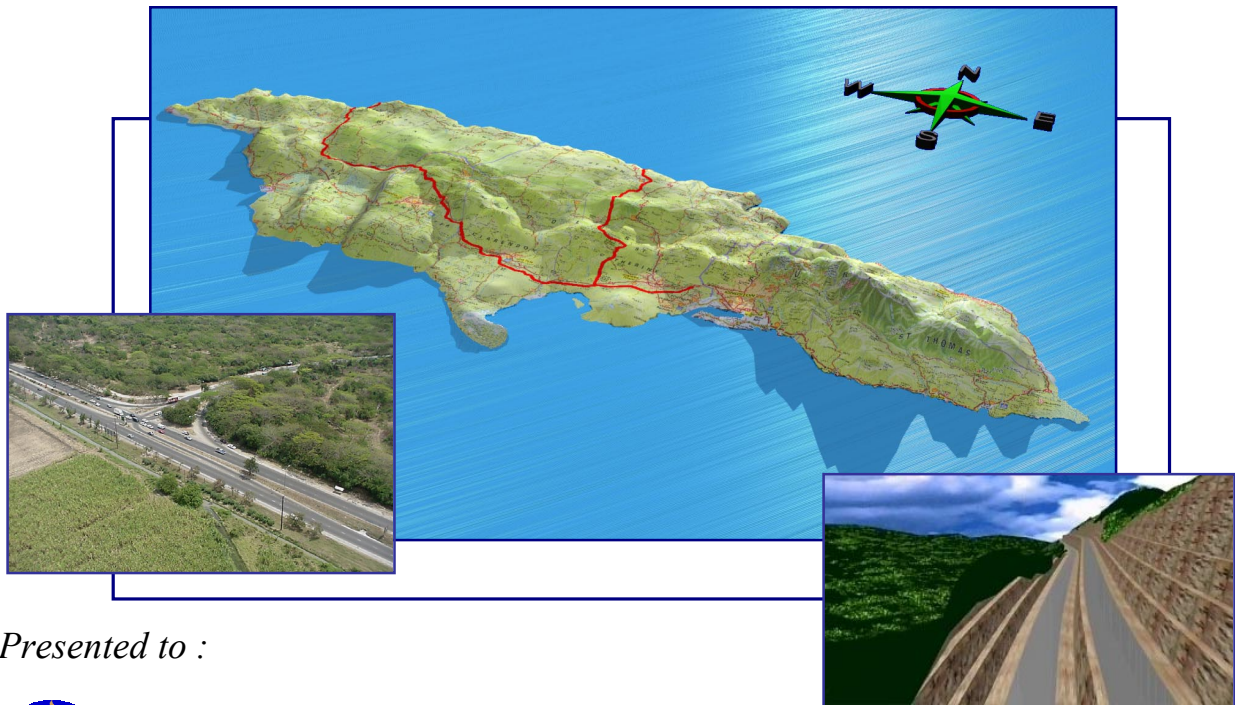




J A M A I C A

# HIGHWAY 2000 PROJECT Preliminary Design Phase

## Utility Relocation Report



*Presented to :*



**DEVELOPMENT BANK  
OF JAMAICA LIMITED**

*By :*



**DESSAU  
SOPRIN**  
INTERNATIONAL INC., Canada


**JENTECH** CONSULTING ENGINEERS

# Development Bank of Jamaica Ltd

## HIGHWAY 2000 PROJECT Preliminary Design Phase

### Utility Relocation Report

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# **1. MAJOR UTILITY COMPANIES IN JAMAICA**

## **1.1 SCOPE OF SERVICES PROVIDED**

There are four major Utility Companies in Jamaica: Cable & Wireless Jamaica Limited which offers telecommunication services; Jamaica Public Service Company Limited (**JPS**) which offers electrical power and light; National Irrigation Commission (**NIC**) which conveys and distributes irrigated water; and the National Water Commission (**NWC**) which deals with the production of potable water and the collection, treatment and disposal of wastewater.

