: Serial No.

5. Rating:

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Lincoln
Model Name/No:

8. Motor Power Rating: 125 HP Serial #2730337

9. Operating Speed: 1770 RPM Type:

10. Power Consumption: 144 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Pumps located at Generating Station

PUMPING STATION DATA

1. Location: Antigua

2. Name: Crabbs,(Cont'd)

Pumps

3. Manufacturer's Name:

4. Model Name/No.: Serial No.

5. Rating:

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Reliance Duty Master Alternator
Model Name/No:

8. Motor Power Rating: 50 HP Serial # P32G0 343C-1-G-CV

9. Operating Speed: 1770 RPM Frame: 326/S Type: P

10. Power Consumption: 62 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Pump located at Generating Station

PUMPING STATION DATA

1. Location: Antigua

2. Name: Follies (2 Duty Pumps, 1 Standby)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:3755 Size: 2 x 2 - 7

5. Rating: 140g/m at 135ft Serial No. 785C330

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: GE Motor
Model Name/No: 5K215SC105RC2H

8. Motor Power Rating: 10 HP Type:

9. Operating Speed: 3470 RPM Frame:

10. Power Consumption: 21 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

   Name: Follies (Cont'd)

   Pumps

3. Manufacturer's Name: Grundfos (2 Identical)

4. Model Name/No.: 8-80 Type: CP8KQ

5. Rating: at

6. Percentage of Total Water Supply:

   Motor Unit

7. Manufacturer's Name: Siemens Allis Induction Motor
   Model Name/No:

8.. Motor Power Rating: 7.5 HP Frame: 213TCV

9. Operating Speed: 3510 RPM Type: R6ZVCH

10. Power Consumption: 9.5 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

    Control Panel

14. Control Panel Manufacturer's Name: Siemens - Allis Marq

15. Starter Type:

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18. KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Bendals Valley (2 Duty Pumps, 1 Standby)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:8IHC

5. Rating: Serial No. 20521

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric
Model Name/No:

8. Motor Power Rating: 15HP Type: TUETE

9. Operating Speed: 1770 RPM Frame: 254TP

10. Power Consumption: 19.2 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type: Star Delta

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Bendals Valley (Cont'd)

Pumps

3. Manufacturer's Name: Goulds (2 Identical

4. Model Name/No.:VIT-CT Size: 6 x 10JLC

5. Rating: 400g/m at 165ft

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric Motor
Model Name/No:

8. Motor Power Rating: 25 HP Type: TUCE

9. Operating Speed: 1760 RPM Frame: 284TPA-TE

10. Power Consumption: 30 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Collins (2 Separate Systems 1 Duty, 1 Standby on each System)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:VIT-CT

5. Rating: 76g/m at 210ft Serial No. 308301P

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric
Model Name/No:

8. Motor Power Rating: 15 HP Type: TUCE

9. Operating Speed: 1755 RPM Frame: 254PTTE

10. Power Consumption: 19 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Collins (Cont'd)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:VIT-FF

5. Rating: 70g/m at 400ft Serial No. 309306P

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric
Model Name/No:

8. Motor Power Rating: 15 HP Type: TUCE

9. Operating Speed: 1755 RPM Frame: 254PTTE

10. Power Consumption: 19 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Collins (Cont'd)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:8RIALL

5. Rating: Serial No. 120520

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric
Model Name/No:

8. Motor Power Rating: 20 HP Type: PUE

9. Operating Speed: 3575 RPM Frame: 256TPH

10. Power Consumption: 25 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16, Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Collins (Cont'd)

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.:

5. Rating:

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: US Electric
Model Name/No:

8. Motor Power Rating: 7.5 HP Type: TUCF

9. Operating Speed: 1750 RPM Frame: 213TP

10. Power Consumption: 9.5 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil

PUMPING STATION DATA

1. Location: Antigua

2. Name: Delaps (3 Identical Pumps, 2 Duty, 1 Standby)

Pumps

3. Manufacturer's Name: Weir

4. Model Name/No.:SBW12X5

5. Rating: 765g/m at 297ft

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Newman Motor
Model Name/No: V4019303

