

資 料

資料-1 調査団構成

1. 総括

濱川 格 (Hamakawa, Itaru)

国際協力事業団 無償資金協力部 業務第4課

2. 技術参与

小笠原 昇市 (Ogasawara, Shoichi)

水産庁 魚政部 国際課 海外協力室

3. 水産事情調査

福井 譲 (Fukui, Jyo)

インテムコンサルティング株式会社

4. 漁港施設計画

国金 博和 (Kunikane, Hirokazu)

財団法人 漁港漁村建設技術研究所

資料-2 調査工程

No.	日時		工程		宿泊先
			濱川 / 小笠原	福井 / 国金	
1	2000年1月8日	土	12:00 Tokyo (JL006) → 10:15 New York		New York
2	2000年1月9日	日	11:30 New York (AA1474) → 16:30 San Juan 18:24 (AA5596) → 21:10 Port of Spain		Port of Spain
3	2000年1月10日	月	Trinidad and Tobago 日本大使館表敬訪問 14:20 Port of Spain (AA5613) → 17:00 San Juan 20:30 San Juan (C09629) → 21:45 St. Christopher		Basseterre
4	2000年1月11日	火	AM: St. Christopher 国政府表敬訪問 PM: 現地調査、Charlestown 施設見学		"
5	2000年1月12日	水	水産管理課打ち合わせ		"
6	2000年1月13日	木	水産管理課打ち合わせ		"
7	2000年1月14日	金	AM: 水産管理課打ち合わせ PM: 打ち合わせ議事録署名		"
8	2000年1月15日	土	団内打ち合わせ		"
9	2000年1月16日	日	15:25 St. Christopher (AA5623) → 16:37 San Juan 18:25 San Juan (AA5596) → 21:10 Port of Spain	現地調査	Port of Spain/ Basseterre
10	2000年1月17日	月	Trinidad and Tobago 日本大使館報告		"
11	2000年1月18日	火	13:50 Port of Spain (AA5613) → 16:37 San Juan 18:35 → San Juan (AA688) → 21:36 New York		New York/ Basseterre
12	2000年1月19日	水	12:10 New York (JL005) →		Basseterre
13	2000年1月20日	木	16:10 Narita		"
14	2000年1月21日	金			"
15	2000年1月22日	土			"
16	2000年1月23日	日			"
17	2000年1月24日	月			"
18	2000年1月25日	火			"
19	2000年1月26日	水	15:25 St. Christopher (AA5623) → 16:37 San Juan 18:25 San Juan (AA5596) → 21:10 Port of Spain		Port of Spain
20	2000年1月27日	木	Trinidad and Tobago 日本大使館報告		"
21	2000年1月28日	金	14:20 Port of Spain (AA5613) → 17:00 San Juan 18:35 San Juan (AA688) → 21:36 New York		New York
22	2000年1月29日	土	12:10 New York (JL005) →		Air Craft
23	2000年1月30日	日	16:10 Narita		

資料-3 面談者リスト

1. Mr. Hon. Timothy Harris (Minister of Agriculture, Lands & Housing)
2. Mr. Raphael A. Archibald (Permanent secretary, Ministry of Agriculture, Lands & Housing)
3. Mr. Joseph N. Simmonds (Senior Fisheries Officer, Fisheries Management Unit)
4. Mr. Ralph Wilkins (Fisheries Officer, Fisheries Management Unit)
5. Mr. Sam Heyliger (Assistance Fisheries Officer, Fisheries Management Unit)
6. Mrs. Bernice Rawlins (Registrar of Co-operatives, Department of Co-operative)
7. Mr. Clyde Thompson (Co-operatives Officer, Department of Co-operative)
8. Mr. L. Antonio Wilson (Co-operatives Officer, Department of Co-operative)
9. Mr. Carlisle Richardson (Assistance Secretary, Foreign Affairs)
10. Ms. Hilary Hazel (Senior Project Officer, Department of planning)
11. Mr. Elvin Bailey (Permanent secretary, Nevis Island Administration, Ministry of Agriculture, Lands & Housing)
12. Mr. R. Arthur Anslyn (Marine Advisor, Nevis Island Administration)
13. Mr. Conrad Perry (Manager of Charles Town Co-operative)
14. Mrs. Dorothea Hector (Permanent Secretary, Ministry of Foreign Affairs)
15. Mr. John O. Matalon (General Manager, Island Dredging Limited)
16. Mr. Michael P. Rochford (Marine Superintendent, Island Dredging Limited)
17. Mr. Raymond Solomon (Director of Environment, Ministry of Tourism, Culture and Environment)
18. Mr. Patrick Wallace (Commanding Officer, Coast Guard)
19. Mr. Carl Herbert (National Disaster Coordinator, National Emergency Management Agency)
20. Mr. Murchison Best (Director, Public Works Department)
21. Mr. Delon James (Engineer, Public Works Department)
22. Mr. Don Grant (Officer, Meteorological Office)
23. Mr. D. Martin (Officer, Meteorological Office)
24. Mr. Carlton Phipps (Statistician, Planning Unit, Ministry of National Security & Information)
25. Mr. Athill Rawlins (Manager, Water Supply Department)
26. Mr. Eugene Springette (Engineer, Electricity Department)

関連資料 4 - 1 . 海象条件

(Environment Impact Assessment からの抜粋)

office

**ENVIRONMENTAL IMPACT ASSESSMENT
PROPOSED TOWN EXPANSION & CRUISESHIP PIER
BASSETERRE, ST. KITTS**

November, 1992



P.O. Box 888
Bank Street
Basseterre, St. Kitts
Tel/Fax: (809) 466-6584

**TOUR
0018**

Ivor Jackson & Associates
P.O. Box 1027, St. John's, Antigua, Phone (809) 460-1469

Table 1

Fecal Coliform and Fecal Streptococci Results
From Monthly Samples in Basseterre

	Results	WHO Guidelines
FC	>1000 in 42% of samples	<1000 in 95% of samples
FS	>100 in 50% of samples	< 100 in 95% of samples

Note: Results based on 48 [100ml.] Samples

(Source: Government of St. Kitts/Nevis)

4.7 Tidal Conditions

There is no readily available, measured tidal data for St. Kitts. However, observed tidal conditions at St. Kitts are not atypical of the northern Leeward Islands; thus it is assumed that there is little variation from conditions at Antigua, just over 100 km (63 miles) to the west. Highest and lowest level tides would therefore be approximately 0.4 m and -0.5 m (National Ocean Survey, NOAA, 1971), giving an extreme tidal range of < 1.0 m.

4.8 Wave Climate

Wave climate conditions at St. Kitts appear to be fairly typical of most Leeward Island locations. On average, wave height within Basseterre Bay was observed to vary between 0.3 and 0.6 m, period 11-13 seconds, with maximum height occurring at high tide. During field observations it was evident that there is some noticeable spatial variation in wave height. Highest waves almost invariably were observed at the eastern and central sections of the bay, occasionally causing overtopping east of Brownbill Street.

Wave overtopping is also frequent at high tide in the vicinity of the abandoned East Pier and Warehouse, where water reaches the ledge of the retaining wall, 1.8 m (6 ft.) above mean sea level. The rotting wooden planks which formed the walkway of the pier are constantly wet. Mean wave height became progressively reduced toward the west, with minimum values (approx 0.3 m) being observed near the Fisherman's Wharf breakwater. For the most part, most wave trains arrived from

the southeasterly quadrant of the bay, mostly as refracted energy from around the headlands. Although very infrequently, some waves were also seen to arrive from directions between south and southwest.

In the context of the present proposal, waves generated by major, high energy events such as storms and hurricanes will be most critical, as these can impact significantly on the structures being contemplated. A major development of the type proposed, should be designed to withstand at least the 1 in 50 year event, given the level of investment envisaged. Delft Hydraulics (1972) calculated the design wave for such an event at St. Kitts to be 8.0 m in height.

Recently, Deane (1991) predicted that for St. Kitts, the 1 in 50 yr event would have a significant wave height (Hs) of 9.0 m with a period of 12 seconds (see Table 2). It has also been shown that while hurricane wave direction will vary greatly, highest waves arrive from directions between northeast and southeast (Deane 1991). These predictions are critical to the design of the proposed works, which could be strongly impacted by wave trains from the southeast.

Table 2

Design Deepwater Hurricane Waves For St. Kitts

Frequency of event	Significant Wave Height (Hs, in metres)	Wave Period (secs.)
1 in 10-20 yrs	5.5	9.0
1 in 50 yrs	9.0	12.0
1 in 100 yrs	14.3	15.0

Source: Deane 1991

4.9 Surface Currents

4.9.1 Method

The general pattern of surface currents within the study area was determined by releasing four sets of drogues, one set each at two locations (25 m offshore from Treasury Building and Social Security Building), at high tide on the morning of 1992-10-04 and at low tide on the afternoon of 1992-10-05. Each set of drogues consisted of two tagged plastic bottles, connected to each other by a 1 m length of light rope. The

bottles were quarter-filled with water (to minimise the effect of winds) so that they could float roughly at water level, allowing for easy identification. Hourly tracking was accomplished using a small motor-powered boat.

4.9.2 Results

Results suggest the existence of a predominantly westerly current, irrespective of tidal phase. However, it was noticeable that there was a tendency for the drogues to drift closer to the shoreline during the low tide run, as can be seen from a comparison of Figures 3 and 4. It is unlikely that this tendency is due to local wind effects, since on both days winds within the bay generally blew from directions varying between east and east-south-east.