**Cable & Wireless** formerly had a monopoly for all telecommunications services in Jamaica. This monopoly no longer exists. In offering its service all of its transmission and distribution lines were above ground and run on the same poles as used by the **JPS**. However, over the past five years, it has undertaken and executed a programme of changing from overhead to underground lines. This programme is not yet completed island-wide and therefore in some areas lines are still above ground. The distribution network for fixed land telephones in Jamaica is conveyed mainly to urban areas. Over the past ten years, the introduction of mobile cellular telephones has allowed the offering of services into areas not supplied with land lines. Transmission towers are located at prominent topographical locations to allow for as wide a service area as possible. However, there are still significant portions of Jamaica without any type of telephone service.

The **JPS** generates power from five major locations, two of which are in the Kingston Metropolitan Area, at Hunts Bay and Rockfort and another at Old Harbour. The transmission of electricity island-wide from these three major generating stations is done mainly through 138Kv and 69Kv lines. This is transformed to the primary distribution system lines, which range from 440V up to 12Kv. Distribution for residential usage is at 110V and 220V whilst for commercial and institutional purposes distribution depends on the usage pattern at the particular location.

All electrical services are run overhead except in a limited number of residential subdivisions. In some of the rural areas, a separate programme has been in place to ensure that at least 110V electricity is supplied to small villages and districts. The **JPS** also provides street lights in urban areas and along some of the rural highways in particular locations. These services are paid for by the local government authorities in the relevant parish.

Irrigation in Jamaica on a wide scale is done by the National Irrigation Commission (**NIC**). It operates systems mainly in Clarendon and St. Catherine that were formerly almost exclusively sugar cane production areas. In addition to the services offered by the **NIC**, a number of agricultural holdings of varying sizes own and operate irrigation systems. These are supplied either from private well or river-run sources or from connection to the **NWC** distribution system.

The **NWC** owns and operates over 95% of the potable water systems in Jamaica. In a number of isolated cases, systems are run either by private institutions, individuals or other government agencies. Water is obtained either from wells or from rivers or streams. Desalination for potable use is not done by the **NWC** but is restricted to a very few privately owned systems. In addition to the **NWC**'s systems, the various Parish Councils own and operate very small potable water systems for localised areas. Wastewater collection, treatment and disposal systems are also owned and operated by the **NWC**. These systems are restricted to urban areas and some rural residential subdivisions.

## **1.2 OWNERSHIP STRUCTURE**

Cable & Wireless is a privately owned company. Approximately 80% of its shares are owned by Cable & Wireless PLC, a United Kingdom telecommunication company. The rest of its shares are traded on the Jamaican Stock Exchange.

The **JPS** is a government-owned limited liability company. It is not supported by the budget of the government but its financial transactions are guaranteed by the government. It was recently announced that the company will be privatised and it is expected that this process will be completed before March 2001.

The NIC is a government-owned company. It is operated and heavily subsidised by the government as its revenue is insufficient to cover all of its expenses. The NWC is also owned by the government which provides financing for capital expansion. Operations and maintenance are financed through its own revenue collection.

### **1.3 PLANT, TRANSMISSION & DISTRIBUTION SYSTEMS**

Cable & Wireless embarked on a major expansion programme over the past five years. This has resulted in the introduction of new technology; an expansion of its existing plant along these new technological lines, and a four-fold increase in the distribution lines. Included in this programme is the change from overhead to underground lines and the introduction of mobile telephones. It is expected that the range of plant, transmission and distribution systems will increase over the next three to five years not only from Cable & Wireless but from competing companies. These competing companies have materialised since 1999 when the government after negotiations with Cable & Wireless amended its licence to allow other companies to operate in Jamaica. To date, these companies have not started effective operation but it is expected that this will occur from the latter part of year 2000.

The JPS generates electricity in its own plants and also purchases generating power from privately owned plants that are tied directly to its system. This follows a policy of upgrading of its generation system through public/private participation. With the recent announcement of privatisation, it is expected that the range of plant particularly in the generation area will be upgraded. Transmission and distribution of power is almost totally overhead. Transmission through 138Kv and 69Kv lines is supported by steel towers that are placed on easements granted by private or public landowners. In those transmission systems, the width of the easement is usually 33 metres with the transmission line centred on the easement width. Transmission of power at a lower voltage is usually carried on steel poles or in some instances free-standing timber structures along roadways and sometimes along land easements. Most, if not all, distribution systems are run along the road system in Jamaica.

The NIC obtains its water from rivers or wells and conveys and distributes it mainly in open channels. Some of these channels are only earth lined and therefore have distribution losses,

others are lined with rubble stone and some are concreted. In some instances, conveyance is by pipeline.