8. Motor Power Rating: 100 HP Type:

9. Operating Speed: 1775 RPM Frame:

10. Power Consumption: 129 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type: Star Delta

Standby Generator

16. Manufacturer's Name:F.G. Wilson Newage Stamford Generator with Rolls Royce Diesel Engine

17. Model Name/No.: Serial No. Y2613/09

18 KVA: 375

19. Amps 570

20. P. Factor: .8

21. Percentage of Pumping Stations Power requirement that can be supplied: 100

PUMPING STATION DATA

1. Location: Antigua

2. Name: Potworks (3 Identical Pumps, 2 Duty, 1 Standby)

Pumps

3. Manufacturer's Name:

4. Model Name/No.

5. Rating:

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Newman Motor
Model Name/No: Serial # J4732202

8. Motor Power Rating: 40 HP Type:

9. Operating Speed: 1775 RPM Frame:

10. Power Consumption: 53 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Siemens -Allis Marq

15. Starter Type:

Standby Generator (2 Generators on Site, 1 down for repairs)

16. Manufacturer's Name: Allis-Chalmers Diesel & Generator

17. Model Name/No.: ACG80 -60DE

18 KVA: 93.75

19. KW: 75

20. P. Factor: .8

21. Percentage of Pumping Stations Power requirement that can be supplied: 100

Standby Generator (Original Generator down for repairs)

16. Manufacturer's Name: Dale Generator with a Dorman Diesel Engine

17. Model Name/No.: Type C Serial No. 34851

18 KVA: 125

19. Amps: 180

20. P. Factor: .8

21. Percentage of Pumping Stations Power requirement that can be supplied: 100

NEVIS

NEVIS

Introduction

The Water Authority Manager, Mr. T. Brian Kennedy, was helpful in procuring the following information. Nevis has a current supply of approximately 0.6 Mg/d while demand is expected to increase to approximately 1.0 Mg/d when the new resort hotel (Four Seasons) officially opens. Current distribution is by gravity although most water is first taken from wells and pumped to high level reservoirs. There are also two booster pumping stations at Camps and Fothergills.

1.0 The following Pumping Station Data sheets provide information on the pumps, motors, stand-by generators, etc.

2.0 The Water Utility does not own any portable generator sets.

3.0 None of the pumping stations are critical to prevent a life threatening situation as an estimated 25% of current supply would still be available without pumping. However, the Zion well and Fothergills booster pump are responsible for supplying most of the water to the Charlestown area and are therefore the most important.

4.0 The Water Utility does not own any water tankers.

5.0 The total reservoir capacity is 2.7 Mg (including 400,000 gallon in two new fiberglass reservoirs now nearing completion). Virtually all of the population can receive water from these reservoirs on a gravity basis. See attached sheet.

6.0 All of the population receive water on a gravity basis but supplies are reduced by about 75% without pumping.

PUMPING STATION DATA

1. Location: Nevis

   Name: Camps - 2 Identical Pumps (1 Duty, 1 Standby)

   Pumps

3. Manufacturer's Name: Lee Howl
   One on order: Model No.: 4307

4. Rating: 100g/m at 600

5. Percentage of Total Water Supply:

   Motor Unit (Standby Motor)