Based on observation during drogue tracking, the dominant westward moving current also appeared to be stronger during flood tide than at ebb tide. This observation is supported by local knowledge, as indicated by the boatman who assisted in the field, and fishermen who use the bay.

4.10 Longshore Currents and Sediment Transport

4.10.1 Method

Longshore current direction and speed were determined by injecting 2-gram fluorescence dye patches within the nearshore area, some 5-10 m from the shore. Injection was performed at three locations, in front of the Treasury Building, Durant Avenue and Thibou Avenue.

Two injections were done at each location, 10 minutes apart, during high tide on the morning of October 5 and at low tide during the evening the following day. Dye movement was timed over one minute from injection with a stopwatch, distance measured in feet, and direction noted. Velocity was afterwards calculated in centimetres per second (cms-1).

4.10.2 Results

Dye injection results show that longshore current movement is predominantly westward as indicated by 66 % of the tests (Table 3). Mean velocity of this current on 1992-10-05 was 10 cms1, but only 5.5 cms-1 on the following day. The longshore current appears to be affected by tide since the speeds recorded on October 5 and 6 were measured at high and low tide, respectively.

While westward moving currents predominate, there is some evidence of a reversal of current (i.e. eastward moving) which occurred during the remaining 34 % of the dye injections. This

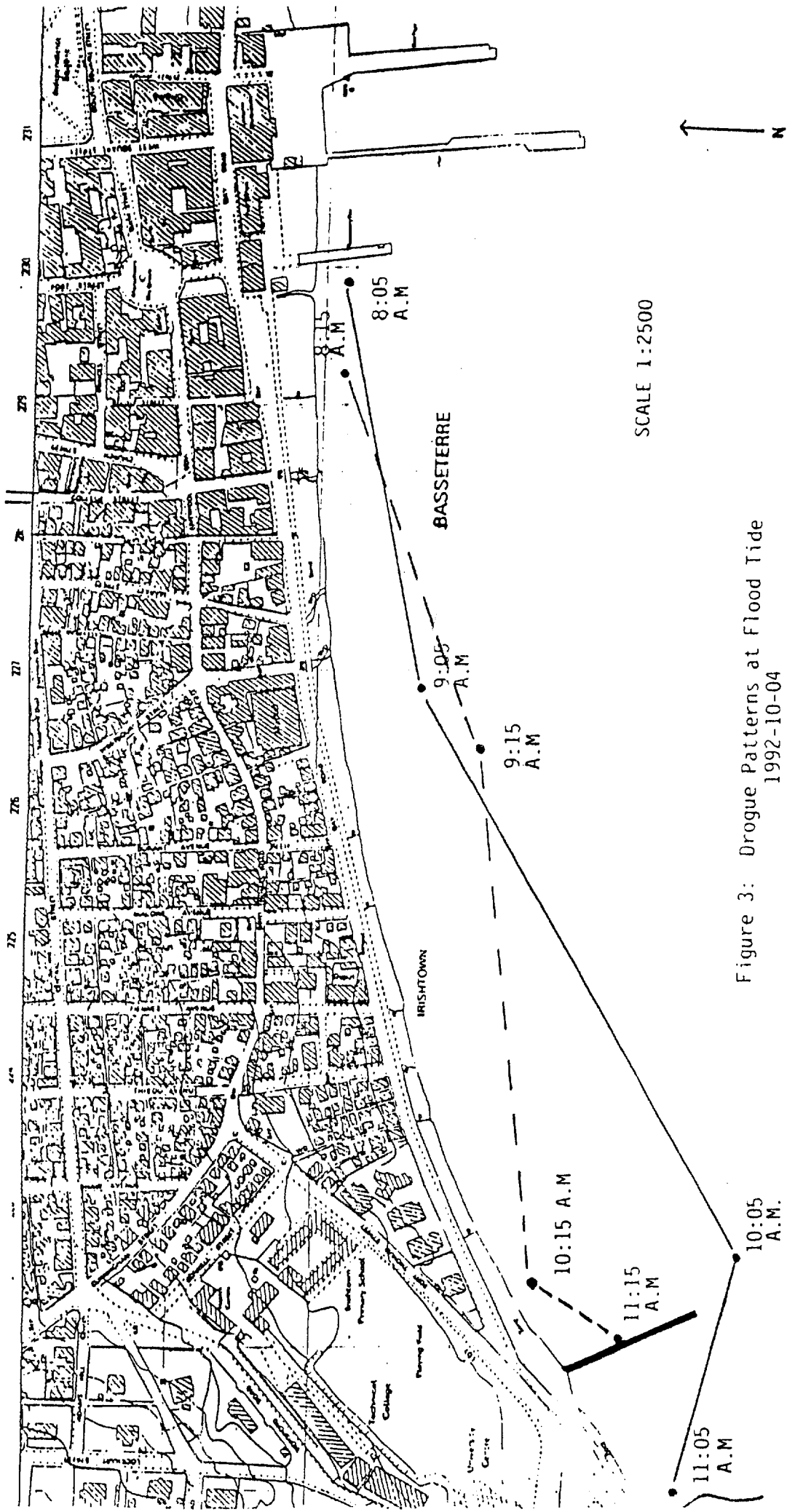


Figure 3: Drogue Patterns at Flood Tide
1992-10-04

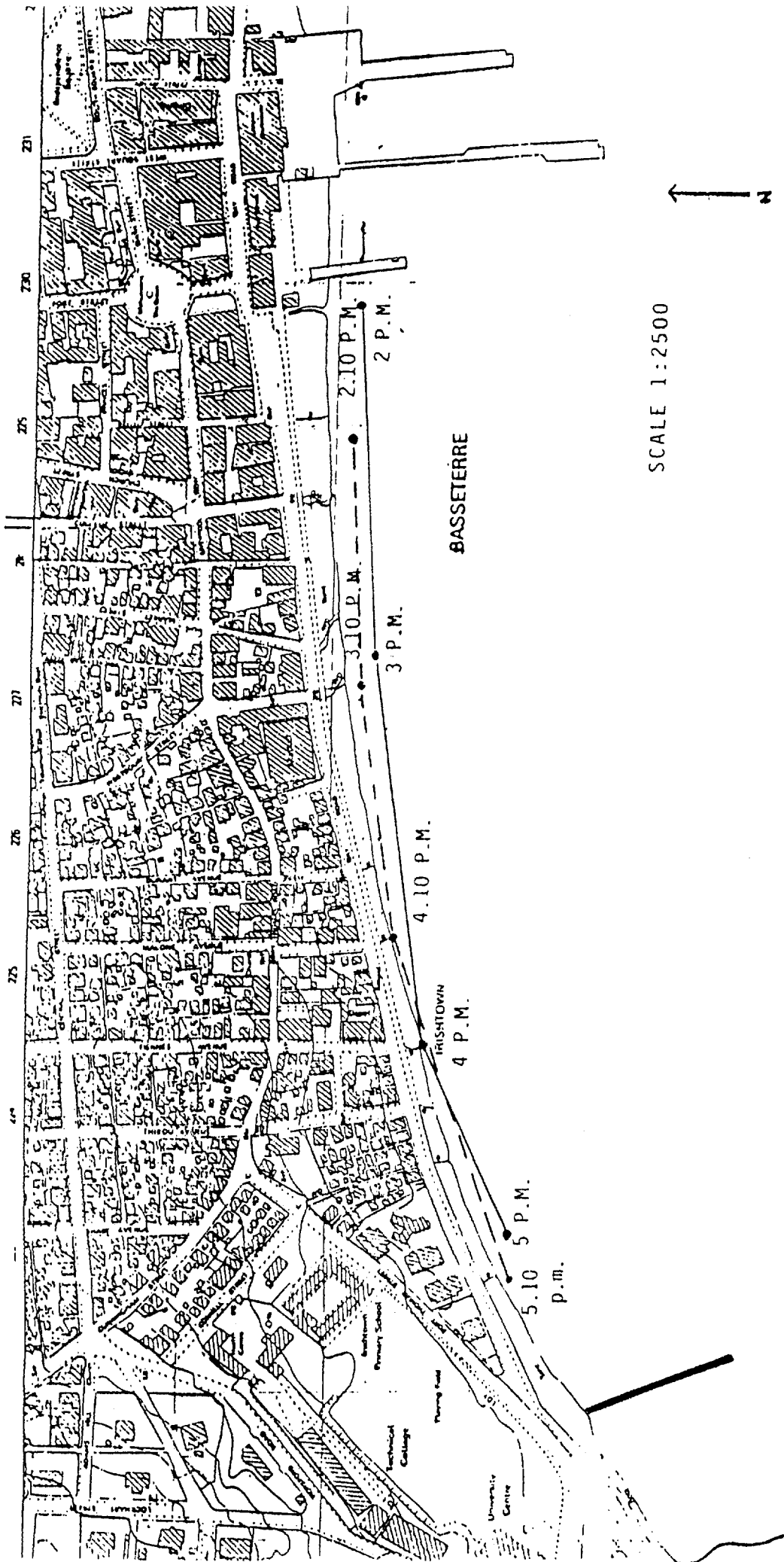


Figure 4: Droigue Patterns at Ebb Tide
1992-10-05

Table 3

Longshore Currents Within Study Area

Date	Location	Direction	Velocity (cms-1)
(High Tide)			
1992-10-05	Treasury	W	13.0
1992-10-05	Treasury	W	10.5
1992-10-05	Durant Ave.	E	8.0
1992-10-05	Durant Ave.	W	10.0
1992-10-05	Thibou Ave.	E	5.0
1992-10-05	Thibou Ave.	W	7.0
(Low Tide)			
1992-10-06	Treasury	W	3.0
1992-10-06	Treasury	E	2.5
1992-10-06	Durant Ave.	W	8.0
1992-10-06	Durant Ave.	W	7.0
1992-10-06	Thibou Ave	W	4.0
1992-10-06	Thibou Ave	E	2.0

eastward longshore current is on average weaker than the dominant westward current, with velocities averaging 6.5 cms-1 and 2.3 cms-1 on October 5 (flood tide) and October 6 (ebb tide) respectively.