The NWC owns and operates various types of production plants depending on the sources of the water. In most instances, these production plants are over twenty years old with significant production losses. Transmission and distribution is through cast iron, asbestos cement, galvanised iron and PVC pipes. These pipes range in size from one inch for the smallest distribution pipes up to thirty-six inches in diameter for the large transmission pipes. Sewage treatment, collection and disposal systems also vary in Jamaica with the piping systems usually of PVC or cast iron and manholes usually of reinforced concrete. Treatment plants are of various types producing primary, secondary or tertiary treatment effluent.

## **2. OBLIGATIONS OF CONCESSIONAIRE & UTILITY COMPANIES**

All utilities conflicting with the highway and their associated structures must be adjusted and/or relocated. A preliminary list of all known plant within the limits of the corridors is provided herein. However, it is a preliminary list and is not a complete list of all utilities. For example the transmission and distribution lines below 4Kv rating of the electrical power company, Jamaica Public Service Company Limited, are not shown.

The Concessionaire shall contact and confirm actual locations of the plant with all utility companies, identify all relocation requirements and determine, in conjunction with the companies, the most cost effective relocation strategy. The Concessionaire shall also secure all necessary arrangements with the utility companies with respect to all existing and proposed utilities within the limits of construction. All utility relocations required for the highway must be included in the project costing.

The preliminary estimate of the total utility relocation costs for the Highway 2000 Project is US\$8,120,000,000 (eight million one hundred and twenty thousand US dollars) which includes a the sum of US\$1,500,000 (one million five hundred thousand US dollars) for all possible utility relocations on the Portmore Causeway section of the project.

During the preparation of the Illustrative Solution, a number of the utility conflicts were identified. These conflicts are shown under separate cover on the Utility Plans in each phase of the Illustrated Solutions. Preliminary information and data must be confirmed in the detailed design phase by the Concessionaire. In addition, a Utility Relocation Protocol was prepared that includes the comments of all of the utility companies. This is shown in Appendix A. The Concessionaire will be responsible for either confirming and meeting these conditions or renegotiating the conditions with the utilities as required. The party(s) responsible for the preliminary utility relocations identified to date and the estimated associated costs are outlined in Appendix B. The Concessionaire shall be responsible for all utility relocations and actual costs, both those identified and those not identified, to date.

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**Appendix A    Utility relocation protocol**

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## **UTILITY RELOCATION PROTOCOL**

The Government of Jamaica (GOJ) intends to construct a toll road facility, hereinafter described as Highway 2000 (H2K) from Kingston to Montego Bay and Bushy Park to Ocho Rios. The Executing Agency for this preliminary design phase of the project is the Development Bank of Jamaica (DBJ). The method of executing the project will be Build, Own, Operate & Transfer (BOOT) with the successful bidder having the responsibility to complete the detail design of the project in accordance with the design requirements, final design criteria, standards and specifications that were prepared for the GOJ by its Technical Advisory Team.

There are four utility companies, three owned by the GOJ and one privately owned which have systems and plant which conflict with the corridor of H2K. These companies are Cable & Wireless Jamaica Limited (Telecommunications - privately owned); Jamaica Public Service Company Limited (Electrical Power); National Irrigation Commission Limited (Irrigation Water Systems), and the National Water Commission (Potable water and sewage systems).

The following apply to all of the Utility Companies:

1. The successful bidder (hereinafter called the Contractor) will be responsible for entering into contractual agreements with each of the Utility Companies for the relocation of the conflicting systems and plant. These agreements must contain the highway construction schedule as it relates to the various Utility Companies.
2. All of the costs associated with this relocation will be borne by the Contractor. This includes right-of-way requirements where the relocations are either outside the highway right-of-way or the Utility Company right-of-way.
3. The relocation work to be done will be in accordance with the designs, specifications and requirements of and approval by the Utility Company.
4. All work will be done under the supervision of the Utility Companies' personnel. This supervision will form a part of the costs borne by the Contractor.

5. In all instances, appropriate advance notice has to be given for relocation work so as to minimise or prevent disruption of service to customers.