6. Manufacturer's Name: Brook Compton Parkinson Motors
   Model Name/No:

7. Motor Power Rating: 37KW Frame:

8. Operating Speed: 3440 RPM Type:

9. Power Consumption: 70 Amps

   Electricity Supply

10. No. of Phases: 3

11. No. of Cycles: 60

12. Voltage: 400

    Control Panel

13. Control Panel Manufacturer's Name: Allenwest Simplex Westline

14.
Starter Type: Star Delta

    Standby Generator

15. Manufacturer's Name: Caterpillar 125

16. Model Name/No.: 3116

17 KVA: 141

18. KW: 113

19. P. Factor: 0.8

20. Percentage of Pumping Stations Power requirement that can be supplied: 100

PUMPING STATION DATA

1. Location: Nevis

2 Name: Maddens

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 150L25

5. Rating: at

6. Percentage of Total Water Supply: 15

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: 2366056010

8. Motor Power Rating: 25HP 18.5 KW Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 67 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 230

Control Panel

14. Control Panel Manufacturer's Name: Furnas

15. Starter Type: D.O.L.

Standby Generator

16. Manufacturer's Name: Caterpillar 125

17. Model Name/No.: 3116

18 KVA: 141

19. KW: 113

20. P. Factor: 0.8

21. Percentage of Pumping Stations
Power requirement that can be
supplied: Nil until Pump is changed from 230v

PUMPING STATION DATA

1. Location: Nevis

2 Name: Stoney Grove

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 150L25

5. Rating: at

6. Percentage of Total Water Supply: 6

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: 2366656020

8. Motor Power Rating: 25 HP 18.5 KW Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 40.6 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 400

Control Panel

14. Control Panel Manufacturer's Name: Furnas Cat. No.: 87HG36ZMIC

15. Starter Type:

Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

PUMPING STATION DATA

1. Location: Nevis

   Name: Charlestown Secondary School

   Pumps

3. Manufacturer's Name: Peabody Floway

4. Model Name/No.: Type: JOL Size: 6

5. Rating: 72 g/m at 385 ft

6. Percentage of Total Water Supply: 6

   Motor Unit

7. Manufacturer's Name: Tamper A.C. Motor
   Model Name/No: 256UPHR-DLHTS

8. Motor Power Rating: 15 HP Frame:

9. Operating Speed: 1762 RPM Type: BCK-11871

10. Power Consumption: 20 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 400 v

    Control Panel

14. Control Panel Manufacturer's Name: Siemens

15. Starter Type: Auto Transformer

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Nevis

   Name: Government Road

   Pumps

3. Manufacturer's Name: Peabody Floway

4. Model Name/No.: Type: JOL Size: 6

5. Rating: 72 g/m at 385 ft

6. Percentage of Total Water Supply: 9

   Motor Unit

7. Manufacturer's Name: Newman
   Model Name/No:

8. Motor Power Rating: 15 HP Frame: R254TPEC21A2PA

9. Operating Speed: 1750 RPM Type:

10. Power Consumption: 23 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 400 v

    Control Panel

14. Control Panel Manufacturer's Name:

15. Starter Type:

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations Power requirement that can be supplied: Nil