It is important that the implications of this eastward moving longshore current be fully understood. For it indicates that sediment discharged from the Gut and other drains to the west could find its way into the zone of the proposed marina, causing siltation and turbidity. It also underscores the need for the creation of an efficient drainage system which directs discharge out of the immediate nearshore area, and away from the proposed works.

In summary, the greater portion of the sediment available for beach building will have a tendency to follow the net direction of the longshore current, i.e. towards the west. However some sand will still be transported in the opposite direction, i.e. eastward, during those periods when there is reversal of movement.

4.11 Beach Characteristics

4.11.1 Spatial Variation in Beach Width

At most points, the continuous beach to the west of the study area varies in width between 7.0 and 7.5 metres. The beach is

widest toward the western extremity of the bay (Plate 2), reaching a maximum of 14.0 m near the Bay Road - Fort Thomas Street junction (Table 4). This occurrence can be largely explained by the interaction of two major forces: (i) the predominantly westward movement of surface currents within the bay and (ii) refracted wave energy from the southeast, which also drives a westward -moving nearshore littoral current.

Field tests during this study demonstrate that the net direction of sediment transport is toward the west (See Section 4.10 and Table 3). In addition the 120.0 m long rubble breakwater near Fisherman's Wharf would also have influenced beach width in the western area of the bay, as greater quantities of sand would accumulate updrift of the structure.

Table 4

Measured Beach Widths - Locations Listed From East To West

<u>Location</u>	<u>Beach Width(metres)</u>
West of College Gut	7.3
Market Street	7.7
Durant Avenue	7.0
Fiennes Avenue	7.4
Thibou Avenue	8.0
Bay Rd.- Ft. Thomas	14.0

4.11.2 Sediment characteristics

The beach is composed of dark-coloured volcanic (mainly pyroclastic) materials, but there is marked contrast in sediment size characteristics of the beach east and west of the College Gut. Three sand samples were collected from the swash zone, one each at Treasury Pier, the Gut and at Durant Avenue. These were oven-dried in the laboratory at 1600 C, and sieved on a rotating shaker.

The results clearly indicate that sediment from Treasury Pier (median diameter 0.32mm) is significantly less coarse than that found at the Gut and Durant Avenue (median diameter 1.3 mm and 0.8 mm respectively). This is illustrated in Appendix 1 and Appendix 2(a). -2(c).

The coarser sand at the two more westerly locations is primarily due to the large volume of coarse sediment transported through the Gut from the hinterland, and deposited at the coast during periods of significant runoff. It is also important to note that sand at the Gut is markedly coarser than at Durant Avenue. This suggests that while some Gut sands



Plate 2. Relatively wide beach at the western section
of Bay, west of Fiennes Ave.

are being transported westerly by the main longshore current, much of the coarser fractions is being deposited near the mouth of the Gut itself.

There is a clear gradation in sediment size with increasing distance from the shore. While samples taken from the swash zone were medium to very coarse, sediment became progressively finer offshore. The two samples taken from the proposed marina zone just east and west of the Gut both had a median grain size of 0.39m, falling into the medium-grain class.

In contrast, the two samples collected in the general vicinity of the proposed berthing structure represent fine sands, with a median size of 0.22 mm and 0.20 mm (Appendix 2(d)-2(g)). This information should be of interest to the developers who anticipate finding coarse-grained fill (from dredging) ".ideal for fill and foundation requirements and for piling work." If the samples taken are representative of conditions in the dredging area, this expectation may be misplaced.

5.0 ANALYSIS OF PROPOSED MARINE WORKS IN CONTEXT OF COASTAL DYNAMICS

Final designs for the proposed marine works must take into consideration the reality of coastal dynamics in order to (a) ensure functionality and structural integrity and (b) to minimise possible adverse impacts on natural coastal processes. The main works under consideration here are:

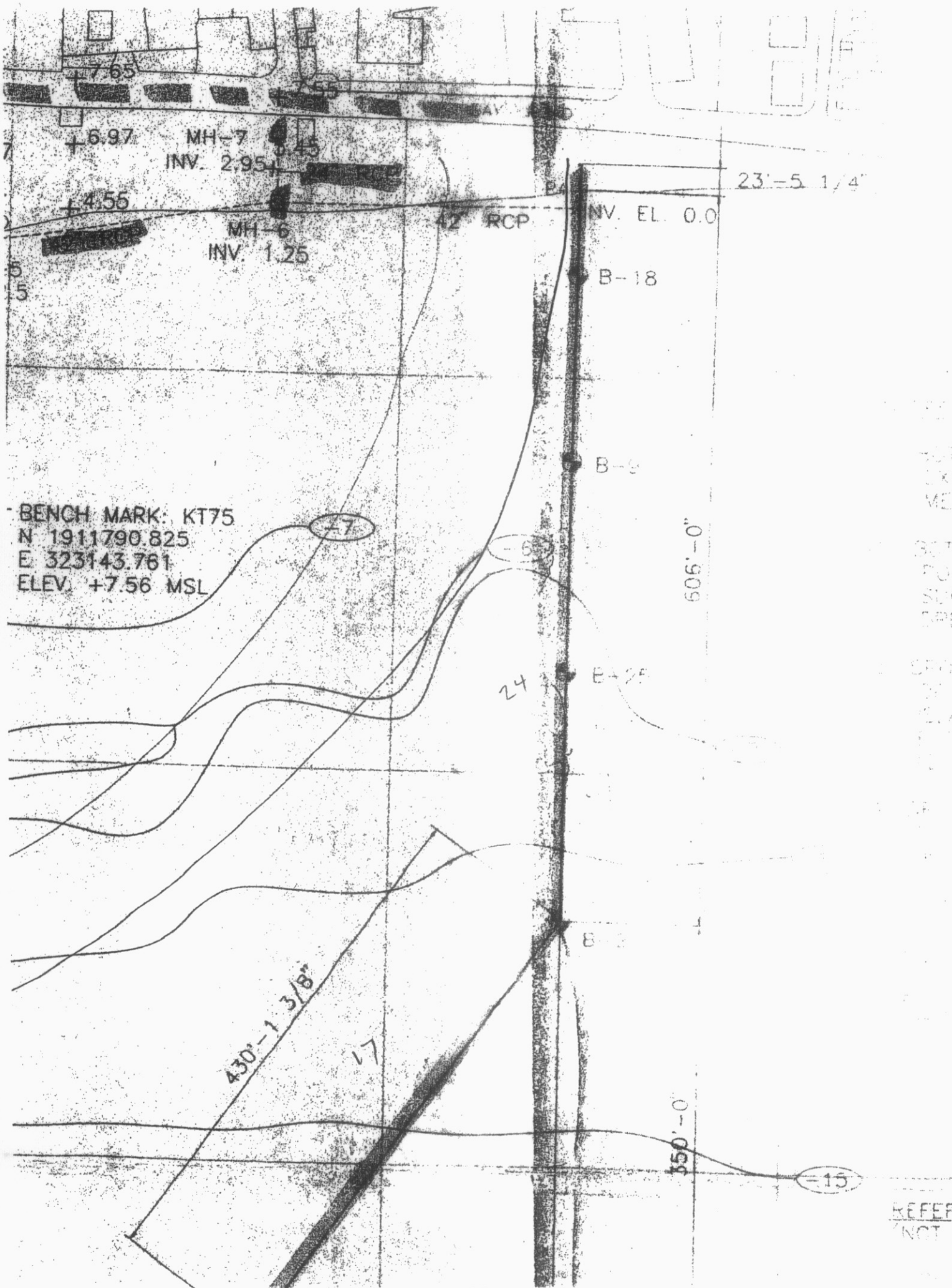
- i. Land reclamation and dredging,
- ii. The marina and
- iii. The cruise ship pier/berthing structure,

5.1 Reclamation and Dredging

The methods outlined to effect these works are standard procedures and are unlikely to cause any medium or long-term disequilibrium in the immediate or adjacent areas. No viable corals exist within the area of proposed works, and the fringing reefs at the eastern and western headlands are sufficiently distant to be essentially invulnerable. Seagrass in the zone to be reclaimed or dredged is minimal, already stressed, and not significant compared to more valuable seagrass beds elsewhere.

