

MONTSERRAT

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Introduction

Limited information was received in Montserrat. The Water Engineer and General Manager were called away on an emergency and only a short meeting was possible with the Water Engineer. The attached sheets indicate the storage, supply and distribution of water on the island. Supplementary information was received by fax and is incorporated into the following:-

- 1.0 The Pumping Station Data sheets give information collected on the pumps, motors, standby generators and controls.
- 2.0 There are no portable generator sets available to the Water Authority.
- 3.0 The most important water pumping facilities are:

St. Peters
Smokey Hill
Farms
Paradise

However, none of these are essential as some water would still be available to critical centres on a gravity basis.

- 4.0 The Water Authority has one old and unreliable water truck of 1300 gallons capacity. The Public Works Department also has two trucks of similar capacity but these cannot be used for drinking water unless the tanks are cleaned beforehand.
- 5.0 The reservoirs are listed on the attached sheet. The total capacity is 1.9 Mg. Approximately 50% of the population receives pumped water.
- 6.0 The areas which normally receive gravity fed water supplies are indicated on the attached sheet.

PUMPING STATION DATA

1. Location: Monsterrat

Name: Trant's No.1

Pumps

3. Manufacturer's Name: Worthington Turbine

4. Model Name/No.: VYP5611

5. Rating: 250g/m @ 480ft TDH

6. Percentage of Total Water Supply: unknown

Motor Unit

7. Manufacturer's Name: High Thrust U.S. Model Name/No:
Electric Motor

8. Motor Power Rating: 50 HP Frame: 326 TPH WPI

9. Operating Speed: 1765 RPM Type: RU

10. Power Consumption: 64.7 amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Square D Electrical
Equipment

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: 100 (see Trants No.4)

PUMPING STATION DATA

1. Location: Montserrat
2. Name: Trant's No.4

Pumps

3. Manufacturer's Name: Not Available
4. Model Name/No.:
5. Rating: 75 g/m
6. Percentage of Total Water Supply: Unknown

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: 2361746010
8. Motor Power Rating: 15 HP Frame:
9. Operating Speed: 3450 RPM Type:
10. Power Consumption: 26.8 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 (supplies #1, 4 and 10 wells)

16. Manufacturer's Name: PETBOW Alternator with Perkins
Diesel
17. Model Name/No.: Type PRA 159A
18. KVA: 199
19. Amps: 287
20. P. Factor: 0.8
21. Percentage of Pumping Stations
Power requirement that can be
supplied: 100

PUMPING STATION DATA

1. Location: Monsterrat
2. Name: Trant's No.10

Pumps

3. Manufacturer's Name: Pleuger Submersible Pump
4. Model Name/No.: N612-16 V6-48
5. Rating: 24g/m @ 650ft.
6. Percentage of Total Water Supply: unknown

Motor Unit

7. Manufacturer's Name: Model Name/No:
8. Motor Power Rating: 10 HP 8.85 KW Frame:
9. Operating Speed: 3450 RPM Type:
10. Power Consumption: 16 amps

Electricity Supply

11. No. of Phases: 3
12. No. of Cycles: 60
13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: KLOCKNER MOELLER
Special Control Panel #12
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: 100 (see Trants No. 4)

PUMPING STATION DATA

1. Location: Montserrat
2. Name: Farms
- Pumps
3. Manufacturer's Name: Carver Pump
4. Model Name/No.: WKL 65 CB3
5. Rating: 300 g/m @ 575 ft
6. Percentage of Total Water Supply: Unknown

Motor Unit

7. Manufacturer's Name: Lincon Multiguard
Model Name/No: Lincon code TV 3048-F
8. Motor Power Rating: 60 HP Frame: 326 TS
9. Operating Speed: 3510 RPM Type:
10. Power Consumption: 80.5 Amps

Electricity Supply

11. No. of Phases: 3
12. No. of Cycles: 60
13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name:
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:

PUMPING STATION DATA

1. Location: Monsterrat

Name: Paradise

Pumps

3. Manufacturer's Name: Smart Turner Mayward

4. Model Name/No.: 1 1/2 TCUE

5. Rating: 72 usg/m @ 360ft.

6. Percentage of Total Water Supply: unknown

Motor Unit

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

8. Motor Power Rating: 20 HP Frame: 254 T

9. Operating Speed: 3500 RPM Type: N- BOW 4

10. Power Consumption: 27 amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: KLOCKNER-MOELLER

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: Montserrat

2. Name: St. Peter's

Pumps

3. Manufacturer's Name: Carver Pump

4. Model Name/No.: WKL 65 CB3

5. Rating: 300 g/m @ 575 ft

6. Percentage of Total Water Supply: Unknown

Motor Unit

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

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

9. Operating Speed: 3510 RPM Type:

10. Power Consumption: 80.5 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Square D Electrical
Equipment

15. Starter type:

Standby Generator

16. Manufacturer's Name: Caterpillar Generator 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: Monsterrat

Name: Weekes

Pumps

3. Manufacturer's Name: Tait KSB

4. Model Name/No.: WKL 32C-8

5. Rating: 26.4g/m @ 600ft TDH

6. Percentage of Total Water Supply: unknown

Motor Unit

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

8. Motor Power Rating: 20 HP Frame: 254 T

9. Operating Speed: 3545 RPM Type: K

10. Power Consumption: 21.5 amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: KLOCKNER MOELLER
Special Control Panel #12

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

1. Location: Monsterrat
2. Name: Smokey Hill

3. Manufacturer's Name: Carver
4. Model Name/No.: WKL 65CB3
5. Rating: 300 g/m @ 575ft.
6. Percentage of Total Water Supply: unknown

