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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

CARIBBEAN REGIONAL
PROJECT PAPER

INFRASTRUCTURE EXPANSION AND
MAINTENANCE SYSTEMS
Amendment No. #3
St. Kitts

AID/LAC/P-368
CR P-284 P-328 P-356

Project Number: 538-0138

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number
3

DOCUMENT CODE
3

2. COUNTRY/ENTITY

Regional Development Office/Caribbean (RDO/C)

3. PROJECT NUMBER

538-0138

4. BUREAU/OFFICE

LAC

05

5. PROJECT TITLE (maximum 40 characters)

Infrastructure Expansion and Maintenance Systems

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
09 30 93

7. ESTIMATED DATE OF OBLIGATION
 (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 86 B. Quarter 3 C. Final FY 90

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY <u>86</u>			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(1,100)	(100)	(1,200)	(30,000)	(10,000)	(40,000)
(Loan)	(1,800)	()	(1,800)	(30,000)	(10,000)	(40,000)
Other U.S.						
1.						
2.						
Host Country	0	0	0	0	4,100	4,100
Other Donor(s)	0	0	0	0	0	0
TOTALS	2,900	100	3,000	60,000	24,100	84,100

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. AUTHORIZATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ESF	770	852	890	23,000	1,800 a/		500	40,000	32,400
(2) DA					6,100		1,500		7,600
(3)									
(4)									
TOTALS				23,000	7,900		2,000	40,000	40,000

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To create an infrastructure environment that will stimulate investment and productive activity in the Eastern Caribbean.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
09 88 03 93

15. SOURCE/ORIGIN OF GOODS AND SERVICES

Participating Countries of the Eastern Caribbean

000 941 Local Other (Specify) Caribbean

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 10 page PP Amendment.)

The purpose of this Amendment is to provide justification for adding \$2.0 million in DA loan funds to the authorization for the St. Kitts Southeast Peninsula Area Development Project No. 538-0138.01.a/Of the \$7.9 million in loan funds previously authorized, \$6.1 million is changed from ESF to DA funding.

17. APPROVED BY

Signature

Alfred P. ...

Title

Acting Director, RDO/C

Date Signed

MM DD YY
06 23 87

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY
16 1 87

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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523

CARIBBEAN REGIONAL
INFRASTRUCTURE EXPANSION AND MAINTENANCE SYSTEMS PROJECT
NO. 538-0138

ST. KITTS SOUTHEAST PENINSULA AREA DEVELOPMENT SUBPROJECT
NO. 538-0138.01

AMENDMENT NO. 1 TO PROJECT PAPER SUPPLEMENT

AID/LAC/P-328 & cr
284

Loan Number: 538-K-030 (ESF)
538-K-031 (SDA)
Project Number: 538-0138 &
538-0138.01

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AUTHORIZATION
AMENDMENT NUMBER THREE

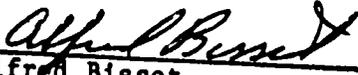
NAME OF COUNTRY: Caribbean Regional
NAME OF PROJECT: Infrastructure Expansion and Maintenance Systems
NUMBER OF PROJECT: 538-0138

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, the Infrastructure Expansion and Maintenance Systems Project for the Caribbean Region was authorized on May 6, 1986.
2. That Authorization is hereby amended to authorize additional funds for the Southeast Peninsula Area Development Subproject (538-0138.01) and modify that Subproject description as follows:

(a) Paragraph 1 is deleted and the following new paragraph 1 inserted in lieu thereof: "Pursuant to Sections 531 and 106 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Infrastructure Expansion and Maintenance Systems Project for the Caribbean Region involving obligations of not to exceed Twenty-three Million United States dollars (US \$23,000,000) in grant funds and Nine Million Nine Hundred Thousand United States Dollars (US \$9,900,000) in loan funds over a five year period from date of authorization, subject to the availability of funds in accordance with the USAID OYB/allotment process, to help in financing foreign exchange and local currency costs for the Project. Subject to future authorizations, the Project Authorization may be increased by an amount not to exceed Seven Million One Hundred Thousand United States Dollars (US \$7,100,000) in grant and loan funds. The planned life of project is seven years from the date of initial obligation."

(b) Paragraph 2, subparagraph 1 is deleted and the following new subparagraph 1 inserted in lieu thereof:

1. The St. Kitts Southeast Peninsula Area Development subproject which will consist of engineering services, construction services and related commodities and technical assistance to construct the Southeast Peninsula road, to install the associated water supply system and to support ancillary services such as environmental and land use management, investment packaging, fiscal recovery, and utility installation."
3. The Authorization cited above remains in force except as hereby amended.