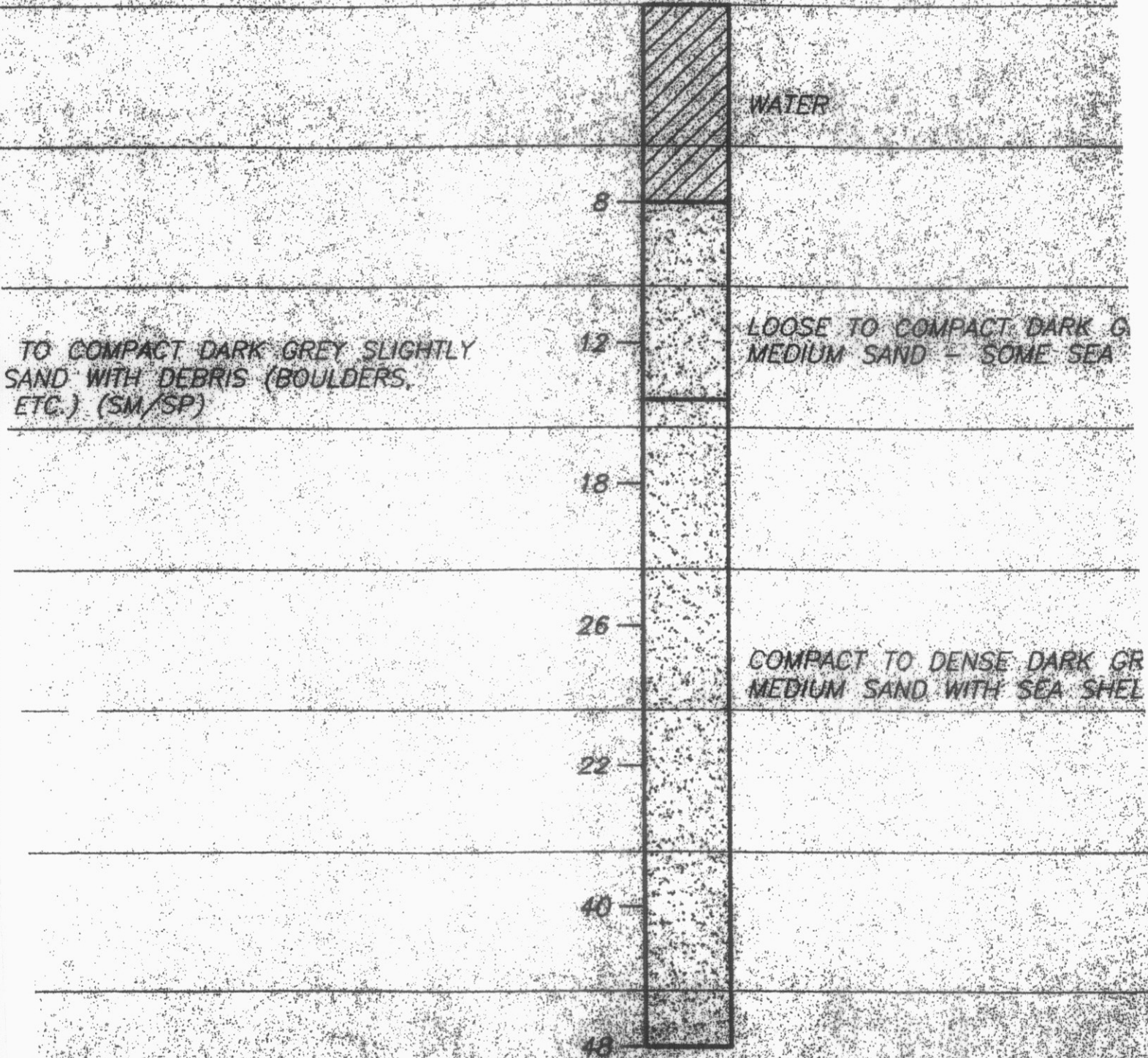
Our conclusions, based on our observations and discussions with fishermen, are that no critical benthic communities would be at risk. Frequent maintenance dredging in the vicinity of the cruise ship pier is unlikely, based on the experience of the St. Kitts Port Authority, in respect of the Deep Water Harbour. This facility was completed in April 1981, and there