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

8.	Motor Power Rating: 60 hp	Frame: 328 TS
9.	Operating Speed: 3510 RPM	Type:
10.	Power Consumption: 80.5 amps	

11. No. of Phases: 3
12. No. of Cycles: 60
13. Voltage: 415

14. Control Panel Manufacturer's Name: Square D Electrical Equipment

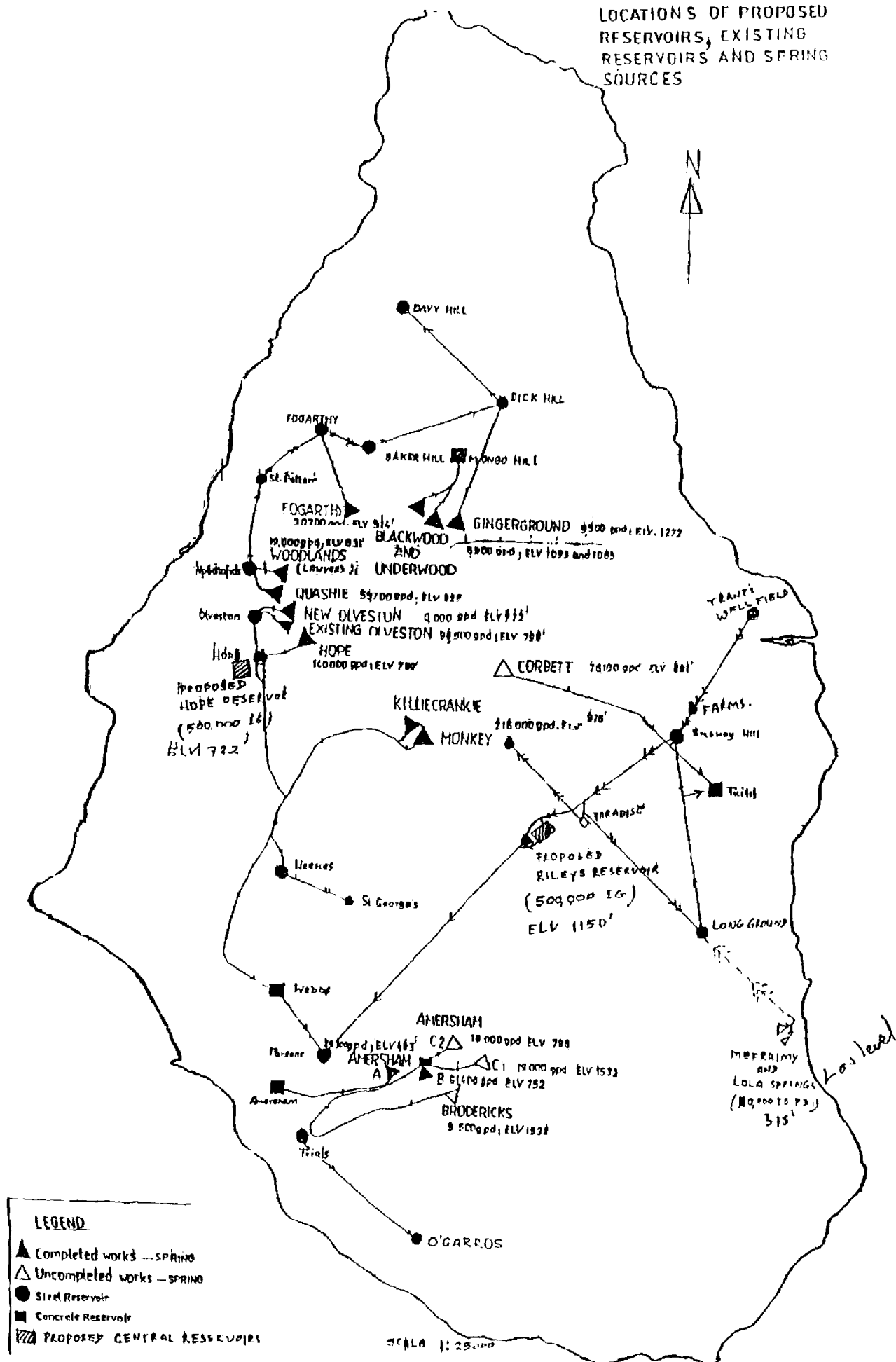
15. Starter Type: Star Delta

16. Manufacturer's Name: Caterpillar Generator 125
17. Model Name/No.: 3116
18. KVA: 141
19. KW: 113
20. P. Factor: 0.8

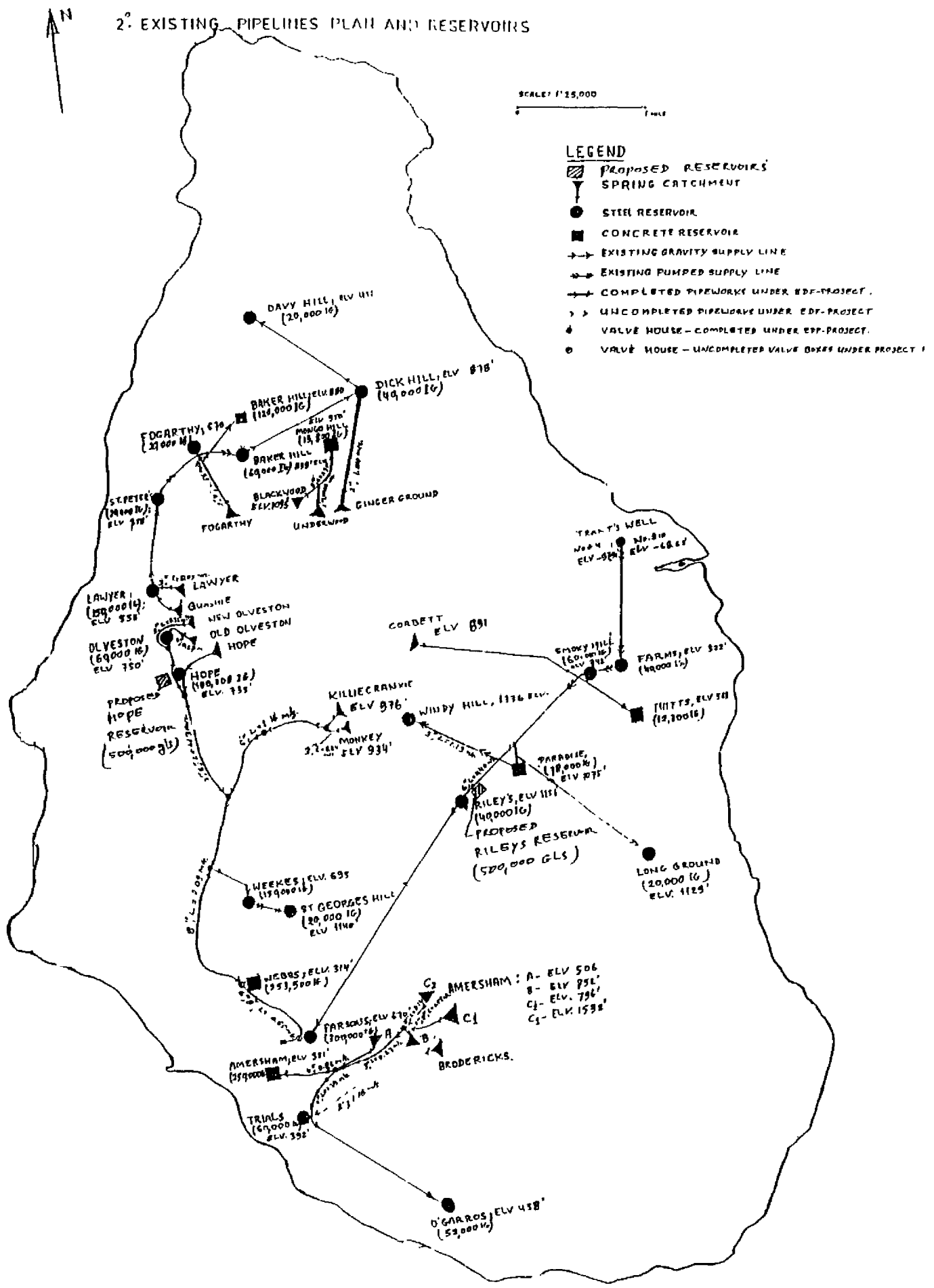
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PROJECT: CENTRAL SERVICE RESERVOIRS