PUMPING STATION DATA

1. Location: Nevis

2. Name: Zion

Pumps

3. Manufacturer's Name: Peabody Floway Size: 8

4. Model Name/No.: Type: JOL

5. Rating: 200g/m at 750 ft T D H

6. Percentage of Total Water Supply: 18

Motor Unit

7. Manufacturer's Name: Brown Boveri Canada
Model Name/No: 445UPR-2DL ALO

8. Motor Power Rating: 60 HP Frame:

9. Operating Speed: 1774 RPM Type:

10. Power Consumption: 76 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 400

Control Panel

14. Control Panel Manufacturer's Name: Klockner Moeller

15. Starter Type: Star Delta

Standby Generator

16. Manufacturer's Name: Caterpillar 125

17. Model Name/No.: 3116

18 KVA: 141

19. KW: 113

20. P. Factor: 0.8

21. Percentage of Pumping Stations
Power requirement that can be
supplied: 100

PUMPING STATION DATA

1. Location: Nevis

   Name: Fothergills

   Pumps

3. Manufacturer's Name: Canada Pumps Limited

4. Model Name/No.: Type 2RR

5. Rating: US 200 g/m at 620 ft.

6. Percentage of Total Water Supply:

   Motor Unit

7. Manufacturer's Name: Canadian General Electric
   Model Name/No: 140209 X

8. Motor Power Rating: 60 HP Frame: 326TS

9. Operating Speed: 3550 RPM Type:

10. Power Consumption: 80.5 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 400

    Control Panel

14. Control Panel Manufacturer's Name: Canadian General Electric

15. Starter Type:

    Standby Generator

16. Manufacturer's Name: Caterpillar 125

17. Model Name/No.: 3116

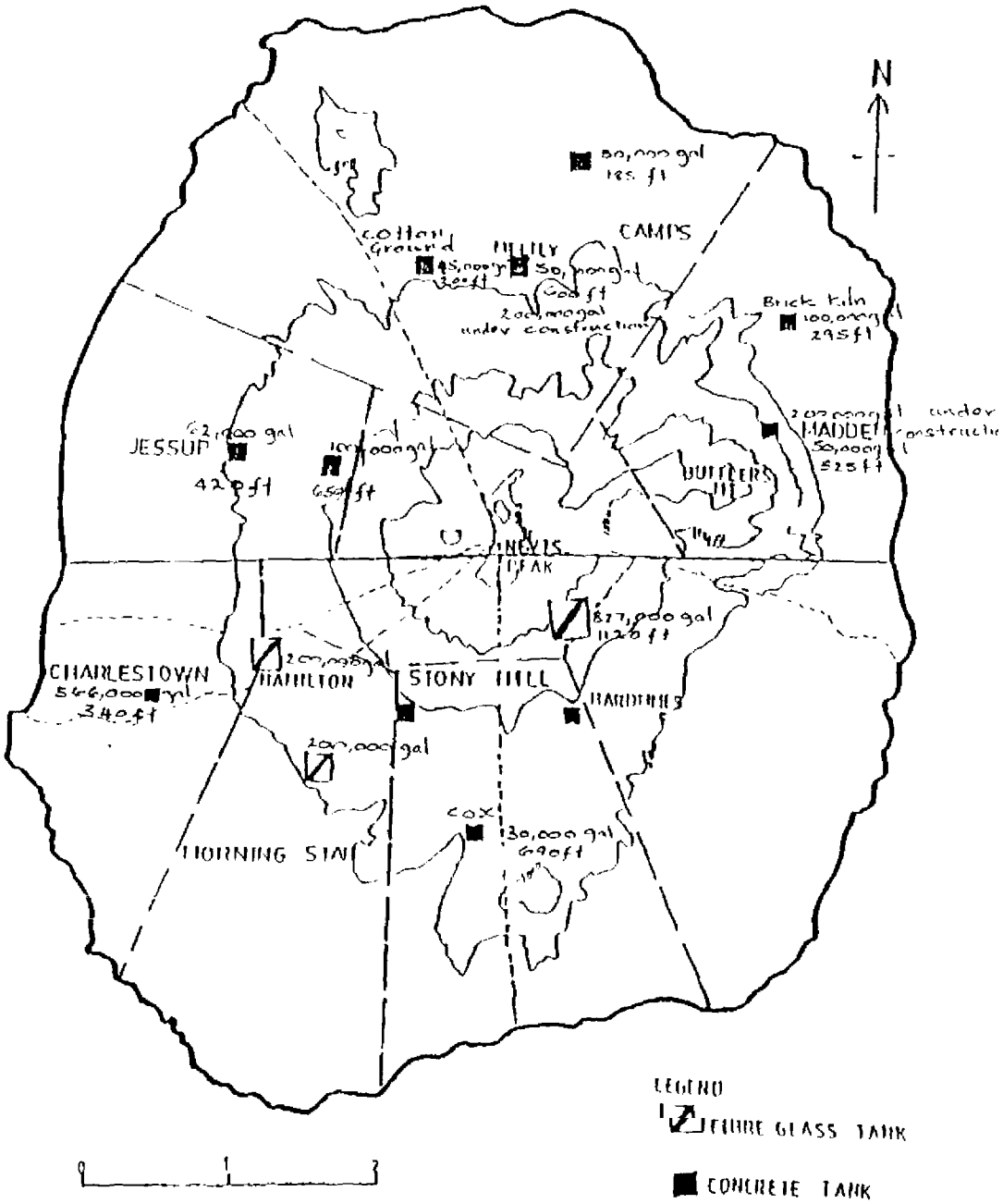
18 KVA: 141

19. KW: 113

20. P. Factor: 0.8

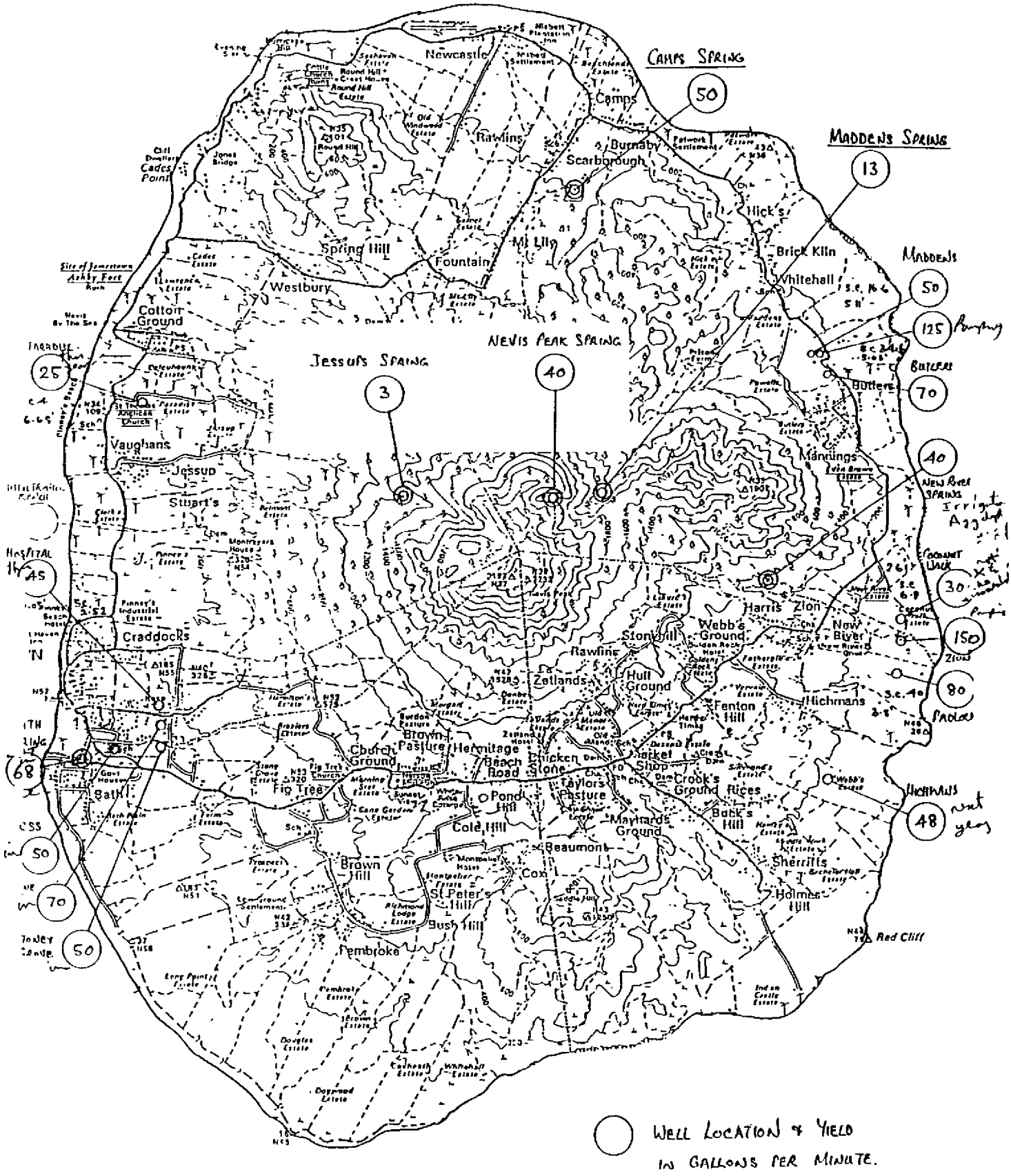
21. Percentage of Pumping Stations Power requirement that can be supplied: 100