関連資料 4 - 2. 土質条件

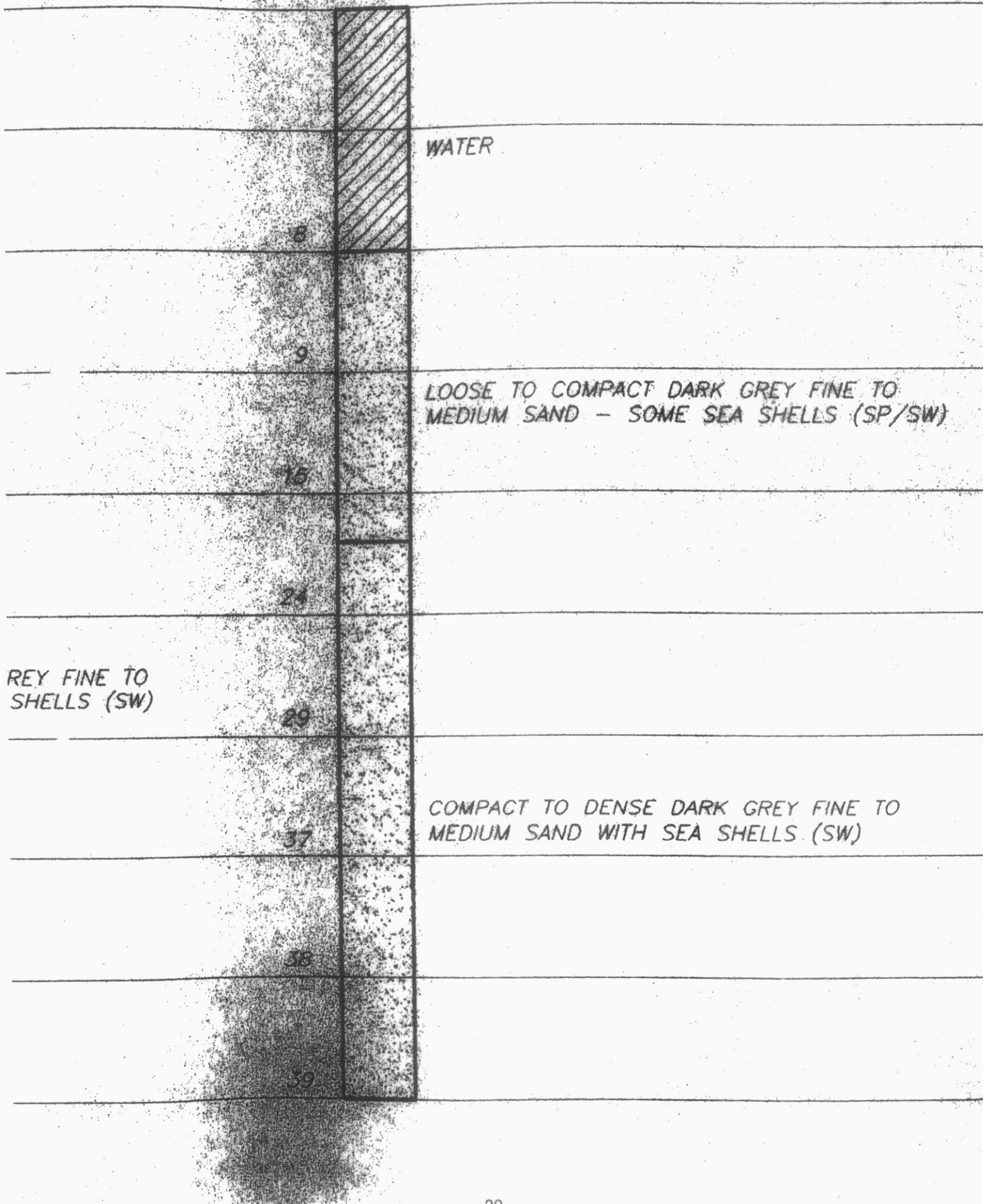


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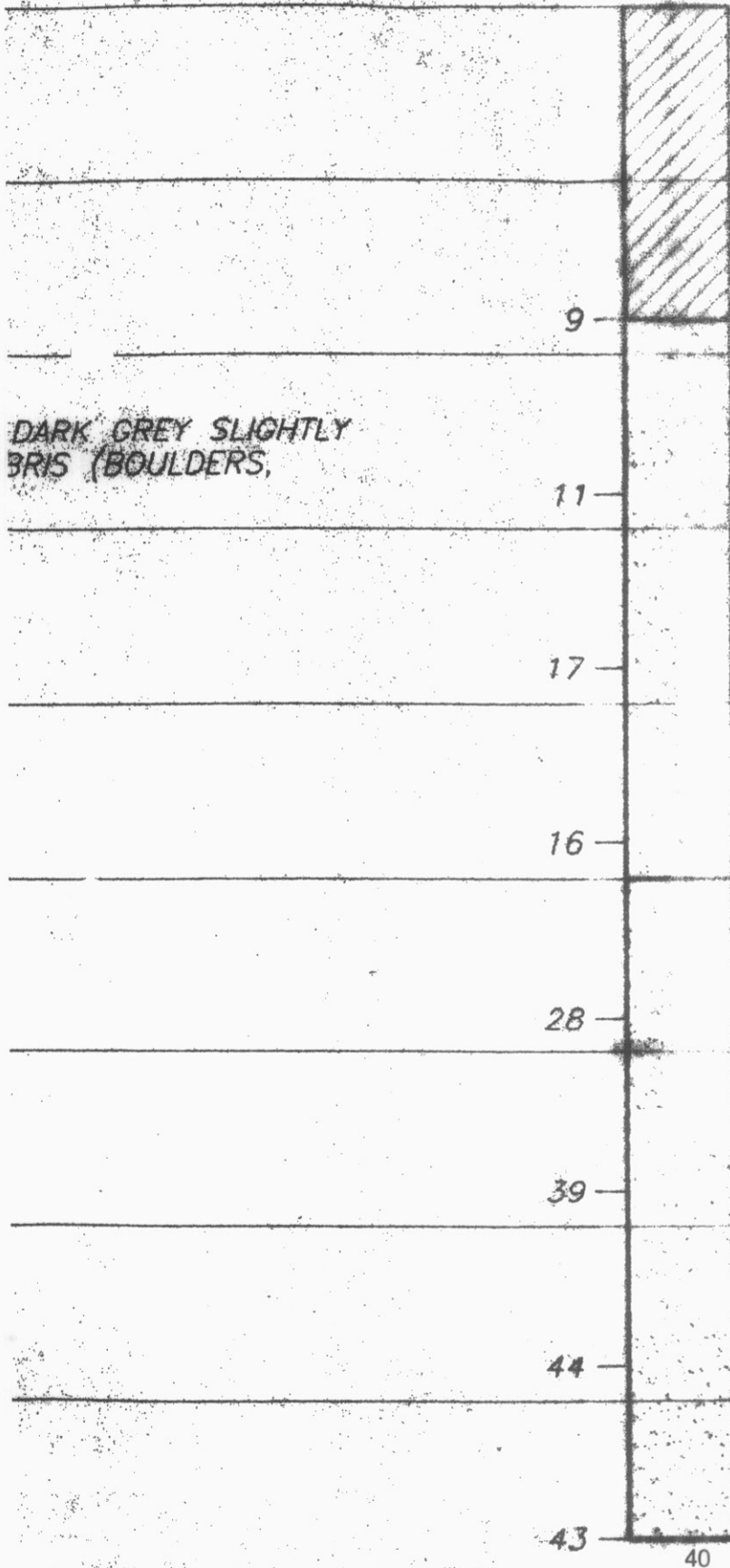
B-9



B-18



B-25



WATER

DARK GREY SLIGHTLY
BRIS (BOULDERS,

COMPACT DARK GREY FINE
MEDIUM SAND - SOME SEA SHELLS

DEEP DARK GREY FINE
SAND WITH SEA SHELLS

関連資料 4 - 3. 現地の調査・調達・施工業者

Table-5 List of Construction Companies playing an active role in the fisheries sector in Saint Christopher and Nevis, and their achievement

No	Name of Company	Address	Telephone Number	Facsimile Number	Foundation (Year)	Employment (Engineer)	Name of Facilities/Machineries	Quantity	Summary of Achievement (for 3 years)	Grading Good recommendation/ Bad recommendation
	Hyliger & Hyligar	Camps Commercial Develop	465-0502	465-5765		On a need to basis	Backhoe Concrete mixer pick up truck	1 1 1	Construction of Sea wall @ Sandy Point	GOODS
	Stephens & Associates	Ponds Ind Park	465-2544	456-4045		1	pick up truck	1	Construction of Schools: Newtown and Special Ed.	"
	BC Audain & Assoc.	New Street B'terre	465-6695	465-6536		"	Trucks (dump) pick up truck Backhoe		Construction of School Dristown and Dieppe Bay	"
	Boonie's Construction	Liverpool Row	465-7504	465-1994		"			Construction of Various roads	"
	Vincent Morton	Newtown Bay Road	465-2082	465-1352		Rydell Bell			Construction of school Verchilds School	"
	Warner's Construct.	West Indp. Sq. St.	465-2485	465-7723		Employ on a need to basis				"
	Jenkins Ltd	Cnr Cayon & Sprott St.	465-6809	465-1190		Peter Sarkins			Reservoir Water Dept. Building	"
	Byron & Sons Ltd	New Street Basseterre	465-2611			Employer on a need to basis			Construction of school Estrelle Primary	"
	Skewe & Associate									"
	Lennox Warner								Constr. of New Psychiatric Ward	"

T.ble-7 List of Procurement Agents for facilities, materials, machineries, vehicles and its spare parts in the fisheries sector in Saint Christopher and Nevis, and their achievement

No	Name of Procurement Agent	Address	Telephone Number	Facsimile Number	Foundation (Year)	Employment (Engineer)	Name of Goods	Name of Supplier/ Origin Country	Summary of Achievement (for 3 years)	Grading Good recommendation/ Bad recommendation
	TDC	Fort St. B'terre	465 - 2511	465- 1099	1973		Building Materials Special Orders available	Various Suppliers from UK to US	Supply materials for a number of Govt projects	GOODS
	SL Horsford & Co. Ltd	West Ind. Sq. St.	465-2616	465-1042	1875		"	"	"	GOOD
	Ricardo's	Airport Road	465-9229	465-9161	1991		"	"	"	GOODS
	Builders Paradise	Frigate Bay	466-4938	466-4939	1998		"	"	"	GOODS
43	Nicholls Trading	Bay Road B'terre	466-5766	466-5767	1994		"	"	"	GOODS

**PUBLIC WORKS
GOVERNMENT OF ST. KITTS AND NEVIS
LIST OF REGISTERED CONTRACTORS, JAN - DEC. 1997**

It is notified for general information that the following Contractors applied for registration to carry out Government contracts in St. Kitts and have been registered in the categories shown.

Category 1.

Building and Civil Engineering up to \$100,000.00

Construction Technologies Ltd	
Ezekiel Tyson	
Wellington Newman	
Just Right Construction	466-7333
Terrence Ward	
Callis Browne	
William Agard	
Universal Building Maintenance	
Caribbean Construction	465-5416
Liburd Construction	465-6720/8075
Diamond Construction	465-7236
Bryan Harris & Associates	465-4364
Derrick Percival	
James Henry	465-4796
Reuben Mulriane	
Edward Construction & Drafting	465-0513
A. R. & G. C. Construction	465-6411
Philmore Gibson	465-3676
Anthony Huggins	
Vincent Boyles	465-6829
Phillip Meade	
Juslyn Daniel	
David Brandy	465-4956
Trevor Isaac	465-7030
Leroy Mills	
McBride Harris	465-8408
Tim's Construction	465-2585
Steadroy Browne	465-6632
Evans Claxton	465-7357
Royden E	
Stout Plan Builders Ltd	465-9214
Winston Warner	
Glenville Warner	465-0356
Douglas G. Burroughs	
L.I. Architectural Services Bldg	465-2182/465-5237
Leighton Williams	465-3842
Spencer Esroy Tweede	465-4684

Duncan's Building Construction	
Roy Rogers & Maurice Blanchard Co. Ltd	465-3422
A. C. Richards Construction	
Spencer Esroy Tweede	465-4684
Ebbie's Construction & Furniture	465-4150
Edward's Construction & Drafting	465-0513
A.M.C Dev. Company (Mrs Hull)	465-8260
Hodge & Associates	465-0523
McAllister Thomas & Wilmon McCall	465-6085
St. Clair Herbert	
Walford Arthurton	465-2397
Original Boat builders Co.	466-6612

Category 2

Building & Civil Engineering from \$100,000.00 to \$500,000.00

Evelyn's Construction Co.	
Skeete & Associates	465-5186
Glenford Gumbs	
Rawlins Construction	
Bryan Harris & Associates	
Warner Construction	
Lennox Warner & Partner	465-4799
Laplace Construction	465-3713
Eldon Jones & Associates	465-7516
Bernard Audain	
Oris Hazel	465-6471
Tim's Construction	465-2585
Alphonso Dyer	
Berris Byron	465-3923
Green & Associates Construction Ltd	465-4732
Escon Ltd	
James A. Claxton & Sons	
Riley's Construction	465-4526
Henry Browne	
Roland Stanley	465-8723
Spencer Esroy Tweede	465-4684
Bernard Boland	465-0384

Category 3

Over \$500,000.00

Hyliger & Hyligar Construction Ltd	465-6385
B.C. Audain & Associates	465-6695
Stephen & Associates	465-2544
Boonies Construction	465-7504
Vincent Morton & Associates	465-2082
Warner Construction	
Jenkins Ltd	465-6809
Bryon & Sons Ltd	

Category 4

Electrical

Basval Electrical Limited	
Sight & Sound Electronics	
S & R Electrical	
Central Electric	
Ralph L Gumbs	
International Electronics Supplies	
Austin Johnson	
D & M Electrical Services	
C. W. Alam Ltd	
Adams Electrical & Plumbing	465-7635
Vincent Boyles	465-6829
Samuel Thomas	
Thompson's Associates	
Taylor Electrical Services	465-8284
Austin Dickerson	465-7677
M & L Electrical Installation	465-1890/467-3631

Category 5

Plumbing

Elmar Solar Services	465-2651
Ben's Plumbing Services	465-4532
Lashel Plumbing Services	465-7031