Alfred Bisset
Acting Director

Date 6/23/87

ST. KITTS
SOUTHEAST PENINSULA AREA DEVELOPMENT SUBPROJECT
AMENDMENT NO. 1 TO PROJECT PAPER SUPPLEMENT
NO. 538-0138.01

to the

INFRASTRUCTURE EXPANSION AND MAINTENANCE SYSTEMS PROJECT
NO. 538-0138

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AMENDMENT NUMBER ONE TO PROJECT PAPER SUPPLEMENT

ST. KITTS SOUTHEAST PENINSULA AREA
DEVELOPMENT SUBPROJECT NO. 538-0138.01

I. RECOMMENDATION AND SUMMARY

RDO/C recommends authorization of an additional \$2,000,000 in loan funding to the Government of St. Christopher (St. Kitts) and Nevis to finance the installation of a water distribution line under the shoulder of the road being financed under the Agreement signed September 17, 1986.

II. THE ORIGINAL SUBPROJECT

The Infrastructure Expansion and Maintenance Systems (IEMS) Project Authorization was amended on September 16, 1986, to provide \$7.9 million in loan funds and \$1.0 million in grant funds for the Southeast Peninsula Area Development Subproject in St. Kitts-Nevis. A Loan/Grant Agreement was executed on September 17, 1986, obligating \$1,800,000 in loan funds and \$700,000 in grant funds for the project. The Agreement specified that subsequent incremental funding would be provided, subject to availability.

The detailed project description contained in Annex 1 of the Agreement describes a project encompassing the following elements:

- (a) construction and construction supervision of a road from Frigate Bay to Majors Bay;
- (b) construction of a potable water system to serve developments anticipated on the peninsula;
- (c) other ancillary utilities to be provided at a later date; and
- (d) technical assistance related to land use and environmental management planning and development of a fiscal recovery program.

III. CIRCUMSTANCES RESULTING IN NEED FOR THIS AMENDMENT

During the subproject design, it was recognized that water was the most critical utility requirement. If not provided by the time tourism developments on the peninsula were established, investors would be required to install complex and costly desalination plants to meet projected demand. Furthermore, the absence of firm plans for provision of potable water would likely deter potential investors. To determine system requirements and develop a rough cost estimate, Louis Berger International Inc. (LBII), the IEMS Core Contractor, conducted a preliminary engineering study during the design phase of the subproject. That study concluded that, based on the manageable growth scenario projected by Island Resources in the Land Use Management Plan, a 10" pipe would suffice for the distribution main. The remainder of the system would include a storage reservoir on Sir Timothy Hill, another reservoir on the hill overlooking the Great Salt Pond, a booster pumping station adjacent to Friar's Bay, production wells in the Basseterre Valley and a transmission main from the production wells to the Morne Peak Reservoir and thence to the Sir Timothy Hill Reservoir. Preliminary cost estimates of three options, considering alternative piping materials, alignments, and methods of placement, ranged from \$2.85 million to \$3.5 million for the distribution system only (excluding well development and transmission main). The information was provided to the Government of St. Kitts and Nevis (GOSKN) which at the time was discussing possible participation with other donors, primarily the Canadian International Development Agency (CIDA). The assumption at the time was that negotiations would be successfully concluded with CIDA for provision of all elements of the water supply system.

The Loan/Grant Agreement, contained a Condition Precedent to Disbursement for engineering/construction services which required the Government to provide evidence to USAID that funds had been committed to finance the installation of a water supply system for the Southeast Peninsula. The budget contained in the Agreement attributed a minimum of \$2,000,000 as the Government contribution to the subproject, the estimated cost of the distribution system utilizing ductile iron pipe placed above ground on a different alignment from the road. Subsequent to execution of the Agreement, discussions among CIDA, USAID and the GOSKN continued regarding the water supply component of the subproject. In January, 1987, CIDA verbally advised USAID that they would provide materials required for the distribution network, including pipe, valves, fittings, fiberglass panels for the reservoirs, and booster pumps, but would not be able to provide the technical assistance required to design the system nor contribute to installation costs. (It had earlier been recognized that the problems of coordinating the activities of a road construction contractor and a pipe installation contractor financed by separate donors would likely result in substantial claims from one or the other and that installation should most logically be carried out by the road contractor.) As a result of CIDA's decision, and further