In particular with regards to construction work:

- a) The Jamaica Public Service Company Limited's (JPS) policy is that all relocation work is done by its own staff or its approved contractors under JPS supervision.
- b) Cable & Wireless Jamaica Limited (C & W) stipulates that work must be done either by its staff or by its approved contractors.
- c) Payment to C & W will be in accordance with the following schedule:
  - 50% of the estimated cost of relocation works, per job, to be paid in advance of commencement of relocation works.
  - 90% of the actual cost of the relocation work, per job, to be paid upon submittal of invoice.
  - the balance of 10% of the actual costs to be paid on acceptance of the relocation works.
- d) Irrigation water supply cannot be disrupted particularly in the Mid-Clarendon system, therefore the relocation must ensure that interim measures, if necessary, are put in place.

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**Appendix B   Utility relocations**

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# IRRIGATION UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: NATIONAL IRRIGATION COMMISSION  
ESTIMATED COST – US\$1.0 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
6 - 7	Rectangular Stone Masonry Canal, 2567mm x 1121mm, (0.99m <sup>3</sup> /s)	Yes	Concessionaire	Cumberland Pen
8-9	Rectangular 200mm Concrete Block Canal, 2871mm x 1121mm, (1.13m <sup>3</sup> /s)	Yes	Concessionaire	Port Henderson
9 – 10	Rectangular 200mm Concrete Block Canal, 1295mm x 914mm, (0.71m <sup>3</sup> /s)	Yes	Concessionaire	Turners Pen
13-14	Reinforce Concrete Syphon & Diversion Structure	Yes	Concessionaire	Cherry Garden, Old Harbour
13-14	Rectangular 200mm Concrete Block Canal 1219mm x 914mm (1.13m <sup>3</sup> /s)	Yes	Concessionaire	Hartlands
20-21	Rectangular 200mm Concrete Block Canal 1219mm x 914mm (1.13m <sup>3</sup> /s)	Yes	Concessionaire	Gutters
21-22	Rectangular 200mm Concrete Block Canal 1219mm x 914mm (1.13m <sup>3</sup> /s)	Yes	Concessionaire	Gutters
23-24	Rubble Stone packed Trapezoidal Canal, 1829mm x 762mm (0.85m <sup>3</sup> /s)	Yes	Concessionaire	B Line Old Harbour

# IRRIGATION UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: NATIONAL IRRIGATION COMMISSION  
ESTIMATED COST – US\$1.0 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
24-25	Rubble Stone packed Trapezoidal Canal, 1371mm x 450mm (0.42m <sup>3</sup> /s)	Yes	Concessionaire	A2 Line Old Harbour
24-25	Rectangular 150mm Concrete Block Canal, 1006mm x 609mm	Yes	Concessionaire	A Line Old Harbour
25-26	Rubble Stone packed Trapezoidal Canal, 1371mm x 609mm (0.51m <sup>3</sup> /s)	Yes	Concessionaire	E Line Old Harbour
46-47	Rubble Stone packed Trapezoidal Canal, 2439mm x 608mm (0.57m <sup>3</sup> /s)	Yes	Concessionaire	Head Canal
47-48	Rubble Stone packed Trapezoidal Canal, 2439mm x 608mm (0.57m <sup>3</sup> /s)	Yes	Concessionaire	Line A
48-49	Rubble Stone packed Trapezoidal Canal, 4268mm x 914mm (2.83m <sup>3</sup> /s)	Yes	Concessionaire	Main Canal
48-49	Rubble Stone packed Trapezoidal Canal, 1829mm x 328mm (0.283m <sup>3</sup> /s)	Yes	Concessionaire	St. Ann's Gully
48-49	Rubble Stone packed Trapezoidal Canal, 2439mm x 608mm (0.57m <sup>3</sup> /s)	Yes	Concessionaire	Lawson Line