Category 6

Painting

Luther Abbott	
Oliver Blake	
Bernard Sargent	465-6319
Patrick Daniel	
Samuel Cornelius	
Primrose Painting Services	
Arnold Smith	
Jerome Robin	
Joseph Percival	
Roy Rogers & Maurice Blanchard Co. Ltd	
Renben Mulriane	
Derrick Percival	
Cornelius Emilien	465-2803
Alfred Rawlins	465-0916
Orban Williams	465-9131
Curtis Rawlins	465-4482
DB's Home Improvement	465-3200
Denzel Saddler	465-3583

George Gilfillan	465-8493
R Audain & Son	465-5037
Winston Hobson	
St. Clair	
Joseph Holloman	
Leroy Lynch	
Ivan Jeffers	465-3822
Charles Brookes (Texturing, Prickeling etc.)	465-5670

Category 7

Haulage & Equipment Hire

Equipment Associates Ltd	465-7914
Tweede & Associates	465-8092
Liburd Construction	
Troy Douglas Trucking Services	465-2787
Nias Trucking Services	
Tidy's Trucking Services	
Dennis Carey	
Arthur's Trucking Services	465-8834
B & B Backhoe Services	
Lincoln Fyfield	
Alexis Hazel	465-6521

Category 8

Welding & Metal Work

Frank Metalcraft	-Metalwork	
Jeffers Metalcraft Ltd	"	
Powell's Metalcraft	"	
Joseph Farrel	-Welding	
Keegan General Welding	"	
Diamond Welding (Herbert Isles)	"	465-7475

Category 9

Furniture

Admiral Enterprises	-Furniture
Frank Metalcraft	"
Derrick Percival	"
Reuben Mulraine	"
Vincent Boyles	"
Trevor Isaac	"

Category 10

Air Condition & Refrigeration

Engineering & Maintenance Services

International Air-Conditioning

VAC Air-Conditioning

Caribe Refrigeration Service

Air Condition & Refrigeration Services

Edmund Tross

465-5488

Klass Air-Condition & Refrigeration Services

465-8646

Category 11

Sanitary

The Admiral Enterprises - Septic Tank Cleaning

Category 12

Special

Evelyn's Roofing & Maintenance

- Roofing

Caribbean Security System

Cayon Roofing Tile Co.

C.W. Alarm Ltd

- Fire & Burglar
Alarm System

Dr Croft

465-3172

Signs

関連資料 4 - 4. 関連法規

1. The National Conservation and Environment Protection Act、1987 からの抜粋
2. Statutory Rules and Orders、1995

*The National Conservation and Environment
Protection Act, 1987 - 6.*

(2) This Part shall not come into operation until such time as the Minister may designate by Notice published in the *Gazette*.

(3) In determining the date under subsection (2), the Minister shall consult the Nevis Island Administration and shall act in accordance with such advice.

PART VI

Coast Conservation and Beach Protection

Beach
vested in
the Crown
with public
access.

24.(1) It is hereby declared that all rights in and over the beach are vested in the Crown and the public shall have the right of access and the right to use or enjoy the beach for recreational activities and purposes.

(2) There shall be at least one public access to every beach in Saint Christopher and Nevis and, where the only existing access is a private road, the owner of that road shall give an unimpeded beach right of way to the public at all times without charge.

Duties and
functions
of the
Conservation
Commission
in respect
of coast
conservation.

25. The Minister in consultation with the Conservation Commission shall be responsible for -

- (a) the preparation and implementation of a coastal zone management plan to regulate developmental activities in a coastal zone and to make necessary Regulations;
- (b) the formulation and execution of schemes of work for coast conservation within the coastal zone;
- (c) the conduct of research and for undertaking environmental impact assessment of any development activity in collaboration with other departments; agencies and institutions for the purpose of coast conservation;

*The National Conservation and Environment
Protection Act, 1987 - 5.*

26. No person shall -

Preservation
of beach.

- (a) remove or assist in the removing of any natural barrier against the sea; or
- (b) dig and take away or assist in the digging and taking away of any deposit of sand, stone, gravel or shingle from any land mark that is part of the beach; or
- (c) remove or assist in removing any vegetation from a beach in Saint Christopher and Nevis except under the authority of a permit granted to him by the Minister in writing in such form as the Minister approves.

27. A Permit to dig and take away sand, stone, gravel or shingle is obtainable by making an application therefor in writing to the Minister in such form as he approves and the application must contain -

Application
for
permission
to dig and
take sand.

- (a) the name and address of the applicant;
- (b) the location of the place from which the sand, stone, gravel or shingle is to be dug and taken;
- (c) the purpose for which sand, stone, gravel or shingle is to be used; and
- (d) the quantity of sand, stone, gravel or shingle required to be dug and taken.

(2) The Minister shall consider all applications made to him under subsection (1) and may grant the permit applied for upon such terms (including as to the quantity of sand, stone, gravel or shingle to be taken) as he thinks fit or he may refuse the application.

*The National Conservation and Environment
Protection Act, 1987 - 5.*

Time for conveying of sand etc. 28. No sand, stone, gravel or shingle shall be dug, taken or transported between the hour of 7 o'clock in the evening of any day and the hour of 5 o'clock in the morning of the following day.

Exemption. 29. Sections 26, 27 and 28 do not apply if the quantity of sand, stone, gravel or shingle being taken is of such a small quantity that it can be conveyed without the use of any motor vehicle or wheelbarrow.

Fouling or polluting of the coastal zone. 30. No person shall, in Saint Christopher and Nevis, foul or pollute any part of the coastal zone whether by depositing thereof offal, garbage or other waste or in any other manner.

Power to declare protected beaches. 31.(1) The Minister may in consultation with the Conservation Commission by Order published in the *Gazette*, declare -

(a) certain areas of the coastal zone to be protected beaches for purposes of this Act; and

(b) such activities as may be specified in the Order to be prohibited activities in the area defined in the Order being any or all of the following activities -

(i) fishing by any means specified in the Order;

(ii) the use or anchoring of boats, except for authorised purposes, and the docking or anchoring of cruise ships;

(iii) the disposal of any waste matter;

(iv) water skiing;

*The National Conservation and Environment
Protection Act, 1987 - 5.*

- (v) sand mining or dredging
in the coastal zone;
- (vi) the removal of any
treasure or artifact from
the floor of the sea.

32. Any person who -

Offences.

- (a) removes any natural barrier
against the sea;
- (b) digs and takes away or assists
in digging and taking sand,
stone, gravel or shingle in
contravention of section 27;
- (c) contravenes section 28; or
- (d) contravenes section 30,

is guilty of an offence and is liable on
summary conviction to a fine of \$1000 or to
imprisonment for a term of six months or both;
and in addition thereto, any boat or vehicle
used in connection with the commission of an
offence under paragraphs (a) or (b) is liable
to forfeiture.

33. Nothing in this Part shall be deemed
to affect -

Savings.

- (a) any land used for agriculture;
or
- (b) any vested rights enjoyed by
fishermen engaged in fishing as
a trade in or over any beach.

PART VII

Forestry, Soil and Water Conservation

34.(1) No person shall cut or fell any
timber within Saint Christopher and Nevis unless
such person shall have obtained from the Chief
Agricultural Officer a permit in writing.

Timber not
to be cut
or felled
without
permit.

SAINT CHRISTOPHER AND NEVIS

STATUTORY RULES AND ORDERS

1995, No. 11

FISHERIES REGULATIONS 1995.

MADE by the Minister under Section 40 of the Fisheries Act, 1984 (No. 4 of 1984).

PART I - PRELIMINARY

SHORT TITLE

1. These Regulations may be cited as the Fisheries Regulations 1995.

FISHERIES ADVISORY COMMITTEE

2. The Minister may establish a Fisheries Advisory Committee for the purposes of the Act.

PART II - SAFETY EQUIPMENT

SAFETY EQUIPMENT

3. (1) All safety equipment carried aboard shall bear the name of the vessel either engraved or written with indelible material.
 - (2) Every vessel shall carry on board:-
 - (a) a bailer capable of removing water from a vessel;
 - (b) a hand held compass or other compass approved by the Chief Fisheries Officer;
 - (c) not less than 1 gallon of fresh drinking water stowed in a closed container for each person on board the vessel;
 - (d) one set of oars or one main sail or both;
 - (e) a battery-operated water-proof flash light in good working condition;
 - (f) non-perishable rations stowed in a water-proof container sufficient to sustain each person for at least 5 days;

- (g) a small mirror capable of being used as a reflector;
- (h) at least 2 flares suitable for use at night;
- (i) at least 2 flares suitable for use in daylight;
- (j) a sea anchor of size and design appropriate to the vessel;
- (k) at least one life jacket for each person on board the vessel;

PART III - FOREIGN FISHING LICENCES

APPLICATIONS

4. Every application for a foreign fishing licence shall be as prescribed under these Regulations and such application form may be obtained from the Chief Fisheries Officer.

LICENCE

5. Every foreign fishing licence shall be issued under these Regulations.

FEES

6. (1) The fee payable for the issue of a licence in respect of a foreign fishing vessel is the amount set out in Schedule I to these Regulations.
- (2) No foreign fishing licence shall be issued unless the Minister is satisfied that any fees payable in respect of that licence have been paid and that adequate arrangements have been made for the payment of any royalties and other charges payable under Section 14 of the Act.

REGIONAL REGISTER OF GOOD STANDING

7. (1) In this section,

"Regional Register" means the register of fishing vessels established by the Organization of East Caribbean States Fisheries Unit.