discussions with the GOSKN, USAID agreed that the IEMS Core Contractor, LBII, would prepare final engineering plans for the water distribution network, prepare technical specifications for all materials required and develop a detailed cost estimate for this element of the subproject. USAID further agreed to finance installation costs of the CIDA-financed materials. In January, 1987, LBII carried out the field work necessary for design of the system. The distribution network incorporates elements noted earlier excepting the booster pumping station, the need for which was eliminated by relocating the Sir Timothy Hill reservoir to a higher elevation. In March, 1987, USAID made available to CIDA a list of materials required for the pipeline and reservoirs and technical specifications for the materials. The estimated cost, including pipe, valves, fittings, and fiberglass panels for the reservoir was Canadian \$1.3 million. CIDA then formally advised the GOSKN that it would provide a line of credit of Canadian \$3.0 million for the materials required for the Southeast Peninsula distribution network and for other items to be included in a more comprehensive water sector development program. The letter informed the Government that pipe delivery would be coordinated with the U.S. contractor selected by the Government to construct the road and that the reservoirs would be constructed at a later date when warranted by demand. CIDA's agreement to fund this element of the subproject was formally communicated to USAID in a letter dated March 26, 1987, from GOSKN Attorney General Tapley Seaton. LBII subsequently revised the bid documents to include the technical specifications for the water system and altered the construction plans to reflect the pipe alignment and details of the installation work. Bid documents were issued to prequalified contractors on June 1.

IV. MODIFICATIONS TO PROJECT RATIONALE AND DESCRIPTION

The project rationale as presented in the original Project Paper Supplement remains valid. The original project description is only modified by (a) the fact that USAID now will be funding the waterline installation and (b) several minor adjustments to the original engineering design as was indicated under Section III. above.

V. MODIFICATIONS TO COST ESTIMATE AND FINANCIAL PLAN

The revised estimated cost of the USAID-financed portion of the subproject is \$10.8 million, consisting of \$9.9 million in loan funds and \$0.9 million in grant funds. The grant funding was reduced by the \$10,000 which was provided to the Government under RDO/C's PD&S account. It was for the services of an environmental lawyer who prepared the conservation legislation mandated by CP 5.2.f.

Loan funds will be used to finance road construction, pipe installation and construction supervision services; grant funds will be used to finance technical assistance for land use and environmental

TABLE 1
SUMMARY OF SUBPROJECT COSTS BY COMPONENT AND SOURCE OF FUNDING

(In \$000)

Subproject Component	Life of Subproject Funding		
	USAID		GOSKN
	Loan	Grant	
1. Road Construction			
a. Supervisory Engineering	900	-	-
b. Construction	7,000	-	-
SUB-TOTAL	7,900	-	-
2. Land Use and Environmental Management Program			
a. Technical Assistance	-	602	-
b. Training	-	50	-
c. Commodities	-	74	-
d. Other	-	198	100
SUB-TOTAL	-	924	100
3. Fiscal Recovery Program^{a/}	-	<u>a/</u>	-
4. Water System Installation^{b/}	2,000	-	2,000
5. Evaluation & Financial Review	-	66	-
6. Other Utility Installations	-	-	2,000
TOTAL	9,900	990	4,100

^{a/} \$150,000 for the fiscal recovery program is being financed from USAID Project No. 538-0096, Public Management and Policy Planning.

^{b/} Materials to be supplied by CIDA. Installation of materials by road construction contractor. GOSKN to finance well development and transmission mains from well to Morne Rouge Reservoir and thence to Sir Timothy Hill Reservoir.

management planning and an evaluation of the subproject. Total costs, including the CIDA contribution to the water supply system and other utility installation costs, are estimated at about \$15.0 million. A host country contribution of \$4.1 million is required to finance the water supply commodities, all other utilities, and an "in-kind" staff contribution to the land use component. A summary of total subproject costs by source of funding and component is shown in Table 1.

VI. REVISED IMPLEMENTATION SCHEDULE

The lengthy period required to reach agreement with CIDA and the GOSKN regarding the water distribution network, which is deemed critical to the success of the subproject, and the subsequent need to incorporate design details into the construction bid documents, delayed issuance of the IFB from December, 1986, to June, 1987. The revised project implementation schedule for the construction component of the subproject, based on the June 1 bid document issuance date, is as follows:

June, 1987	Issue IFB to Prequalified Construction Contractors
August, 1987	Evaluate Bids and Award Construction Contract
September, 1987	Supervisory Engineer on Site; Construction Contractor Commences Mobilization
November, 1987	Construction Starts
February, 1989	Construction Completed

VII. REVISED MONITORING PLAN

The monitoring plan presented in the original Project Paper Supplement remains valid.

VIII. TECHNICAL ANALYSIS MODIFICATIONS

The Southeast Peninsula water distribution network has been designed to provide an adequate, reliable, safe and flexible system. The design is based on maximum daily demand, assuming 100% occupancy rates, projected in the Land Use Management Plan for the manageable growth scenario. The system has been sized for peak hourly demand, and provisions have been made for two days emergency storage. Provisions for disinfection will ensure a safe supply. Transmission and distribution mains have been designed for the projected 20-year demand, since it would be costly to replace these elements of the system. Production wells, storage tanks and chlorinators have been designed to meet projected 10-year demand as these elements can easily be expanded at a later date. Flexibility is thus provided to meet increasing demands.