# IRRIGATION UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

UTILITY COMPANY: NATIONAL IRRIGATION COMMISSION  
ESTIMATED COST – US\$1.0 MILLION

49-50	Rubble Stone packed 2439mm x 608mm (0.57m <sup>3</sup> /s)	Trapezoidal Canal,	Yes	Concessionaire	Belle Plain			
49-50	Rubble Stone packed 4268mm x 914mm (2.84m <sup>3</sup> /s)	Trapezoidal Canal,	Yes	Concessionaire	Main Canal			
50-51	Rubble Stone packed 4268mm x 914mm (2.84m <sup>3</sup> /s)	Trapezoidal Canal,	Yes	Concessionaire	Belle Plain			
52-53	Rubble Stone packed 1524mm x 450mm	Trapezoidal Canal,	Yes	Concessionaire	Belle Plain			
54-55	Rubble Stone packed 4268mm x 914mm (2.83m <sup>3</sup> /s)	Trapezoidal Canal,	Yes	Concessionaire	Main Canal			
54-55	Rubble Stone packed 4268mm x 914mm (2.83m <sup>3</sup> /s)	Trapezoidal Canal	Yes	Concessionaire	Main Canal			
55-56	Rubble Stone packed 4268mm x 914mm (2.83m <sup>3</sup> /s)	Trapezoidal Canal	Yes	Concessionaire	Main Canal			
56-57	Rubble Stone packed 4268mm x 914mm (2.83m <sup>3</sup> /s)	Trapezoidal Canal	Yes	Concessionaire	Main Canal			
56-57	Rectangular 150mm Concrete Block 1524mm x 450mm	Canal,	Yes	Concessionaire	Clarendon Park			

# TELECOMMUNICATION UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: CABLE & WIRELESS JAMAICA LIMITED**  
**ESTIMATED COST – US\$0.4 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
6 - 7	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
21-22	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
25-26	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
26-27	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
26-27	Feeder Cable	Yes	Concessionaire/ Cable & Wireless	
26-27	Civil Works Plant	Yes	Concessionaire/ Cable & Wireless	
29-30	Distribution Cable, Feeder Cable, Civil Works Plant	Yes	Concessionaire/ Cable & Wireless	
29-30	Transmission Cable	Yes	Concessionaire/ Cable & Wireless	
31-32	Civil Works Plant (Cable)	Yes	Concessionaire/ Cable & Wireless	

# TELECOMMUNICATION UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

UTILITY COMPANY: CABLE & WIRELESS JAMAICA LIMITED  
ESTIMATED COST – US\$0.4 MILLION

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
39-40	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
41-42	Distribution Cable, Feeder Cable, Civil Works Plant	Yes	Concessionaire/ Cable & Wireless	
45-46	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
46-47	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
50-51	Feeder Cable, Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
52-53	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
59-60	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
63-64	Distribution Cable	Yes	Concessionaire/ Cable & Wireless	
71-72	Civil Works Plant	Yes	Concessionaire/ Cable & Wireless	



# ELECTRICAL POWER UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: JAMAICA PUBLIC SERVICE COMPANY LIMITED**  
**ESTIMATED COST – US\$1.7 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
1-2	4Kv Transmission Line	Yes	Concessionaire/JPS	
4-5	138Kv Transmission Line	Yes	Concessionaire/JPS	
4-5	138Kv Transmission Line	Yes	Concessionaire/JPS	
5-6	138Kv Transmission Line	Yes	Concessionaire/JPS	
5-6	138Kv Transmission Line	Yes	Concessionaire/JPS	
6-7	34Kv Transmission Line	Yes	Concessionaire/JPS	
6-7	34Kv Transmission Line	Yes	Concessionaire/JPS	
10-11	69Kv Transmission Line	Yes	Concessionaire/JPS	
14-15	4Kv Transmission Line	Yes	Concessionaire/JPS	
19-20	69Kv Transmission Line	Yes	Concessionaire/JPS	
21-22	69Kv Transmission Line	Yes	Concessionaire/JPS	
21-22	69Kv Transmission Line	Yes	Concessionaire/JPS	
23-24	138Kv Transmission Line	Yes	Concessionaire/JPS	
24-25	69Kv Transmission Line	Yes	Concessionaire/JPS	
24-25	69Kv Transmission Line	Yes	Concessionaire/JPS	
26-27	34Kv Transmission Line	Yes	Concessionaire/JPS	
26-27	34Kv Transmission Line	Yes	Concessionaire/JPS	
26-27	34Kv Transmission Line	Yes	Concessionaire/JPS	
26-27	34Kv Transmission Line	Yes	Concessionaire/JPS	
27-28	69Kv Transmission Line	Yes	Concessionaire/JPS	
28-29	69Kv Transmission Line	Yes	Concessionaire/JPS	
29-30	34Kv Transmission Line	Yes	Concessionaire/JPS	
29-30	34Kv Transmission Line	Yes	Concessionaire/JPS	
31-32	34Kv Transmission Line	Yes	Concessionaire/JPS	
31-32	69Kv Transmission Line	Yes	Concessionaire/JPS	