"Good Standing" in relation to a foreign fishing vessel means the original status to vessels when accepted for inclusion on the regional register in accordance with the criteria agreed upon by the member states of the Organization of Eastern Caribbean States (OECS).

- (2) No licence shall be issued in respect of a foreign fishing vessel unless that vessel is registered on a regional register and the vessel for which the licence is sought has good standing on the register.

GROUND FOR REFUSAL OF A LICENCE

8. No licence in respect of a foreign fishing vessel may be issued or renewed unless:

- (a) an application has been made in accordance with Regulation 4 and is true and correct;
- (b) any information requested by the Minister or Chief Fisheries Officer and relevant to the proposed fishing operation has been provided in the manner requested;
- (c) the fee prescribed under Regulation 6 has been paid; and
- (d) conditions stipulated on the licence have not been violated.

LOCAL REPRESENTATIVE

9. No licence shall be issued in respect of a foreign fishing vessel unless a local representative is appointed who is authorized to act on behalf of the master, owner, or charterer of that vessel and who is able to accept legal responsibility on behalf of the owner, master, charterer for any action juridical or otherwise.

STORAGE OR GEAR

10. The following is the prescribed manner in which fishing gear shall be stowed for the purpose of section 9 of the Act.

- (1) Any foreign fishing vessel that is not licensed under part III or under any regional access agreement shall keep its fishing gear stowed in such a manner as not to be readily available for fishing.
- (2) The following particular requirements shall apply to the specified categories of vessels:
 - (a) in the case of purse seiners:
 - (i) the boom shall be lowered as far as possible so that the vessel cannot be used for fishing but so that the skiff is accessible for use in emergency situations;
 - (ii) the helicopter, if any, shall be tied down;
 - (iii) launches shall be secured.
 - (b) in the case of trawlers, all nets, trawlboards and weights shall be disconnected from their towing or hauling wires, ropes or rigid frames and either stowed below deck or securely lashed to some part of the superstructure of the vessel.
- (3) For the purpose of this regulation and of section 9 of the Act, the term "fishing gear" includes any net, hook, float, pole, rope, trap, boat or helicopter that may be used in the act of fishing.
- (4) Where the fishing gear of a foreign vessel which is prohibited by section 8 of the Act from fishing within the fishery waters is not stowed in a manner prescribed

above while within the fishing waters, the master, owner and charterer of that vessel is each guilty of an offence and shall be liable on summary conviction to a fine not exceeding five thousand dollars.

PART IV – LOCAL FISHING LICENCE AND BOAT REGISTRATION

FORM OF REGISTRATION/LICENCE AND APPLICATION

11. Every licence in respect of a local fishing vessel and every application for such licence shall be issued on application made to the Chief Fisheries Officer on the prescribed form.

FEES

12. The fees payable on application for, or renewal of a licence in respect of a local fishing vessel is the amount set out in Schedule II to these Regulations.

GROUND FOR REFUSAL OF A LICENCE

13. No licence may be issued or renewed unless:

- (a) an application is made in accordance with Regulation 11 and is true and correct in every way;
- (b) any information requested by the Minister or Chief Fisheries Officer and relevant to the proposed fishing operation has been provided in the manner requested;
- (c) the fee prescribed in Regulation 12 has been paid;
- (d) conditions stipulated on the licence have not been violated.

PART V – FISH PROCESSING ESTABLISHMENT LICENCE

APPLICATIONS

14. Every licence to operate a fish processing establishment and every application for such a licence shall be issued on application made to the Chief Fisheries Officer on the prescribed form.

ISSUE OF LICENCES

15. No licence to operate a fish establishment shall be issued unless the Minister is satisfied that the establishment has been constructed and is being maintained in such a manner as to allow for its operation in accordance with any applicable standards set out by law.

FEES

16. The fee payable for the issue or renewal of a licence to operate a fish processing

establishment is the amount set out for establishment of that kind in Schedule III to these Regulations.

LICENCE CONDITIONS

17. Every licence to operate a fish processing establishment shall be subject to the following conditions:

- (a) The establishment shall be maintained and operated in a clean and sanitary manner.
- (b) Accurate records shall be maintained relating to the operations carried out in the establishment, including records of the quantity, species and quality of fish received, processed, sold or exported, and all such records shall be open to inspection by any authorized officer.

PART VI – FISHERY CONSERVATION MEASURES

LOBSTER

18. (1) In this Regulation:

- (a) "lobster" includes the whole or any part of a lobster.
 - (b) "under-sized" means less than 9.5 cm (3.75 ins) in carapace (back) length measured from immediately behind the rostral horns to the rear edge of the telson or carapace.
- (2) No person shall harm, take, have in his possession, sell or purchase:
- (a) any lobster carrying eggs; or
 - (b) any lobster which is undersized; or
 - (c) any lobster which is moulting.
- (3) No person shall capture any lobster other than by hand, loop, pot or trap.
- (4) No person shall have in his possession or sell any lobster that has been speared, hooked or otherwise impaled.
- (5) No person shall remove the eggs from a lobster, or have in his possession, sell or purchase a lobster from which the eggs have been removed.
- (6) The Minister may by Notice published in the *Gazette* declare the period 1st May to August 31st in any year as a closed season.
- (7) No person shall fish for lobster during the period of a closed season for lobsters.
- (8) No person shall land from a fishing vessel any lobster that is not whole.

TURTLES

19. (1) In this regulation -
- (a) "turtle" includes the whole or any part of any turtle;
 - (b) "undersized" means a weight less than the weight specified below;
 - (i) Leatherback turtles (*Dermochelys coriacea*) 158.18kg (350 lbs)
 - (ii) Green turtle (*Chelonia mydas*) 81.66 kg (180 lbs)
 - (iii) Hawksbill turtle (*Eretmochelys imbricata*) 38.6 kg (85 lbs)
 - (iv) Loggerhead turtle (*Caretta caretta*) 72.59 kg (160 lbs)
 - (c) "fishery waters" includes the beach.
 - (2) No person shall -
 - (a) disturb, remove from the fishery waters, expose for sale, purchase or at any time have in his possession any turtle eggs;
 - (b) remove from the fishery waters, expose for sale, sell, purchase or at any time have in his possession any undersized turtle;
 - (c) interfere with any turtle nest, or any turtle that is nesting;
 - (d) set within 300 yds of the shores of St. Christopher and Nevis any net or seine or any other device for the purpose of or with the intention of fishing for, catching or taking any turtle; and
 - (e) fish for, remove from the fishery waters, or at any time have in his possession, expose for sale, sell or purchase any turtle between the 28th day of February to the 1st day of October in every year, or as otherwise stated by the Minister by notice published in the *Gazette*.

CONCH

20. (1) In this Regulation, "immature conch" means:
- (a) a conch, the shell of which is smaller than 18 centimeters in length; or
 - (b) a conch, the shell of which does not have a flared lip; or
 - (c) a conch with a total meat weight of less than 225 grams (0.5 lbs) after removal of the digestive gland.
- (2) No person shall take, sell or purchase or have in his possession any "immature conch".
- (3) The Minister may by Notice published in the *Gazette* declare any period or

area or both as closed for conch fishing.

- (4) No person shall fish for conch during the period of a closed season for conch.
- (5) This regulation relates to the Queen Conch *Strombus gigas*.

CORAL, SPONGES, MARINE ALGAE AND SEASTARS

21. No person shall take or collect or have in his possession any coral, sponge, marine algae or seastars from the fishery waters, or beach except with the written permission of the Chief Fisheries Officer in accordance with such conditions as he may specify.

AQUARIUM FISH

22. No person shall import, sell or export any aquarium fish except with the written permission of the Chief Fisheries Officer and in accordance with such conditions as he may specify.

FISHERIES RESEARCH

23. This part of these Regulations shall not apply to fishing operations which are conducted solely for the purpose of fisheries research provided that permission has been granted in respect of such operations by the Chief Fisheries Officer under Section 24 of the Act and that the operations are carried out in accordance with the conditions of such permission.

RESTRICTION ON USE OF SPEAR GUNS

24. No person shall use a spear gun (fish gun) for fishing in the waters of Saint Kitts and Nevis without first having obtained written permission from the Chief Fisheries Officer for the use of that type of fishing gear in the fishery waters in Saint Christopher and Nevis.

MINIMUM MESH SIZE FOR NETS AND TRAPS

- 25. (1) The minimum size of a seine shall not be less than one inch square.
- (2) The mesh size of a "ballyhoo net" shall not be less than one half of an inch square.
- (3) The mesh size for fish trap (fish pot) wire shall not be less than two inches.

FISHING (USING SCUBA OR HOOKAH)

26. No one shall use SCUBA OR HOOKAH gear for fishing within the Fishery waters of St. Kitts and Nevis unless special approval is given in writing by the Chief Fisheries Officer.

MARINE RESERVES

27. All temporary visitors wishing to dive in the waters of the state shall be allowed

to do so only through a locally licensed operator unless special approval is given in writing by the Chief Fisheries Officer.

DIVING FACILITIES

28. (i) A person shall be required to apply to the Chief Fisheries Officer for a license to operate a SCUBA or HOOKAH diving facility.

(ii) All operators shall be registered with the Chief Fisheries Officer.

(iii) All operators shall ensure that all diving associated equipment is properly maintained according to standard operating procedures.