LOCATIONS OF PROPOSED
RESERVOIRS, EXISTING
RESERVOIRS AND SPRING
SOURCES



2. EXISTING PIPELINES PLAN AND RESERVOIRS



ST. KITTS

ST. KITTS

Introduction

The following basic information was collected in St.Kitts. There are a number of wells producing water, most of which supply the Basseterre area. There is one booster station at Bird Rock which used to supply water to Basseterre, but is now only used if there is a problem with one of the main producing wells.

- 1.0 The following Pumping Station Data sheets contain the information collected on the pumping stations.
- 2.0 There are no portable generator sets belonging to the Water Utility; however, there is a small generator (18 KVA) which may be made portable in the near future but could run only the smaller pumps such as that at Profit.
- 3.0 The Basseterre Valley pumps are the most important as they supply most of the water to Basseterre; however, they are not essential as some water would still be available from gravity sources to supply the hospital and the main population centre.
- 4.0 The Water Utility owns one 900-gallon water tanker which is in good condition. Data was not available regarding the presence of any other public or private water tankers on the island.
- 5.0 The total reservoir capacity is approximately 1.7 Mg. All of the population could receive some degree of water supply from these reservoirs by gravity feed.
- 6.0 All of the water distribution system is gravity fed with water from the wells supplementing the surface flows.

PUMPING STATION DATA

1. Location: St. Kitts

Name: Basseterre Valley 1-41

Pumps

3. Manufacturer's Name: Worthington Turbine

4. Model Name/No.: N1606

5. Rating: 320 g/m @ 484ft.

6. Percentage of Total Water Supply: 27

Motor Unit

7. Manufacturer's Name: Westinghouse Life Line T
Model Name/No: GBDP

8. Motor Power Rating: 75 HP Frame: 360 TP

9. Operating Speed: 1775 RPM Type:

10. Power Consumption: 97 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

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

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: St. Kitts

Name: Basseterre Valley 1-44

Pumps

3. Manufacturer's Name: Worthington Turbine

4. Model Name/No.: 8M-28

5. Rating:

6. Percentage of Total Water Supply: 8

Motor Unit

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

8. Motor Power Rating: 50 HP Frame:

9. Operating Speed: RPM Type:

- ## 10. Power Consumption:

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage:415

Control Panel

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

- ### 15. Starter Type: Auto Transformer

Standby Generator

16. Manufacturer's Name: Newman Generator with Cummins Diesel Engine

17. Model Name/No.: NG130C

- 18 KVA:150

19. KW:

20. P. Factor:

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

PUMPING STATION DATA

1. Location: St. Kitts

Name: Basseterre Valley 1-47

Pumps

3. Manufacturer's Name: Worthington Turbine

4. Model Name/No.: N1606

5. Rating: 320g/m @ 484ft.

6. Percentage of Total Water Supply: 17

Motor Unit

7. Manufacturer's Name: Brown Boveri Canada
Model Name/No: 365UPR-ZDLHW J

8. Motor Power Rating: 50 HP Frame:

9. Operating Speed: 1773 RPM Type:

10. Power Consumption: 63 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

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

15. Starter Type: Auto Transformer

Standby Generator

16. Manufacturer's Name: Cummins Diesel Motor - Newman 1
Generator

17. Model Name/No.: LB3-9G

18. KVA: 105

19. KW:

20. P. Factor:

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

PUMPING STATION DATA

1. Location: St. Kitts

Name: Basseterre Valley 1-48

Pumps

3. Manufacturer's Name: Worthington Turbine

4. Model Name/No.: 8M-28

5. Rating:

6. Percentage of Total Water Supply: 21

Motor Unit

7. Manufacturer's Name: Tamper A.C. Motor (made by Canton)
Model Name/No: 365 UPR-2DLHW/J

8. Motor Power Rating: 60 HP

Frame: 365UP

9. Operating Speed: 1774 RPM

Type: BGK-7780-B

10. Power Consumption: 77 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

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

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: St. Kitts

Name: Bird Rock Booster (2 No. identical pumps and motors)