# ELECTRICAL POWER UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: JAMAICA PUBLIC SERVICE COMPANY LIMITED**  
**ESTIMATED COST – US\$1.7 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
32-33	69Kv Transmission Line	Yes	Concessionaire/JPS	
32-33	34Kv Transmission Line	Yes	Concessionaire/JPS	
33-34	34Kv Transmission Line	Yes	Concessionaire/JPS	
37-38	4Kv Transmission Line	Yes	Concessionaire/JPS	
39-40	4Kv Transmission Line	Yes	Concessionaire/JPS	
41-42	4Kv Transmission Line	Yes	Concessionaire/JPS	
44-45	7Kv Transmission Line	Yes	Concessionaire/JPS	
44-45	138Kv Transmission Line	Yes	Concessionaire/JPS	
45-46	7Kv Transmission Line	Yes	Concessionaire/JPS	
45-46	7Kv Transmission Line	Yes	Concessionaire/JPS	
46-47	7Kv Transmission Line	Yes	Concessionaire/JPS	
47-48	7Kv Transmission Line	Yes	Concessionaire/JPS	
47-48	7Kv Transmission Line	Yes	Concessionaire/JPS	
50-51	7Kv Transmission Line	Yes	Concessionaire/JPS	
51-52	7Kv Transmission Line	Yes	Concessionaire/JPS	
53-54	7Kv Transmission Line	Yes	Concessionaire/JPS	
54-55	138Kv Transmission Line	Yes	Concessionaire/JPS	
58-59	138Kv Transmission Line	Yes	Concessionaire/JPS	
61-62	69Kv Transmission Line	Yes	Concessionaire/JPS	
62-63	4Kv Transmission Line	Yes	Concessionaire/JPS	
63-64	4Kv Transmission Line	Yes	Concessionaire/JPS	
64-65	4Kv Transmission Line	Yes	Concessionaire/JPS	
65-66	4Kv Transmission Line	Yes	Concessionaire/JPS	
65-66	69Kv Transmission Line	Yes	Concessionaire/JPS	
71-72	7Kv Transmission Line	Yes	Concessionaire/JPS	



# ELECTRICAL POWER UTILITY RELOCATION

## PHASE II – MANDEVILLE/MONTEGO BAY (72-157Km)

**UTILITY COMPANY: JAMAICA PUBLIC SERVICE COMPANY LIMITED**  
**ESTIMATED COST – US\$2.0 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
74-75	34Kv Transmission Line	Yes	Concessionaire/JPS	
74-75	69Kv Transmission Line	Yes	Concessionaire/JPS	
75-76	34Kv Transmission Line	Yes	Concessionaire/JPS	
76-77	34Kv Transmission Line	Yes	Concessionaire/JPS	
76-77	138Kv Transmission Line	Yes	Concessionaire/JPS	
80-81	34Kv Transmission Line	Yes	Concessionaire/JPS	
82-83	34Kv Transmission Line	Yes	Concessionaire/JPS	
84-85	34Kv Transmission Line	Yes	Concessionaire/JPS	
91-92	69Kv Transmission Line	Yes	Concessionaire/JPS	
94-95	69Kv Transmission Line	Yes	Concessionaire/JPS	
95-96	69Kv Transmission Line	Yes	Concessionaire/JPS	
97-98	69Kv Transmission Line	Yes	Concessionaire/JPS	
99-100	69Kv Transmission Line	Yes	Concessionaire/JPS	
108-109	69Kv Distribution Line	Yes	Concessionaire/JPS	
110-111	69Kv Transmission Line	Yes	Concessionaire/JPS	
112-113	138Kv Transmission Line	Yes	Concessionaire/JPS	
113-114	69Kv Transmission Line	Yes	Concessionaire/JPS	
113-114	69Kv Transmission Line	Yes	Concessionaire/JPS	
113-114	69Kv Transmission Line	Yes	Concessionaire/JPS	
113-114	69Kv Transmission Line	Yes	Concessionaire/JPS	
113-114	69Kv Transmission Line	Yes	Concessionaire/JPS	
115-116	69Kv Transmission Line	Yes	Concessionaire/JPS	
119-120	15Kv Transmission Line	Yes	Concessionaire/JPS	
130-131	138Kv Transmission Line	Yes	Concessionaire/JPS	
132-133	138Kv Transmission Line	Yes	Concessionaire/JPS	