TANK (SCUBA) FILLING STATIONS

29. (i) A person shall possess some form of identification attesting to an acceptable level of SCUBA certification e.g. (PADI) Professional Association of Diving Instructors or (NAUI) National Association of Underwater Instructors.

(ii) No tank shall be accepted by a filling station unless the following conditions are met.

(a) it possess a current internal inspection stamp.

(b) it is filled for certified divers.

(c) the tank is inspected and tested by a company legally registered to do so.

MOORINGS

30. All boats wishing to stay in a Marine Reserve or Dive site must use the moorings provided. Where there are no moorings special permission must be given by the Chief Fisheries Officer for anchoring in accordance with such condition as he may specify.

FISH AGGREGATING DEVICES

31. (i) No person shall place a fish aggregating device in the waters of St. Kitts and Nevis except with the permission of the Chief Fisheries Officer and in accordance with such conditions as he may specify or which are otherwise specified in this Part.

(ii) Permission to place a fish aggregating device shall not confer any exclusive right to fish in the vicinity of the device.

(iii) The master of any vessel placing a fish aggregating device shall notify the Chief Fisheries Officer of the nature of the location of the device within one month or such other period as the Chief Fisheries Officer may specify.

Designated Fish Aggregating Device

32. (i) The Chief Fisheries Officer may, by notice published in the *Gazette*,

declare any fish aggregating device to be designated fish aggregating device for the purpose of this regulation.

(ii) No person shall fish within a radius of one nautical mile from a designated fish aggregating device except with the permission of the Chief Fisheries Officer and in accordance with such conditions as he may specify.

(iii) The Chief Fisheries Officer may, by notice published in the *Gazette*, declare that any class of persons who are citizens of St. Kitts and Nevis may fish within a radius of one nautical mile from a designated fish aggregating device or a class of designated fish aggregating devices.

Marking of Devices

33. Any fish aggregating device placed in the Fishery waters of St. Kitts and Nevis shall:

(i) be clearly marked with the name of the owner and of the vessel from which the device was placed;

(ii) bear a radar, reflector and such other equipment or markings as the Chief Fisheries Officer may from time to time require.

Disposal of Unauthorized Devices

34. Any fish aggregating device placed in the fishery waters of St. Kitts and Nevis otherwise than in accordance with a permission given under regulation 31 or found in the St. Kitts and Nevis waters without a marking or a piece of equipment required under regulation 33 may be used or disposed of in such a manner as the Chief Fisheries Officer may direct.

FISHING PRIORITY AREAS

35. Vessels entering or leaving ports in St. Kitts and Nevis should not make passage through Fishing Priority Areas or Marine Reserves unless special permission is given in writing by the Chief Fisheries Officers in accordance with such conditions as he may specify.

PART VII – MISCELLANEOUS PROVISION

PROHIBITION AGAINST INTERFERING WITH OR DISTURBING FISHING

36. No person shall –

(a) remove, harm, take away, empty or cast adrift any fishing net, fish pot or trap, gear, tackle or other fishing equipment belonging to some other person without the consent of that other person;

(b) place any object in the water, or promote or undertake any activities so as

FEE FOR FOREIGN FISHING LICENCES

Size of Vessel (overall length)	Fee Payable per year
Less than 30 feet (9.68 metres)	1000 dollars
30 feet or more up to 60 feet (19.36 metres)	2000 dollars
Over 60 feet	4000 dollars

SCHEDULE II (Regulation No. 12)

FEE FOR LOCAL FISHING VESSEL LICENCES

Size of vessel (overall length)	Fees payable per year
Less than 10 feet (3.23 metres)	no fees
10 feet or more up to 30 feet	25 dollars
30 feet or more up to 60 feet (19.36 metres)	50 dollars
Over 60 feet	500 dollars

SCHEDULE III (Regulation No. 16)

FEE FOR FISH PROCESSING ESTABLISHMENT LICENCE

For fish processing establishment of any kind. \$500.00

Made this 19th day of June, 1995.

HUGH C. HEYLIGER,
Hugh C. Heyliger
*Minister of Agriculture, Lands,
Housing and Development.*

GOVERNMENT PRINTERY,
ST. KITTS, W.I.

to obstruct a fishing operation of a fisherman unless authorized in writing by the Chief Fisheries Officer;

- (c) destroy, damage, displace, or alter the position of any fishing net, fish pot or trap, gear, tackle, other fishing equipment or any buoy, float or other marker connected to it;
- (d) remove fish from the fishing net, fish pot or trap, tackle or other fishing equipment belonging to another person, without that other person's consent;
- (e) insert grass or other material into the meshes of any fishing net, fish pot or trap or reduce the size of the meshes; or
- (f) set or place any fish pot or trap without an identifying mark issued or approved by the Chief Fisheries Officer.

PROTECTION OF FISHING IN FISHING PRIORITY AREAS

37. (1) No person shall build, construct or erect or cause to be built, constructed or erected any buildings, structure on, over or under any waters in any fishing priority area declared by the Minister under section 21 of the Act, which may constitute an obstruction, impediment or interference with fishing in that area.

(2) No person shall use any fishing priority area referred to in sub-Regulation (1) for the anchorage of any yacht or vessel except in the event of a storm, hurricane or such other natural event as would render the yacht or vessel unseaworthy.

(3) Where a person uses such fishing priority area in the circumstances mentioned in sub-regulation (2) he shall immediately notify the Chief Fisheries Officer or such person designated by him, of such use, and the Chief Fisheries Officer, or such designated person may extend the time of such use on such terms and conditions as he deems fit.

POLLUTION

38. (i) No person, company, or their employees or agents shall put or cause to be put any poison, noxious substance or other pollutants into the fishery waters of St. Kitts and Nevis.

(ii) Any costs incurred for remedial action in respect of any pollution may, in addition to any fine imposed be borne by the person or company found guilty of an offence under this regulation.

OFFENCES AND PENALTIES

39. Any person contravening any of the provision of these Regulations shall be guilty of an offence and shall be liable on summary conviction to a fine not exceeding five thousand dollars.

関連資料 4 - 5. 中期経済戦略

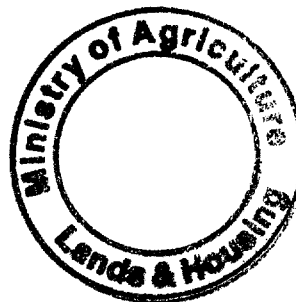
do not have access to lands sufficient to accommodate expansion. The industry is further affected by the absence of organised extension services and an adequate input supply facility.

3.39 In the early 1980's, cattle, and to a lesser extent, sheep and goats, were affected by the Tropical Bont tick (*Amblyomma variegatum*) and its associated skin disease, resulting in a continuous decline in livestock production. The implementation of the Caribbean Amblyomma Program has to some extent contained the spread of the Tropical Bont tick, and has restored confidence among farmers.

3.40 In order to develop the livestock industry GSKN intends to establish a forum through which consultations among stakeholders can take place in an effort to devise strategies to develop the industry.

3.41 There are more than 100 active fishing boats in SKN used by more than 300 fishers. Most of the fishing is done from small, wooden, open boats ranging from 5 m to 8 m in length with outboard motors ranging from 25 hp to 150 hp. Fishing methods are traditional, although some modern techniques have been adopted in recent years. The major issues in the fishing industry are depletion of lobster and conch stock, the use of destructive fishing practices, and the under-exploitation of pelagics and deep slope/bank fish. In an effort to develop the fisheries sub-sector in a sustainable manner, GSKN intends to:

- (i) implement fisheries regulations;
- (ii) develop more educational programmes to promote conservation;
- (iii) improve the marketing of fish; and
- (iv) install artificial reefs to increase the reef-fish population.



資料－5 収集資料リスト

1. Topography Map in St. Christopher (6 pcs)
2. Chart in Basseterre
3. Fisheries Management Unit 1998 Annual Report
 - Table 1 Total landing for species by quarter
 - Table 2 Landing of Conch 1996-1998
 - Table 3 Large pelagic 1996 – 1998
 - Table 4 Coastal pelagic 1996 – 1998
 - Table 5 Estimated landings (by major species) 1998
 - Table 6 Estimated landings by quarter 1995 – 1998
4. Organizational Structure of the Fisheries Management Unit
5. 1999 Estimated landings for St. Kitts
 - Fishing activity by landing site 1999
 - Estimated fish landings 1995 – 99 by quarter and gear
 - Estimated fish landings 1995 – 99 by quarters and gear
6. Yearly statistics by commodity and country (period 1999)
7. Statutory Rules and Order 1995. No. 11
8. Questionnaire 2. Table 1, 2
9. Questionnaire 3. Table 3
10. Questionnaire 7. Table 4
11. Questionnaire 14. Table 5,6,7
12. Organizational Chart of the Ministry of AFH
13. National budget 1996-2000
14. Navis Year in Review Fisheries Report1998
15. 4th、5th Annual General Meeting (Co-operative Society Limited) 1998, 1997
16. Hurricane Preliminary Damage Assessment (Luis, Marilyn, Georges, Jose, Lenny)
17. The National Conservation and Environment Protection Act (1987)
18. Environment Impact Assessment (Proposed Town Expansion & Cruise ship Pier)
19. Bore Hole Data (Port Zante)
20. List of Registered Contractors
21. Annual Digest of Statistics 1995
22. Meteorological Statistics
23. Medium Term Economic Strategy Paper (1998-2000)
24. Building Code