NEVIS WATER ZONES AND LOCATION OF TANKS



ADAPTED FROM NEVIS WATER DEPT

*TANKS NOT DRAWN TO SCALE


CAMPS SPRING
50
MADDENS SPRING
13
NEVIS PEAK SPRING
40
JESSUPS SPRING
3
Newcastle
Camps
Rawlins
Burnaby
Scarborough
Hick's
Spring Hill
Mt Lily
Fountain
Brick Kiln
Whitehall
Maddens
50
125
Westbury
Cottoir Ground
Butlers
70
25
Vaughans
Jessup
Mannings
40
Stuart's
45
Craddocks
30
Harris Zion
Webb's Ground
Stonehill
New River
150
Rawlins
Zetlands
Hull Ground
80
Fenton Hill
Richmans
Brown Pasture
Hermitage
Church Ground
Beach Road
Bricken Lane
Market Shop
Crook's Ground
Rices
68
Bath
Fig Tree
Pond Hill
Taylors Pasture
Maynards Ground
Buck's Hill
48
Cole Hill
Beaumont
Brown Hill
Cox
Sherriffs
50
St Peter's Hill
Holmes Hill
70
Bush Hill
Red Cliff
50
Pembroke
WELL LOCATION & YIELD
IN GALLONS PER MINUTE.

ANGUILLA

ANGUILLA

Introduction

The Water Utility Manager, Mr. Howarth, was very helpful and provided the necessary information. The portable generator referenced below was on loan to others at the time of the visit and as a result there is no information on this set.

1.0 The Pumping Station Data sheets attached contain the requested information. All of Anguilla's water supply comes from wells.

2.0 There is one small portable generator suitable for running either the Sandy Hill or Mt. Fortune wells or for use at Stoney Ground if the 3-phase motor there were changed to a single phase.