# WATER UTILITY RELOCATION

## PHASE I – KINGSTON/MANDEVILLE (0-72Km)

**UTILITY COMPANY: NATIONAL WATER COMMISSION  
ESTIMATED COST – US\$0.35 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
6-7	4" Pipe & Irrigation Canal	No	Concessionaire	
6-7	4" Pipe & Irrigation Canal	No	Concessionaire	
7-8	4" Pipe & Irrigation Canal	No	Concessionaire	
7-8	4" Pipe & Irrigation Canal	No	Concessionaire	
10-11	4" Pipe	No	Concessionaire	
14-15	4" Pipe	No	Concessionaire	
46-47	2" Galvanised Iron Pipe	No	Concessionaire	
47-48	3" Asbestos Cement Pipe	No	Concessionaire	
48-49	3" Asbestos Cement Pipe	No	Concessionaire	
49-50	4" Asbestos Cement Pipe	No	Concessionaire	
51-52	2 No. 4" Asbestos Cement Pipe	No	Concessionaire	
52-53	3" Galvanised Iron Pipe	No	Concessionaire	
59-60	4" Asbestos Cement Pipe	No	Concessionaire	
61-62	2" Galvanised Iron Pipe	No	Concessionaire	
61-62	4" Galvanised Iron Pipe	No	Concessionaire	
61-62	6" Galvanised Iron Pipe	No	Concessionaire	
62-63	2" Galvanised Iron Pipe	No	Concessionaire	
64-65	3" Galvanised Iron Pipe	No	Concessionaire	
64-65	10" Diameter Galvanised Iron Pipe	No	Concessionaire	
64-65	Porus Well Field	No	Concessionaire	

# WATER UTILITY RELOCATION

## PHASE II – BUSHY PARK/OCHO RIOS (0-67Km)

UTILITY COMPANY: NATIONAL WATER COMMISSION

ESTIMATED COST – US\$0.12 MILLION

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
29-30	6" Pipe	No	Concessionaire	
29-30	8" Pipe	No	Concessionaire	
51-52	4" Galvanised Iron Pipe	No	Concessionaire	
54-55	4" Galvanised Iron Pipe	No	Concessionaire	

# WATER UTILITY RELOCATION

**PHASE II – MANDEVILLE/MONTEGO BAY (72-157Km)**

**UTILITY COMPANY: NATIONAL WATER COMMISSION  
ESTIMATED COST – US\$0.35 MILLION**

CHAINAGE (Km)	DESCRIPTION	PLANS AVAILABILITY	RESPONSIBILITY	COMMENTS
90-91	3" Galvanised Steel Pipe	No	Concessionaire	
94-95	6" Asbestos Cement Pipe	No	Concessionaire	
95-96	4" Galvanised Steel Pipe	No	Concessionaire	
96-97	4" Galvanised Steel Pipe	No	Concessionaire	
98-99	4" Galvanised Steel Pipe	No	Concessionaire	
137-138	8" Galvanised Steel Pipe	No	Concessionaire	
140-141	2" Galvanised Iron Pipe	No	Concessionaire	
141-142	2" Galvanised Iron Pipe	No	Concessionaire	
142-143	4" Galvanised Steel Pipe	No	Concessionaire	
142-143	8" Galvanised Steel Pipe	No	Concessionaire	
143-144	8" Galvanised Steel Pipe	No	Concessionaire	
143-144	4" Galvanised Steel Pipe	No	Concessionaire	
146-147	8" Galvanised Steel Pipe	No	Concessionaire	
147-148	8" Galvanised Steel Pipe	No	Concessionaire	
150-151	12" Galvanised Steel Pipe	No	Concessionaire	
154-155	12" Galvanised Steel Pipe	No	Concessionaire	
156-157	4" Galvanised Steel Pipe	No	Concessionaire	
157-158	1" Galvanised Iron Pipe	No	Concessionaire	
157-158	2" Galvanised Iron Pipe	No	Concessionaire	