Per capita demand is assumed to be 175 gallons per day (gpd) and is deemed conservative. Average daily flow was calculated using average occupancy rates shown in the manageable growth scenario. Maximum daily flow was calculated assuming 100% occupancy. Based on these flows, the average daily demand in 10 years was projected to be 200,000 gpd and the maximum demand 360,000 gpd. 20-year projections show an average daily demand of 475,000 gpd and a maximum daily demand of 855,000 gpd. Peak hourly demands are projected to be 600,000 gpd in 10 years and 1,425,000 gpd in 20 years.

The system required to meet these demands will include:

- a new production well in the Basseterre Valley with a 250 gpm centrifugal pump and 50 hp motor;
- a 4" diameter cast iron pipe from the new well to the existing 10" cast iron force main feeding the Morne Peak reservoir;
- a 10" PVC or ductile iron main between Morne Peak and a new reservoir on Sir Timothy Hill;
- two, 500,000 gallon fibreglass storage reservoirs, one located on Sir Timothy Hill, the other located on the hill overlooking the Great Salt Pond; and
- approximately 10,000 meters of 10" ductile iron pipe from Sir Timothy Hill to Great Salt Pond Hill and thence to the end of the peninsula at Majors Bay.

The last element noted above will be installed by the USAID-financed construction contractor. CIDA will install the storage reservoirs when demand warrants and the GOSKN, through its own or other donor resources, will be responsible for the remainder of the system.

To eliminate the possibility of problems related to the late delivery of pipe, consideration was given to placing the pipe on a 2-meter bench outside the ditch line. However, the cost of utilizing this design was deemed prohibitive because of the substantial increase in unclassified, primarily rock excavation. The distribution line will thus have to be placed under the shoulder of the road.

To increase the probability that the pipe will be available when the construction contractor is ready to install, RDO/C has requested that CIDA provide a copy of its Procurement Services Agent contract prior to signature of the USAID-funded construction contract.

IX. MODIFIED FINANCIAL/ECONOMIC ANALYSIS

All public investments required to complete the Southeast Peninsula road and related infrastructure were considered in the analyses conducted by Robert R. Nathan and the Island Resources Foundation during the design

phase of the subproject. These analyses are still deemed valid. In fact, if anything, the financial/economic feasibility outlook has improved in light of recent occurrences:

1. As a Condition Precedent to Disbursement, the GOSKN designated the Southeast Peninsula a special development area in the Southeast Peninsula Land Development and Conservation Act, dated October 28, 1986. On the same date the Government enacted the Law Reform Act, 1986, which, among other provisions, amended the Stamp Act to provide for changes in land taxes as related to special development areas. For conveyance or transfer of land in such areas, a tax in the amount of 10% of the consideration or market value must be paid by the seller; 4% by the buyer. For leases up to 20 years, 2% of the market value of the property is payable by the lessor and 2% by the lessee; for leases from 20 to 90 years, 4% by the lessor and 4% by the lessee; and for leases over 90 years, 10% by the lessor and 10% by the lessee.

2. Several investors have developed preliminary plans for establishing major resort complexes on the peninsula:

- a) Dumez S.A. (France) has purchased 1,000 acres of land encompassing Sand Bank Bay, both salt ponds, White House Bay and the surrounding hillsides. The proposed development would include 4-5 hotels, a condominium complex, commercial facilities and a yacht basin. Site work is expected to commence within 18 months. The total development, estimated to cost \$500 million, would be carried out over a 15-20 year period.
- b) The Goldgar Group is planning a \$50 million resort complex on 150 acres of land adjacent to Major's Bay. The complex will include a 250-room hotel, casino, restaurant, cocktail lounge, retail shops and 200 luxury condominiums. The condominium complex will have its own clubhouse, pool and tennis courts.

Preliminary engineering is expected to commence in July, 1987, and the project will be completed in 30 months.

- c) The Divi Corporation, based in Aruba, is negotiating to purchase a 15-acre parcel on South Friars Bay for \$50,000 per acre. If negotiations are successful, preliminary engineering for a 200-room hotel will commence immediately, and construction would likely begin in the fall of 1988. An 18-24 month construction period is envisaged.

These developments, all of which have taken place since the USAID Loan/Grant Agreement was signed, will have a favorable impact on the Government's ability to capture sufficient revenues to cover the

long-term costs of providing, operating and maintaining infrastructure. Likewise, economic benefits which will accrue to the Country will be substantially increased.

X. MODIFICATIONS TO OTHER ANALYSIS

All other analyses as presented in the original Project Paper Supplement remain valid. Because the original environmental analysis covered the Southeast Peninsula Area Development effort as a whole, including the water pipeline, and not just USAID's portion represented by the original subproject, it remains valid and no additional approval by the LAC/DR/EST Chief Environmental Officer is necessary.