Pumps

3. Manufacturer's Name: Ingersol-Rand

4. Model Name/No.: Model B Type 1½ CMRV

5. Rating: US 170 g/m at 350 ft

6. Percentage of Total Water Supply:

Motor Unit

7. Manufacturer's Name: Westinghouse Life Line A Motor
Model Name/No:

8. Motor Power Rating: 30 HP Frame: 286 U

9. Operating Speed: 3500 RPM Type: HSA

10. Power Consumption: 39.5 Amps

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Klockner Mueller

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: St. Kitts

Name: Stone Fort

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 70J20

5. Rating:

6. Percentage of Total Water Supply: 12

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: S14972

8. Motor Power Rating: 25HP

Frame:

9. Operating Speed:

Type:

10. Power Consumption:

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Furnas

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: St. Kitts

Name: Lodge

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 225 H30-8

5. Rating: at

6. Percentage of Total Water Supply: 5

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: S16972

8. Motor Power Rating: 30 HP Frame:

9. Operating Speed: Type:

10. Power Consumption:

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 415

Control Panel

14. Control Panel Manufacturer's Name: Furnas
Cat. No 87GH36BEGH

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: St. Kitts

Name: Profit

Pumps

3. Manufacturer's Name: Goulds

4. Model Name/No.: 100H07-4

5. Rating: at

6. Percentage of Total Water Supply: 10

Motor Unit

7. Manufacturer's Name: Franklyn Electric
Model Name/No: 2871023000

8. Motor Power Rating: 7.5 HP Frame:

9. Operating Speed: Type:

10. Power Consumption:

Electricity Supply

11. No. of Phases: 3

12. No. of Cycles: 60

13. Voltage: 230

Control Panel

14. Control Panel Manufacturer's Name:

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

WATER TANKS
ST. KITTS

Location	Size (O.D)	Elevation (Base)	Capacity (Gallons)
Keys	10'X 10'X6'	131'	3,400
Cayon (1)	19'X 15'X 5'	474'	6,000
Cayon (2)	10'X 8'X 12'	490'	3,300
Cayon (3)	8' X 10'X 9'	511'	2,400
Cayon (4)	55'X 45'X 10'	600' approx.	100 ,000
Ottleyb	12'X 10'X 8'	257'	4,000
Boys	10'X 10'X 8'	119'	2,800
Challengers	12'X 12'X 10'	129'	5,600
Middle Island	21' ϕ X 8'	31'	12 ,400
Half Way Tree	21' ϕ X 10'	23'	16 ,000
Sandy Pt. (The Alley)	5'X 9'X 8'	39'	1 ,500
Sandy Pt. (Mt. Idle)	6'X 9'X 7'	75'	1 ,300
Sandy Pt. (Crab Hill)	9'X 7'X 5'	91'	1 ,300
Sandy Pt. (Market)	31' ϕ X 8'- 6"	73'	28 ,500
Sandy Pt. (Fig Tree)	14'X 14'X 8'	17'	6 ,300
Farms	64.5' ϕ X 9	307'	185 ,000
Newton Ground (1)	12'X 18'X 7'	221'	5 ,100
Newton Ground (2)	12'X 16'X 8'	221'	5 ,100
St. Pauls	22' ϕ X 12'	159'	19 ,500
Dieppe Bay (1)	37'X 37'X 11'	137'	109 ,000
Dieppe Bay (2)	7'X 7'X 6'	78'	780
Saddlers	19'X 12'X6'	100'	4 ,500
Tabernacle	15'X 12'X 11'	188'	8 ,200
Hansion	42'X 22'X 10	600 approx.	40 ,000
Stapleton	55'X 45'X10'	605	100 ,000
Horne Peak (1)	82'X 62'X 13'	400' approx.	300 ,000
Horne Peak (2)	82'X 62'X 13'	400' approx.	300 ,000
Horne Peak (3)	82'X 62'X 13'	400' approx.	300 ,000
Lodge	22'X 22'X 10	520' approx.	20 ,000
Keys	22'X22'X 10'		20 ,000