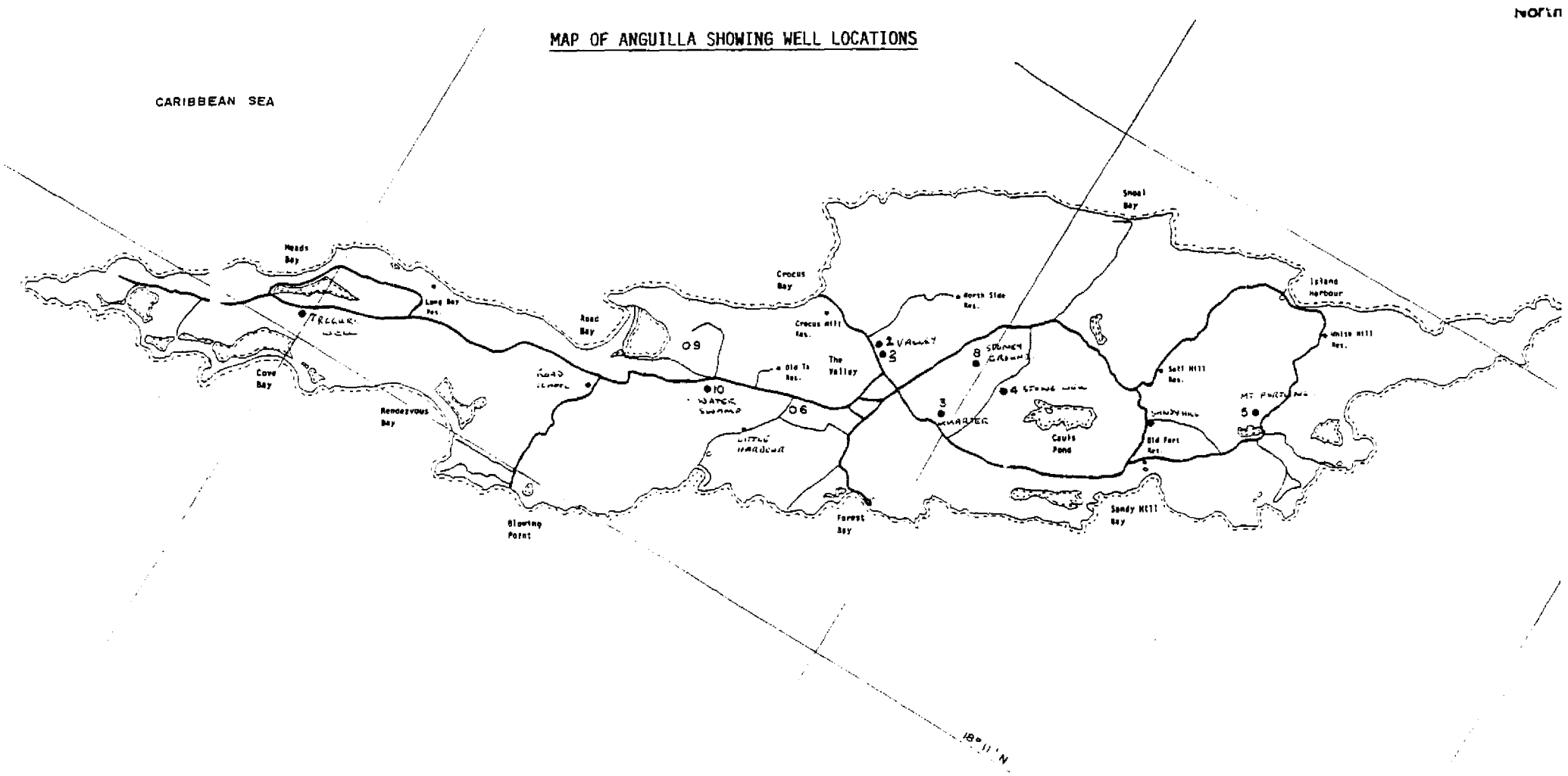
3.0 The most important pumping station is Valley No. 2 which supplies the only hospital on the island. This station as well as Valley No. 3 are connected to the standby generator housed at Valley No. 1 (pump no longer used). These two wells can be maintained at 60% to 95% of capacity on the standby generator.

4.0 The Utility owns one "1000 gallon water tanker in a dilapidated but operable condition". There are between 3 and 6 private water tankers in operable condition.

5.0 The total reservoir capacity is 290,000 gallons; however, these are never full and the average volume of water in storage is estimated at 100,000 gallons. All water is distributed from reservoirs by gravity although some wells pump directly into distribution to supplement demand. One hundred percent of the population can receive some degree of water on a gravity basis from the reservoirs. Additionally, storage in private cisterns in homes and offices is estimated at 12.5 Mg.

6.0 Referring to 5.0 above, all persons receive water on a pumped basis as all water comes from wells.

MAP OF ANGUILLA SHOWING WELL LOCATIONS



PUMPING STATION DATA

1. Location: Anguilla

   Name: Water Swamp

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 25 E103

5. Rating:

6. Percentage of Total Water Supply:11

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2823019103

8. Motor Power Rating: 2HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 10.0 amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Valley No.2

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 45J05432

5. Rating:

6. Percentage of Total Water Supply: 17

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No:2341172003

8. Motor Power Rating: 5 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 17.4 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 220

    Control Panel

14. Control Panel Manufacturer's Name: G.E. Breaker

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: 100 (same generator as Valley No. 3)

PUMPING STATION DATA

1. Location: Anguilla

   Name: Valley No.3

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 45J07632

5. Rating:

6. Percentage of Total Water Supply:26

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No:2366016010

8. Motor Power Rating: 7.5 HP 5.5KW Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 21.8 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 220

    Control Panel

14. Control Panel Manufacturer's Name: Furnas Panel

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name: Tamper Synchronous Generator

17. Model Name/No.: B347KY-3MSODC-AM

18 KVA: 37.5

19. KW: 30

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: 100

PUMPING STATION DATA

1. Location: Anguilla

   Name: Little Harbour

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply:6

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No:2801074910

8. Motor Power Rating: .75 Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 6.4 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Road School Well

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply:6

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2823007103

8. Motor Power Rating: 1 5 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 9.2 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Stone Well

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply:3

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2823007103

8. Motor Power Rating: 1 5 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 9.2 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Quarter Well

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply: 3

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2801080103

8. Motor Power Rating: 1 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 8.0 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Sandy Hill

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply: 5

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2828019103

8. Motor Power Rating: 2 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 10.0 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Mt. Fortune

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 13EM1.5

5. Rating:

6. Percentage of Total Water Supply: 6

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2823007103

8. Motor Power Rating: 1 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 11.5 Amps

    Electricity Supply

11. No. of Phases: 1

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: Franklyn Electric
    Submersible Motor Control

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

PUMPING STATION DATA

1. Location: Anguilla

   Name: Stoney Ground

   Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 45J05432

5. Rating:

6. Percentage of Total Water Supply: 23

   Motor Unit

7. Manufacturer's Name: Franklyn Electric
   Model Name/No: 2343177004

8. Motor Power Rating: 5 HP Frame:

9. Operating Speed: 3450 RPM Type:

10. Power Consumption: 15.9 Amps

    Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 230

    Control Panel

14. Control Panel Manufacturer's Name: G.E. Breaker

15. Starter Type: D.O.L.

    Standby Generator

16. Manufacturer's Name:

17. Model Name/No.:

18 KVA:

19. KW:

20. P. Factor:

21. Percentage of Pumping Stations
    Power requirement that can be
    supplied: Nil

APPENDIX 'A'

APPENDIX 'A'

Attachment # 1

Description Of Services

DISASTER PREPAREDNESS INFORMATION

NATIONAL WATER SUPPLIES

Meet with appropriate Officials of the Grenada, St. Vincent, St. Lucia, Dominica, Antigua, Montserrat, St. Kitts and Nevis and the Anguilla water supply utilities to collect water supply disaster preparedness data. Visit local water pumping and other water supply facilities, collect, record and report the following data to CDAP in the shortest possible time.

1.0 Describe the location, discharge rate, percentage of total water supply and complete name plate data for all water supply pumps. Indicate the pumping facilities which are equipped with standby engines or with standby motor generator sets. Note the operational condition and complete name plate data of the engines and MG sets and indicate the portion of the stations pumping capacity that they can maintain on a continuous bases.

2.0 Note the condition and complete name plate data for all portable motor generator sets currently under the control of the water utility or which will be allocated to the water utility in the event of a national disaster.

3.0 In the water utility managers opinion, which of the water pumping facilities noted above in 1.0 are absolutely required to prevent the development of a life threatening situation (hospitals, senior citizens, disaster centre etc) in the event of a national disaster.

4.0 Note the ownership (public,private), capacity and condition of all water trucks in the country.

5.0 Note the total water reservoir capacity and indicate what percentage of the total population can receive some degree of water supply from it on a gravity basis.

6.0 Regardless of 5.0 above, describe the areas and percentage of the total population which normally receive gravity fed water supplies.